Great Barrier Reef Marine Park Authority

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Reeflections

Reeflections

REEF BICENTENNIAL SPECTACULAR

The largest sporting event ever held in Australia was the **Suncorp North Queensland Games** in Cairns during the Easter Weekend April 1988.

The third North Queensland Games involved 15 000 competitors surpassing in numbers the participation level of both the 1956 Melbourne Olympic Games and the 1982 Brisbane Commonwealth Games.

More than 50 sports were played at venues around Cairns and the Shires of Mulgrave, Douglas, Eacham, Atherton, Mareeba, Herberton and Johnstone.

A massive turn-out of 12 000 spectators watched the opening ceremony.

The Cairns Showgrounds were transformed into a living coral reef with over 1500 children portraying jellyfish (above) and many other creatures — dramatising behaviours of the planktivores, carnivores, and herbivores in the pageant.

Highlight of the Opening Ceremony at the North Queensland Games in Cairns, Easter 1988, was the **Great Barrier Reef Pageant.** The showground was transformed in a dazzling spectacular as out of the darkness hundreds of marine creatures danced on to the arena. Fifteen hundred children from the Cairns and district schools took part in the Pageant as the culmination of a Reef Awareness Program sponsored by the Great Barrier Reef Marine Park Authority.

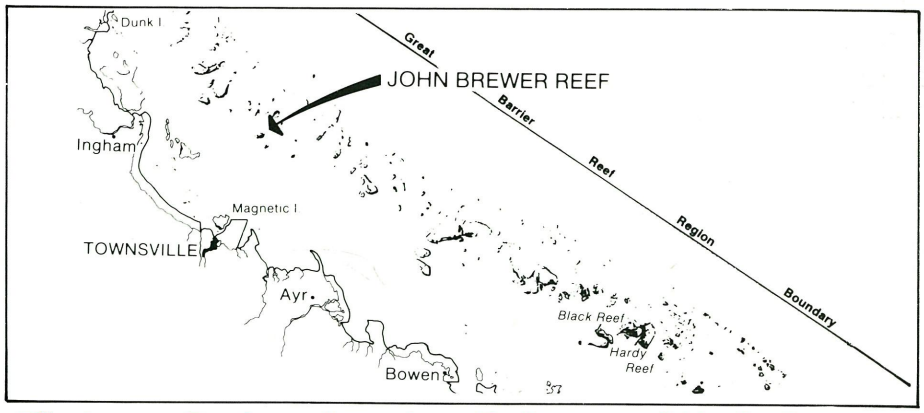
To help the children understand the marine creatures they portrayed in the Pageant and to learn more about the Reef, a special program was designed by Ms Louise Mabbutt for the Great Barrier Reef Marine Park Authority. Assisted by a team of Marine Park Rangers from the Queensland National Parks and Wildlife Service in Cairns, visits were organised to forty participating schools.

The Reef Awareness Program gave an introduction to students on the Great Barrier Reef Marine Park, its need for conservation and life in the Reef community. A comprehensive pool of videos, slides and resources on the Reef was available for teachers to use. Special talks were given at each school by the rangers on the marine creatures featured in the Reef Pageant.

Children as well as learning about the Reef community were also involved in making the props for the Pageant. The Reef creatures included giant manta rays, dugongs and sharks as well as the smaller fish — sardines, clown fish and jellyfish. Everything from cardboard to wine casks was used to represent the creatures.

The whole spectacular took over two years of planning under the guidance of Mr David Berker, the artistic director for the North Queensland Games Foundation. On the night, spectators were delighted as the different reef creatures emerged; corals spawned, hermit crabs scavenged and sharks chased the mackerel. The stunning finale came when the Endeavour sailed in through the corals and the fish. Captain Cook fired the cannon which lit the Game's flame and a brilliant laser show and fireworks in coral shapes lit up the sky.

REEF'S FIRST FLOATING RESORT



The Great Barrier Reef's first floating resort, **The John Brewer,** started operations at John Brewer Reef, just 72 km north of Townsville, in March 1988.

The resort is moored in the reef's shallow central lagoon of approximately 1 350 hectares which, apart from a small entrance channel, is almost totally encircled by coral ramparts and bommie fields.

The structure is seven storeys high, 90 m long and 27 m wide, has 200 rooms outfitted to international first-class standards and and designed specifically for service on the Great Barrier Reef.

The Environmental Impact Study

It took several years to complete the required environmental, feasibility and technical studies for this facility to be located on the Reef.

In 1984, the GBRMPA received an application to develop an offshore facility with overnight accommodation at John Brewer Reef. The Authority carried out an initial assessment and determined that the development could have the potential for significant environmental impact on the Reef. The matter was therefore referred to the Minister for Arts, Heritage and the Environment for consideration under the Environmental Protection (Impact of Proposals) Act.

A draft Environmental Impact Study, conducted by an independent research group, concluded that, if all technical specifications were met and stringent management plans adhered to, there were no environmental reasons why the project should not proceed. The Minister advised that all likely impacts of the Resort on the environment had been adequately addressed and the appropriate safeguards had been proposed.

Effects on Corals and Marine Life

A major public concern has been the Resort's effect on the marine life at John Brewer Reef.

Permits were issued by the GBRMPA for the initial stages of site preparation. A number of coral bommies at the entrance channel and within the Resort's swing circle were 'cropped' so that the Resort could be positioned in the lagoon. Because the bommies chosen for cropping had little live coral cover, the impact of the cropping was not significant. Any live corals were transplanted to nearby areas. The whole operation was closely controlled and monitored by GBRMPA staff.

The Resort itself is located over the reef's sandy lagoon so there has been little effect from shading on corals and no possibility of damage. Fishing is prohibited within 500 m of the Resort and hotel visitors are prohibited from taking any souvenirs from the lagoon such as shells or corals.

