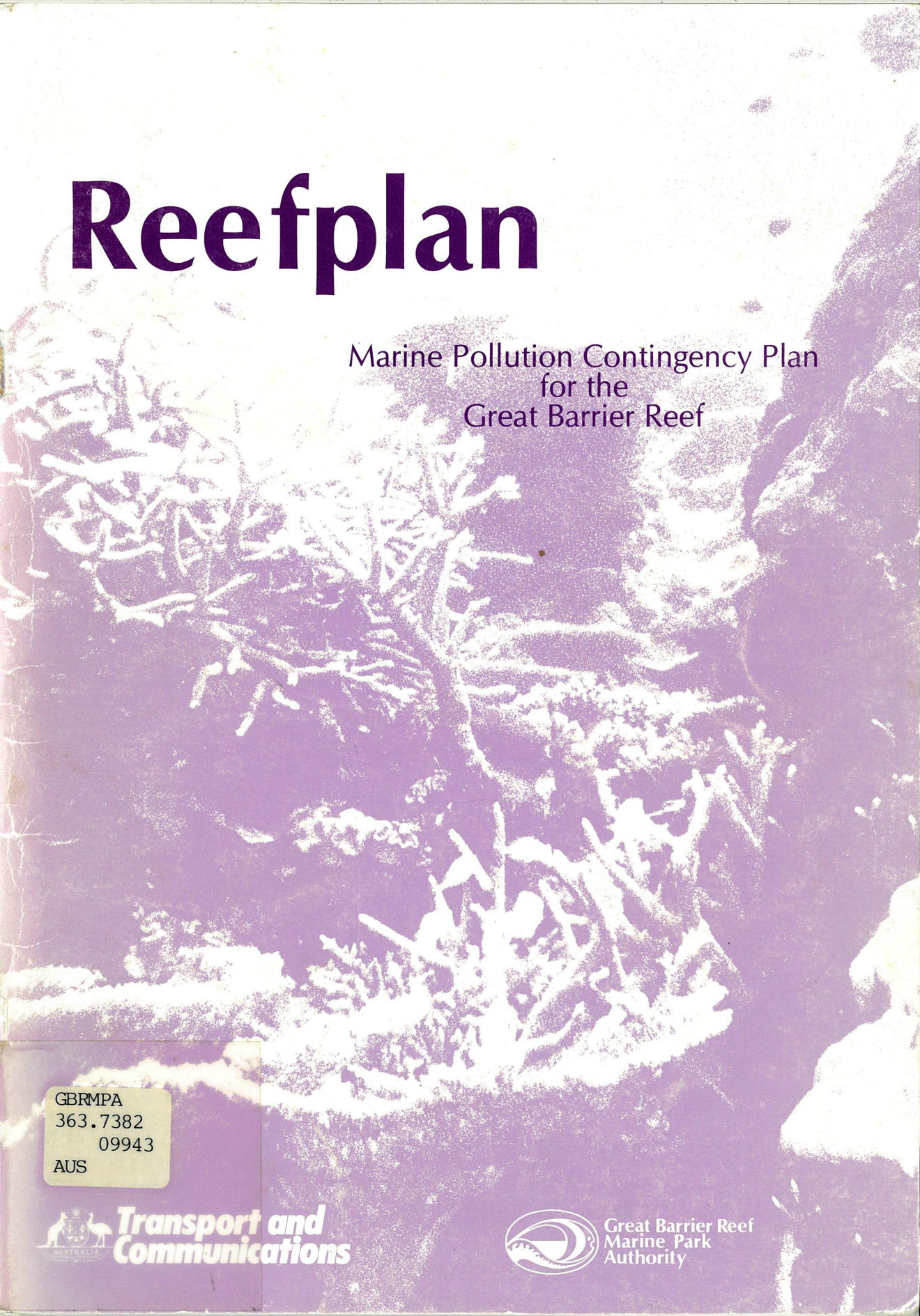
Reefplan

Marine Pollution Contingency Plan for the Great Barrier Reef



Transport and Communications

Great Barrier Reef Marine Park Authority

Reefplan

Marine Pollution Contingency Plan for the Great Barrier Reef

Transport and Communications

Canberra Australia
February 1990

FOREWORD

This second edition of REEFPLAN has been developed following the exercise held in Townsville in June 1989. During this exercise a number of shortcomings were found with the original plan:

(a) the respective responsibilities of the on scene coordinator and the State Committee were inadequately delineated;

(b) the division of responsibility between Commonwealth and Queensland authorities was not clear

(c) the plan did not adequately cover the availability of ancilliary resources such as the State Emergency Service and the Police;

(d) much of the information contained in the plan was not relevant to the plan's objectives; and

(e) the format of the plan made amendments to contact points etc, difficult.

This edition addresses these shortcomings. In particular, considerably more guidance is provided to the on-scene coordinator on the duties of that position the resources available and the general delineation of responsibilities between the on scene coordinator and the State Committee.

To enable contact point information to be readily updated, this information is provided in loose leaf form contained in the pocket at the back of this booklet.

CONTENTS

INTRODUCTION

The grounding of the TORREY CANYON in 1967 generated world-wide awareness of the hazards of ship-sourced oil pollution. Within Australia, preliminary measures were taken in 1969 to establish a national oil spill contingency plan. These efforts received added impetus with the grounding and escape of oil from the tanker OCEANIC GRANDEUR in the Torres Strait in 1970.

The National Plan to Combat Pollution of the Sea by Oil became operational on 1 October 1973 and since has been refined to incorporate lessons learnt from pollution incidents overseas, and developments in combat techniques which place a greater emphasis on environmental considerations. The lessons of the recent EXXON VALDEZ incident are being reviewed by governments and industry world-wide and will lead to further refinements in international and Australian pollution combat arrangements.

The National Plan represents a combined effort by Commonwealth and State/NT Governments, with the assistance of the oil industry, to minimise the impact of ship-sourced oil spills on the marine environment. As part of National Plan arrangements, State Pollution Committees have been established in each State and the Northern Territory with responsibility for combating marine oil pollution within their respective areas of jurisdiction. The National Plan is funded by a levy on ships calling at Australian ports.

The National Plan is based on the philosophy that:

(a) oil on the sea should be left to degrade naturally unless it is causing, or is likely to cause, unacceptable environmental or amenity damage;

(b) if oil pollution must be artificially abated, physical removal methods or the use of approved oil spill dispersants, whichever provides the more environmentally appropriate and effective response, should be adopted.

In recognition of the environmental value of the Great Barrier Reef region, and its particular vulnerability to damage from pollution by ships, specific spill contingency arrangements have been developed for the region. These arrangements, known as REEFPLAN, supplement the National Plan and the Queensland State Plan.

The aims and objectives of REEFPLAN are:

AIMS

1 To provide guidelines for an efficient, coordinated and effective response to oil pollution incidents in the marine environment;

2 To provide guidelines for systematic pre-incident planning in an effort to minimise potential damage from oil spills; and

3 To develop guidelines, within the framework of the National Plan, for co-operation between the Commonwealth and Queensland Governments, other authorities and industry, in the operational aspects of oil spill surveillance and response.

OBJECTIVES

1 Delineation of appropriate contingency plan areas and identification of key authorities for the management of oil pollution incidents within the REEFPLAN area;

2 Identification of sensitive areas and their ranking in terms of protection priorities;

3 Development of oil spill clean up guidelines to minimise environmental damage;

4 Development of procedures for the protection of wild life from oil spills and the mitigation of the effects of spills on these populations;

5 Identification of sites for disposal of oil contaminated debris;

6 Provision of guidelines for environmental monitoring; and

7 Development of this contingency plan in accordance with improvements in the state-of-the-art.

ORGANISATION OF REEFPLAN

REEFPLAN is presented in two parts. The first part (Sections 1-4) provides planning information. The second part (Sections 5-14) addresses operational and procedural aspects of spill response within the REEFPLAN area.

PART ONE:

PLANNING

1. SCOPE OF REEFPLAN

GEOGRAPHICAL AREA

The REEFPLAN Area embraces the islands and reefs off the central and northern Queensland coast, including the Torres Strait. The entire Great Barrier Reef Marine Park, as defined in the Great Barrier Reef Marine Park Act, 1975 is within the REEFPLAN Area. For the purposes of REEFPLAN organizational arrangements, the area outside the Great Barrier Reef Marine Park but contained within the REEFPLAN boundary is called the Adjacent Area. A map of the REEFPLAN Area is contained in Appendix 1.

DIVISION OF RESPONSIBILITY

By agreement with the Marine and Ports Division of the Department of Transport, Queensland, responsibility for the management of marine pollution incidents within the REEFPLAN area rests with the Department of Transport and Communications (DoTC) except as follows:

- port authorities have responsibility for marine pollution management within port limits;

- local authorities, in consultation with the Marine and Ports Division of the Department of Transport, Queensland have responsibility for the clean up of spills which impact foreshores under their authority;

- the Queensland Department of Environment and Heritage has responsibility for the clean up of spills which impact foreshores in declared national parks; and

- the Marine and Ports Division of the Department of Transport, Queensland has responsibility for the clean up of spills which impact foreshores of those islands, including Commonwealth islands, which are not under a local authority.

The Department of Transport and Communications contact officer on pollution matters is the Director, Pollution Prevention.

The organization administering the Great Barrier Reef Marine Park Act is the Great Barrier Reef Marine Park Authority (GBRMPA). The Authority plays an integral role in providing scientific advice to the relevant oil spill management agency.

REEFPLAN supplements the Queensland State Plan as described in the Queensland State Supplement to the National Plan Operations and Procedures Manual. Close consultation is maintained through the Queensland State Pollution Committee and other parties to REEFPLAN to ensure that this is achieved.

2. LEGISLATION AND ARRANGEMENTS TO CONTROL OIL POLLUTION

DISCHARGE OF OIL FROM SHIPS

The discharge of oil from ships is regulated in accordance with standards established in the MARPOL 73/78 Convention. The Convention totally prohibits the discharge of any oil or oily water mixtures by vessels in the REEFPLAN area.

The MARPOL 73/78 Convention is applied in Australia through the Protection of the Sea (Prevention of Pollution from Ships) Act 1983 and the Navigation (Protection of the Sea) Amendment Act 1983.

INTERVENTION IN POLLUTION INCIDENTS

Within the territorial sea off the Queensland coast, the Queensland Government has the right to intervene in any actual or threatened pollution incident. Beyond the territorial sea the Commonwealth Government has powers of intervention in regard to Australian or foreign ships where there is an actual or threatened pollution incident involving oil or certain noxious liquid substances. These powers are based on the 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, and the 1973 Protocol to that Convention. The relevant Queensland legislation is Part IV of the Pollution of Waters by Oil Act 1973 and the Commonwealth legislation is the Protection of the Sea (Powers of Intervention) Act 1981.

COMPENSATION FOR DAMAGE

The Protection of the Sea (Civil Liability) Act 1981 implements the provisions of the 1969 International Convention on Civil Liability for Oil Pollution Damage. Ships carrying more than 2000 tons of oil in bulk as cargo are required to maintain insurance to cover liability for pollution damage. In the event of a pollution incident, the costs of clean up and compensation for damage are recoverable from the polluter up to the limits of liability specified in the Act.

OBLIGATIONS UNDER THE TORRES STRAIT TREATY

The northern section of the REEFPLAN Area falls within a Protected Zone as defined in Article 10 of the Torres Strait Treaty (see map at Appendix V). Australia and Papua New Guinea are obliged, under Article 13 of the Treaty, to take legislative and other measures necessary to protect and preserve the marine environment in, and in the vicinity of, the Protected Zone. This involves measures for the prevention and control of pollution from vessels in this zone.

INTERNATIONAL MARITIME ORGANIZATION "AREAS TO BE AVOIDED"

In May 1983, the International Maritime Organization (IMO) proclaimed that a central portion of the Capricornia/Bunker Islands of the Great Barrier Reef Marine Park should be an "Area to be Avoided" by ships over 500 tons gross tonnage.

INTERNATIONAL MARITIME ORGANIZATION RECOMMENDATION ON PILOTAGE

In November 1987, the IMO Assembly adopted Resolution A 619 (15) on pilotage in the Great Barrier Reef region. The Resolution recommends that:

Masters of ships of 100 metres in length and over, all loaded tankers, chemical carriers or liquefied gas carriers irrespective of size, embark a pilot of the Queensland Coast and Torres Strait Pilot Service when navigating in the Torres Strait, the inner route of the Great Barrier Reef north of latitude $16^{o}40'$ South or through the Great North East Channel or Hydrographers Passage".

3. THE OIL SPILL THREAT

Ship-sourced oil pollution in the REEFPLAN Area may result from either accidental or illegal operational discharges. Accidental discharges may involve escapes of bunker fuel or oil cargo, resulting from a marine incident.

Within the REEFPLAN Area the oil spill threat is largely a function of the types of cargo carried through the area, the degree of navigational hazards, the weather and shipping density.

CARGO CARRIED THROUGH REEFPLAN AREA

In recent decades new bulk trades have developed within the REEFPLAN Area, the most important of which are bauxite from Weipa to Gladstone and coal exports from the central Queensland ports. Although the carriage of general cargo to Queensland and Papua New Guinea ports has declined, the distribution of petroleum products from Brisbane refineries to other Queensland ports has increased. Refined product carriers transitting the REEFPLAN area are typically up to 60 000 dead weight tonnes (dwt).

Shipments of crude oil from Indonesia to Brisbane refineries are significant, and expected to increase in coming years as Australia's Bass Strait production declines. Also increasing are shipments from Australia's Timor Sea fields to Brisbane and Sydney. Crude oil shipments through the Inner Route are generally in the 70,000-90,000 dwt range, tonnage being limited by draught constraints. Some chemicals are also shipped through the region, mostly in small tankers.

PRINCIPAL SHIPPING ROUTES IN REEFPLAN AREA

The waters of the REEFPLAN Area are traversed by various shipping routes and reef passages including the Torres Strait, North East Channel, the Inner Route, and the Curtis, Capricorn, Palm, Grafton, and Hydrographers Passages.

SHIPPING DENSITY

Approximately five ships per day pass through the inner route of the Great Barrier Reef. In total some 1800 vessels are piloted through the routes of the REEFPLAN area annually, of which approximately 175 are tankers (oil, chemical or molasses). Unpiloted transits of Torres Strait, the North East Channel and the Inner Route are estimated at about 200 per annum.

POTENTIAL OIL POLLUTANTS

The environmental damage risk is mainly from so-called persistent oils, ie, the heavier oils such as marine fuel oils and crude oil. Although the toxicity of light fractions is high, oils such as gasoline, kerosines and distillate evaporate rapidly and their toxic release phase is of a much shorter duration.

An understanding of the characteristics of persistent oils carried through the REEFPLAN area is necessary to develop appropriate response procedures.

The density of an oil, generally measured as specific gravity, is important in spill assessment for two reasons: Firstly, the density of an oil determines whether it will sink or float; heavier oils can collect sediment, entrain water, and become heavy enough to sink. Secondly, once it has been determined that an oil will float, the height that the oil floats in water, or its "freeboard effect", determines the surface area upon which wind forces may work. An oil which floats high in the water presents more "sail area" and will be more easily moved by the wind.

Specific gravity, otherwise known as relative density, is the density of a substance relative to fresh water. An oil that floats will have a specific gravity less than that of water (1.000). The specific gravity of sea water ranges from about 1.02 to 1.07. Accordingly, oil which floats in fresh water will be slightly more buoyant in sea water. The density of liquid oil is inversely proportional to the temperature.

Kinematic viscosity is the measure of resistance to flow of a fluid under gravity. The viscosity of an oil affects the rate of spreading of the slick, penetration of substrate, and persistence. It also affects clean-up operations. Low viscosity oils are those which have a light, more fluid, consistency; high viscosity oils are those which tend to be tarry or thick. Viscosity decreases as oil temperature increases.

The pour point of a material is the temperature at which it begins to flow when cooled. Oil may be solid or semi-solid during cool nights and fluid during the day, or solid when immersed in cool water and fluid when warmed past the pour point while stranded on land. These situations require different clean up methods and, if round-the-clock clean up efforts are carried out, daytime strategies and equipment could differ from night-time.

TABLE 3.2 - Characteristics of oils commonly carried through the REEFPLAN Area

PRODUCT	SPECIFIC GRAVITY	KINEMATIC VISCOSITY	POUR POINT
Fuel Oil	0.98	85cSt at 40^{o}C	9 - 36^{o}C
Gas Oil	0.82 - 0.87	1.8 - 4.8cSt at 40^{o}C	---
Ultra-light Sumatran Crude Oil	0.85	16.5cSt at 40^{o}C	36^{o}C
Timor Sea Crude Oil (Jabiru)	0.81	2.5cSt at 40^{o}C	15^{o}C

4. ENVIRONMENTAL PROTECTION

The environment of the REEFPLAN area is complex and varied, ranging between extensive stands of mangroves, tidal flats, coral reefs and sandy beaches. The flora and fauna supported by the ecosystems are even more complex, many of these being highly susceptible to damage from pollution or inappropriate pollution countermeasures.

A detailed knowledge of the local marine environment is a key factor in tackling marine pollution to minimise damage. Because of the susceptibility of bottom fisheries and coral reef communities to the effects of both oil pollution and oil spill dispersants, dispersants should be used for oil spill response only in accordance with the general guidelines (see Section 11) and in consultation with the Scientific Support Coordinator.

Insufficient reconnaissance data on the reef region is currently available to provide comprehensive guidelines on vulnerability grading and protection priorities for all areas. However, computerised coastal resource maps are progessively being prepared for the region. A feature of these is that wind, tide and current effects can be superimposed and oil movements predicted accordingly. In the meantime, the extensive knowledge of the reef region available through GBRMPA, James Cook University, other institutions and local reef users can provide valuable guidance to the Scientific Support Coordinator and the combat team.

Another important aspect of environmental protection is the proper disposal of contaminated debris from an oil spill situation. Department of Transport, Queensland and the Great Barrier Reef Marine Park Authority will liaise with local authorities to identify and obtain access to suitable sites.

Scientific Support Coordinators should maintain a current list of approved disposal sites and, where these are located on local authority or national park land, ensure that any changes in policy which might affect this use is reflected in contingency plan arrangements.

Where there is no approved disposal site in the vicinity, sites for the disposal of contaminated debris will need to be identified in consultation with State and local authorities. No permanent disposal sites should be located on any of the reef islands and cays.

PART TWO:

OPERATIONS AND PROCEDURES

5. ORGANISATION

COMBAT AUTHORITY

Should an oil pollution incident occur in the REEFPLAN area offshore of the low water mark, except within the designated limits of a port, the Commonwealth Department of Transport and Communications will assume the role of combat authority. Within port limits the combat authority is the port authority.

The combat authority will appoint an On-scene Coordinator (OSC) to manage the response to the incident.

In a major incident the possibility of pollution threatening more than the immediate area is probable. To mount the most effective response it is essential that all organisations having interests in the protection of the marine environment of the area are represented on the OSC's team to ensure that the best advice is available. An example of the wide ranging expertise and the placing of deputy OSC's is shown in Figure 5.2, Typical OSC Field Organisation. The scale of the response will be appropriate to the magnitude of the incident and clearly, with a small incident, the response team will be smaller.

ROLE OF THE QUEENSLAND STATE POLLUTION COMMITTEE

At the time of confirmation of the pollution incident, the State Pollution Committee will make an assessment of the situation. The majority of members of this body are Brisbane based and the Committee would generally convene there. In the event of a major incident, the Committee may convene in the locality of the incident to make best use of local knowledge and resources.

The primary functions of the State Pollution Committee are as follows:

- to provide advice to the OSC;
- to arrange the support of resources which lie beyond the scope of the OSC's organisation, ie. interstate, and interdepartmental;
- to provide situation reports as to progress of the response to, the Director, Pollution Prevention, relevant Commonwealth and State authorities and to Ministers; and
- to ensure that appropriate participation of State and local authorities is maintained at an effective level.

The chairperson will ensure that adequate lines of communication are in place to maintain efficient dialogue between the Committee, the OSC and other relevant parties.

INTERSTATE ASSISTANCE

Requests for assistance in the form of logistic support from interstate resources and defence forces, and advice from such bodies as the Maritime Services Advisory Committee - Marine Pollution, should be directed through the Director, Pollution Prevention, DoTC.

ENVIRONMENTAL ADVICE

GBRMPA will act as the central environmental co-ordinating agency and will provide the Scientific Support Coordinator for the response.

In the adjacent area, the Queensland Department of Environment and Heritage (QDEH), will act as the environmental co-ordinating agency and provide the Scientific Support Coordinator.

Both GBRMPA and QDEH will liaise as necessary with other environmental and research bodies and co-ordinate their advice.

6. IDENTIFICATION OF KEY PERSONNEL

RESPONSIBILITIES OF KEY PERSONNEL IN OIL SPILL RESPONSE OPERATIONS

(a) On-Scene Coordinator (OSC)

The OSC is the key figure in the response organisation. The OSC is appointed by the combat authority to manage and co-ordinate operations at the scene of a pollution incident to achieve the best environmental and cost effective resolution to the problem. The OSC has the overall decision making role and should be positively assisted by a team with appropriate technical, scientific, administrative and media liaison skills.

The OSC shall establish an advance operations centre at a location, closest to the spill management area, having the most suitable access and communications.

According to the scale of the incident the OSC organisational structure should be based on the chart shown at figure 5.2.

Specifically, the OSC shall:

(1) assess the spill and its potential impact on human activities and the environment;

(2) determine priorities for protection;

(3) determine level of response and scale of the response team;

(4) initiate and direct response measures and ensure that clean up and disposal activities meet the environmental requirements for the area;

(5) ensure that situation reports (SITREPS) are provided and that the requirements of the media are being met by the media liaison officer on a regular basis;

(6) ensure that documentation and accounting activities are adequate;

(7) maintain coordination of the activities of supporting organisations, eg. police, State emergency services etc;

(8) decide when to scale down and to terminate the the response activity;

(9) ensure clean up and return of equipment;

(10) provide input into the debrief session and incident report.

(b) Deputy On-Scene Coordinators

The OSC will be assisted by a number of Deputy OSCs depending upon the size and extent of the spill. These deputies will be responsible for clearly specified areas (eg. offshore, island/mainland foreshore).

The Deputy OSC shall:

(1) provide advice and recommendations to the OSC on response strategies within the specified area;

(2) translate policy and directives or OSC into effective clean up and disposal programs;

(3) advise OSC on progress of clean up operation and make recommendations on developments as they occur;

(4) maintain effective use of clean up personnel and equipment;

(5) ensure safety of personnel;

(6) ensure adequate data is provided to administrative support staff for documentation;

(7) participate in debriefing session and coordinate the report; and

(8) carry out other duties as directed by OSC.

(c) Scientific Support Coordinator (SSC)

The SSC will be appointed by the GBRMPA or QDEC, as appropriate, to coordinate the input from all environmental interests. The SSC shall have the expertise of a scientific response or support team and will be expected to provide the OSC with a balanced assessment of environmental priorities within the area under threat.

Responsibilities of the SSC include:

Pre-incident

(1) maintenance of current contact lists of scientific and environmental authorities who could provide technical assistance during clean up operations;

(2) determination of environmental priorities for areas of the contingency plan;

(3) maintenance of support programs, eg. the On-Scene Spill Model, the Coastal Resource Atlas and lists of research projects helpful in spill situations;

(4) provision of input to training exercises conducted within REEFPLAN Area;

On-Scene

(5) determination of environmental priorities;

(6) coordination of input from various scientific and environmental groups and provide objective advice to the OSC;

(7) arrangements through the OSC for research/observation teams at spill site;

(8) coordination of monitoring studies;

Post Incident

(9) participation in debriefing session; and

(10) coordination of environmental monitoring studies at spill and disposal sites.

(d) Administrative Support Coordinator (ASC)

An ASC will be appointed by the State Pollution Committee with, if necessary, a support team. The ASC will be responsible for accounting and recording activities and the contracting of manpower and equipment resources.