Waste Treatment

There are two sewage treatment plants capable of treating all sewage and waste water on the Resort itself. All waste water is treated before being dumped in deep water remote from the reef. The treatment and disposal of waste complies with national and international standards to ensure there will be no significant impacts on the reef. A marine incinerator burns all sludge and solid wastes. Ash from the incinerator is disposed of on the mainland. All litter is disposed of in the same way.

The only emission from the Resort into the lagoon is from the desalination plant's saline water discharge. Freshwater is produced for the Resort by processing sea water. The residue seawater is then run back to the sea with a slightly higher salt content. This discharge is monitored to determine if it affects the immediate environment.

Environmental Monitoring Program

A comprehensive program of environmental monitoring is being carried out at John Brewer Reef to determine whether there are any long term changes to the Reef as a result of the Resort. The program must be funded by the owners as part of the conditions for permitting the installation and operation of the Resort in the Marine Park.

The Environmental Monitoring Program includes general reconnaissance and surveys of coral, fish, water quality and sediment at sites within John Brewer Reef. Baseline (pre-resort) data has already been collected at permanent sites and surveys are repeated at regular intervals to monitor any possible changes as a result of the Resort and associated activities. Sensitive marine life including coral, algae, sponges, fish and clams will be closely monitored. In addition, the change in human use of John Brewer Reef is being documented.

Studies also include effects of increased fishing pressure on nearby reefs, effects of shade on marine organisms, effects of underwater noise on fish, effects of the brine discharge from the desalination plant, and effects of bird droppings on the lagoon.

The Environmental Monitoring Program is designed to take account of concerns raised in the **Environmental Impact Statement** (EIS) released in 1985 and public comments and government response to the EIS. One of the most important conditions in the permit is that, if the monitoring program identifies changes occurring in the reef's environment from the Resort's operations or unforeseen events, then the operations can be amended.

An information paper on The John Brewer Resort is available from the Education/Information Section of GBRMPA upon written request.

OFFSHORE STRUCTURE PERMITS

PARK MANAGEMENT

Simon Woodley
Assistant Executive Officer
Park Management Section

The assessment of offshore development proposals is an increasing responsibility of the GBRMPA. Each proposal seems to uncover new issues for resolution whether of a legal, technical or policy nature. GBRMPA has had to evolve methods of dealing with new types of proposals, not envisaged when the **Great Barrier Reef Marine Park Act** was first planned.

Part of GBRMPA's aim is to provide for development which is compatible with the conservation of the Reef's natural resources. There is a need to minimise regulation and interference in human activities while still providing protection for the natural resources of the Reef.

Offshore development proposals usually involve substantial excavation or construction. Along the coast they may include loading facilities, marinas, breakwaters, boat harbours and beach replenishment. Further offshore they may involve lagoon dredging, moorings, pontoons or floating hotels.

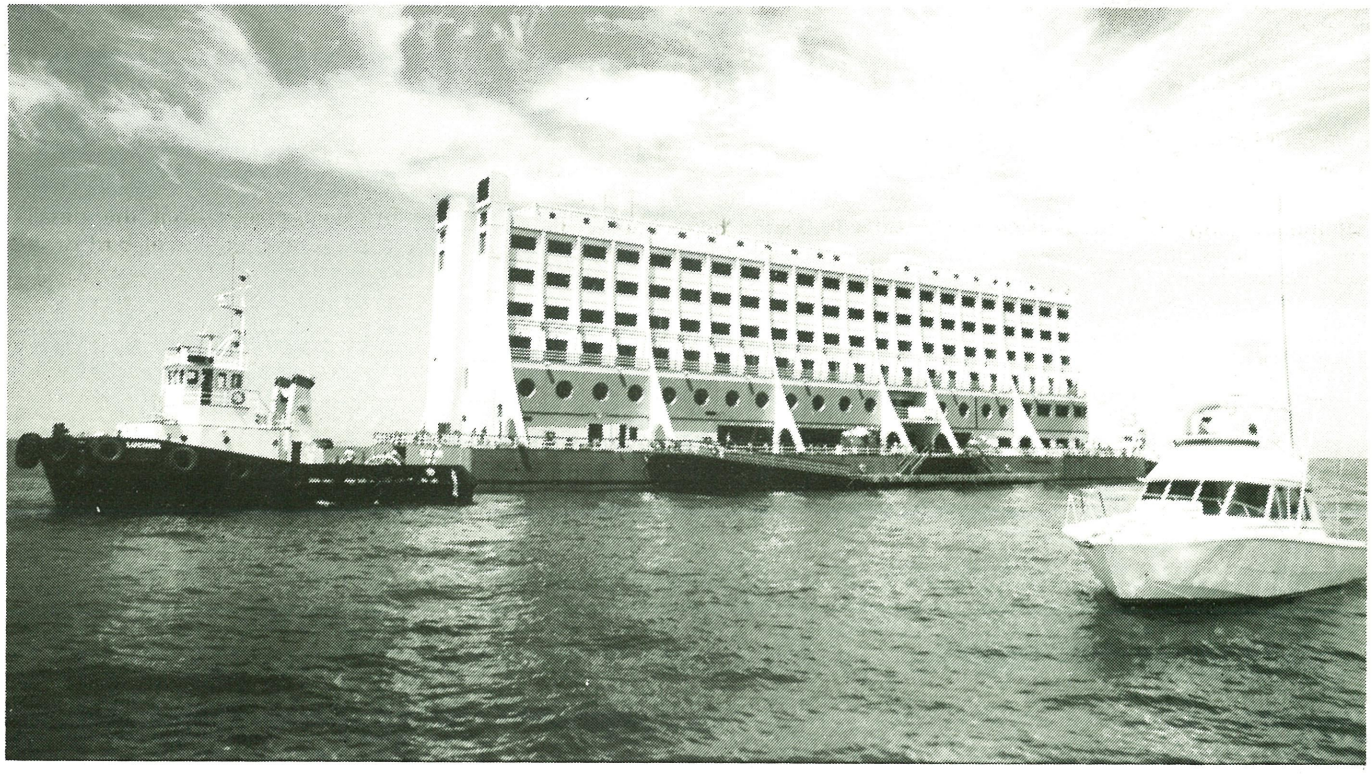
Permits are used in the management of offshore developments because they give flexibility to control structures of widely differing size, complexity, purpose and location. When issuing a permit GBRMPA considers a wide range of matters, including the existing zoning plan for the area; the existing uses and likely future uses of the area; whether the development will affect nearby areas and its possible effects on the environment from such things as waste disposal or transport access.

Some useful guidelines have been developed for issuing permits.

- Permits are limited for fixed periods in time. This gives greater flexibility to monitor the operation and adjust the conditions if necessary on renewal.
- Permits are not transferable. This avoids difficulties associated with permits acquiring an economic value and allows reassessment of a new owner.
- Permits are issued in cooperation with other government agencies to minimise permit or licence conditions and ensure compatibility with each other (for example in areas such as waste discharge and moorings standards).
- A financial bond or bank guarantee is usually required to pay for repair or rehabilitation of the site or to ensure that structures can be removed from the Marine Park e.g. in the event of the default of the owner.
- Monitoring programs which assess the impact of the development are required.

Like all managers, GBRMPA staff have to make decisions on the best information available at the time. The present approach assesses comprehensively each project to minimise its impact and to build protective devices such as time limits and financial bonds into some permits. Finally, it allows GBRMPA to monitor any environmental impact so that future adjustment of permit conditions is possible.

The world's first floating hotel arrives at John Brewer Reef, off Townsville.



ORIGINS OF THE GREAT BARRIER REEF COMMITTEE

EDUCATION & INFORMATION

David Lawrence
Librarian

Early scientific interest in the origin of barrier reefs and coral atolls was stimulated by the publication, in 1842, of Charles Darwin's 'Treatise on the Structure and Distribution of Coral Reefs'.

Early Scientific Expeditions 1893

The establishment of the Great Barrier Reef Committee in 1922 generated much debate among scientists. Visits to the Great Barrier Reef had been made in the later part of the nineteenth century by naturalists such as J Beete Jukes and William Saville-Kent. The work of Saville-Kent is of particular importance in the early scientific history of the Reef and his magnificent book on its products and potentialities, published in 1893, contains some of the earliest and most detailed photographs of the Great Barrier Reef.

In the early part of this century scientific understanding of the origin of coral reefs was dominated largely by geographers. In 1919 the President of the Royal Geographical Society of Australasia (Queensland), and Governor of Queensland, Sir Hamilton Goold-Adams urged members of the Society to undertake original scientific work on the Great Barrier Reef.

Professor Henry Richards of the Department of Geology at the University of Queensland had, in 1920, felt that Australian scientists were doing less than they should in the interests of Pacific science and he put forward a number of considerations for investigation related to direct scientific research in the fields of cartography, geology, and biology but Richards was also concerned with the commercial exploitation of the Reef at a time when the collection of bêche-de-mer, trochus shell, pearl shell, turtle shell and sponges was widespread.

Establishment of the Great Barrier Reef Committee 1922

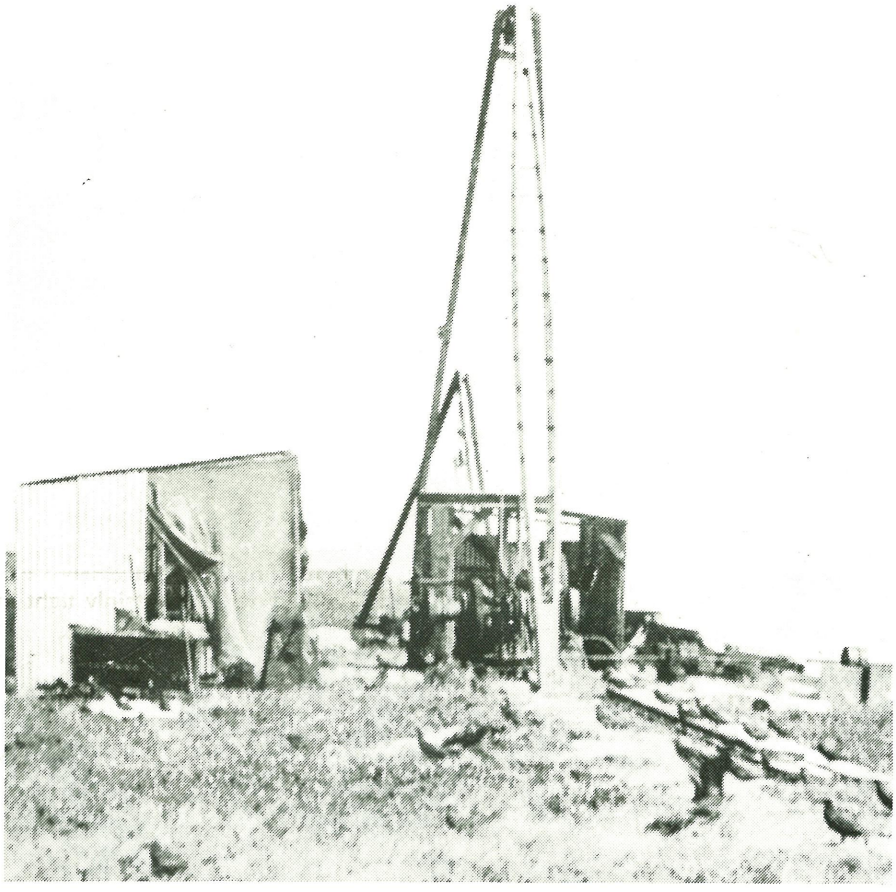
The Great Barrier Reef Committee of Investigation was established in 1922 under the auspices of the Royal Geographical Society to coordinate and direct research into the scientific understanding of the Reef. The first president was Sir Matthew Nathan, then Governor of Queensland.