Responsibilities of the ASC include:

(1) keeping an account of all equipment, personnel and stores; used in the response;

(2) examination of all accounting forms;

(3) recording details of equipment hire;

(4) preparation of hire agreements or charter parties as necessary;

(5) compilation of daily expenditure summaries;

(6) recording of requests for equipment and manpower;

(7) recording of details of equipment and personnel employed, specific charges in clean up operation, and quantities of expendable items deployed;

(8) providing of personnel and equipment management;

(9) provision of adequate first aid service; and

(10) provision of berthing, messing, sanitary and accommodation facilities.

(e) Media Liaison Officer (MLO)

An experienced MLO should be appointed by the chairperson of the State Pollution Committee, in consultation with GBRMPA, to ensure adequate liaison between the OSC's team, the State Pollution Committee and the media. All statements to the media should be released by this officer and all enquiries received from the media should be directed to the MLO.

Before releasing any information, the MLO's action should have the approval of the OSC.

7. POLLUTION COMBAT RESOURCES

NATIONAL PLAN STOCKPILES

Stockpiles of National Plan equipment and dispersant in Queensland are located at:

(i) Department of Administrative Services Stores Depot
Barrack Road
Cannon Hill
BRISBANE
Ph (07) 3957155

(ii) Department of Administrative Services
14 Keane Street
Currajong
TOWNSVILLE
Ph (077) 795888

Procedures for the release of stores from National Plan stockpiles are set out in the National Plan Operations and Procedures Manual. These procedures are summarised in Figure 5.3.

TRANSFER OF STORES FROM OTHER DEPOTS

In the event that additional stores are required from another stockpile depot, or where an interstate depot is the closest stockpile to the spill site, the OSC should contact the Pollution Prevention Section, DoTC, Canberra.

SELECTED POLLUTION EQUIPMENT AVAILABILITY REGISTER (SPEAR)

SPEAR is a computer based register of oil pollution combat resources available in Australia. The equipment may be owned by the Commonwealth, State or port authorities, oil industry, manufacturers or their distributing agents.

The register is maintained by the Pollution Prevention Section, DoTC and is regularly updated from information supplied by the owners or operators of the equipment. In addition to type and location, SPEAR identifies contact positions and telephone numbers for release of equipment.

SPEAR inventory of Queensland equipment is located in the pocket in the back cover of this publication.

An updated printout of SPEAR data will be transmitted by facsimile from the Pollution Prevention Section on request.

THE ON-SCENE SPILL MODEL (OSSM)

The Pollution Prevention Section, DoTC operates the interactive spill model OSSM. This is designed to predict the path of an oil slick over a given period of time. Basic data necessary for predicting trajectories in port approach areas and the Great Barrier Reef and adjacent area are included in the model. Any visual observations, eg. from aircraft, can be fed into the model to improve the accuracy of OSSM predictions.

Print-outs of predictions will be sent, on request, by facsimile to an appropriate on-scene location, the locations of the OSC and the State Pollution Committee.

COASTAL RESOURCE ATLAS

A coastal resource atlas is currently under development for the whole of the Queensland coast and off-lying islands. The first section to be completed covers the area Townsville to the Whitsunday Group.

The atlas is a Macintosh computer-based program designed to provide the OSC with all of the environmental information necessary for the formulation of an appropriate response in a specific area.

A map of the area under consideration is called up from the program and, with the use of a series of overlays describing the biological communities of the area, tidal streams, tourist resorts, marinas, appropriate strategies, etc., the OSC's team is given a comprehensive physical and environmental picture of the area under threat and advice of the available response options.

Transmission of this information can be made to the advance operations centre by facsimile or computer modem link.

8. SAFETY CONSIDERATIONS FOR PERSONNEL, EQUIPMENT AND CRAFT

The OSC and Deputy OSC should ensure the safety of personnel overrides other considerations. The degree of risk associated with clean up operations will depend on:

(1) size of the spill;
(2) type of oil;
(3) location of the spill;
(4) circumstances of the spill (ie. cause, extent to which oil has weathered); and
(5) weather conditions.

The limitations of available equipment and craft should be known and kept in mind throughout all phases of the clean up operation.

Fresh crude oil and many petroleum products emit flammable gases. The risk of fire is always to be considered, particularly when fresh oil is confined by booms or under harbour structures, etc.

Equipment deployed in close proximity to fresh oil must be flameproof and non-sparking.

Operators of small craft employed in clean up operations should be made aware of the dangers which exist through:

(i) the use of cooking appliances, internal combustion engines, electric motors and personnel smoking; and

(ii) concentrations of flammable gases entering the air intakes of diesel engines, causing the machinery to race.

The risk of fire must also be considered in shoreline disposal operations. The degree of risk will depend on the type of oil and extent of its weathering.

9. TRAINING

Whilst the absolute risk of significant ship-sourced oil pollution in Australia is comparatively small, regular training exercises are essential to ensure an adequate level of response preparedness. As part of the National Plan, the Pollution Prevention Section, DoTC, conducts a series of training activities:

(1) Workshop for on-scene coordinators

- designed to provide potential spill managers with an appreciation of the principles of coordination and management of the response to a marine pollution incident

(2) Workshop for contingency planners

- covering site-specific and organisation planning, this forum addresses all the elements necessary for the production of an effective contingency plan

(3) Workshop for scientific support coordinators

- has the aim of bringing together environmental scientists from interstate to exchange response philosophies and to gain an appreciation of the needs of the on-scene coordinator in the management of a spill

(4) OSC/State Pollution Committee exercises

- simulations requiring active participation of key players and their response teams. These are primarily decision making exercises which explore the roles of players and the effectiveness of their response actions and organisation

(5) Operator courses

- designed for equipment operators and supervisors to demonstrate maintenance and operation of equipment as well as capabilities and techniques used in pollution combat.

Appropriate personnel from all relevant agencies identified in REEFPLAN should attend the contingency planning and OSC workshops arranged by DoTC. The Marine and Ports Division of the Department of Transport, Queensland provides operator courses.

Regular training activities should be conducted within the REEFPLAN Area and should include use of locally held equipment. These activities should be planned in association with the Queensland State Committee and, where practicable, the Marine Oil Spills Committee of the Australian Institute of Petroluem Environmental Conservation Executive.

Substantial benefit can be gained from regular table-top exercises designed to simulate responses to oil spills of differing size. Exercises held within the REEFPLAN area should involve Commonwealth and Queensland marine authorities, GBRMPA, scientific support agencies including the Queensland Department of Environment and Heritage (QDEH), local oil industry personnel and emergency services. Exercises should include a debriefing session at which the effectiveness of the combat response can be critically examined and measures taken to correct deficiencies. Any apparent weaknesses in REEFPLAN organisational arrangements detected through these exercises should be referred to the Director, Pollution Prevention, DoTC, Canberra.

10. ALERT PHASE

REPORTING PROCEDURES

Initial reports of incidents may originate from the source of the pollution incident, other vessels in the vicinity, aircraft on surveillance duties, GBRMPA or QDEH officers, or members of the general public.

Reports of incidents within the REEFPLAN Area should be made direct to the Federal Sea Safety Centre (FSSC), Canberra. The Centre will immediately relay reports to the prescribed action and information addressees. Where reports are received by Queensland authorities these can be passed to the FSSC direct or through the Queensland Regional Manager, DoTC.

Reports of incidents in areas outside of the GBR region should be passed direct to FSSC or through the coast radio service, port control radio or aviation communications network.

Under the MARPOL Convention, a vessel causing pollution shall report the particulars of such an incident without delay and to the fullest extent possible. Where practicable, the report should be made by radio and in accordance with the IMO reporting format, (see Appendix 10).

11. COMBAT PHASE

PRELIMINARY ASSESSMENT

Following confirmation of the report that an oil spill has occurred, a rapid assessment should be carried out by the combat authority in order to gain sufficient factual information on which to plan the most effective response.

Preliminary assessment check list:

1 Location of spill

2 Type and origin of pollutant

3 Source of pollutant
- if a ship, name, flag and location

4 Whether outflow of pollutant has ceased or is likely to continue

5 Estimated quantity of pollutant spilled
- from source information
- from guide (Appendix 11)

6 Estimated extent to which oil has weathered,
- obtain samples

7 Estimated direction and rate of movement of slick
- alert OSSM

8 Assessment of weather and sea conditions

9 Identification of those areas which may be affected by the pollutant and assign priorities for protection

10 Identification of any safety/environmental hazards

11 Area accessibity

RESPONSE TECHNIQUES

A number of options exist for the treatment of oil which has been released into the marine environment. All may be effective to a degree, according to the conditions prevailing and the sensitivity of the environment under threat.

The following briefly represent the basic response options available. These options are generally used individually but, as the response phase develops, a combination of two or more methods may be more effective.

Surveillance

. Monitor the movement of the oil and leave it alone

- in open waters leaving the oil to disperse and degrade naturally creates the least disturbance to the marine environment. It requires the support of sound advice to the media to ward off any suggestion of lack of action

Control and Recovery

- Using oil spill booms and skimmers, oil may be recovered from the surface of the water

  - this method is generally only effective in relatively quiet waters with a minimum influence of tide or current

  - essential to this technique is an adequate supply of containers or tanks to take the recovered mixture of oil, water and debris

  - access to the area without causing further damage to the environment is also essential.

- Use of booms alone may protect environmentally sensitive areas, allowing the oil to move to other areas from where it may be recovered or allowed to degrade naturally

  - pre-planning to identify those areas that lend themselves to this technique under most conditions is advantageous.

Application of Oil Spill Dispersants

- Where a sensitive environment, island or reef is under threat, the use of oil spill dispersants, preferably applied from aircraft, should be considered as an early response option

- In determining whether or not to use dispersants, the OSC, as well as seeking advice from the Scientific Support Coordinator (SSC) should consider the following criteria:

  - the oil is of a type amenable to dispersion;

  - the area should have an active water change rate; and

  - the area should have an adequate depth of water.

- The OSC should maintain close consultation with the SSC to ensure that all environmental considerations are taken into account including the nature of the resource under threat and the distance between the resource and the spill.

- Because of the extensive area covered by REEFPLAN it is impracticable to pre-designate all those areas where dispersant use may be considered. However to support the OSC in his operations, the SSC should implement a degree of pre-planning, at least for those areas in proximity to traffic lanes. This planning should also consider the trade-off in protecting a sensitive environment by dispersing the oil in a less sensitive environment.

- A schedule of sensitive areas, which include offshore rookeries of diving birds where use of dispersants may be approved, is shown at Appendix 15.

Burning

- This is an option which has had only limited success on spills at sea ie, when the oil has contained sufficient volatile constituents to sustain ignition and the oil layer was sufficiently thick to overcome the cooling effects of the sea.

. Crude oils, when burnt, leave a tarry residue which, although of low toxicity, can cause damage through smothering and is difficult to collect from foreshores or the sea surface. Burning should never be used in proximity to areas of extensive vegetation or other areas where there is a risk of secondary ignition.

For more detailed reading on the subject the following publications may be consulted:

. Basics of Oil Spill Clean Up
  Environment, Canada

. Manual on Oil Pollution, Section IV
  International Maritime Organization, London

. Response To Marine Oil Spills
  International Tanker Owners Pollution Federation, London

DISPOSAL SITE SELECTION CRITERIA

Sites should satisfy the following basic criteria.

(a) The site should be compatible with on site and adjacent land use;

(b) The site will not become a source of water pollution (geology, pedology and hydrology are relevant considerations);

(c) Site locations should be within a practical distance of areas where oil spill debris is expected to be collected or stockpiled; and

(d) Access roads into the area should be of an all weather standard.

12. HAZARDOUS SPILL RESPONSE

RESPONSE TO SPILLS OF HAZARDOUS SUBSTANCES OTHER THAN OIL

In considering risk assessment within the REEFPLAN area, incidents involving pollution by other substances could fall into two categories:

1 chemicals released at sea from a cargo tank as a result of collision, grounding, or fire

2 packages lost at sea being washed ashore or sinking to the sea bed.

For the purposes of determining the appropriate response chemicals fall into one or more of four broad classifications these being:

i substances which form gas and vapour clouds;
ii substances which float on water;
iii substances which are soluble and disperse in water; and
iv substances which sink.

An active response should be considered for incidents involving groups i and ii, where evacuation of personnel, rendering safe the damaged packages or containers and neutralization of the leaked substances would have first priority. For groups iii and iv, a more passive response would generally be the most appropriate course of action, with appropriate measures taken to restrict marine activities e.g. fishing, swimming etc. in the area until risk of contamination had passed.

Where incidents involving releases of hazardous substances occur within a port area, the port authority, assisted by police, fire brigade and State emergency service will have prime responsibility for response action.

In the case of a release of hazardous substances other than in a port area, the division of responsibility for the management of the incident should be in accordance with REEFPLAN arrangements, i.e. DoTC will be responsible for the waters and offshore reefs, Queensland authorities will be responsible for foreshores and islands. The lead authority should be assisted by such advice and resources as are available and appropriate to the incident. Involvement of the Federal Sea Safety Centre is essential to gain access to technical advice from industry and government agencies, and to ensure wide circulation of safety warnings. Liaison with local emergency services is also essential, as those services have access to communications networks and are experienced in dealing with a wide variety of incidents. Personnel safety and health is of prime consideration, followed by decontamination and disposal considerations.

In any countermeasures phase involving hazardous substances, a key member of the team will be the Scientific Support Coordinator, with responsibilities for coordinating the scientific aspects of remedial actions, field monitoring of data and interpretation of results.

A useful reference for the preparation of detailed planning in this field is the Manual on Chemical Pollution, published by the International Maritime Organization, London.

13. TERMINATION PHASE

TERMINATION OF CLEAN UP ACTIVITY

An important, and frequently neglected, aspect of clean up activity is its termination.

Clearly, in any clean up operation a point is reached where the marginal benefits of further clean up are outweighed by the effort and cost of continuing. The OSC should determine the point when further effort and expenditure in clean up becomes unreasonable and advise the State Pollution Committee. The appropriate termination point will depend on a number of factors including the type, size and location of the spill, the particular coastal environment affected, and the level of human resources employed. In making this judgement the OSC should seek advice from environmental and resource management agencies.

RETURN AND RESTORATION OF EQUIPMENT

Upon completion of the clean up operation the OSC should ensure that all equipment is recovered and cleaned to the extent practicable under field conditions. Any damage, malfunction or loss of equipment during the combat operation must be recorded and promptly reported to the owner. Quantities of dispersants and sorbents used and any materials retrieved and not reusable should be recorded and reported to the owner for replacement. Equipment being returned to the owner should be transported by the quickest means practicable, having regard to the freight costs involved.

DEBRIEFING ARRANGEMENTS

As soon as practicable after completion of the clean up operations, a full debriefing session should be held. The aim of this session should be to evaluate the response and translate the experience gained into planning for future operations. The debrief should not be deferred because of possible legal argument as to the cause of the pollution; it should be made clear to all parties that discussions will centre on evaluation of response operations only.

The debriefing session should be organized by the combat authority and attended by all key personnel, and appropriate members of the support team.

All facets of the response operation should be critically examined. Particular attention should be given to the adequacy of the REEFPLAN organisation and the efficiency and effectiveness of pollution combat resources deployed in the combat operation. The latter will require extensive inputs from the chronological summary, together with cost analyses of the equipment and manpower resources deployed. The associated transport costs should also be considered.

Following a major pollution incident, the scientific response team should initiate a study on the spill's biophysical and socio-economic effects and impacts. Proposals for this study should be discussed at the debriefing session.

Recommendations to minimise or remove any operational or organisational deficiencies identified should be directed to the combat authority. The combat authority will consider all such recommendations with regard to the possible inclusion in revised contingency plan arrangements.

RESTORATION AND MONITORING OF IMPACT AND DISPOSAL SITES

On termination of the clean up operation the OSC should ensure that measures are taken, where practicable, to restore both the impact site and disposal site to their pre-incident condition.

Where contaminated material has been removed in significant amounts from foreshores, an attempt should be given to replacing this with similar material. Advice should be sought in the selection of the source area to ensure that environmental disturbance is minimised. Care must also be exercised to minimise the impact on the environment of equipment and personnel used in restoring the site.

It is essential that adequate monitoring practices are implemented both in and around the impact and disposal sites to assess the level of environmental disturbance. Monitoring should be undertaken on both a short and long term basis.

The Scientific Support Coordinator (SSC) should co-ordinate monitoring activities and arrange access and provision of facilities for monitoring teams. Regular appraisals of the short and long term environmental effects of the oil pollution incident and response operations should be made. The SSC should make recommendations as appropriate for the incorporation of the findings of monitoring studies in future revisions of REEFPLAN.

14. FINANCIAL PROCEDURES

POLLUTION INCIDENTS

The financial provisions of the National Plan provide for the Commonwealth Government authority to reimburse the authority having prime responsibility for the costs incurred in incident response. Reimbursement is made on the understanding that:

1 The incident involves costs in excess of $500 or requires the use of 500 litres or more of dispersant.

2 The authority having prime responsibility will make every effort to recover the clean up cost from the polluter.

3 The authority having prime responsibility is satisfied that the incident is attributable to ship-sourced pollution.

In instances where it is decided not to recover costs from the known polluter, the authority having prime responsibility must advise DoTC of the grounds for such a decision.

Funds for interim reimbursement of incident costs are provided by the Commonwealth. Costs ultimately recovered from the polluter are repaid to the Commonwealth, through the DoTC.

POLLUTION INCIDENT COMBAT REPORT

The authority having prime responsibility is required to furnish a pollution incident combat report where claims for cost reimbursement are to be made from the National Plan. This report is necessary to substantiate the claim that the oil spill emanated, or was suspected to emanate, from a ship source. The combat report should be forwarded to the Director, Pollution Prevention, DoTC for assessment. To expedite settlement of the claim, the combat report should be sent at the same time as the Statement of Expenditure.

STATEMENT OF EXPENDITURE, OIL POLLUTION

To expedite settlement of claims arising from a particular incident, the authority having prime responsibility should promptly advise the Director, Pollution Prevention of an estimate of costs likely to be incurred.

On completion of a pollution incident, the authority shall assess and compile claims for costs incurred by all authorities and submit a single claim to DoTC under the cover of a "Statement of Expenditure, Oil Pollution" (Form OP-A). Each item of expenditure must be supported by appropriate financial documentation and descriptive statements.

Claims for costs incurred by other authorities in the incident response should be submitted to the authority having prime responsibility.

The authority having prime responsibility will be reimbursed for the total value of approved expenditure.

A list of points to be addressed, where relevant, in the combat report are set out in Appendix 14.

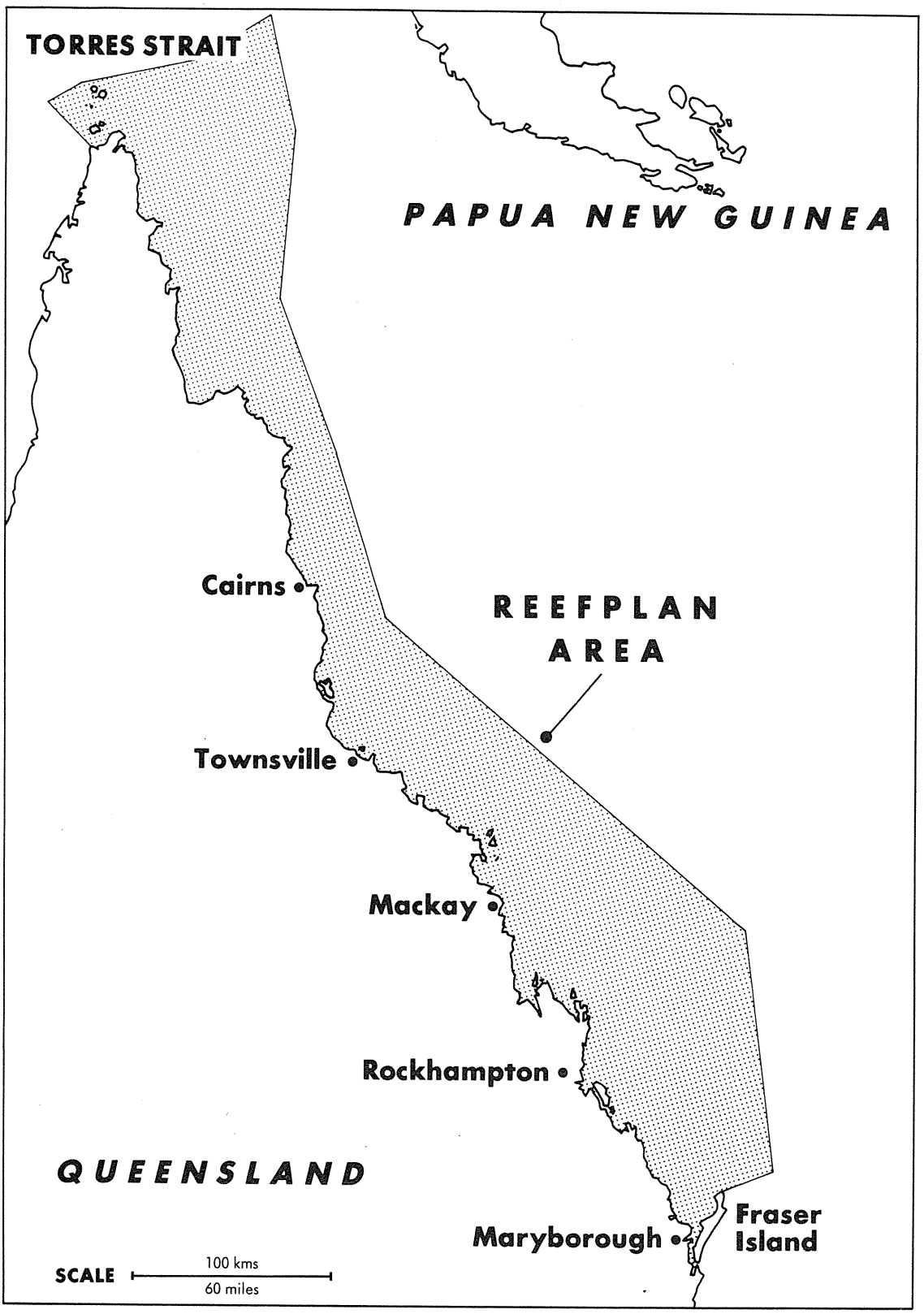
A P P E N D I C E S

APPENDIX 1

REEFPLAN AREA

The area the boundary of which shall commence from a line drawn from a point on the coast of Australia in

latitude 11.00 South, longitude 142.08 East to a point in
latitude 10.35 South, longitude 141.55 East, thence to a point
latitude 10.00 South, longitude 142.00 East, thence to a point
latutide 09.10 South, longitude 143.52 East, thence to a point
latutide 09.00 South, longitude 144.30 East, thence to a point
latitude 10.41 South, longitude 145.00 East, thence to a point
latitude 13.00 South, longitude 145.00 East, thence to a point
latitude 15.00 South, longitude 146.00 East, thence to a point
latitude 17.30 South, longitude 147.00 East, thence to a point
latitude 21.00 South, longitude 153.00 East, thence to a point
latitude 24.30 South, longitude 154.00 East, thence to a point
on the coast of Australia in latitude 24.42 South, longitude 153.15 East

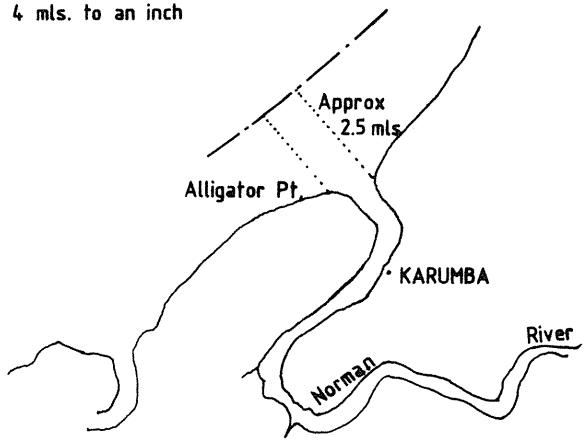

TORRES STRAIT
PAPUA NEW GUINEA
Cairns
REEFPLAN AREA
Townsville
Mackay
Rockhampton
QUEENSLAND
Maryborough
Fraser Island
SCALE
100 kms
60 miles

APPENDIX 2

QUEENSLAND HARBOUR LIMIT CHARTLETS

NORMANTON

Scale:- 4 mls. to an inch

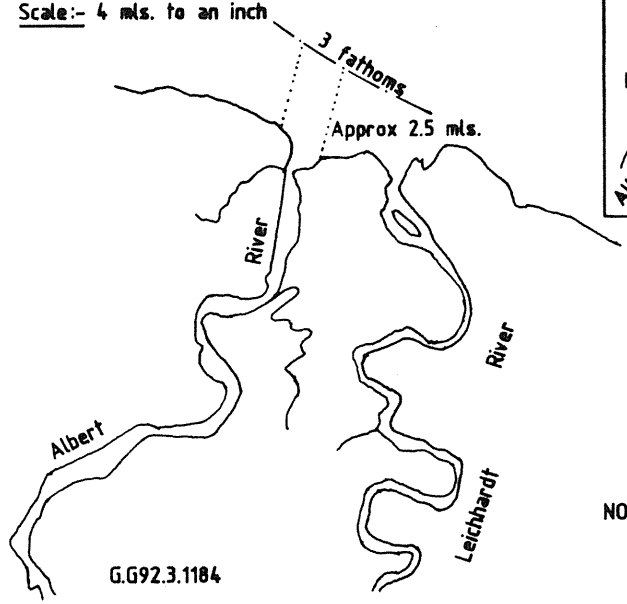


G.G.92.3.1184

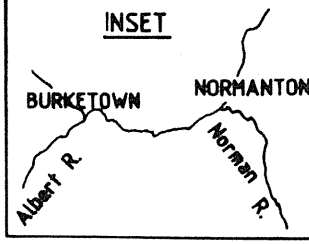
NOTE: NORTH LIMIT IS 3 FATHOM CONTOUR

BURKETOWN

Scale:- 4 mls. to an inch



INSET

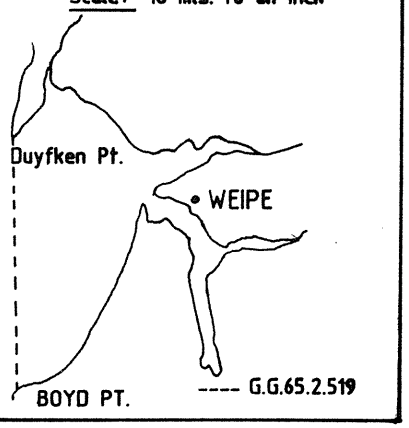


G.G92.3.1184

NOTE : NORTH LIMIT IS 3 FATHOM CONTOUR FROM HEAD OF ALBERT RIVER.