The success of the early committee was largely due to the dedication and character of both Nathan and Richards who were close friends. Sir Matthew Nathan, as was characteristic of officials at that time, was an active promoter of all things British, as well as scientific.

He was an able administrator and his Vice-Regal patronage assisted in overcoming many small governmental and bureaucratic obstacles at a time when research funding was practically non-existent. Funding was certainly tight in the early years. The initial petty cash of the Committee's accounts was made up from five donations of 2 pounds each.

By 1923 the committee had decided on its immediate aims which included, as part of the promotion of scientific reef research, the drilling of a bore into the reef for geological investigation. Richards and Charles Hedley, the expert on molluscs from the Australian Museum, had conducted geological investigations on islands and reefs between Cairns and Booby Island in the Torres Strait. However, it was not until 1926 that the Committee was able to finance an expedition to bore into the reef.

Saville-Kent produced the first illustrated scientific study on the Reef in 1893.



The boring station on Michaelmas Cay, 1926.

The drilling plant and crew came on loan from the Victorian Mines Department to work on the bore.

Bore on Michaelmas Cay 1926

The test site chosen was Michaelmas Reef near Cairns and photographs of their work were later published in the Reports of the Committee. The bore went to a depth of 600 feet and analysis indicated that all deposits to that depth belonged to the recent geological period.

The early Committee was not motivated by conservation interests as such. However, E J Banfield, of Dunk Island fame, was a member who urged the Committee to consider restricting the uncontrolled exploitation of beche-de-mer and trochus shells, as well as encouraging the replanting of trees cut down by fishermen and ships' crews on reef islands.

Reports of the Great Barrier Reef Committee 1924-1956

Volume one of the reports of the Committee was published in 1924 as the Transactions of the Royal Geographical Society under the general title 'Reports of the Great Barrier Reef Committee'. Unfortunately, relations between the Committee and the Society deteriorated and, following receipt of a grant from the Commonwealth Government, the Committee started to publish its own reports with volume two.

The Committee continued to publish its own report series until 1956. In 1951 a marine biological station had been established on Heron Island. Subsequent reef research concentrated upon this area and the Heron Island station became the Committee's major commitment.

In 1980 the Great Barrier Reef Committee handed over all interests in the Heron Island Research Station to the University of Queensland. The Committee continued until 1982 when it was reformed as the Australian Coral Reef Society.

References

1984 Hill, Dorothy. 'The Great Barrier Reef Committee, 1922-1952: the first thirty years' **Historical Records of Australian Science** 6 (1): 1-18.

REEF CREATURE SCHOOL

Reef Awareness Program
January-March 1988, Cairns
Supported by the Great Barrier Reef M
Queensland National Parks and Wil
Cairns Regional Office of Educatio
Office and the North Queensland Gam

Dawn Fraser (NQ Games Special Guest), David Berker (Pageant's Artistic Director) Lesley Murdoch (GBRMPA Project Co-ordinator) and Louise Mabbutt (Reef Consultant) display the sea-horses made by students at Parramatta State School (centre photograph).

*Q.NPWS Cairns rangers, including John De Campo, visited many schools during the **Reef Awareness Program** which complemented the pageant with its educative focus on marine creatures and the need for reef conservation.*

ES GO TO

Marine Park Authority,
dlife Service (Cairns),
n, Catholic Education
es Foundation.

Students at Caravonica State School enjoyed the videos and the reef materials supplied by GBRMPA to each school participating in the ***Reef Awareness Program****.*

Many unlikely materials were used to make the 'props' for the pageant. Students from Parramatta State School cut up old wine casks to make the shimmering jellyfish. (See front cover).