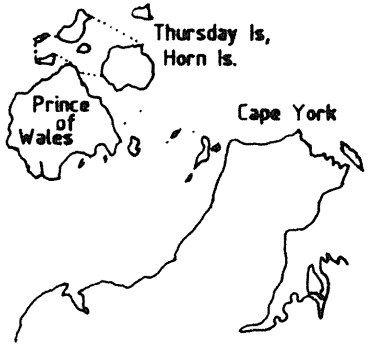
WEIPE

Scale:- 16 mls. to an inch

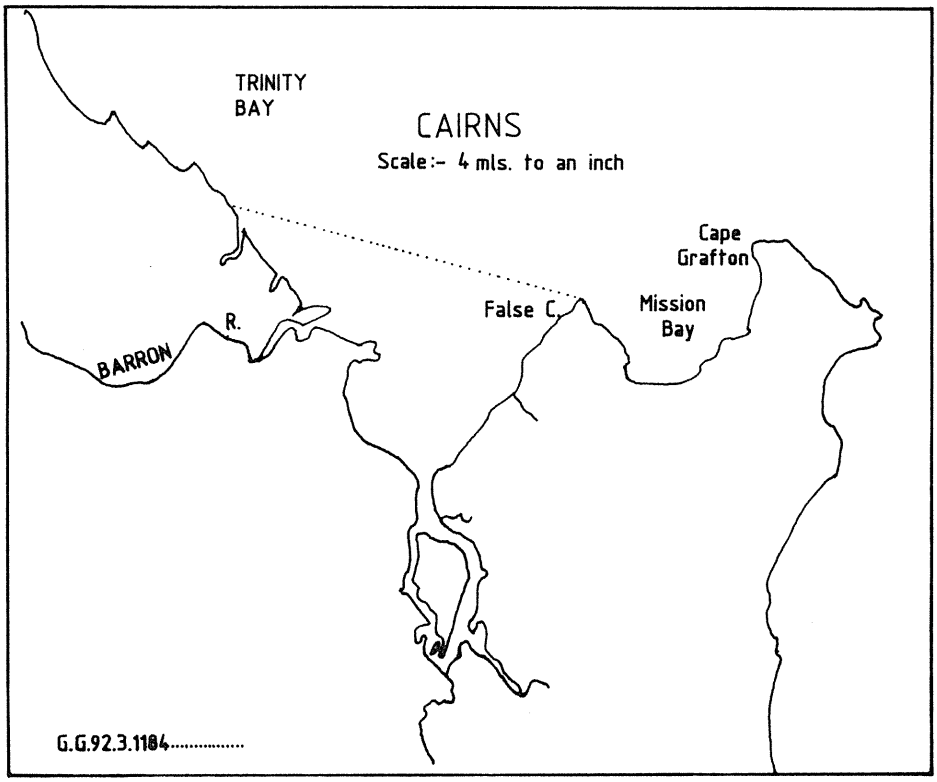


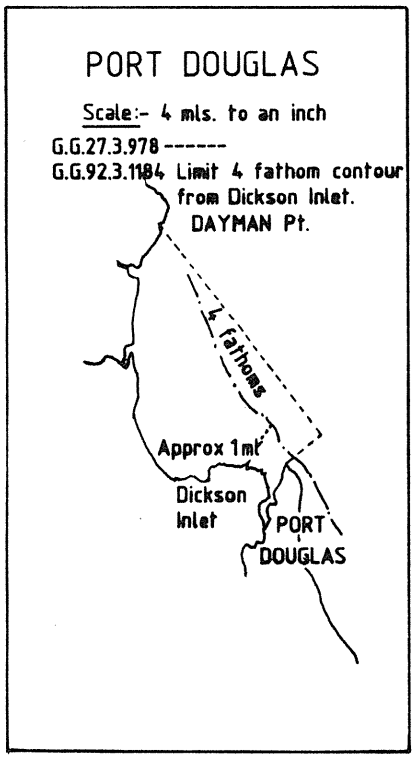
PORT KENNEDY

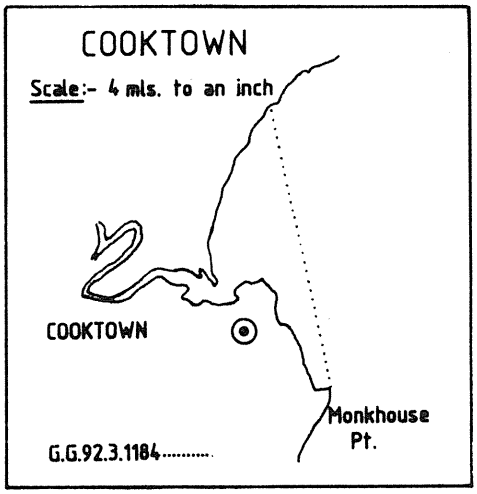
Scale:- 4 mls. to an inch

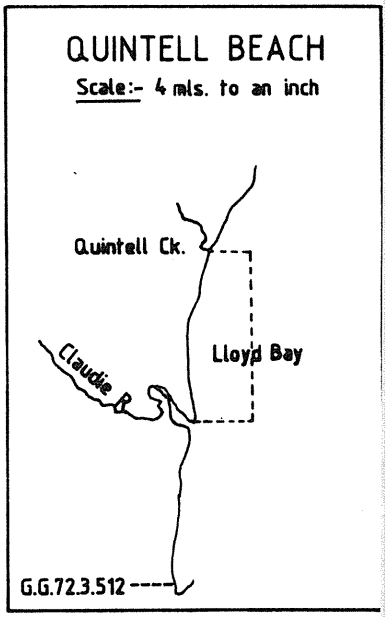


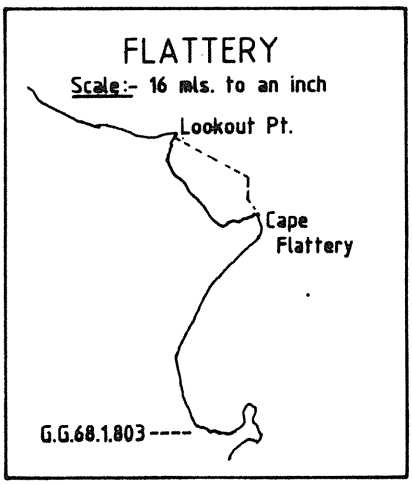
G.G.92.3.1184.....

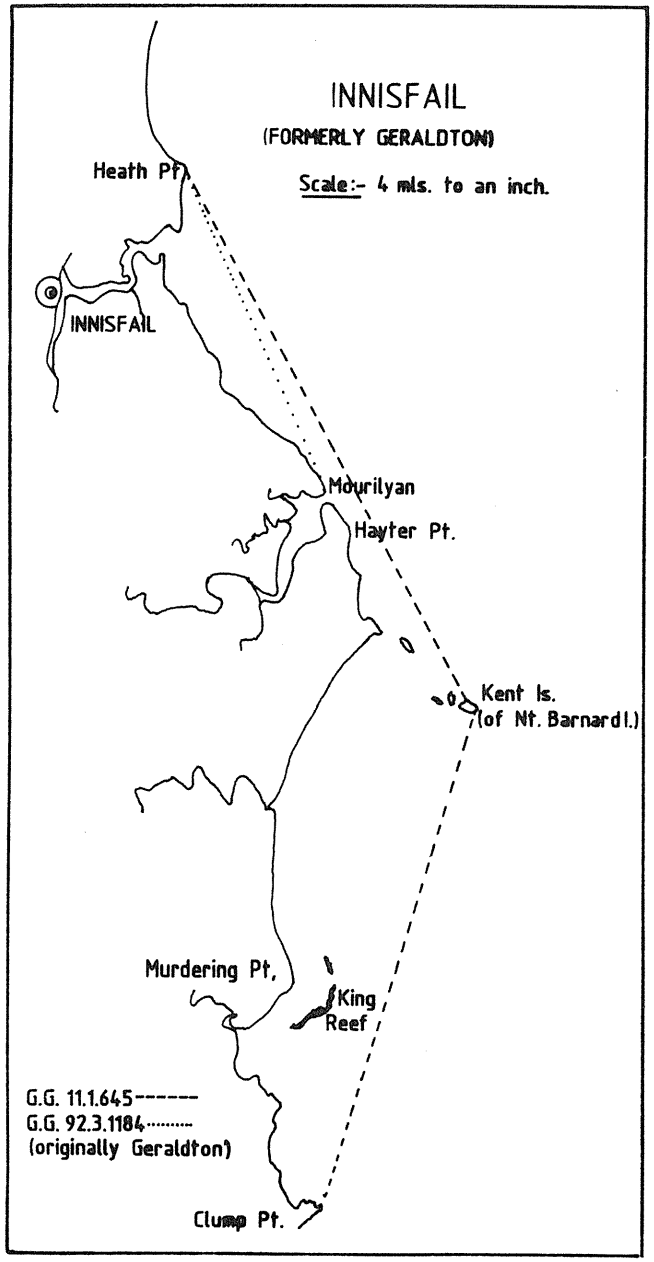

TRINITY
BAY
CAIRNS
Scale:- 4 mls. to an inch
Cape
Grafton
False C.
Mission
Bay
BARRON
R.
G.G.92.3.1184.....

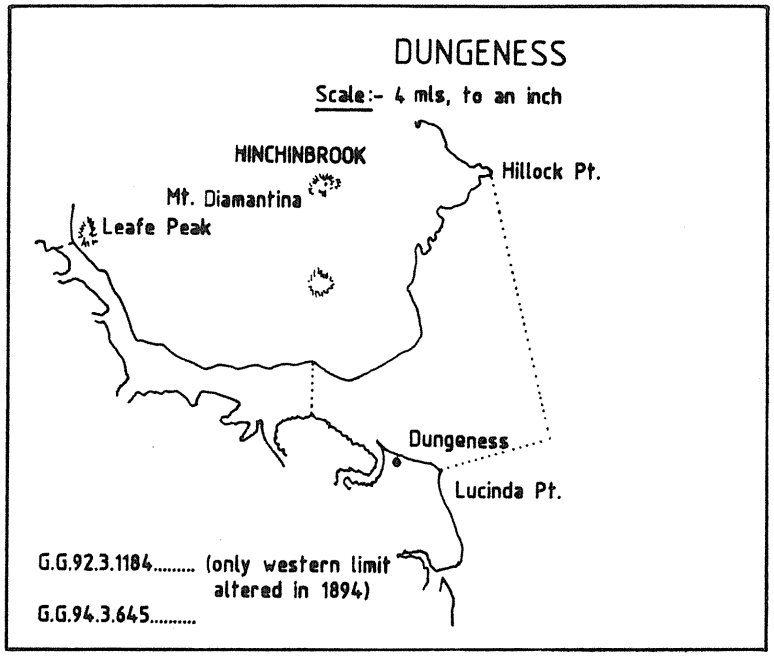

PORT DOUGLAS
Scale:- 4 mls. to an inch
G.G.27.3.978 ------
G.G.92.3.1184 Limit 4 fathom contour
from Dickson Inlet.
DAYMAN Pt.
4 fathoms
Approx 1mi
Dickson
Inlet
PORT
DOUGLAS

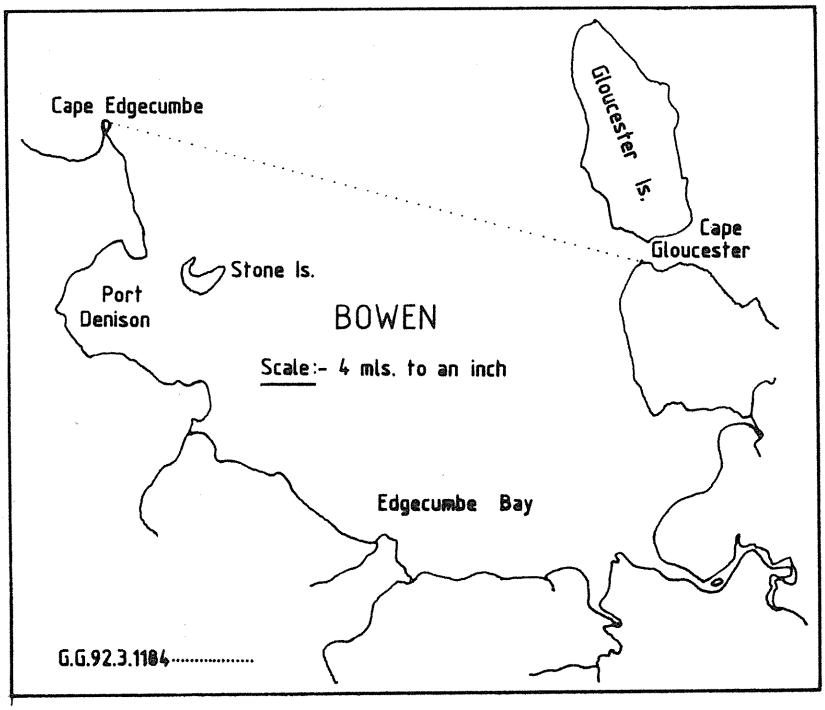

COOKTOWN
Scale:- 4 mls. to an inch
COOKTOWN
Monkhouse
Pt.
G.G.92.3.1184.....

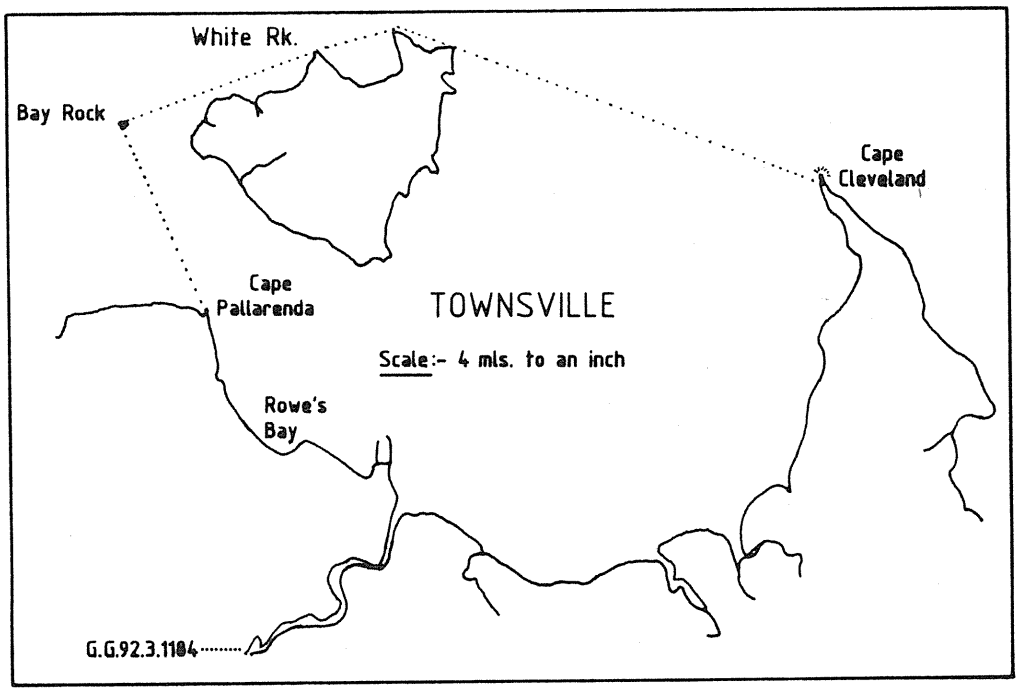

QUINTELL BEACH
Scale:- 4 mls. to an inch
Quintell Ck.
Lloyd Bay
Claudie R.
G.G.72.3.512 ----

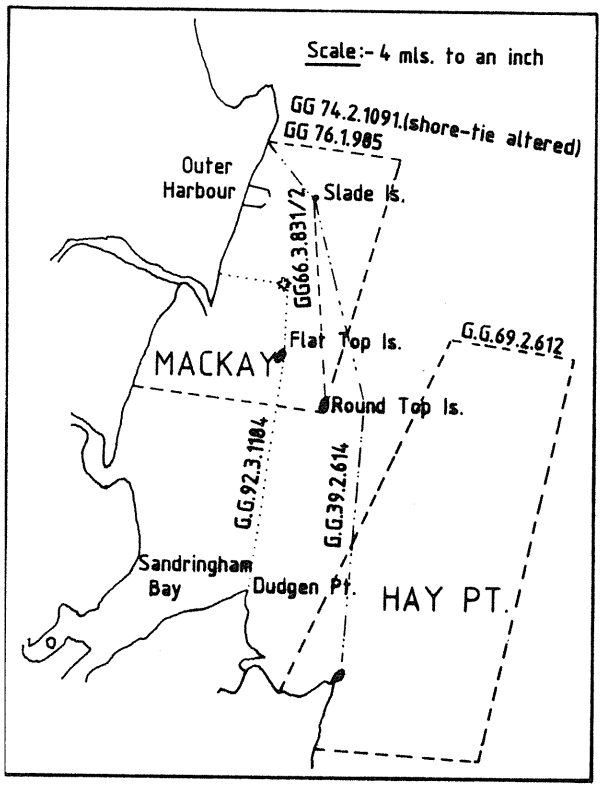

FLATTERY
Scale:- 16 mls. to an inch
Lookout Pt.
Cape
Flattery
G.G.68.1.803 ----

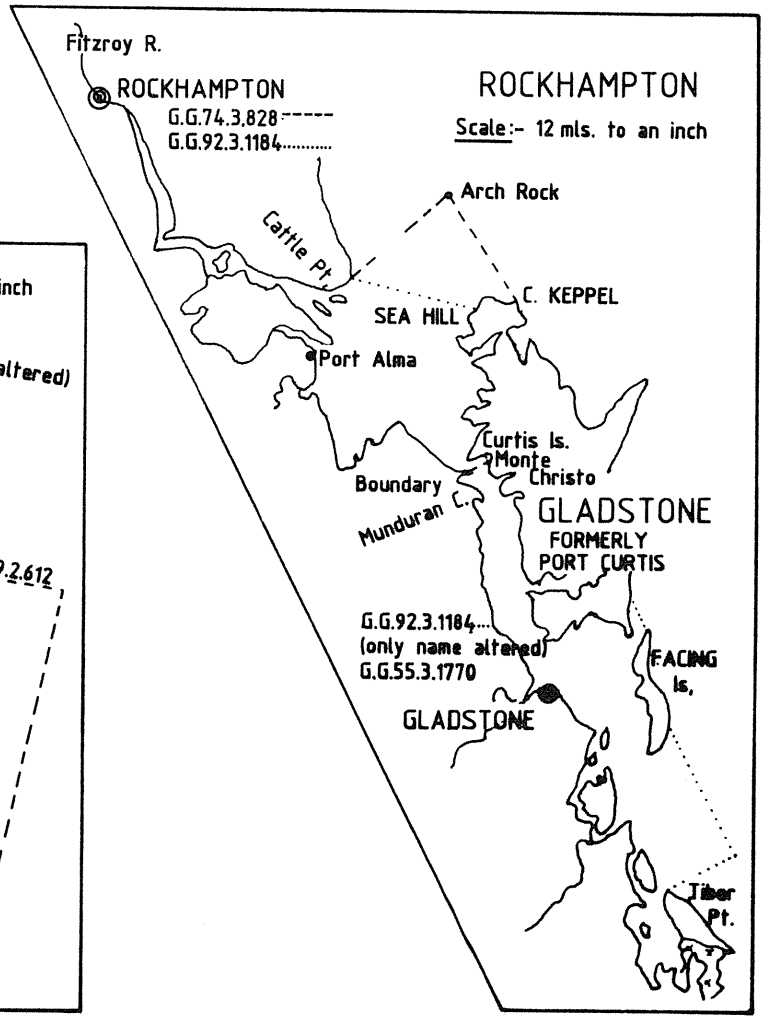

INNISFAIL
(FORMERLY GERALDTON)
Scale:- 4 mls. to an inch.
Heath Pt.
INNISFAIL
Mourilyan
Hayter Pt.
Kent Is.
(of Nt. Barnard I.)
Murdering Pt.
King
Reef
G.G. 11.1.645------
G.G. 92.3.1184.....
(originally Geraldton)
Clump Pt.

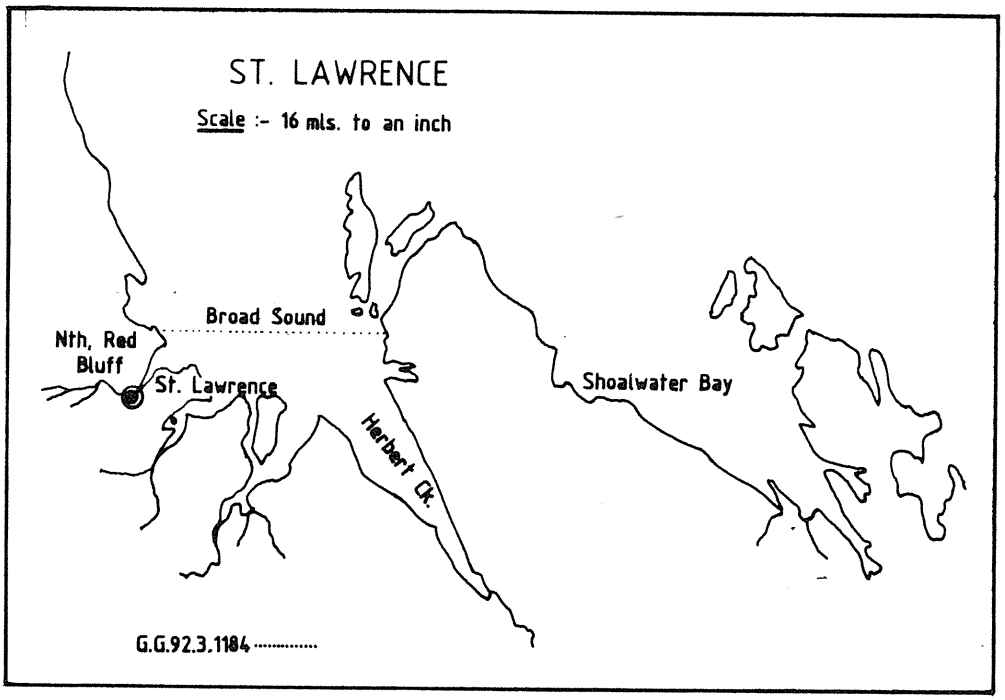

DUNGENESS
Scale:- 4 mls. to an inch
HINCHINBROOK
Mt. Diamantina
Leafe Peak
Hillock Pt.
Dungeness
Lucinda Pt.
G.G.92.3.1184..... (only western limit
altered in 1894)
G.G.94.3.645.....

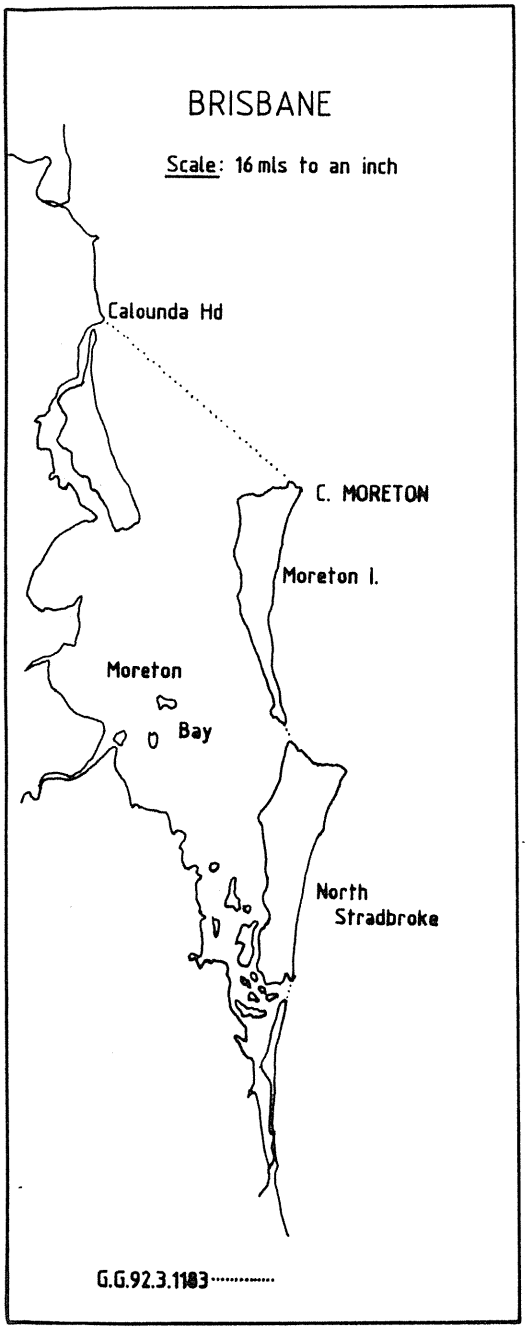

Cape Edgecumbe
Gloucester Is.
Cape Gloucester
Stone Is.
Port Denison
BOWEN
Scale:- 4 mls. to an inch
Edgecumbe Bay
G.G.92.3.1184

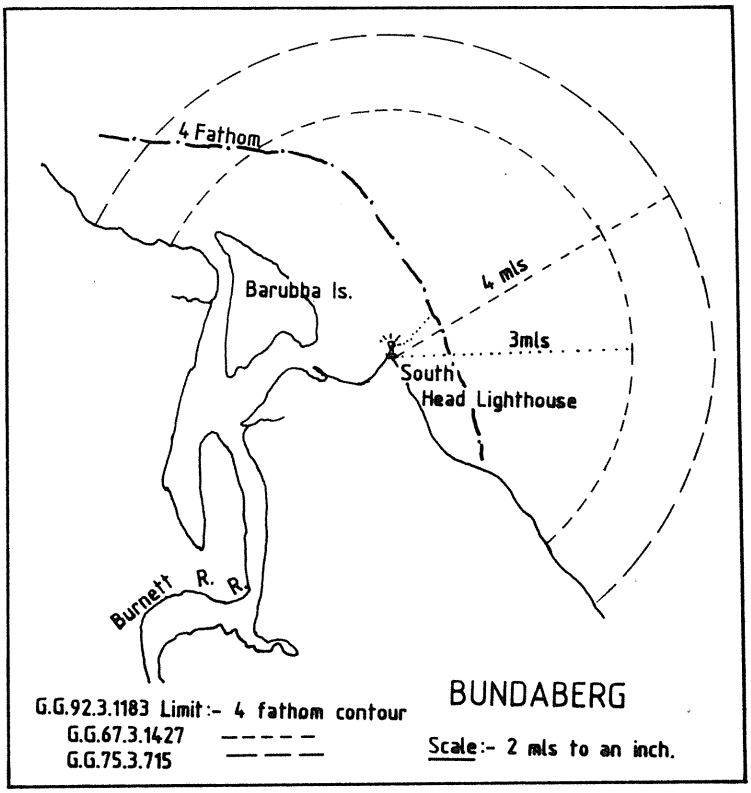

White Rk.
Bay Rock
Cape Cleveland
Cape Pallarenda
TOWNSVILLE
Scale:- 4 mls. to an inch
Rowe's Bay
G.G.92.3.1184

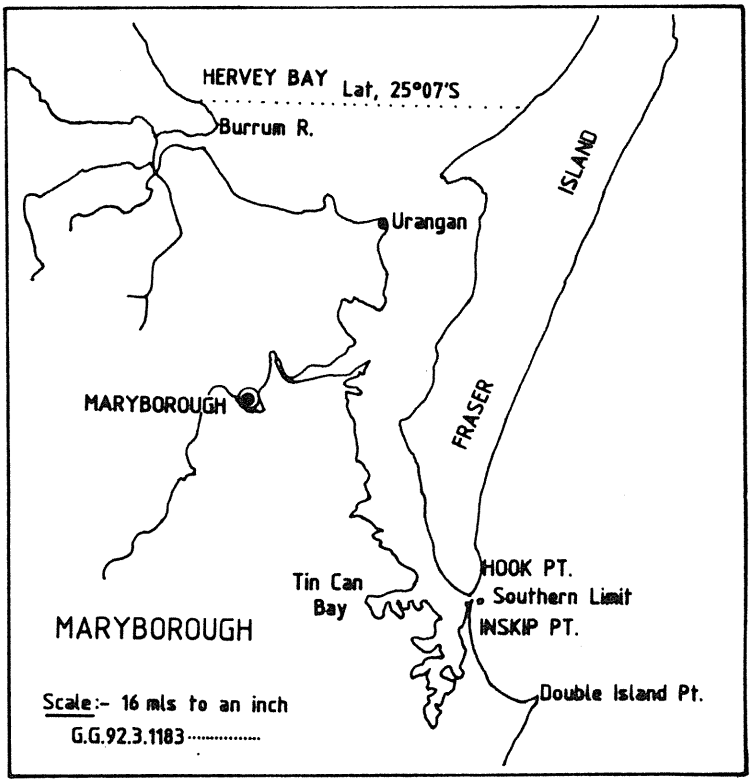

Scale:- 4 mls. to an inch
GG 74.2.1091.(shore-tie altered)
GG 76.1.985
Outer Harbour
Slade Is.
GG66.3.831/2
Flat Top Is.
MACKAY
G.G.69.2.612
Round Top Is.
G.G.92.3.1184
G.G.39.2.614
Sandringham Bay
Dudgen Pt.
HAY PT.

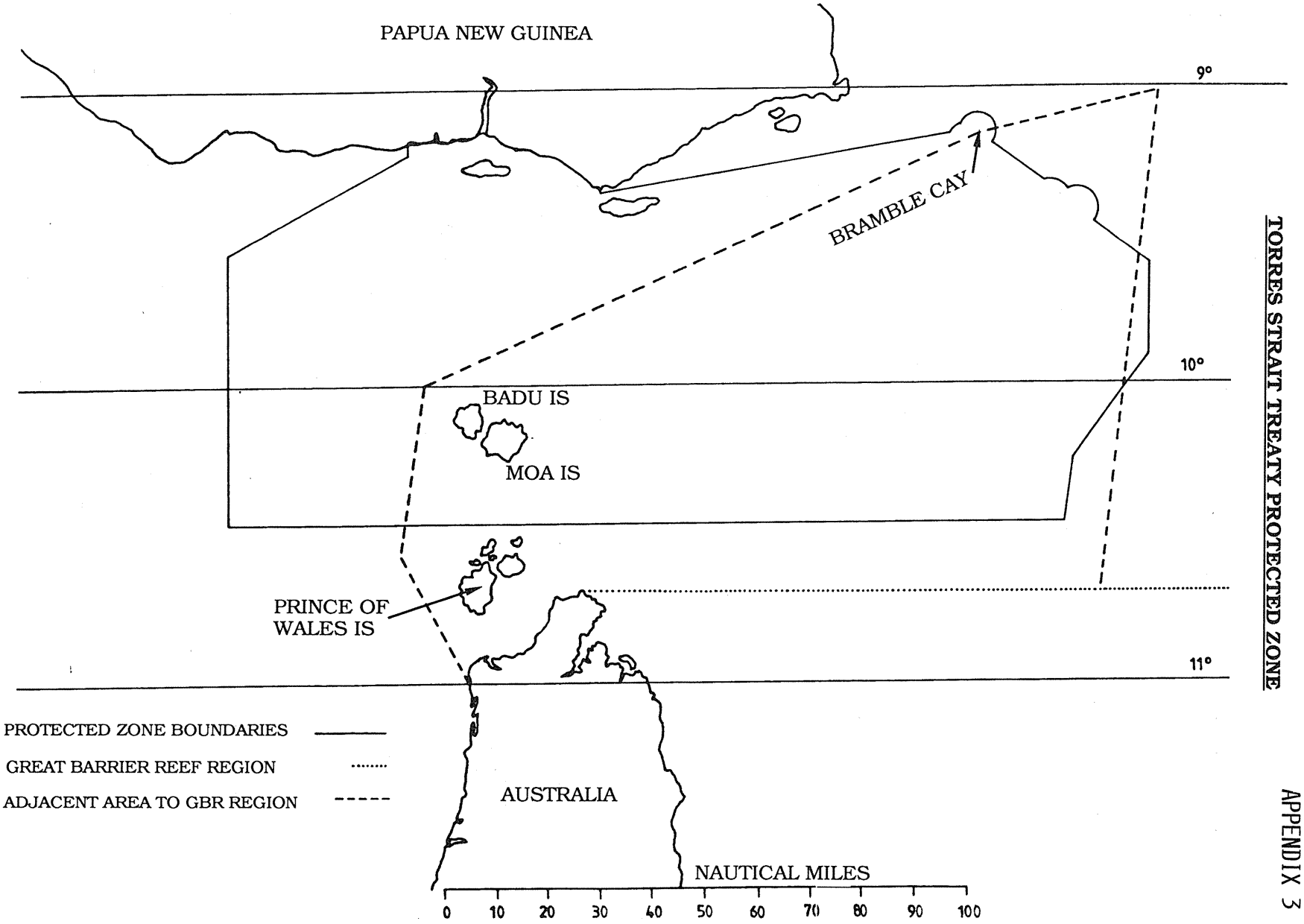

Fitzroy R.
ROCKHAMPTON
G.G.74.3.828
G.G.92.3.1184
ROCKHAMPTON
Scale:- 12 mls. to an inch
Arch Rock
Cattle Pt.
C. KEPPEL
SEA HILL
Port Alma
Curtis Is.
Monte Christo
Boundary
Munduran C.
GLADSTONE
FORMERLY PORT CURTIS
G.G.92.3.1184....
(only name altered)
G.G.55.3.1770
FACING Is.
GLADSTONE
Tiber Pt.


ST. LAWRENCE
Scale :- 16 mls. to an inch
Broad Sound
Nth, Red Bluff
St. Lawrence
Herbert Ck.
Shoalwater Bay
G.G.92.3.1184

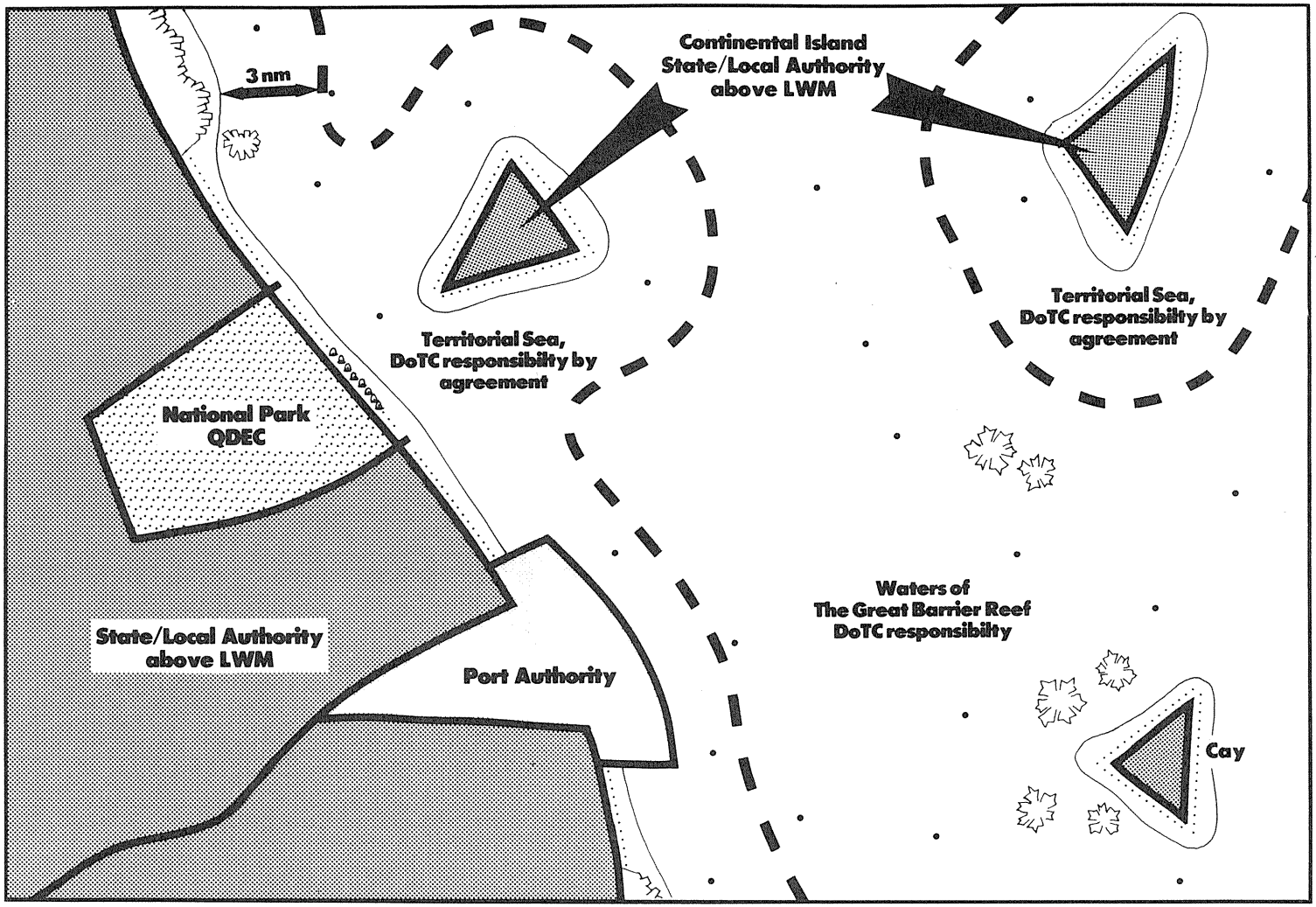

BRISBANE
Scale: 16 mls to an inch
Caloundra Hd
C. MORETON
Moreton I.
Moreton
Bay
North
Stradbroke
G.G.92.3.1183


4 Fathom
4 mls
3mls
Barubba Is.
South
Head Lighthouse
Burnett R.
G.G.92.3.1183 Limit:- 4 fathom contour
G.G.67.3.1427
G.G.75.3.715
BUNDABERG
Scale:- 2 mls to an inch.

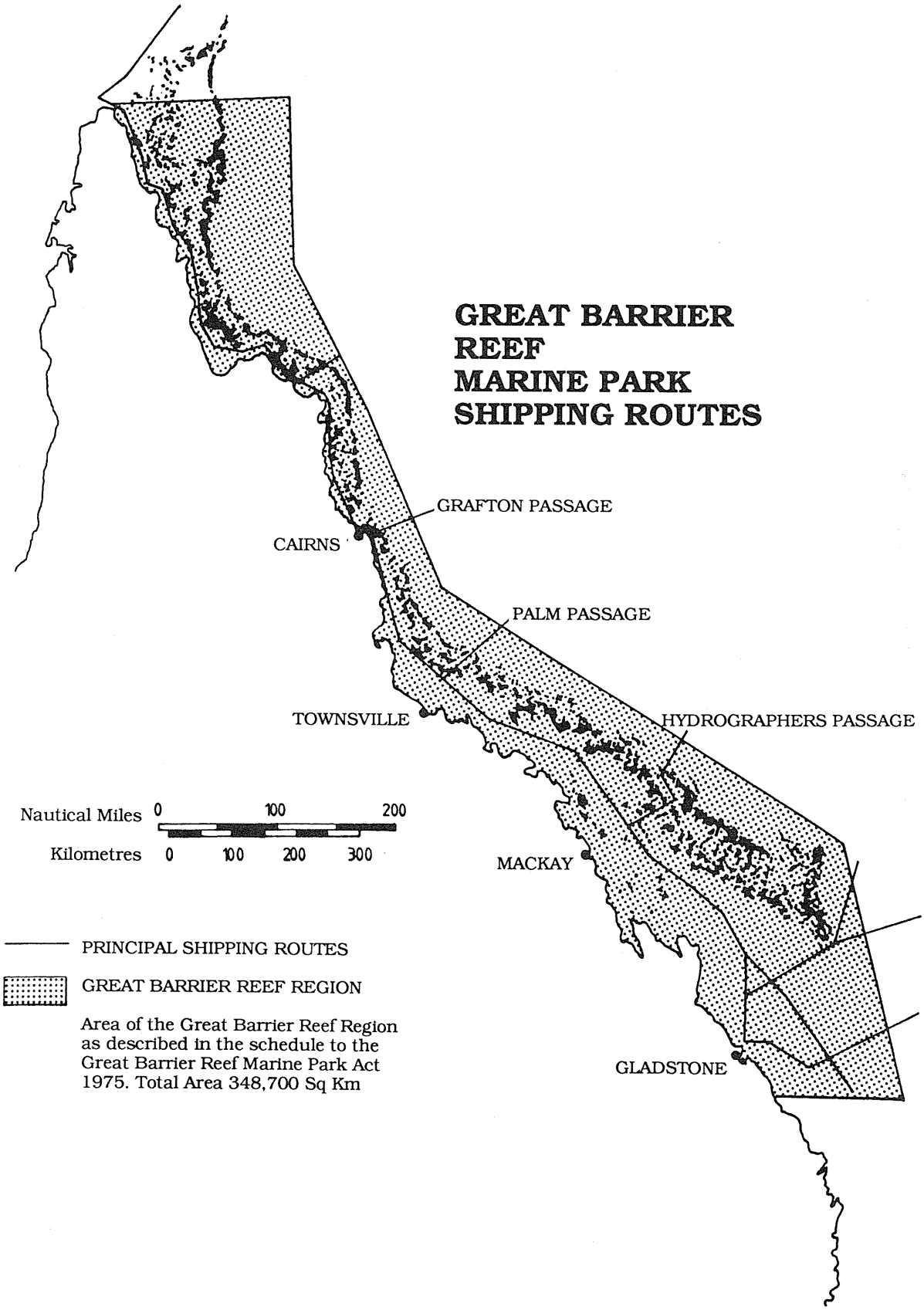

HERVEY BAY Lat, 25°07'S
Burrum R.
Urangan
ISLAND
MARYBOROUGH
FRASER
HOOK PT.
Southern Limit
INSKIP PT.
Tin Can
Bay
MARYBOROUGH
Double Island Pt.
Scale:- 16 mls to an inch
G.G.92.3.1183


PAPUA NEW GUINEA
9°
BRAMBLE CAY
10°
BADU IS
MOA IS
PRINCE OF
WALES IS
11°
PROTECTED ZONE BOUNDARIES
GREAT BARRIER REEF REGION
ADJACENT AREA TO GBR REGION
AUSTRALIA
NAUTICAL MILES
0 10 20 30 40 50 60 70 80 90 100

Division of Responsibility



APPENDIX 5


GREAT BARRIER
REEF
MARINE PARK
SHIPPING ROUTES
GRAFTON PASSAGE
CAIRNS
PALM PASSAGE
TOWNSVILLE
HYDROGRAPHERS PASSAGE
Nautical Miles 0 100 200
Kilometres 0 100 200 300
MACKAY
GLADSTONE
PRINCIPAL SHIPPING ROUTES
GREAT BARRIER REEF REGION
Area of the Great Barrier Reef Region as described in the schedule to the Great Barrier Reef Marine Park Act 1975. Total Area 348,700 Sq Km

APPENDIX 6

MARINE POLLUTION REPORT (POLREP)

Contents of Message:

Message Precedence:	URGENT for oil pollution reports ORDINARY for other pollution reports
Date and Time Group:	Date and time message sent (GMT)
From:	Identity of surveillance unit
To:	Sea Safety Canberra
Message Type:	POLREP

Report Details:

(AA) Nature and extent of pollution

(BA) Position of pollution in latitude/longitude

(CA) Movement of slick and speed

(EA) Identity of pollution source if known

(EB) Estimated course and speed of any craft involved

(EC) Point of discharge from vessel

(ED) Weather and sea conditions

(EE) Appearance and conditions of sea surface in vicinity (eg. trace of colour in slick, other slicks observed or clean surfaces except for reported slicks, some floating timber etc.)

(EF) Whether sample taken and if so, position relative to polluting vessel when appropriate (eg. in wake approximately two minutes after passage)

(EG) Identity and position of vessel in close vicinity if pollution source unknown

(EH) Any other relevant information

(FA) Photographs taken yes/no

(GA) Destination and ETA of reporting unit

End of Message

NOTE: Amplifying reports may be requested or originators may consider them necessary. They may be in the form of letters or message depending upon the degree of urgency. Unless otherwise specified they should be addressed to Federal Sea Safety Centre, Department of Transport and Communications, GPO Box 594, Canberra, ACT 2601.

APPENDIX 7

SITUATION REPORT (SITREP)

During a marine pollution incident, or any other incident which may cause marine pollution, it is important that appropriate authorities be kept advised of all significant developments.

In the situation of an oil spill incident, the on scene coordinator will be responsible for ensuring that periodic SITREPS are despatched to those concerned.

During an incident which involves the risk of marine pollution the combat authority shall be responsible for initiating SITREPS. These would best be directed to FSSC who would disseminate to addressees. SITREPS should contain as much information as possible and preferably should conform to the following sample:

Precedence: as appropriate

Date Time Group: date and time message sent (GMT)

From: originator of report

To: as appropriate

Incident title:

SITREP number:

(1) Summary of events since last SITREP or all events and identification of source if new incident

(2) Expected developments

(3) Areas threatened

(4) Planned course of action

(5) Details of any assistance required

(6) Other pertinent information.