ABORIGINAL HUNTING AT HOPEVALE

RESEARCH

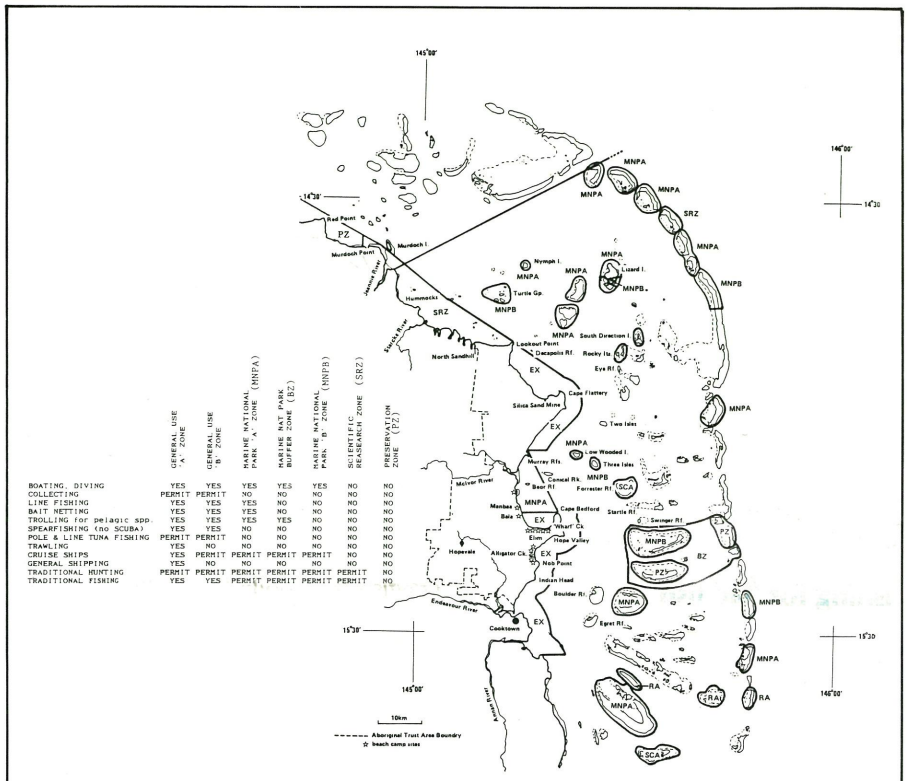
Dr Andrew Smith

Dr Andrew Smith is currently undertaking research into the traditional fisheries of the outer islands of Yap, Micronesia. He was formerly a research student at James Cook University and completed his doctorate dissertation on the usage of marine resources by the Aboriginal people of eastern Cape York Peninsula. This summary is taken from a report to GBRMPA which funded his research.

'To hunt from the sea is for a man, the proper and manly thing to do. To succeed in this activity is to gain a traditional status within a community.'
Athol Chase. Anthropologist.

In 1770, Captain Cook, while undertaking repairs to his ship at Endeavour River, recorded some aspects of Aboriginal hunting and gathering from the sea. He noted four main methods — collecting (sea urchins, shellfish), spearing (fish, crabs), line fishing (fish, sharks) and harpooning (turtles, dugong). Although some of the materials in use today have changed, the methods and equipment are basically the same as they were over 200 years ago.

Hopevale is a small Aboriginal community made up of approximately 729 people. It is situated 50 kilometres north of Cooktown.



	GENERAL USE 'A' ZONE	GENERAL USE 'B' ZONE	MARINE NATIONAL PARK 'A' ZONE (MNPA)	MARINE NAT PARK BUFFER ZONE (BZ)	MARINE NATIONAL PARK 'B' ZONE (MNPB)	SCIENTIFIC RESEARCH ZONE (SRZ)	PRESERVATION ZONE (PZ)
BOATING, DIVING	YES	YES	YES	YES	YES	NO	NO
COLLECTING	PERMIT	PERMIT	NO	NO	NO	NO	NO
LINE FISHING	YES	YES	YES	NO	NO	NO	NO
BAIT NETTING	YES	YES	YES	NO	NO	NO	NO
TROLLING for pelagic spp.	YES	YES	YES	YES	NO	NO	NO
SPEARFISHING (no SCUBA)	YES	YES	NO	NO	NO	NO	NO
POLE & LINE TUNA FISHING	PERMIT	PERMIT	NO	NO	NO	NO	NO
TRAWLING	YES	NO	NO	NO	NO	NO	NO
CRUISE SHIPS	YES	PERMIT	PERMIT	PERMIT	PERMIT	NO	NO
GENERAL SHIPPING	YES	NO	NO	NO	NO	NO	NO
TRADITIONAL HUNTING	PERMIT	PERMIT	PERMIT	PERMIT	PERMIT	PERMIT	NO
TRADITIONAL FISHING	YES	YES	PERMIT	PERMIT	PERMIT	PERMIT	NO

FIGURE 1: Map of the Hopevale area including the GBRMP Zones (nb General Use "A" and "B" Zones not shown)
EX = excluded from GBRMP; SCA = seasonal closure area;
RA = replenishment area

Turtles used for food

Green turtles are also caught for their meat. They are caught all year, but the females are considered fattest during the breeding season, between August and December. Males are generally considered poor food and are therefore avoided.

Turtle eggs are often eaten if a fresh nest is located.

Turtles are either harpooned or bulldogged from dinghies. Bulldogging is where the turtles are caught by hand.

Tag returns from captured turtles indicate that at least some of the population have travelled over 1000 kilometres from North West Island in the Capricorn Group off Gladstone. Today, traditional hunting and fishing in the sea is done on a part-time basis, and Hopevale fishermen are now affected by such things as school and work vacations, public holidays, the availability of employment, road and sea conditions and Marine Park restrictions. But the biggest impact has been the easy availablility of food from local stores. This changes the purpose of fishing from an everyday food gathering task important for survival to a recreational or traditional activity.

Dugong Hunting an important social activity

Dugong hunting also serves as a cultural activity, and therefore has an important social function.

Dugong and turtle meat are regarded as 'proper food' and the eating and sharing of such food among kin is as important now as it was in the days before white contact.

Dugongs are caught primarily for their meat but also for their oil which is taken internally or rubbed over the skin of older Hopevale people. The oil may also be used for cooking if enough is available.

At Hopevale hunting usually occurs during the Christmas holiday period.

Dugongs are caught from small aluminium dinghies using a harpoon with a detachable head. The dugong is chased by the boat, with the harpooner on the bow directing the driver. Once the dugong has been harpooned, it is pulled to the boat. The dugong's tail is held against the gunwale with its ventral side up until it drowns. 'Lassoing' dugong is occasionally used by younger hunters whereby the dugong is chased and tired out, then one person jumps overboard and places a lasso over the dugong's head. The rope is then pulled tight by another person on the boat.

The biological data collected indicate that dugongs of all ages, including reproductively active females are hunted.

Fishing for 'fat' fish

All edible fish are kept by the fishermen. Small fish are either boiled, fried whole or roasted on hot coals. Mullet are always boiled. Sharks and rays are prepared as 'buundhaarr' where the liver and flesh are washed then boiled separately, minced and mixed together. This is eaten straight or mixed with onion and made into rissoles for frying.