The last SITREP in a series covering a particular incident should contain the words FINAL SITREP.

APPENDIX 8

EFFECT OF OIL ON THE APPEARANCE OF WATER

APPROXIMATE FILM THICKNESS		APPROXIMATE QUANTITY OF OIL		APPEARANCE
10^{-6} INCHES	MICRONS	GALLONS PER SQUARE MILE	LITRES PER SQUARE KM	
1.5	0.04	25	44	Barely visible under most favourable light conditions
3.0	0.08	50	88	Visible as silver sheen on water surface
6.0	0.15	100	176	First trace of colour may be observed
12.0	0.30	200	351	Bright bands of colour
40.0	1.0	666	1168	Colours begin to turn dull
80.0	2.0	1332	2337	Colours are much darker

NOTE: Judgement of thickness exceeding 2 microns has proven to be exceedingly difficult without sophisticated remote sensing techniques.

APPENDIX 9

PROCEDURES FOR COLLECTION OF OIL SAMPLES

In Queensland, the State Government Laboratory will carry out analysis of oil samples. The recommended procedures for collecting and forwarding oil samples for analysis are:

(a) Samples should be taken from the source and from the water/foreshore areas with the minimum of delay so that changes in composition due to the effects of sunlight and time are kept to a minimum.

(b) Every effort should be made to obtain an uncontaminated sample of oil for comparison purposes, particularly if prosecution is envisaged.

It should be noted that proof of identity is more easily shown by comparative analysis against a sample of origin than by deduction from special characteristics obtained from the polluting oil alone.

In certain circumstances it may be possible to obtain samples of the pollutant using an inert type of absorbent, eg. polypropylene. When this technique is used great care should be taken to ensure that the device for squeezing the oil out of the absorbent material and the funnel and other items in use are absolutely clean and will not contaminate the oil sample.

(c) Samples of a minimum of 100 grams and preferably of up to one kilogram should be taken in clear glass bottles with glass stoppers. The stopper should be firmly tied to the bottle by wire or with twine. Plastic or metal bottles should not be used.

(d) The bottles should be numbered and labelled. A second copy of the label for each bottle should accompany the request for analysis.

(e) The labels should contain the following information:

i date and time of sampling

ii place where taken, with as much geographical detail as possible

iii direction of the movement of the oil (ie. wind direction, currents etc).

(f) The bottle should be carefully packed in metal or any other crush resistant container; the outer container should clearly indicate that the contents are fragile.

(g) For prosecution purposes it is important to adopt security measures, unless the sample is delivered personally to the laboratory. The measures should include:

i sealing the bottle, preferably with wax
ii sealing the bottle's label
iii written confirmation of delivery.

(h) The telephone number of the Queensland State Government Laboratory contact is 07-224 2111.

APPENDIX 10

POLLUTION INCIDENT COMBAT REPORT

At the conclusion of each pollution incident where the authority having prime responsibility intends claiming reimbursement of clean up costs from the National Plan, ie. in cases where such costs exceed $500 or dispersant in excess of 500 litres was used, the authority having prime responsibility shall foward an incident combat report to the Director, Pollution Prevention.

Combat reports are required to substantiate the claim that an oil spill emanated, or was suspected to emanate, from a ship source. Early receipt of reports will ensure reimbursement of clean up costs with minimum delay. Combat reports should therefore be sent at the same time as the "Statement of Expenditure, Oil Pollution".

Each report shall contain, as appropriate, the following details in respect of the incident:

(1) Date

(2) Location

(3) Name of Ship and Nationality

(4) Port of Registry and Official Number

(5) Master's name

(6) Type of oil and quantity

(7) Cause of oil spill

(8) Detailed description of combat operations including weather conditions and movement of oil

(9) Stockpile equipment utilized

(10) Stockpile dispersant material expended

(11) Other materials or equipment used

(12) Assistance from other Government bodies or Industry

(13) Intended clean up cost recovery action

(14) Comments and recommendations

Each pollution incident combat report shall be assessed by the Commonwealth Government authority and those of major incidents or with special characteristics shall be passed on to the Maritime Services Advisory Committee - Marine Pollution, for continuing advice on the best methods of combating oil pollution on the basis of actual experience. The reports will then serve to provide a register of incidents and can be used, if necessary to update this manual.

Reports of special interest will also be circulated to State Committees.

APPENDIX 11

SCHEDULE OF SENSITIVE AREAS WHERE USE OF DISPERSANTS MAY BE APPROVED

(1) SEABIRD BREEDING ISLANDS ON THE GREAT BARRIER REEF

The following preliminary list contains 188 islands with seabird colonies on the Barrier Reef. The list is probably about 70% complete. Some islands are of world significance while many islands have only a small colony of one species and are not important. Particularly important islands are given in bold print. The most serious general areas for oil spills are the Capricorn-Bunker islands, the Swain islands and the many offshore cays along Cape York Peninsula. The numbers of seabird species known breeding is listed for each island but should be used only as a rough guide because the data is very incomplete.

Bramble Cay	09°08'	143°52'	4	Chapman I	12°53'	143°36'	2
Murray Island Sandbank	09°35'	144°10'	2	Sherrard I	12°59'	143°34'	3
Dalrymple I	09°37'	143°18'	1	Night I	13°11'	143°35'	1
Kodall It	09°44'	143°27'	1	Lowrie I	13°17'	143°36'	1
Dove It	10°00'	143°02'	4	**Sandbank No 8**	13°22'	143°58'	7
Kusa I	10°07'	142°05'	1	Sandbank No 7	13°26'	143°58'	3
Kusamet Is	10°11'	142°05'	2	Morris I	13°30'	143°43'	1
Tuin Rk	10°13'	142°10'	1	Fife I	13°39'	143°43'	5
Kircaldie Cay	10°20'	142°50'	2	**Pelican I**	13°55'	143°50'	7
Jaylag I	10°21'	142°07'	1	**Stalner I**	13°57'	143°50'	6
Channel I	10°21'	142°14'	1	Davie Cay	13°59'	144°27'	5
Travers I	10°22'	142°22'	1	**Tydeman Cay**	13°59'	143°30'	4
Twin I	10°28'	142°27'	2	King I	14°05'	144°20'	1
East Strait I	10°30'	144°27'	2	Pipon I	14°08'	144°31'	2
Hammond Rk	10°31'	142°13'	1	Wharton Cay	14°10'	144°02'	5
Channel Rk	10°33'	142°15'	2	Sandbank No 1	14°12'	144°53'	2
Strait Rk	10°33'	142°13'	2	**Stapleton It**	14°20'	144°52'	6
Tuesday No4	10°33'	142°20'	2	**Combe It**	14°25'	144°55'	6
Booby I	10°36'	141°55'	1	Sinclair I	14°33'	144°54'	1
Brush It	10°42'	142°36'	2	Nymph I	14°40'	145°15'	2
Albany Rk	10°43'	142°38'	2	Osprey It	14°40'	145°27'	2
Roko I	10°44'	142°25'	1	**Eagle It**	14°42'	145°23'	6
Ulfa Rk	10°45'	142°37'	1	Turtle No 5	14°42'	145°12'	2
10-338	10°46'	142°59'	1	Seabird It	14°42'	145°28'	1
Sinclair I	11°07'	143°01'	1	**Turtle No 6**	14°43'	145°11'	4
Cairncross I	11°14'	142°56'	1	Turtle No 3	14°44'	145°11'	1
MacLennan Cay	11°19'	143°48'	3	Turtle No 4	14°44'	145°12'	1
Cholmondeley I	11°23'	143°03'	3	Pethebridge I	14°45'	145°10'	1
Pandora Cay	11°26'	144°00'	7	North Direction I	14°45'	145°31'	1
Wallace I	11°27'	143°02'	5	South Direction I	14°50'	145°32'	1
Hannibal I	11°35'	142°56'	1	**Rocky Its**	14°51'	145°28'	2
Raine I	11°36'	144°02'	14	Rocky Its (east)	14°51'	145°29'	6
Saunders It	11°42'	143°11'	3	Rocky Its (s-west)	14°52'	145°28'	3
MacArthur Is	11°44'	142°59'	2	Two Isles (west)	15°01'	145°27'	2
Bird I	11°46'	143°05'	5	Two Isles (east)	15°01'	145°27'	4
Magra It	11°51'	143°17'	3	Low Wooded I	15°05'	145°23'	3
Ashmore Bank	11°53'	143°38'	3	Three Isles (north)	15°07'	145°25'	1
Ashmore Bank	11°53'	143°38'	1	Three Isles (west)	15°07'	145°25'	3
Sir Charles Hardy (north)	11°54'	143°28'	1	Conical I	15°17'	145°20'	1

Sir Charles hardy (mid)	11°55'	143°28'	1
Sir Charles Hardy (south)	11°56'	143°29'	1
Nob I	11°57'	143°16'	1
Clerke I	11°58'	143°17'	1
Gore I	11°59'	143°15'	2
Farmer Cay	12°14'	143°13'	2
Baird I	12°15'	143°13'	1
Quoin I	12°24'	143°29'	7
Restoration Rk	12°37'	143°28'	1
Old Man Rk	12°38'	143°27'	1
Lloyd Is	12°45'	143°24'	2
Sisters I	17°45'	146°10'	4
Beaver Cay	17°51'	146°29'	3
Purtaboi I	17°56'	146°08'	4
Dunk I	17°56'	146°09'	1
Woln Garin I	17°58'	146°11'	2
Bedarra I	18°00'	146°09'	1
Peerahmah I	18°01'	146°10'	4
Wheeler I	18°02'	146°10'	1
Smith I	18°02'	146°12'	1
Coombe I	18°03'	146°11'	1
Brook Is	18°09'	146°18'	3
Sail Rk	18°12'	146°09'	1
Eva I	18°14'	146°19'	1
Esk I	18°46'	146°31'	1
Dido Rk	18°47'	146°31'	1
Albino Rk	18°47'	146°43'	2
Fly I	18°50'	146°32'	1
Cordelia Rks	19°00'	146°41'	2
Bramble Rk	19°01'	146°38'	1
Bay Rk	19°07'	146°45'	2
Twenty Foot Rk	19°12'	147°02'	1
Bray It	19°15'	147°04'	1
Bare It	19°15'	147°04'	1
Bald It	19°16'	147°04'	1
Holbourne I	19°43'	148°22'	3
Nares Rk	19°46'	148°22'	2
Eshelby I	20°01'	148°37'	4
Dingo Rks	20°05'	148°30'	1
Mantaray I	20°05'	148°30'	2
Olden Rk	20°06'	148°34'	3
Double Cone I	20°06'	148°49'	1
Bird I	20°06'	148°52'	1
Edwin rk	20°07'	148°37'	1
Little Grassy I	20°08'	148°36'	3
Low I	20°09'	148°35'	2
Deloraine I	20°10'	149°04'	1
Almora It	20°14'	148°46'	1
White Rk	20°18'	148°49'	3
East Rk	20°20'	148°52'	4
Calf I	20°25'	148°51'	1
unnamed in Repulse Bay	20°29'	148°48'	1
Pelican Rk	20°48'	149°16'	1
Brampton I	20°49'	149°16'	1
Reef It	21°58'	149°36'	1
East Hope I	15°44'	145°28'	1
West Hope I	15°44'	145°28'	1
Woody It	16°23'	145°34'	3
Michaelmas Cay	16°36'	145°59'	6
Upolu Cay	16°41'	145°56'	1
Haycock I	16°44'	145°42'	1
Little Fitzroy I	16°55'	146°00'	1
Fitzroy I	16°55'	146°00'	1
Russel I	17°14'	146°06'	1
Bresnahan I	17°40'	146°10'	2
Stephens I	17°44'	146°10'	1
Gannet Cay	21°59'	152°28'	3
Infelix I	22°02'	149°50'	2
Horeshoe Reef wreck	22°02'	152°36'	3
Edward I	22°18'	150°18'	1
Sun I	22°19'	150°14'	2
Pelican Rk	22°21'	150°15'	5
North Reef I	23°11'	151°54'	4
Creek Rk	23°12'	150°48'	2
Tyron I	23°14'	151°49'	4
Pelican Rk	23°15'	150°52'	2
North West I	23°18'	151°42'	2
Wilson I	23°18'	151°57'	5
Round Rks	23°18'	150°50'	2
Wreck I	23°19'	151°59'	6
Heron I	23°26'	151°57'	2
Keppel Rks	23°26'	151°03'	2
Erskine I	23°30'	151°46'	7
One Tree I	23°31'	152°08'	8
Masthead I	23°32'	151°45'	8
West Hoskyn I	23°48'	152°18'	6
East Hoskyn I	23°48'	152°18'	5
West Fairfax I	23°51'	152°22'	7
East Fairfax I	23°51'	152°22'	7
Lady Musgrave I	23°54'	152°25'	6
Lady Elliot I	24°07'	152°43'	9
Tern I	20°54'	150°02'	3
Redbill I	20°58'	150°04'	2
Bailey It	21°02'	149°33'	1
Distant Cay	21°06'	152°29'	3
Riptide Cay	21°14'	151°51'	2
Reid It	21°22'	149°39'	1
Cullen It	21°25'	149°30'	1
Irving I	21°27'	149°28'	1
Waratah I	21°31'	149°43'	1
Bacchl Cay	21°38'	152°23'	7
Thomas Cay	21°39'	152°22'	5
Pine Its	21°39'	150°13'	1
Ridge It	21°40'	149°38'	1
Connor It	21°43'	149°40'	1
Frigate Cay	21°44'	152°25'	9
Bylund Cay	21°47'	152°25'	6
Price Cay	21°47'	152°27'	7
Bell Cay	21°49'	152°25'	8

APPENDIX 12

DEFINITIONS AND ABBREVIATIONS

AIPECE - the Australian Institute of Petroleum Environment Conservation Executive.

AUTHORISED RELEASING OFFICER - a person who may authorise the release of stores from a National Plan stockpile depot on behalf of an Authority.

COMBAT AUTHORITY - the Authority responsible for the combat of a pollution incident.

COMMONWEALTH REGIONAL AUTHORITY - the Regional Manager of the Department of Transport and Communications, Queensland Region, or an officer nominated to act on the Regional Manager's behalf.

DoTC - The Commonwealth Department of Transport and Communications.

DOTQ - Department of Transport, Queensland.

FEDERAL SEA SAFETY CENTRE (FSSC) - the 24 hour operations centre in Canberra for the coordination of marine search and rescue and provision of communications in an oil spill response.

GBRMPA - the Great Barrier Reef Marine Park Authority.

GREAT BARRIER REEF REGION - that region defined in Schedule 1 of the Great Barrier Reef Marine Park Act, 1975.

MARINE AUTHORITY - the Commonwealth DoTC, the Marine and Ports Division of the Department of Transport, Queensland, Harbour Boards or Port Authorities.

MARITIME SERVICES ADVISORY COMMITTEE - MARINE POLLUTION - the committee responsible for providing technical advice on matters relating to marine pollution.

MOSC - the Marine Oil Spills Committee of AIPECE.

NATIONAL PLAN TO COMBAT POLLUTION OF THE SEA BY OIL (NATIONAL PLAN) - the contingency plan to combat ship-sourced oil spills in the Australian marine environment developed jointly by Commonwealth, State and Northern Teritory Governments, with the assistance of the Australian oil industry.

ON-SCENE COORDINATOR (OSC) - the person appointed by an Authority to take direct charge of operations to combat a pollution incident.

ON-SCENE SPILL MODEL (OSSM) - an interactive computer program which may be used to assist with the prediction of oil slick movement.

POLLUTION INCIDENT - an actual, potential or suspected ship-sourced oil/hazardous substances discharge in the marine environment

POLLUTION PREVENTION SECTION - The section in the Department of Transport and Communications responsible for marine pollution matters

POLREP - a report from any source of a possible or confirmed pollution incident.

QDEH - Queensland Department of Environment and Heritage.

QUEENSLAND STATE PLAN - a regional contingency plan prepared by the State Pollution Committee which supplements the National Plan Operations and Procedures Manual.

SCIENTIFIC SUPPORT COORDINATOR (SSC) - the coordinator of scientific and environmental advice concerning oil pollution who is responsible to the OSC during an incident.

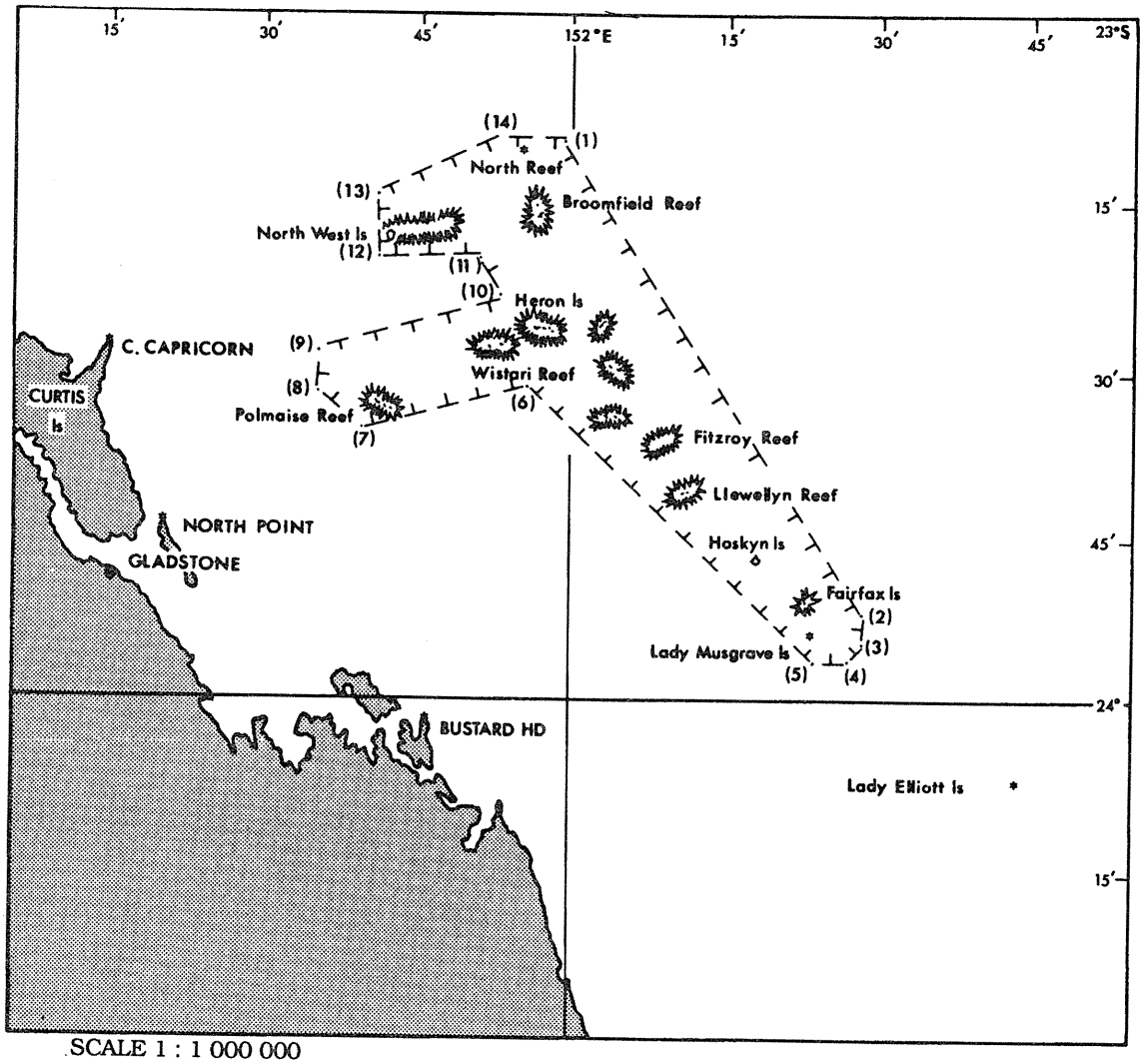
SITREP - a situation report of an actual or potential oil pollution incident lodged with the FSSC.

SPILL COUNTER MEASURES WORKING GROUP - a group whose role is to address all aspects of the response to an incident including post-spill debriefing and monitoring. Membership generally comprises representatives from DoTC, QDOT GBRMPA and QDEH.

STATE POLLUTION COMMITTEE - the committee responsible for the administration and operation of the National Plan within Queensland. For membership of this Committee refer to the National Plan Operations Manual and the Queensland State Supplement.

IMO AREAS TO BE AVOIDED

APPENDIX 13



SCALE 1 : 1 000 000

Description of the area to be avoided.
In order to avoid the risk of pollution and damage to the environment in the region of the Great Barrier Reef Marine Park, all ships in excess of 500 tons gross tonnage should avoid the area which is bounded by a line connecting the following points:

(1)	23°10'S	151°56'E
(2)	23°53'S	152°28'E
(3)	23°55'S	152°28'E
(4)	23°57'S	152°26'E
(5)	23°57'S	152°24'E
(6)	23°32'S	151°55'E
(7)	23°36'S	151°39'E
(8)	23°33'S	151°35'E
(9)	23°30'S	151°35'E
(10)	23°25'S	151°53'E
(11)	23°20'S	151°50'E
(12)	23°20'S	151°40'E
(13)	23°15'S	151°40'E
(14)	23°10'S	151°52'E

Thence to the point of commencement.

2. LEGISLATION AND ARRANGEMENTS TO CONTROL OIL POLLUTION

DISCHARGE OF OIL FROM SHIPS

The discharge of oil from ships is regulated in accordance with standards established in the MARPOL 73/78 Convention. The Convention totally prohibits the discharge of any oil or oily water mixtures by vessels in the REEFPLAN area.

The MARPOL 73/78 Convention is applied in Australia through the Protection of the Sea (Prevention of Pollution from Ships) Act 1983 and the Navigation (Protection of the Sea) Amendment Act 1983.

INTERVENTION IN POLLUTION INCIDENTS

The Protection of the Sea (Powers of Intervention) Act 1981 came into operation on 5 February 1984, and implements the provisions of the 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties and the 1973 Protocol to that Convention. The Act contains powers that the Minister may invoke to intervene in an actual or threatened pollution incident involving oil or certain noxious substances in regard to Australian or foreign ships. The Act preserves the operation of State and Territory legislation. Australia has always asserted the right to protect its territory and coastal waters. The Protection of the Sea (Powers of Intervention) Act 1981 continues to apply this right.

COMPENSATION FOR DAMAGE

The Protection of the Sea (Civil Liability) Act 1981 implements the provisions of the 1969 International Convention on Civil Liability for Oil Pollution Damage. Ships carrying more than 2000 tons of oil in bulk as cargo are required to maintain insurance to cover liability for pollution damage. In the event of a pollution incident, the costs of clean up and compensation for damage are recoverable from the polluter up to the limits of liability specified in the Act.

OBLIGATIONS UNDER THE TORRES STRAIT TREATY

The northern section of the REEFPLAN Area falls within a Protected Zone as defined in Article 10 of the Torres Strait Treaty (see map at Appendix V). Australia and Papua New Guinea are obliged, under Article 13 of the Treaty, to take legislative and other measures necessary to protect and preserve the marine environment in, and in the vicinity of, the Protected Zone. This involves measures for the prevention and control of pollution from vessels in this zone.

INTERNATIONAL MARITIME ORGANIZATION "AREAS TO BE AVOIDED"

On 11 May 1983, the International Maritime Organization (IMO) proclaimed that a central portion of the Capricornia Section of the GBR Marine Park should be regarded as an "Area to be Avoided" by ships over 500 tons gross tonnage.

INTERNATIONAL MARITIME ORGANIZATION RECOMMENDATION ON PILOTAGE

In November 1987, the IMO Assembly adopted a Resolution on pilotage in the Great Barrier Reef region. The Resolution recommends that:

> Masters of ships of 100 metres in length and over, all loaded tankers, chemical carriers or liquefied gas carriers irrespective of size, embark a

pilot of the Queensland Coast and Torres Strait Pilot Service when navigating in the Torres Strait, the inner route of the Great Barrier Reef north of latitude 16° 40' South or through the Great North East Channel or Hydrographers Passage".

r Kinsey MINUTE 9.7.9.1

through
r Gillies 25/1/90. Supported in order to meet the MPA deno.