Techniques for fishing include spearing, netting, line fishing, or using a spear gun. Depending on the season, fish species taken include barramundi, sting-ray and sharks, blue tailed mullet and diamond-scaled mullet, bream, trevally, mackerel and Cooktown salmon.

Seasonality is an important determinant of which fish species is sought and there is a preference for 'fat' animals which have the greatest nutritional value. At Hopevale, the term 'fat' as used does not necessarily mean plump. An animal is termed 'fat' when it is best to eat. Mullet, salmon, oysters, urchins are regarded as 'fat' just before spawning when they are gravid. Rays and sharks are 'fat' when their liver is enlarged. Crabs are 'fat' during the presence of 'red tide' ***Trichodesmium*** blooms.

Shellfish, although eaten all year round, also have certain periods when they are regarded as 'fat'. For instance, crabs and crayfish are boiled in salt water, the latter being speared on inshore reefs during spring low tides. Prawns are caught with a net during the wet season. Sea anemones are eaten mainly in June.

The marine environment is an integral part of the Hopevale Aboriginal culture. But there is a general feeling that much information about traditional fishing is being forgotten. They say the last really knowledgable men died in the 1950s.

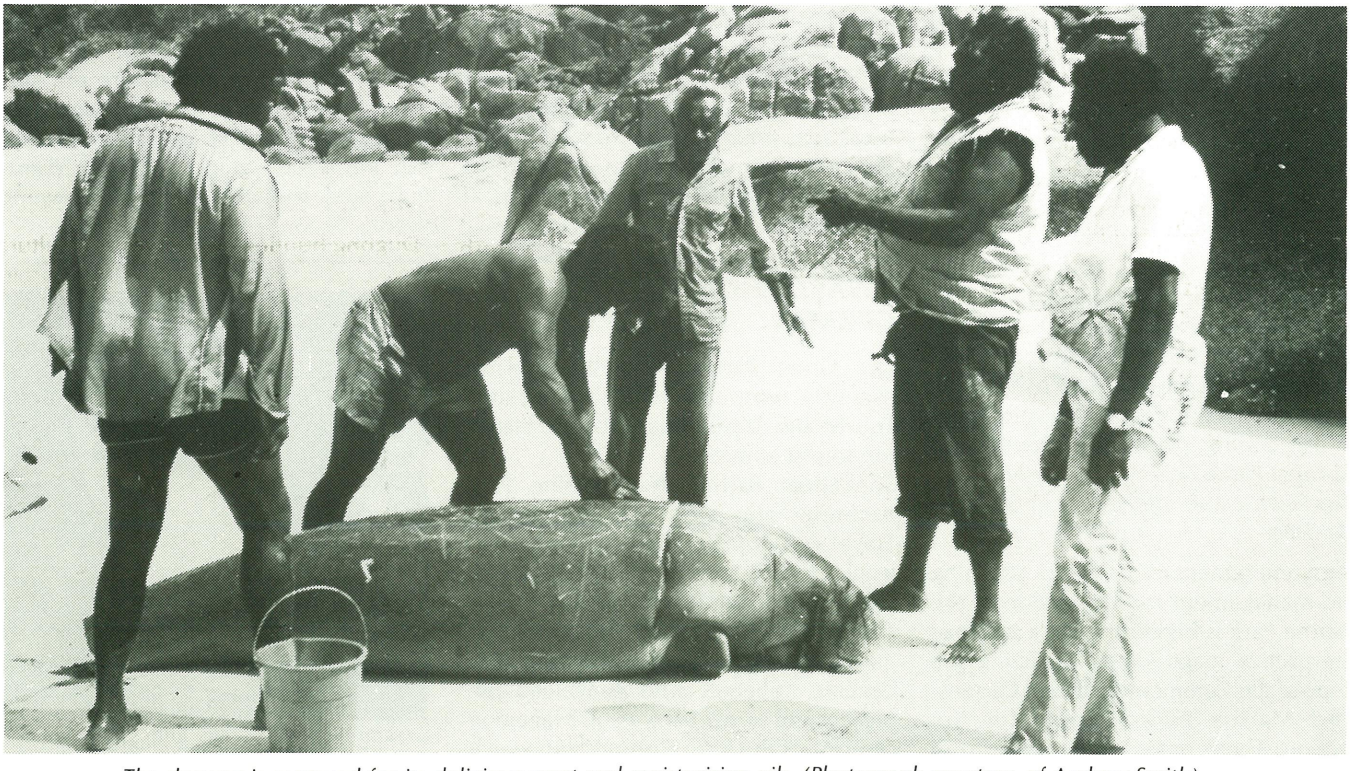
New laws and old ways

The legal problems associated with Aboriginal marine hunting and the related legislation were reviewed by the Australian Law Reform Commission in 1986.

The Commonwealth and State Governments share the constitutional authority over fisheries in Australian waters. Under Commonwealth legislation, Aboriginal people engaging in traditional hunting, fishing and gathering are exempt from conservation and wildlife laws unless those laws are expressly stated to apply to them. In the Great Barrier Reef Marine Park Act (1975) no reference is made to traditional hunting and fishing interests, nor is it suggested that certain areas should be preserved for traditional use. However, special provision is made in the Marine Park Zoning Plans to allow traditional hunting of dugongs and traditional fishing where appropriate, to continue.

Traditional hunting of dugongs is limited to Aboriginal and Islanders living in reserve communities ('Trust Areas'). All other taking of dugong is strictly prohibited under the **Queensland Fisheries Act.**

The Marine Park Authority's view is that traditional hunting and fishing are accepted as reasonable uses of the Marine Park's resources, provided that the long-term well-being of the species is assured. The incorporation of Aboriginal knowledge is an integral aspect of the development of management plans for marine resources.