Oil Spill Strategic Atlas - Addition of Two Extra Maps
Brett Kettle - Marine Biologic

Purpose

To seek your approval for the above work.

Background

Marine Biologic have completed the first series of maps for the oil spill strategic atlas and the programming associated with them. The present coverage is from Townsville to the Whitsunday Islands.

One of the programs written allows the user to interactively enter data on environmental conditions and the machine will then display the anticipated course that the oil will move along over the next 24 hours.

It is proposed to demonstrate the atlas at the next MPA meeting and show the anticipated results of a spill at the proposed Halifax Bay bunkering site under a number of likely meteorological conditions. The series of maps available will not be adequate to show the course of the slick if the wind is greater than 20 knots from the south east. This is a likely scenario.

The attached map shows the extra areas (highlighted) that need to be entered and a quote for the work is also attached. Total cost is $347.50 and the funds will come from the R and M Research Program.

Recommendation

That you approve this work and agree that I raise a purchase order for it.

S Hillman Approved

(S. Hillman)
25/1/90

25/1/90.

Great Barrier Reef Marine Park Authority

P.O. Box 1379, Townsville, Qld 4810
Great Barrier Reef Wonderland,
1–37 Flinders Street, Townsville, Qld 4810

Tel. (077) 81 8811 Telegraphic "REEFPARK"
Telex GBRMPA 47332
Facsimile (077) 72 6093

PLEASE QUOTE.....

YOUR REFERENCE.....

NB: To the user of REEFPLAN

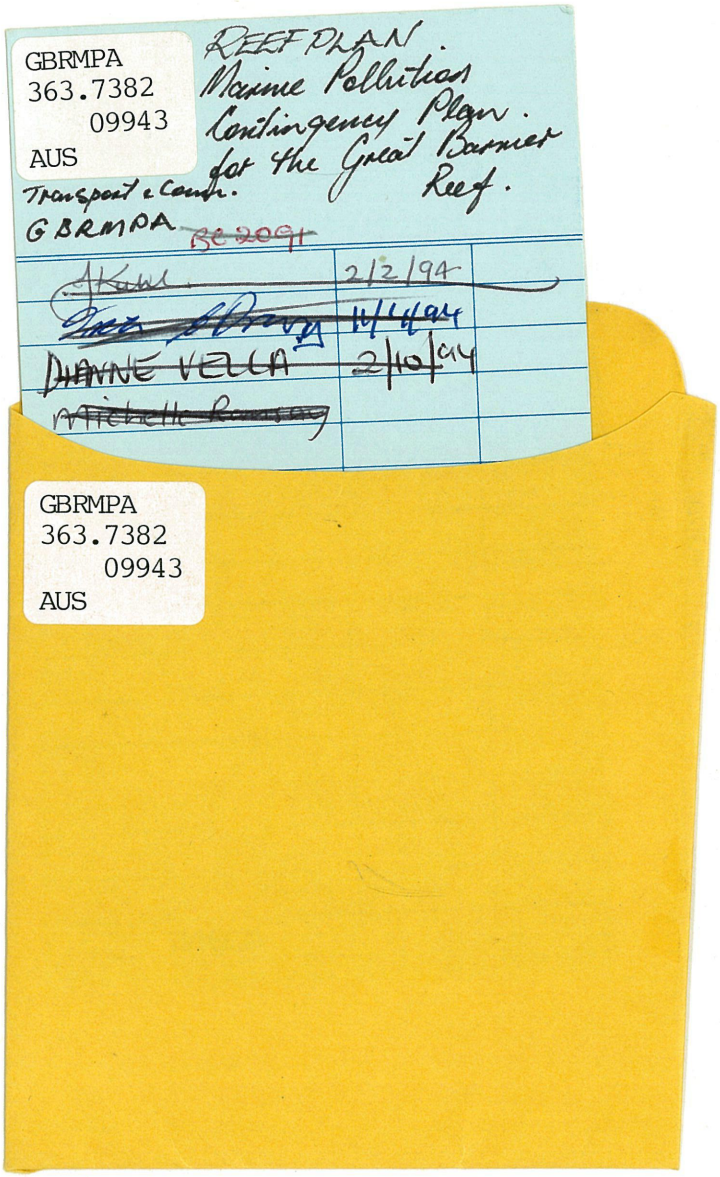
1. Telephone nos in this edition are now incorrect.
2. New edition available from DOTC Feb/March 1990.

Date: 23-03-90 16:29 Selected Pollution Equipment Availability Register (SPEAR (V1.2)) Report

Item Class	Item Type	Port		Qty	Owners	Contact	Phone
BOOM	AUST-POL D2	BOWEN	QLD	200.0	DOTC	I WOOD	077 861933
BARGE, REC OIL	"TIGRIS" 7 TONNE CAP	BRISBANE	QLD	1.0	DOTC	R WORRALL	07 8951107
BOAT	4.9M QUINTREX	BRISBANE	QLD	1.0	DOTC	J SUGARMAN	07 8353605
BOAT, GRP CATAMARAN	"TRITON" 12 METRE	BRISBANE	QLD	1.0	DOTC	R WORRALL	07 8951107
BOAT	INFLATABLE DINGHY	BRISBANE	QLD	1.0	DOTC	R WORRALL	07 8951107
BOOM	PACIFIC GP 500	BRISBANE	QLD	120.0	DOTC	B BIDDLE	07 2248786
BOOM	PACIFIC GP 800	BRISBANE	QLD	300.0	DOTC	B BIDDLE	07 2248786
BOOM	PACIFIC GP 800	BRISBANE	QLD	300.0	DOTC	R WORRALL	07 8951107
BOOM	HOYLE MINI	BRISBANE	QLD	45.0	DOTC	R WORRALL	07 8951107
BOOM	MAXI MAX	BRISBANE	QLD	100.0	DOTC	B BIDDLE	07 2248786
BOOM	SKIMMEX BEACH BARRIER	BRISBANE	QLD	200.0	DOTC	B BIDDLE	07 2248786
BOOM	TROILBOOM GIANT	BRISBANE	QLD	1.0	DOTC	R WORRALL	07 8951107
BOOM	VIKOMA SEAPACK	BRISBANE	QLD	1.0	DOTC	J SUGARMAN	07 8353605
COMMUNICATIONS	UHF RADIO NETWORK	BRISBANE	QLD	1.0	DOTC	B BIDDLE	07 2248786
BOOM	EXPANDI 3000	BRISBANE	QLD	300.0	DOTC	J SUGARMAN	07 8353605
DISPERSANT RIG	WSL	BRISBANE	QLD	6.0	DOTC	J SUGARMAN	07 8353605
DISPERSANT	BP A-B	BRISBANE	QLD	100.0	DOTC	J SUGARMAN	07 8353605
HELO SPRAY BUCKET	SIMPLEX 6810	BRISBANE	QLD	1.0	DOTC	B BIDDLE	07 2248786
FENDERS	YOKOHAMA 3.5M X 5.5M	BRISBANE	QLD	4.0	DOTC	J SUGARMAN	07 8353605
MISCELLANEOUS	MARCO POWER BLOCK	BRISBANE	QLD	1.0	DOTC	J SUGARMAN	07 8353605
MISCELLANEOUS	TRANSPAC CONTAINERS	BRISBANE	QLD	5.0	DOTC	B BIDDLE	07 2248786
PUMPS,CARGO TRANSFER	MARFLEX	BRISBANE	QLD	4.0	DOTC	J SUGARMAN	07 8353605
SKIMMER	GT185	BRISBANE	QLD	1.0	DOTC	R WORRALL	07 8951107
SKIMMER	HOYLE T-DISC	BRISBANE	QLD	1.0	DOTC	B BIDDLE	07 2248786
SKIMMER	LOCKHEED MINI-CLEAN	BRISBANE	QLD	1.0	DEPT H & M	B BIDDLE	07 2248786
OIL RECOVERY VESSEL	MARCO CLASS 1	BRISBANE	QLD	0.0	DOTC	R WORRALL	07 8951107
SKIMMER	SLICKSKIM MANTA RAY	BRISBANE	QLD	2.0	DOTC	B BIDDLE	07 2248786
SKIMMER	SLICKSKIM MANTA RAY	BRISBANE	QLD	1.0	DOTC	R WORRALL	07 8951107
SKIMMER	MORRIS M130	BRISBANE	QLD	1.0	DOTC	A ANDERSON	079 551155
DEMULSIFIER	UNISPERSE M74	BRISBANE	QLD	0.2	DOTC	J SUGARMAN	07 8353605
DISPERSANT	ARDROX 6120	BRISBANE	QLD	10.0	DOTC	J SUGARMAN	07 8353605
TRAILER	EQUIPMENT	BRISBANE	QLD	1.0	DOTC	J SUGARMAN	07 8353605
BOOM	AUST-POL D2	BUNDABERG	QLD	200.0	DOTC	B EVANS	071 794253
BOOM	GAMLEN	BUNDABERG	QLD	180.0	BUNDABERG P A	D ANTROBUS	071 712247
BOOM	PACIFIC GP 800	CAIRNS	QLD	300.0	DOTC	G MANN	070 513555
DISPERSANT RIG	WSL	CAIRNS	QLD	2.0	DOTC	P PATTESON	070 517699

Date: 23-03-90 16:29 Selected Pollution Equipment Availability Register (SPEAR (V1.2)) Report

Item Class	Item Type	Port		Qty	Owners	Contact	Phone
DISPERSANT	BP A-B	CAIRNS	QLD	5.0	DOTC	P PATTESON	070 517699
SKIMMER	KOMARA MKIII	CAIRNS	QLD	1.0	DOTC	G MANN	070 513555
SKIMMER	LOCKHEED MINI-CLEAN	CAIRNS	QLD	1.0	CAIRNS P A	G MANN	070 513555
BOOM	AUST-POL D2	CAIRNS	QLD	300.0	DOTC	HARBOURMASTER	070 513555
TRAILER	EQUIPMENT	CAIRNS	QLD	1.0	DOTC	G MANN	070 513555
BOOM	GAMLEN	GLADSTONE	QLD	300.0	GLADSTONE P A	I DRURY	07 761333
BOOM	POLUTEK	GLADSTONE	QLD	300.0	DOTC	I DRURY	079 761333
SKIMMER	LOCKHEED CLEANSWEEP	GLADSTONE	QLD	1.0	GLADSTONE P A	I DRURY	079 761333
SKIMMER	OIL MOP 260	GLADSTONE	QLD	1.0	DOTC	I DRURY	079 761333
BOOM	PACIFIC VERSATECH	GLADSTONE	QLD	300.0	DOTC	I DRURY	079 761333
SKIMMER	KOMARA MKIII	MACKAY	QLD	1.0	DOTC	J SUGARMAN	07 8353605
BOOM	AUST-POL D2	MACKAY	QLD	200.0	DOTC	A ANDERSON	079 551155
BOOM	GAMLEN	MACKAY	QLD	300.0	MACKAY P A	A ANDERSON	079 551155
BOOM	VERSATECH 12/18 ZOOOM	MACKAY	QLD	300.0	DOTC	A ANDERSON	079 551155
DISPERSANT RIG	WSL	MACKAY	QLD	1.0	DOTC	A ANDERSON	079 551155
SKIMMER	LOCKHEED MINI-CLEAN	MACKAY	QLD	1.0	MACKAY P A	A ANDERSON	079 551155
DISPERSANT RIG	WSL	PINKENBA	QLD	2.0	DOTC	B BIDDLE	07 2248786
BOOM	PACIFIC GP 800	PORT ALMA	QLD	200.0	DOTC	J STANLEY	079 311281
BOAT, GRP CATAMARAN	"CHITON" 12 METRE	TOWNSVILLE	QLD	1.0	DOTC	W SERVICE	077 721011
BOAT	INFLATABLE DINGHY	TOWNSVILLE	QLD	1.0	DOTC	R JOHNSON	077 715135
BOOM	GAMLEN	TOWNSVILLE	QLD	300.0	TOWNSVILLE P A	W SERVICE	077 721011
BOOM	PACIFIC GP 800	TOWNSVILLE	QLD	300.0	DOTC	W SERVICE	077 721011
BOOM	POLUTEK TRAWLBOOM	TOWNSVILLE	QLD	1.0	DOTC	W SERVICE	077 721011
DISPERSANT RIG	WSL	TOWNSVILLE	QLD	5.0	DOTC	R METCALF	077 795888
DISPERSANT	BP A-B	TOWNSVILLE	QLD	66.0	DOTC	R METCALF	077 795888
SKIMMER	GT 185	TOWNSVILLE	QLD	1.0	DOTC	W SERVICE	077 721011
SKIMMER	LOCKHEED CLEANSWEEP	TOWNSVILLE	QLD	1.0	TOWNSVILLE P A	W SERVICE	077 721011
HELO SPRAY BUCKET	SIMPLEX 6810	TOWNSVILLE	QLD	1.0	DOTC	R JOHNSON	077 715135
DISPERSANT	ARDROX 6120	TOWNSVILLE	QLD	12.0	DOTC	R METCALF	077 795888
TRAILER	EQUIPMENT	TOWNSVILLE	QLD	1.0	DOTC	W SERVICE	077 721O11
BOOM	PACIFIC GP 800	WEIPA	QLD	200.0	DOTC	J ZEALLEY	070 697170



Reefplan

Transport and Communications

A publication of the National Plan to Combat Pollution of the Sea by Oil

Produced by the *MARITIME OPERATIONS DIVISION*
Cover designed by the *PUBLIC AFFAIRS SECTION*
Photograph supplied by the *GREAT BARRIER REEF MARINE PARK AUTHORITY*

February 1990

GREAT BARRIER REEF MARINE PARK MACKAY/CAPRICORN SECTION ZONING INFORMATION

MACKAY/CAPRICORN SECTION ACTIVITIES GUIDE

(see Zoning Plan for details)

	Bait netting and gathering	Camping	Collecting (recreational – not coral)	Collecting (commercial)	Commercial netting (see also bait netting)	Crabbing and oyster gathering	Diving, boating, photography	Line fishing (bottom fishing, trolling etc)	Research (non-manipulative)	Research (manipulative)	Spear fishing	Tourist and Education facilities and programs	Traditional hunting, fishing and gathering	Trawling
General Use 'A' Zone	Yes	Permit	Limited	Permit	Yes	Yes	Yes	Yes	Yes	Permit	Yes	Permit	Permit	Yes
General Use 'B' Zone	Yes	Permit	Limited	Permit	Yes	Yes	Yes	Yes	Yes	Permit	Yes	Permit	Permit	No
Marine National Park 'A' Zone	Yes	Permit	No	No	No	Limited	Yes	Limited	Yes	Permit	No	Permit	Permit	No
Marine National Park 'B' Zone	No	Permit	No	No	No	No	Yes	No	Yes	Permit	No	Permit	No	No
Scientific Research Zone	No	No	No	No	No	No	No	No	Permit	Permit	No	No	No	No
Preservation Zone	No	No	No	No	No	No	No	No	Permit	Permit	No	No	No	No
Seasonal Closure Areas*	No	No	No	No	No	No	No	No	Permit	Permit	No	No	No	No

Emergencies: Access to all zones is allowed in emergencies

*only when in operation

AREAS OF ADDITIONAL CONTROL

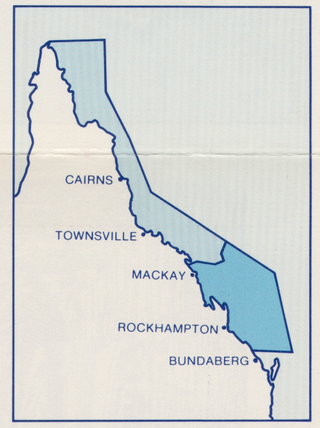
Replenishment Area

Defence Area

NOTES FOR THE ZONING PLAN

1. Included in the Marine Park are:
   (a) the subsoil beneath the seabed within the Mackay/Capricorn Section, extending to a depth of 1 000 metres below the seabed;
   (b) the subsoil beneath any land within the Mackay/Capricorn Section, extending to a depth of 1 000 metres below the surface; and
   (c) the airspace above the Mackay/Capricorn Section, extending to a height of 915 metres above the surface.
2. The Zoning Plan does not apply to an island, or a part of an island, that forms part of Queensland, and is not owned by the Commonwealth.
3. The locations of the zones depicted on this map are approximate and the zones depicted do not include any areas which are outside the Mackay/Capricorn Section.
4. Access to all zones is allowed in emergencies. (For full details refer to Part Four, Clause 16).

LOCALITY MAP



km 10 0 20 40 60 80 km

nm 5 0 10 20 30 40 nm

LEGEND

Great Barrier Reef Region

Marine Park Section

Island

Reef and Shoal Edge

Index to 1:250 000 GBR Series

THIS MAP IS NOT INTENDED FOR NAVIGATIONAL PURPOSES

BRA Q145 1988

Great Barrier Reef Marine Park Authority

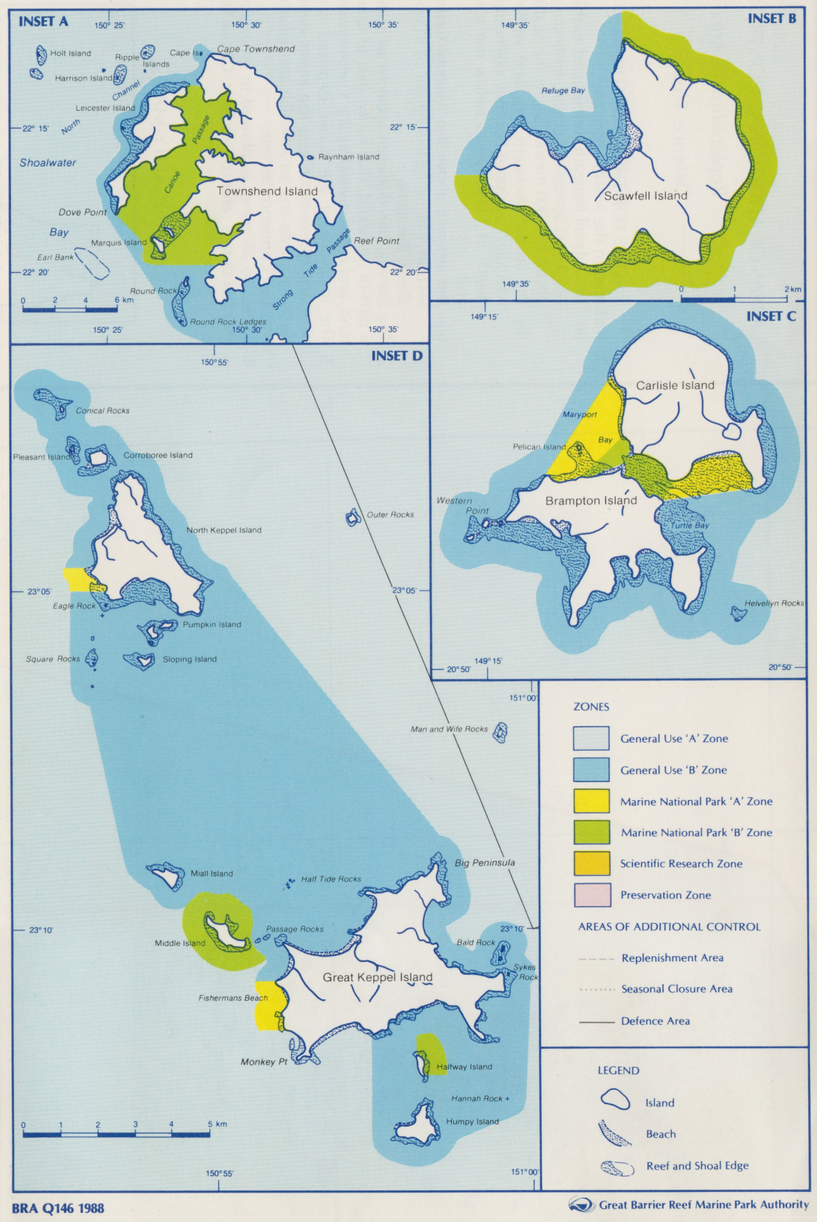
FURTHER INFORMATION

Further information and applications for permits may be obtained from:

Executive Officer
Great Barrier Reef Marine Park Authority
Great Barrier Reef Wonderland
1-37 Flinders Street
P.O. Box 1379
TOWNSVILLE QLD 4810
Telephone (077) 81 8811

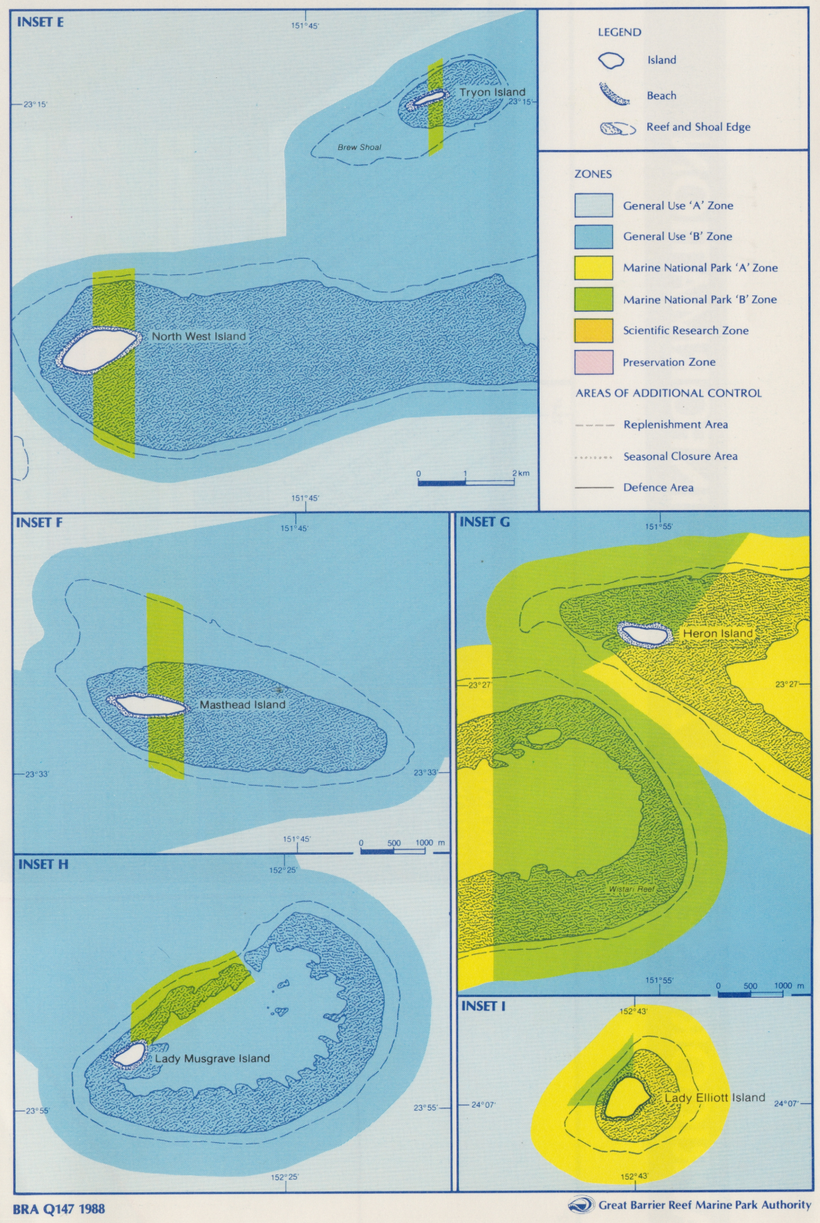
Regional Director
QUEENSLAND NATIONAL PARKS AND WILDLIFE SERVICE
Central Regional Centre
194 Quay Street
P.O. Box 1395
ROCKHAMPTON
QLD 4700
Telephone (079) 27 6511

Director
Queensland National Parks and Wildlife Service
P.O. Box 190
NORTH QUAY Q. 4000
Phone (07) 227 4111



BRA Q146 1988

Great Barrier Reef Marine Park Authority

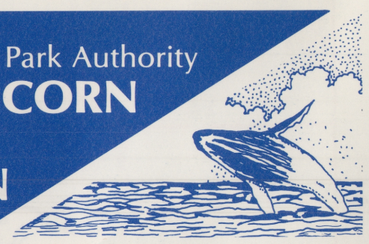


BRA Q147 1988

Great Barrier Reef Marine Park Authority

Great Barrier Reef Marine Park Authority

MACKAY/CAPRICORN SECTION INTRODUCTION



THE MARINE PARK CONCEPT

The concept of the Marine Park is based upon a balance between conservation of the Reef and its prolific animal and plant life and reasonable use by fishermen, collectors, charter operators, scientists and others.