The dugong is captured for its delicious meat and moisturising oils. (Photograph courtesy of Andrew Smith)

NEWS AND NOTICES

REEF ZONING PLAN NOW EFFECTIVE

A milestone in the management and conservation of the Great Barrier Reef was reached when the Zoning Plan for the Mackay/Capricorn Section of the Great Barrier Reef Marine Park came into effect in August, 1988.

This means that zoning has been completed for all of the Marine Parks 344 000 square kilometres, making it the worlds largest and most significant marine conservation project.

The Minister for the Arts, Sport, the Environment, Tourism and Territories, Senator Graham Richardson said that the development was another step in the management program being implemented by the Great Barrier Reef Marine Park Authority.

'It is appropriate that, as a result of the efforts of the GBRMPA, zoning plans will be in place for all sections of the Marine Park in this our Bicentennial year', he said.

The Mackay/Capricorn Section, which extends from just south of the Whitsunday Islands to just north of Bundaberg, covers 149 000 square kilometres and comprises 43% of the Great Barrier Reef Marine Park.

The development of zoning plans is an extensive process comprising two major phases of public participation and liaison with user groups and Queensland and Commonwealth agencies. The final zoning plan represents an optimum balance between the needs for conservation and reasonable use of the Marine Park.

In parallel with the development of the Mackay/Capricorn Section Zoning Plan, the Queensland Government has developed a complementary zoning plan for adjacent areas under Queensland jurisdiction. Both the Queensland Government and the GBRMPA have cooperated closely on the development of the zoning plans. The Queensland National Parks Zoning Plan for Mackay/Capricorn came into effect in September 1988.

The complementary nature of planning and management for this section of the Marine Park is highlighted in a series of interpretive maps jointly depicting the scope of the Commonwealth and Queensland Marine Parks Zoning for the Section. These maps are available from GBRMPA and Q.NPWS.

JACQUES COUSTEAU

Forty years ago Jacques Cousteau changed the world of diving with the development of the self-contained underwater breathing apparatus or SCUBA system. This invention has been the key to knowledge about the underwater world for scientists, planners, educators, and others who simply enjoy brief visits to Neptune's realm. Little surprise then that his visit to the Great Barrier Reef was an historical occasion for the Marine Park.

At 79, with no retirement plans the 'Commandant', as the crew affectionately call Cousteau, guides the Cousteau Society on an ambitious program. Together they aim to ensure we understand the significance of preserving our environment world wide. Cousteau's plan is to set up a series of specialist local assessment groups to watch over their environment, and to warn others of any impending environmental interference.

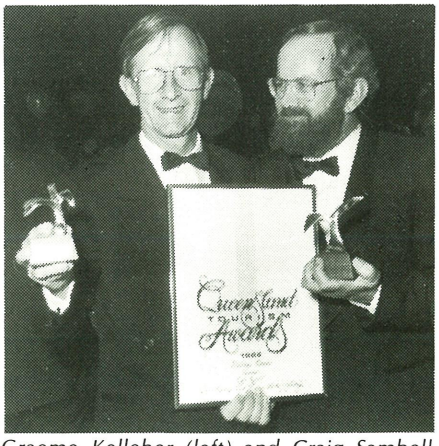
Cousteau believes zoning human activity on the Reef is the best way to protecting it. He fully supports the Marine Park but believes that more areas should be set aside for total protection and preservation than the existing 10%.

The Cousteau Society is a non profit organisation which raises funds selling films and books. Much of the equipment aboard the Calypso has been donated from companies on a trial basis.

The Society travels world wide shooting film footage for the production of their now famous documentaries. The Great Barrier Reef will soon feature on Australian television as an hour-long program and will be rich with images of the fish life, reefs, tourism, historic paintings, and the annual coral spawning event.

AWARDS HONOURS TO GBRMPA

The Great Barrier Reef Wonderland recently won the 1988 Queensland Tourist and Travel Award for the State's top tourist attraction.
The Great Barrier Reef Marine Park Authority also won the Queensland Travel and Tourism Corporation's electronic media section for its quarterly video production Reef Report.
The Wonderland award was presented jointly to the Chairman of GBRMPA, Graeme Kelleher, who conceived the project and to Mr Barry Paul, Managing Director of the Kern Corporation, which built it.



Graeme Kelleher (left) and Craig Sambell proudly receive the QTTC awards.

REEF REPORT

Reef Report, a 20 minute award winning video program is produced quarterly by the Great Barrier Reef Marine Park Authority. It is presented in a news magazine format that features short topical items with comments on issues affecting the Marine Park.

Reef Report is available from the Education and Information Section of GBRMPA on VHS and Beta formats and retails for $25. Other formats also available upon request.

Back copies are now available:

Reef Report No 1/87
The Wonderland Aquarium
Crown of Thorns Starfish
Zoning the Marine Park
Getting the Message Across with TV

Reef Report No 2/87
The Opening of Reef Wonderland
Encounters with the Reef
Farming the Sea
A New Patrol Boat
Adopt a Clam
Marine Stingers

Reef Report No 3/87
Coral Spawning
Purifying Sea Water
Aquarium Sharks
Promoting Wonderland
Reef Walking Trails
Seismics and the Reef
GBRMPA Products

Reef Report No 1/88
The Floating Resort
Untouchables Below
Oil Pollution on the Reef
Commercial Fishing in the Marine Park

Reef Report No 2/88
Turtles and Tourists on Heron Island
Mapping the Reef by Computer and Satellite
The Birth of Coral Cays
Scallop Fishing in the Marine Park

Reef Report No 3/88
Aerial Surveillance
Lizard Island Research Station
Whales Along the Reef
Cairns Zoning Review
Project Reef-Ed

STOP PRESS

Reef Report has since won the Australian Tourism Awards electronic media category announced in Sydney on 29 October.