To protect the Reef, mining (except for approved research purposes) and oil drilling are strictly prohibited. Commercial spearfishing and spearfishing with underwater breathing apparatus are also prohibited except for research and the commercial catching of crayfish in the Far Northern Section.

MACKAY/CAPRICORN SECTION

The Mackay/Capricorn Section of the Great Barrier Reef Marine Park extends from just south of the Whitsunday Islands to just north of Bundaberg, (see map overleaf). The Section covers 148,800 square kilometres in area and comprises approximately 43% of the total area within the Great Barrier Reef Marine Park, the largest marine park in the world.

MACKAY/CAPRICORN SECTION ZONING PLAN

The Great Barrier Reef Marine Park Authority has, with the help of public participation, developed a Zoning Plan for the Mackay/Capricorn Section. The Zoning Plan is a document which balances human use with conservation of the Section. To achieve this balance, the Section is divided into a number of types of 'zones'.

The Zoning Plan defines the range of activities which may take place within each zone. Whilst most activities are permitted, some are restricted or prohibited in particular zones.

The classification of zones used in the Mackay/Capricorn Section Zoning Plan is:

General Use 'A' Zone (light blue on map):
The least restrictive of the zones, this provides for all reasonable uses, including shipping and trawling. Prohibited activities are mining, oil drilling, commercial spearfishing and spearfishing with underwater breathing apparatus.

General Use 'B' Zone (dark blue on map):
Provides for reasonable use, including most commercial and recreational activities. Trawling and general shipping are prohibited as well as those activities not allowed in General Use 'A' Zone.

Marine National Park 'A' Zone (yellow on map):
Provides for appreciation and recreational use, including limited line fishing. Fishing is restricted to one line with one hook per person. (When trolling for pelagic species more than one line may be used). Spearfishing and collecting are prohibited, as well as those activities not allowed in General Use 'B' Zone.

Marine National Park 'B' Zone (green on map):
Provides for appreciation and enjoyment of areas in their relatively undisturbed state. It is a 'look but don't take' zone. Fishing and all other activities which remove natural resources are prohibited.

Scientific Research Zone (orange on map):
Set aside exclusively for scientific research. Entry and use for other reasons is prohibited.

Preservation Zone (pink on map):
Provides for the preservation of the area in an undisturbed state. All entry is prohibited, except in an emergency, with the exception of permitted scientific research which cannot be conducted elsewhere.

Restrictions on use and entry may be applied from time to time to the Areas listed below. Introduction of restrictions will be widely advertised before they come into effect.

Replenishment Areas
May be closed to fishing and collecting for specified periods to allow stocks of fish, shells, coral and other living things to replenish.

Seasonal Closure Areas
Entry may be restricted for a specified period of time to protect the breeding of turtles and/or seabirds.

Defence Areas
Entry may be restricted while defence operations are being conducted, in the interest of public safety.

Special Management Areas (not indicated on map):
May be declared to enable managers of the Marine Park to deal with unforseen needs and changing patterns of use.

A VALUABLE RESOURCE

Marine life found within the Mackay/Capricorn Section is both diverse and abundant. Approximately 1500 species of fish occur in the Section and many of them are prey to most of the many species of sea birds that permanently inhabit or regularly migrate into the Section. The reefs in the Section are built up by over 300 species of coral. Also found in the Section are 5 species of turtles, considered vulnerable to human interference. Perhaps under greater threat is another resident of the Section, the dugong. Significant numbers of dugong are sighted in sheltered bays that are scattered along the coast. Dugong feed on seagrass beds that are found in these bays.

User activities in the Mackay/Capricorn Section are many and varied. The area is best known for its rich fishing grounds, exciting dive sites and tourist resorts. Tourist facilities and charter boat operations are established industries and together with commercial fisheries are of major economic importance to the region. Marine research, conducted principally from the Heron Island and One Tree Island research stations, is also an important activity in the Section.

MANAGEMENT

Under an agreement between the Commonwealth and Queensland Governments, day-to-day management of the Marine Park is conducted by Queensland agencies, on behalf of the Authority. Management of the Mackay/Capricorn Section is carried out principally by the Queensland National Parks and Wildlife Service, with additional involvement of the Queensland Boating and Fisheries Patrol. The Service is also directly responsible for the management of Queensland Marine Parks and the island National Parks.

THE FUTURE

Regulations provide the means for implementing the provisions of the Zoning Plan. A concerted effort in the areas of education, planning and research and monitoring, being undertaken by the Great Barrier Reef Marine Park Authority, the Queensland National Parks and Wildlife Service and others, will be the principal means of achieving effective management of the Marine Park. Nevertheless, the ultimate responsibility lies with those of us who use the Reef, to ensure the conservation of this important part of our World Heritage, now and in the future.

Great Barrier Reef Marine Park

MACKAY/CAPRICORN SECTION ZONING INFORMATION

INTRODUCTION

BRA Q145 1988
BRA Q146 1988
BRA Q147 1988

Great Barrier Reef Marine Park Authority

GREAT BARRIER REEF MARINE PARK CENTRAL SECTION ZONING INFORMATION

CENTRAL SECTION
GREAT BARRIER REEF MARINE PARK
ZONING PLAN – ZONING MAP

CENTRAL SECTION ACTIVITIES GUIDE

	Bait netting and gathering	Camping	Collecting (recreational — not coral)	Collecting — (commercial)	Commercial netting (see also bait netting)	Crabbing and oyster gathering	Diving, boating, photography	Line fishing (bottom fishing, trolling etc)	Research (non-manipulative)	Research (manipulative)	Spear fishing	Tourist and education facilities and programs	Traditional hunting, fishing and gathering	Trawling
General Use 'A'	Yes	Permit	Limited	Permit	Yes	Yes	Yes	Yes	Yes	Permit	Yes	Permit	Permit	Yes
General Use 'B'	Yes	Permit	Limited	Permit	Yes	Yes	Yes	Yes	Yes	Permit	Yes	Permit	Permit	No
Marine National Park 'A'	Yes	Permit	No	No	No	Limited	Yes	Limited	Permit	Permit	No	Permit	Permit	No
Marine National Park 'B'	No	Permit	No	No	No	No	Yes	No	Permit	Permit	No	Permit	No	No
Scientific Research	No	No	No	No	No	No	No	No	Permit	Permit	No	No	No	No
Preservation Zone	No	No	No	No	No	No	No	No	Permit	Permit	No	No	No	No

Emergencies: Access to all zones is allowed in emergencies

SEE THE ZONING PLAN FOR DETAILS

AREAS OF ADDITIONAL CONTROLS

Replenishment Area ----------

Shipping Area ----------

Defence Area ——————

LOCALITY MAP

CAIRNS, TOWNSVILLE, MACKAY, ROCKHAMPTON, BUNDABERG

KILOMETRES 0 10 20 30 40 50 KILOMETRES

NAUTICAL MILES 0 5 10 15 20 25 NAUTICAL MILES

Great Barrier Reef Region

Marine Park Section

Islands

Reef Edge

Index to 1:250 000 GBR Series

THIS MAP IS NOT INTENDED FOR NAVIGATIONAL PURPOSES

NOTES FOR THE ZONING PLAN

1. Included in the Marine Park are:
   (a) the subsoil beneath the sea-bed within the Central Section, extending to a depth of 1,000 metres below the sea-bed;
   (b) the sub-soil beneath any land within the Central Section, extending to a depth of 1,000 metres below the surface; and;
   (c) the airspace above the Central Section, extending to a height of 915 metres above the surface.
2. The zoning does not apply to an island, or a part of an island, that forms part of Queensland, and is not owned by the Commonwealth.
3. The locations of the zones depicted on this map are approximate and the zones depicted do not include any areas which are outside the Central Section.
4. Access to all Zones is allowed in emergencies. (For full details refer to Part Four).

BRA Q152 1989

Great Barrier Reef Marine Park Authority

Great Barrier Reef Marine Park Authority

CENTRAL SECTION INTRODUCTION

THE MARINE PARK CONCEPT

The concept of the Marine Park is based upon a balance between the conservation of the Reef and its prolific animal and plant life and reasonable use by fishermen, collectors, charter operators, tourists, scientists and others.

To protect the Reef, mining (except for approved research purposes) and oil drilling are strictly prohibited. Commercial spearfishing and spearfishing with underwater breathing apparatus are also prohibited.

CENTRAL SECTION

The Central Section of the Great Barrier Reef Marine Park extends from Dunk Island in the north, to just south of the Whitsunday Islands (see map overleaf). The Section covers 77,000 square kilometres in area, approximately one fifth of the total area within the Great Barrier Reef Marine Park, the largest marine park in the world.

CENTRAL SECTION ZONING PLAN

The Great Barrier Reef Marine Park Authority has, with the help of the public, developed a Zoning Plan for the Central Section. The Zoning Plan balances human use with conservation of the Great Barrier Reef. To achieve this balance, the Section is divided into a number of 'zones'.

The Zoning Plan defines the range of activities which may take place within each zone. Whilst most activities are permitted, some are restricted or prohibited in particular zones.

The classifications of zones used in the Central Section Zoning Plan are:

General Use 'A' Zone (light blue on map):
Least restrictive of the zones, this provides for all reasonable uses, including shipping and trawling. Prohibited activities are mining, oil drilling, commercial spearfishing and spearfishing with underwater breathing apparatus.

General Use 'B' Zone (dark blue on map):
Provides for reasonable use, including most commercial and recreational activities. Trawling and general shipping are prohibited as well as those activities not allowed in General Use 'A' Zone.

Marine National Park 'A' Zone (yellow on map):
Provides for appreciation and recreational use, including limited line fishing. Fishing is restricted to one line with one hook per person. (When trolling for pelagic species more than one line may be used). Spearfishing and collecting are prohibited, as well as those activities not allowed in General Use 'B' Zone.

Marine National Park 'B' Zone (green on map):
Provides for appreciation and enjoyment of areas in their relatively undisturbed state. It is a 'look but don't take' zone. Fishing and all other activities which remove natural resources are prohibited.

Scientific Research Zone (orange on map):
Set aside exclusively for scientific research with a permit. Entry and use for other reasons is prohibited.

Preservation Zone (pink on map):
Provides for the preservation of areas in an undisturbed state. All entry is prohibited, except in an emergency, or for permitted scientific research which cannot be conducted elsewhere.

Restrictions on use and entry may be applied from time to time to the Areas listed below. Introduction of restrictions will be widely advertised before they come into effect.

Replenishment Areas
May be closed to fishing and collecting for specified periods to allow stocks of fish, shells, coral and other living things to replenish.

Defence Areas
Entry may be restricted during defence operations, in the interest of public safety.

Special Management Areas (not indicated on map):
May be declared to enable managers of the Marine Park to deal with unforeseen needs and changing patterns of use.

A VALUABLE RESOURCE

The marine life found within the Central Section is both diverse and abundant. Approximately 1500 species of fish occur in the Section and many are prey to the 22 species of sea birds that permanently inhabit or regularly migrate into the Section. The reefs in the Section include over 400 species of corals. Five species of turtles are also found and are considered vulnerable to human interference. Perhaps under greater threat is another resident of the Section, the dugong. Significant numbers of dugong may be sighted in the sheltered bays that are scattered along the coast. Dugong feed on seagrass beds in these bays.

User activities in the Central Section are many and varied. The area is known for its rich fishing grounds, exciting dive sites and tourist facilities. Tourism is rapidly expanding and, together with commercial fisheries, is of major economic importance to the region. Marine research is also important in the Section because of the proximity of two major marine research centres (the Australian Institute of Marine Science and James Cook University of North Queensland).

MANAGEMENT

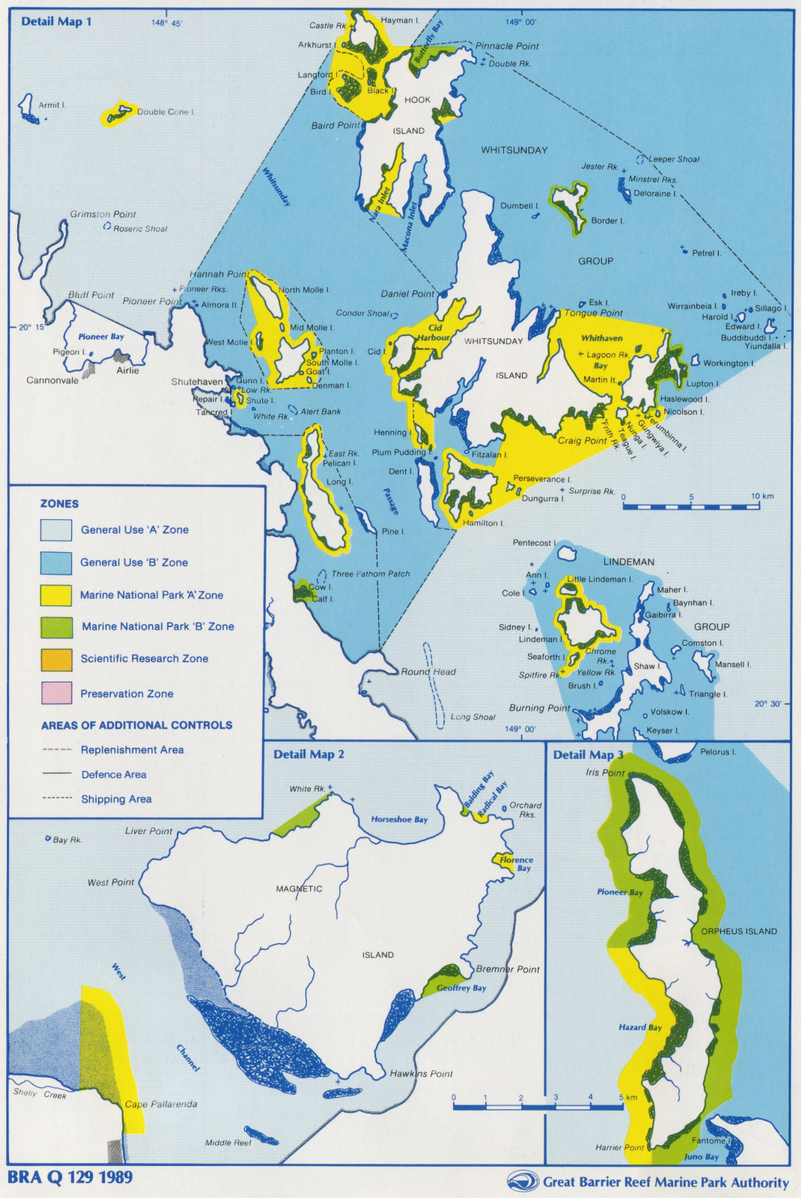
Under an agreement between the Commonwealth and Queensland Governments, day-to-day management of the Marine Park is conducted by Queensland agencies, on behalf of the Authority. Management of the Central Section is carried out principally by the Queensland National Parks and Wildlife Service, with additional involvement of the Queensland Boating and Fisheries Patrol. The Service is also directly responsible for the management of Queensland Marine Parks and the island National Parks.

THE FUTURE

Regulations provide the means for implementing the provisions of the Zoning Plan. A concerted effort in the areas of education, planning and research and monitoring, being undertaken by the Great Barrier Reef Marine Park Authority, Queensland National Parks and Wildlife Service and others, will be the principal means of achieving effective management of the Marine Park. Nevertheless, the ultimate responsibility lies with those of us who use the Reef, to ensure the conservation of this important part of our World Heritage, now and in the future.

AUGUST 1989

GREAT BARRIER REEF MARINE PARK CENTRAL SECTION ZONING INFORMATION — DETAIL MAP



BRA Q 129 1989

Great Barrier Reef Marine Park Authority

Director
Queensland National Parks and Wildlife Service
P.O. Box 190
NORTH QUAY Q. 4000
Phone (07) 227 4111

Telephone (077) 74 1411
CENTRE QLD 4810
TOWNSVILLE MAIL
P.O. Box 5391
Pallarenda
Marlow Street
Northern Regional Centre

FURTHER INFORMATION

Further information and applications for permits may be obtained from:

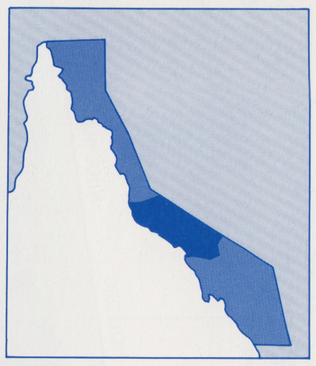
Executive Officer
Great Barrier Reef Marine Park Authority
2-68 Flinders Street
P.O. Box 1379
TOWNSVILLE QLD 4810
Telephone (077) 81 8811

Regional Director
QUEENSLAND NATIONAL PARKS AND WILDLIFE SERVICE
Northern Regional Centre
Marlow Street

Great Barrier Reef Marine Park

CENTRAL SECTION ZONING INFORMATION

INTRODUCTION BRA Q152 AND BRA Q129

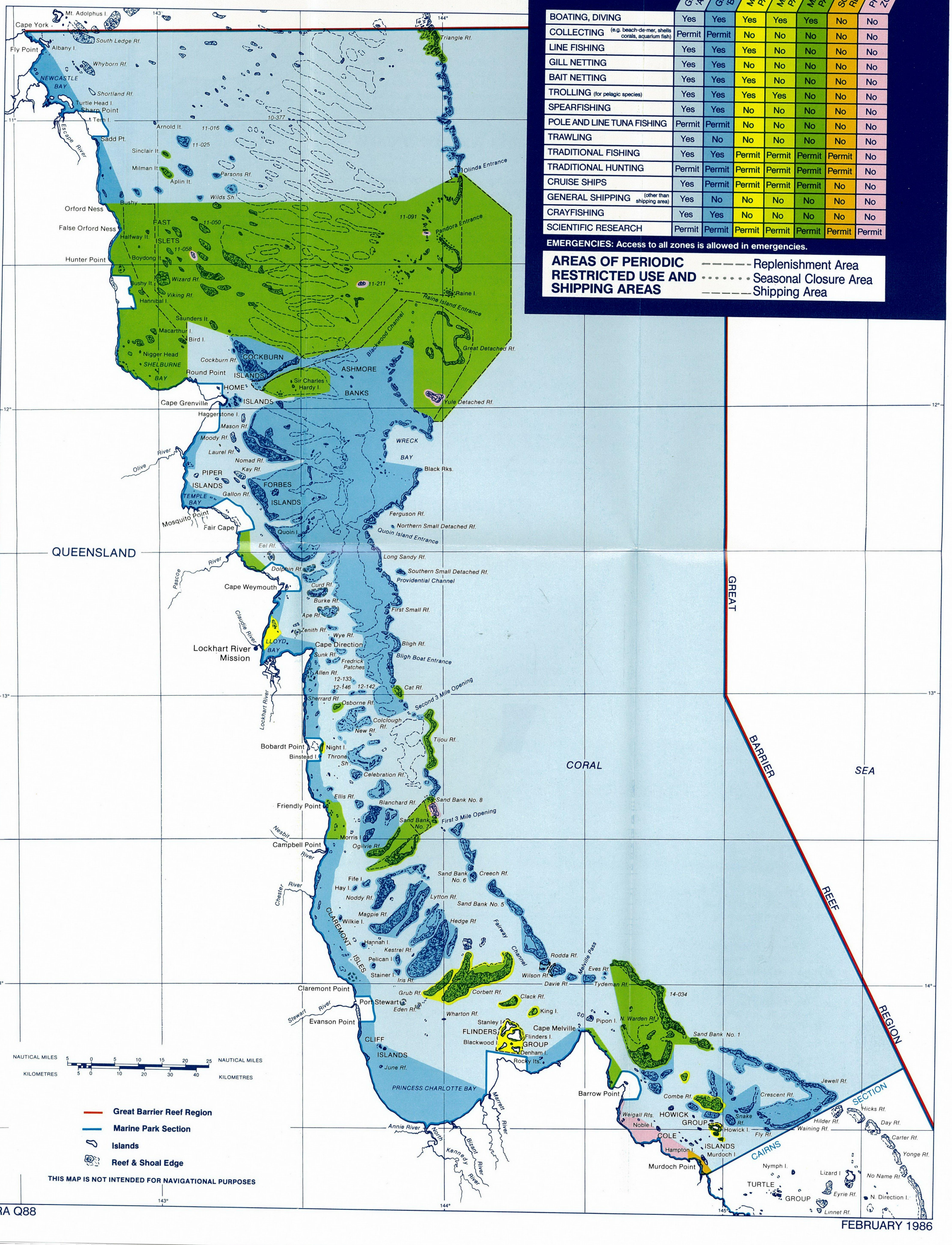


Great Barrier Reef Marine Park Authority

GREAT BARRIER REEF MARINE PARK

FAR NORTHERN SECTION

ZONING MAP



ACTIVITIES

	GENERAL USE 'A' ZONE	GENERAL USE 'B' ZONE	MARINE NATIONAL PARK 'A' ZONE	MARINE NATIONAL PARK BUFFER ZONE	MARINE NATIONAL PARK 'B' ZONE	SCIENTIFIC ZONE RESEARCH	PRESERVATION ZONE
BOATING, DIVING	Yes	Yes	Yes	Yes	Yes	No	No
COLLECTING (e.g. beach-de-mer, shells corals, aquarium fish)	Permit	Permit	No	No	No	No	No
LINE FISHING	Yes	Yes	Yes	No	No	No	No
GILL NETTING	Yes	Yes	No	No	No	No	No
BAIT NETTING	Yes	Yes	Yes	No	No	No	No
TROLLING (for pelagic species)	Yes	Yes	Yes	Yes	No	No	No
SPEARFISHING	Yes	Yes	No	No	No	No	No
POLE AND LINE TUNA FISHING	Permit	Permit	No	No	No	No	No
TRAWLING	Yes	No	No	No	No	No	No
TRADITIONAL FISHING	Yes	Yes	Permit	Permit	Permit	Permit	No
TRADITIONAL HUNTING	Permit	Permit	Permit	Permit	Permit	Permit	No
CRUISE SHIPS	Yes	Permit	Permit	Permit	Permit	No	No
GENERAL SHIPPING (other than shipping area)	Yes	No	No	No	No	No	No
CRAYFISHING	Yes	Yes	No	No	No	No	No
SCIENTIFIC RESEARCH	Permit	Permit	Permit	Permit	Permit	Permit	Permit

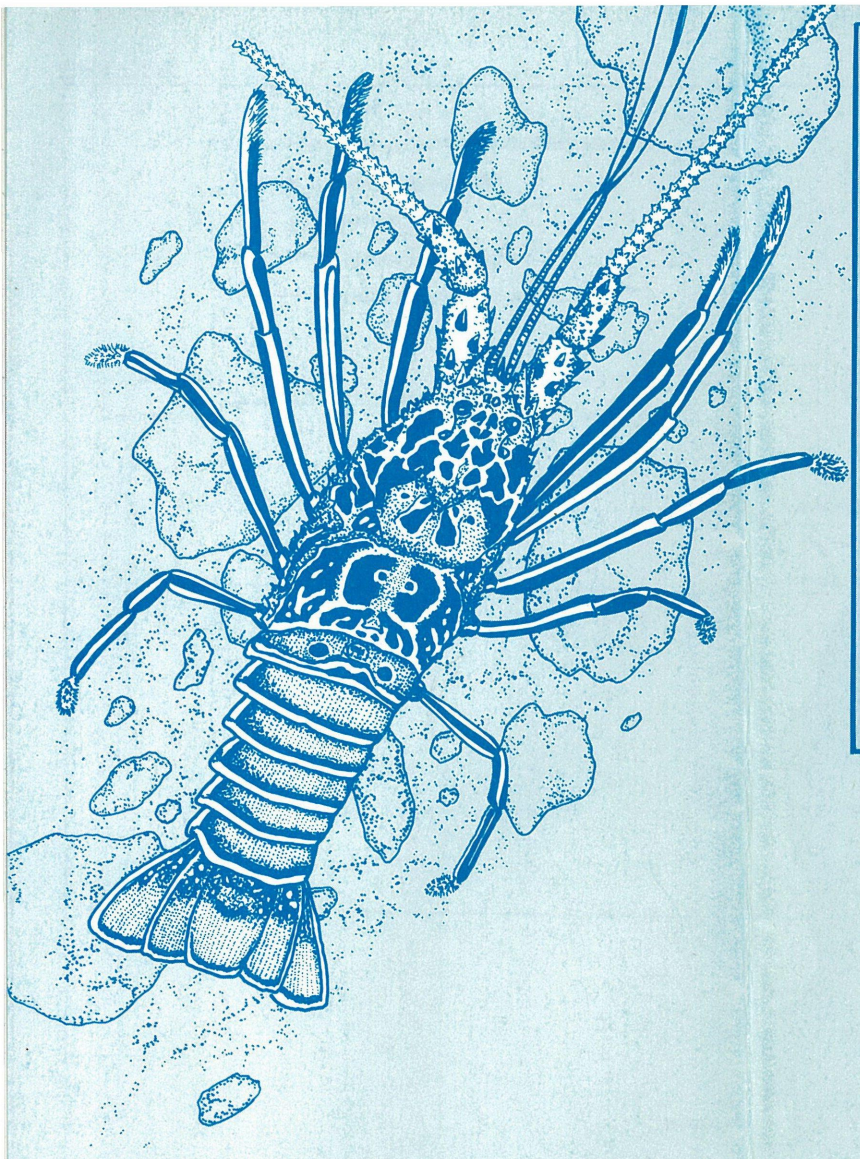
EMERGENCIES: Access to all zones is allowed in emergencies.

AREAS OF PERIODIC RESTRICTED USE AND SHIPPING AREAS

- Replenishment Area
- Seasonal Closure Area
- Shipping Area

BRA Q88

FEBRUARY 1986

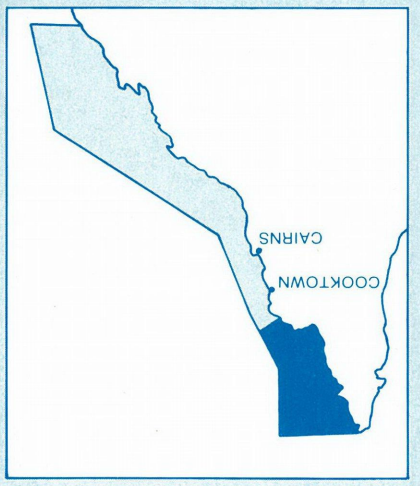


INTRODUCTION

GREAT BARRIER REEF MARINE PARK
FAR NORTHERN SECTION

This brochure is produced by the Great Barrier Reef Marine Park Authority to promote a better understanding of the Far Northern Section Zoning Plan.

February 1986



Further information and applications for permits may be obtained from:

Executive Officer
Great Barrier Reef
Marine Park Authority
P.O. Box 1379
TOWNSVILLE, QLD. 4810
Phone (077) 81 8811

Regional Director
Queensland National Parks
and Wildlife Service
P.O. Box 2066
CAIRNS, QLD. 4870
Phone (070) 51 9811

Director
Queensland National Parks
and Wildlife Service
P.O. Box 190
NORTH QUAY, QLD. 4000
Phone (07) 227 4111

A VALUABLE RESOURCE

The area's fauna is both diverse and abundant. Thirty species of birds and an estimated 1000 species of fishes occur within the outer boundaries of the Far Northern Section.

Among the many interesting animal inhabitants of the area is the dugong, an endangered species of marine mammal. The seagrass beds and sheltered bays of the Far Northern Section provide feeding and breeding grounds for significant numbers of these gentle mammals.

Uses of the Section are many and varied; the area is best known for its rich fishing grounds. Prawn trawling and barramundi netting are significant commercial fisheries while charter boat operations are a popular and increasing tourist activity.

MANAGEMENT

The Queensland National Parks and Wildlife Service is responsible to the Great Barrier Reef Marine Park Authority for day-to-day management of the Marine Park.

The management role of the Service includes implementation of interpretive programs, monitoring (e.g. effects of visitor activities), surveillance (by aircraft and patrol vessels), and enforcement.

The Service also undertakes management of Queensland Marine Parks and is directly responsible for the management of the island National Parks.

THE FUTURE

Regulations provide the means for implementing the provisions of the zoning plans; however a concerted effort in the areas of education, planning, research and monitoring being undertaken by the Great Barrier Reef Marine Park Authority, the Queensland National Parks and Wildlife Service and others will be the principal means of achieving effective management of the Marine Park. Nevertheless the ultimate responsibility lies with those of us who use the Reef to ensure the conservation of this important part of our World Heritage, now and in the future.

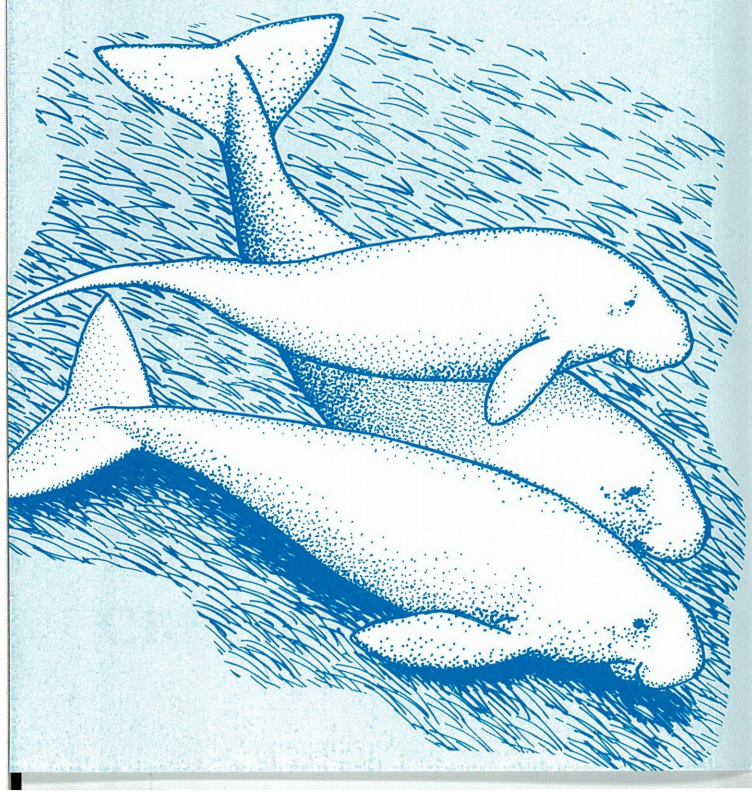
FAR NORTHERN SECTION

The third major section of the Great Barrier Reef Marine Park — the largest and most complex marine park system in the world — is the Far Northern Section, proclaimed in late 1983, and now fully operational.

The Far Northern Section extends for over 700 kilometres from just north of Lizard Island, northwards to the tip of Cape York, and covers approximately 83 000 square kilometres of the Great Barrier Reef Region.

THE MARINE PARK CONCEPT

The aim in developing the Great Barrier Reef Marine Park is to provide for the wise use, appreciation and enjoyment of the Great Barrier Reef in perpetuity. The Great Barrier Reef Marine Park Authority, the Commonwealth agency primarily responsible for the care and development of the Marine Park has, through public participation, developed a Zoning Plan for the Far Northern Section that balances human needs with the need to conserve the Reef.



ZONING STRATEGY

To protect the Reef, mining (except for approved research purposes), oil drilling, commercial spearfishing and spearfishing with underwater breathing apparatus (except in special circumstances in some zones of the Far Northern Section) are strictly prohibited within the Marine Park. Oil drilling is prohibited throughout the Great Barrier Reef Region.

Within the Far Northern Section, zones have been established to provide for a range of uses.

GENERAL USE ZONES

- **General Use 'A' Zone**
  Over 74% of the Far Northern Section has been zoned as **General Use 'A'.** This zoning provides opportunities for reasonable use — including commercial trawling and shipping operations — consistent with the conservation of the Great Barrier Reef.

- **General Use 'B' Zone**
  An additional 12% of the Section, zoned as **General Use 'B',** provides areas for reasonable use free from trawling and commercial shipping.

MARINE NATIONAL PARK ZONES

The provisions of Marine National Park Zones are similar in concept to those of national parks on land. That is, the natural resources within the zones are protected from the effects of a number of activities including collecting. There are three types of Marine National Park Zones:

- **Marine National Park 'A' Zone**
  Activities that are allowed include general recreational activities, trolling for pelagic fish species (e.g. mackerel), line fishing with one hand-held rod or line (used with one hook or lure), and approved research. There are five reefal and coastal areas zoned as Marine National Park 'A' in the Far Northern Section.

- **Marine National Park Buffer Zone**
  The Buffer Zone, normally 500 metres wide, provides for trolling for pelagic species around reefs which have been given a level of protection which prohibits all fishing. This measure has been adopted on the basis that trolling for pelagic species is unlikely to significantly affect the 'resident' marine life for which protection is needed. There are five *no fishing* reef areas in the Far Northern Section which are surrounded by Marine National Park Buffer Zone.

- **Marine National Park 'B' Zone**
  This may be thought of as a *look but don't take* zone. All fishing is prohibited so that people may appreciate and enjoy an area in its relatively undisturbed state. There are eighteen reefal and coastal areas zoned as Marine National Park 'B' in the Far Northern Section.

Areas have also been zoned for Scientific Research and Preservation.

- **Scientific Research Zone**
  The objective of the Scientific Research Zone is to provide areas where permitted research may be carried out free from the influences of other activities. The Scientific Research Zone in the Far Northern Section is an extension of the same zone in the Cairns Section and is designed to afford protection to an endangered species, the dugong.

- **Preservation Zone**
  The objective of the Preservation Zone is to preserve areas of the Great Barrier Reef in their natural state undisturbed by man, except for the purpose of scientific research which cannot be conducted elsewhere. There are six reefal and coastal areas zoned as Preservation in the Far Northern Section.

- **Shipping Areas**
  A new concept in zoning has been introduced in the Far Northern Section with the provision of designated shipping areas. These areas allow shipping to pass through zones where otherwise it would not be permitted, without compromising the conservation value of the zone.

- **Cross-Shelf Transect**
  Another innovation in this plan is the provision for the protection from fishing activity of a wide band of reefs, seabed and waters stretching from the coast to beyond the outer barrier. This cross-shelf transect will allow the study of variation between communities in various reef environments free from the complicating factors of latitudinal variation or the impact of fishing.

GREAT BARRIER REEF MARINE PARK

CAIRNS SECTION

AND CORMORANT PASS SECTION

ZONES
- General Use 'A' Zone
- General Use 'B' Zone
- Marine National Park 'A' Zone
- Marine National Park Buffer Zone
- Marine National Park 'B' Zone
- Scientific Research Zone
- Preservation Zone

AREAS OF PERIODIC RESTRICTED USE AND DEFENCE AREAS
- Replenishment Area
- Seasonal Closure Area
- Defence Closure Area

BOUNDARIES
- Marine Park
- Great Barrier Reef Region

CORMORANT PASS SECTION

GREAT BARRIER REEF REGION

CORAL SEA

QUEENSLAND

Pipon I. · South Warden Rf. · Combe Rf. · Parke Rf. · Snake Rf. · Waining Rf. · Jewell Rf. · Two Mile Opening · Hicks Rf. · Hilder Rf. · Day Rf. · Carter Rf. · One Mile Opening · Cooks Passage · Half Mile Opening · Yonge Rf. · No Name Rf. · Nymph I. · Pethebridge Is. · Eagle I. · Lizard I. · Turtle Group · Eyrie Rf. · North Direction I. · Linnet Rf. · Martin Rf. · Kedge Rf. · South Direction I. · Starcke River · Decapolis Rf. · Rocky Is. · Eye Rf. · Ribbon Rf. No. 10 · Helsdon Rf. · Cape Flattery · Gull Rf. · No. 9 · Two Is. · Long Rf. · Pasco Rf. · Strickland Rf. · No. 8 · Low Wooded Is. · Murray Rfs. · Three Is. · Lark Pass · Mackay Rfs. · Beor Rf. · Forrester Rf. · Marx Rf. · No. 7 · Startle Rfs. · Swinger Rf. · Pullen Rf. · No. 6 · Cape Bedford · Lark Rf. · Williamson Rfs. · No. 5 · Boulder Rf. · No. 4 · Endeavour River · Egret Rf. · Cooktown · No. 3 · Osterland Rf. · No. 2 · Rosser Rf. · Rocky I. · Emily Rf. · Ribbon Rf. No. 1 · Irene Rf. · Lena Rf. · Gubbins Rf. · Cairns Rf. · Pearl Rf. · E. Hope I. · Ruby Rf. · W. Hope I. · Endeavour Rf. · Anderson Rf. · Pickersgill Rf. · Escape Rf. · Bloomfield River · Evening Rf. · Morning Rf. · No. 4 · No. 3 · Agincourt Rfs. · Spitfire Rfs. · No. 2 · Cape Tribulation · Mackay Rf. · No. 1 · Undine Rf. · St Crispin Rf. · Noah Creek · Inch Rk. · Rudder Rf. · Opal Rf. · Cape Kimberly · Black Rk. · Daintree River · Snapper I. · Linden Bank · Tongue Rf. · Low Is. · Norman Rf. · Spur Rf. · Onyx Rf. · Batt Rf. · Saxon Rf. · Mossman · Port Douglas · Nicholas Rf. · Hastings Rf. · Pixie Rf. · Hope Rf. · Michaelmas Rf. · Fin Rf. · Oyster Rf. · Middle Cay Rf. · Arlington Rf. · Upolu Cay Rf. · Euston Rf. · Double I. · Flynn Rf. · Grafton Passage · Jenny Louise Shoal · Green I. · Milln Rf. · Thetford Rf. · Baine Patches · Pellowe Rf. · North West Rf. · Barron River · Moore Rf. · Cairns · Elford Rf. · Channel Rf. · Fitzroy I. · False Cape · Cape Grafton · Briggs Rf. · Stagg Patches · Sudbury Rf. · Mulgrave River · Scott Rf. · Stevens Rf. · Maori Rf. · Noggin Rf. · High I. · Flora Rf. · Coates Rf. · Frankland Is. · Hedley Rf. · Jackson Patches · Publican's Shoal · Gibson Rf. · Arthur Patches · Howie Rf. · Wardle Rf. · Peart Rf. · Cayley Rf. · Innisfail · Feather Rf. · Nathan Rf. · South Johnstone River · Gilbey Rf. · Hall-Thompson Rf. · Adelaide Rf. · North Barnard Is. · Potter Rf. · Ellison Rf. · Sth Barnard Is. · Eddy Rf. · King Rf. · Farquharson Rf. · Taylor Rf. · Beaver Rf. · Tully · Dunk I. · Richards I. · Tully River · Otter Rf. · Goold I. · Hinchinbrook I.

15° 00'E 146° 00'E 147° 00'E
15° 00'S 16° 30'S 17° 30'S

LEGEND

Green I.	Islands
Michaelmas Rf.	Reefs
Cairns	Major Area Centres
F	Fringing Reefs
	Reef Edge

LOCALITY MAP

10 0 10 20 30 Kilometres
5 0 5 10 15 Nautical Miles

THIS MAP IS NOT INTENDED FOR NAVIGATIONAL PURPOSES.

Great Barrier Reef Marine Park

Cairns Section
& Cormorant Pass Section

INTRODUCTION

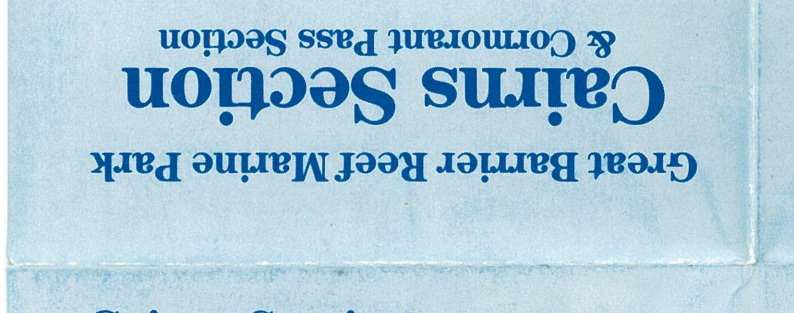
Cairns Section

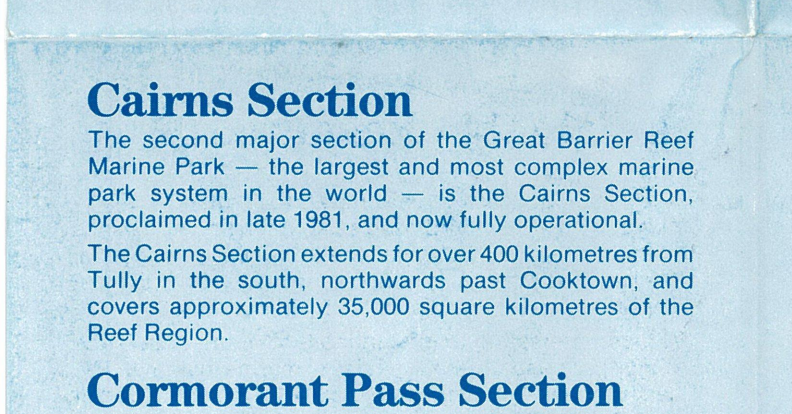
The second major section of the Great Barrier Reef Marine Park — the largest and most complex marine park system in the world — is the Cairns Section, proclaimed in late 1981, and now fully operational.

The Cairns Section extends for over 400 kilometres from Tully in the south, northwards past Cooktown, and covers approximately 35,000 square kilometres of the Reef Region.

Cormorant Pass Section

Within the outer boundaries of the Cairns Section lies the Cormorant Pass Section, covering an area of just over three square kilometres. This small Section was included within the Marine Park to offer protection to a unique colony of tame potato cod (*Epinephelus tukula*) which is a major natural attraction for divers and snorkellers.





The Marine Park Concept

The aim in developing the Great Barrier Reef Marine Park is to provide for the wise use, appreciation and enjoyment of the Great Barrier Reef in perpetuity. The Great Barrier Reef Marine Park Authority, the Commonwealth agency primarily responsible for the care and development of the Marine Park has, through public participation, developed Zoning Plans for the Cairns and Cormorant Pass Sections that balance human needs with the need to conserve the Reef.

Zoning Strategy

To protect the Reef, mining (except for approved research purposes), oil drilling, commercial spearfishing and spearfishing with SCUBA are strictly prohibited within the Marine Park. Oil drilling is prohibited throughout the Great Barrier Reef Region.

The Cormorant Pass Section is a single zone — a Marine National Park Buffer Zone — which provides for the protection of the natural resources of the area, including the tame potato cod.

Within the Cairns Section, zones have been established to provide for a range of uses.

General Use Zones

- **General Use 'A' Zone**
  Over 70% of the Cairns Section has been zoned as **General Use 'A'.** This zoning provides opportunities for reasonable use — including commercial trawling and shipping operations — consistent with the conservation of the Great Barrier Reef.

- **General Use 'B' Zone**
  An additional 22% of the Section, zoned as **General Use 'B'**, provides areas for reasonable use free from trawling and commercial shipping.

Marine National Park Zones

The provisions of Marine National Park Zones are similar in concept to those of national parks on land. That is, the natural resources within the zones are protected from the effects of a number of activities including collecting. There are three "types" of Marine National Park Zones:

- **Marine National Park 'A' Zone**
  Activities that are allowed include general recreational activities, trolling for pelagic fish species (e.g. mackerel), line fishing with one *hand-held* rod or line (used with one hook or lure), and approved research. There are *twenty-six* reef areas zoned as Marine National Park 'A' in the Cairns Section.

- **Marine National Park Buffer Zone**
  In response to public representations when zoning the Cairns Section, the Buffer Zone has been created around 21 reefs within the Section. The Buffer Zone, normally 500 metres wide, provides for trolling for pelagic species around reefs which have been given a level of protection which precludes *all* fishing. This measure has been adopted on the basis that trolling for pelagic species is unlikely to affect significantly the 'resident' marine life for which protection is needed.

- **Marine National Park 'B' Zone**
  This may be thought of as a 'look but don't take' zone. All fishing is prohibited so that people may appreciate and enjoy an area in its relatively undisturbed state.
  There are *nineteen* reef areas zoned as Marine National Park 'B' in the Cairns Section.

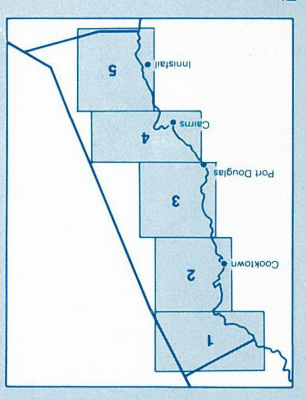
Areas have also been zoned for Scientific Research and Preservation.

- **Scientific Research Zone**
  The objective of the Scientific Research Zone is to provide areas where permitted research may be carried out free from the influences of other activities.
  There are *four* reef areas zoned as Scientific Research in the Cairns Section.

- **Preservation Zone**
  The objective of the Preservation Zone is to preserve areas of the Great Barrier Reef in their natural state undisturbed by man, except for the purpose of scientific research which cannot be conducted elsewhere.
  There are *three* reef areas zoned as Preservation in the Cairns Section.

This brochure is one in a series produced by the Great Barrier Reef Marine Park Authority to promote a better understanding of the Cairns and Cormorant Pass Sections Zoning Plans.

November 1983



Five separate Activities Guides cover map areas 1-5.

Further information and applications for permits may be obtained from:

Executive Officer
Great Barrier Reef
Marine Park Authority
P.O. Box 1379
TOWNSVILLE, QLD. 4810
Phone (077) 71 2191

Regional Director
Queensland National Parks
and Wildlife Service
P.O. Box 2066
CAIRNS, QLD. 4870
Phone (070) 53 4533

Director
Queensland National Parks and
Wildlife Service
P.O. Box 190
NORTH QUAY, QLD. 4000
Phone (07) 224 0414

A Valuable Resource

The area's fauna is both diverse and abundant. Twenty-two species of seabird have been recorded on islands within the outer boundaries of the Cairns Section. Michaelmas Cay is recognised as one of the most important seabird nesting sites in Queensland.

A most interesting animal inhabitant of the area is the dugong, an endangered species of marine mammal. The seagrass beds and sheltered bays of the northern part of the Cairns Section provide feeding and breeding grounds for significant numbers of these gentle mammals.

Management

The Queensland National Parks and Wildlife Service is responsible to the Authority for day-to-day management of the Marine Park.

The management role of the Service includes implementation of interpretive programs, monitoring (e.g. effects of visitor activities), surveillance (by aircraft and patrol vessels), and enforcement.

The Service also undertakes management of Queensland Marine Parks and is directly responsible for the management of the island National Parks, including Lizard Island and Green Island.

The Future

Regulations provide the means for implementing the provisions of the Zoning Plans; however a concerted effort in the areas of education, planning, research and monitoring being undertaken by the Great Barrier Reef Marine Park Authority, Queensland National Parks and Wildlife Service and others will be the principal means of achieving effective management of the Marine Park. Nevertheless the ultimate responsibility lies with those of us who use the Reef to ensure the conservation of this important part of our World Heritage, now and in the future.