ENCOUNTERS WITH THE REEF

What is the Great Barrier Reef?
How was it formed?
What type of animals live on the Great Barrier Reef?
Is the Great Barrier Reef still growing?

These are some of the questions answered in the education program **Encounters with the Reef.** Produced by the Education and Information Section of GBRMPA this program is available as a 20 minute video.

Encounters with the Reef provides a fascinating insight into how the greatest living structure on earth was built and continues to grow along 2 200 km of the Queensland coastline.

Price: $35.00 (plus postage)

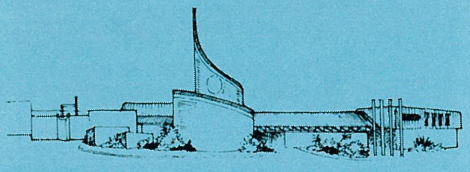
REEF EDUCATION DEVELOPMENT GRANTS

This program aims to encourage innovative community education projects which enhance community enjoyment, understanding and support for the Great Barrier Reef Marine Park.

Grants may be made to community organisations and local government agencies for innovative educational programs, materials, and information services relevant to the Marine Park.

Further information and copies of the 1988-89 application guidelines are available from the GBRMPA and Q.NP'WS Regional Offices.

AT THE AQUARIUM SHOP



A popular video is **Australia's Great Barrier Reef** produced by White Light Video Productions. Filmed by Ben Cropp, this video captures a 24 hour cycle of life on the Barrier Reef. A variety of marine life is described demonstrating the complex interactions between each level of the food chain.

Available in both VHS and NTSC formats, **Australia's Great Barrier Reef** is one of the many documentary videos on sale from the Aquarium Shop.

Duration: 47 mins. Price: $35.00 (plus postage)

All retail inquiries should be addressed to
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Wholesale inquiries should be addressed to
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Great Barrier Reef Marine Park Authority
PO Box 1379
TOWNSVILLE QLD 4810

REVIEWS

DUGONGS

Written by Sue Rayner
Illustrated by Rod Lewis
Oxford University Press 1987 30 pages

A story set in Papua New Guinea is used to introduce facts about dugongs. Illustrations in soft water colour tones of brown and white expertly complement the gentle but firm message.

Through an interchange between a father and son and their friends, the wildlife officer and his son, the reader learns about dugongs from different physical perspectives. From a boat, they learn about a dugong feeding close to the reef at high tide and the 'p-ha' sound it makes when surfacing to breathe. From a plane they see the tracks made by dugongs through seagrass beds and count dugongs, noting mothers with babies close at side. While swimming, they watch a dugong feed, pulling seagrass using its large rubbery lips 'like a hand' and see the earhole, small eyes and bristles around its mouth. They discuss the fact that there are few large herds of dugong now.

In 1976 the dugong was declared a protected National Animal of PNG meaning that dugongs can only be used in traditional ways. Dugongs can no longer be sold and special Wildlife Areas have been set up where mothers and babies are protected from hunting. Dugongs are also protected in Australia.

The book ends up with a 'Save the Dugong Game' and a short series of questions to help reinforce the conservation message.

MANGROVE ECOSYSTEMS OF ASIA AND THE PACIFIC

status, exploitation and management.
Editors: C D Field and A J Dartnall
Proceedings of the Research for Development Seminar held at the Australian Institute of Marine Science, Townsville, Australia; 18-25 May 1985.

Published by the Australian Institute of Marine Science, 1987. 320pp.

Contributors range from Australia, India, Indonesia, China, Burma, Japan, Thailand, Philippines, Pakistan, Fiji and Malaysia. The volume comprises 33 chapters dealing with the undisturbed mangrove system, traditional uses, exploitation and threats to mangroves and measurement and management of the ecosystem.

This volume is available for the cost of postage.

TWO VOYAGES TO THE SOUTH SEAS

Translated and edited by Helen Rosenman
Vols. I & II, Melbourne Univ. Press. $75.00 set

Dumont D'Urville (1790-1842) was one of the greatest navigators of the heroic days of sail, yet his two epic voyages to the South Pacific and Antarctica remain virtually unknown in English speaking countries.

These two volumes represent the first comprehensive translation into English of the 15 volumes of the official narratives, dating from the 1830s and 1840s, of the two French Navy expeditions he led in the **Astrolabe** (1826-9) and the **Astrolabe** and **Zelee** (1837-40).

A well-educated aristocrat, Dumont d'Urville was a first-rate sailor and a tough, yet humane, leader. He was a shrewd observer and, had his advice been taken, France would have settled King George Sound, then later New Zealand. He was a keen student of languages of the Pacific and an amateur anthropologist. It is to him that anthropology owes the nomenclature of the main racial types in the Pacific basin-Polynesian, Melanesian, Micronesian and Malay.

In 1826 in Australia he visited King George Sound, Westernport and Jervis Bay before white settlement, and Sydney, where he described the local scene for his readers. Then after touching at New Zealand, Tonga and New Guinea and Amboyna, he reached Hobart in 1828. From information received there he made his way to Vanikoro, to ascertain if Laperouse had come to a tragic end on its lethal reefs. this was the climax of his first expedition.

Two voyages to the South Seas, produced with the generous assistance of Total Australia and the Victorian Ministry of the Arts, should be of particular relevance to maritime historians and, more generally, to those who have an interest in our marine heritage.

Reproduced from *Marine Studies* Vol. 4, No. 18 September 1988.

S.S. YONGALA — DIVE TO THE PAST

Max Gleeson & Mae Elliott
Turton & Armstrong Publishers 1987
80 pages $17.95

Shrouded in mystery, suspicion and rumour, most old salts have their own version of what happened to the **Yongala**. Whether in connection with a scuba dive destination or just local folklore the image conjured up is of dark, gloomy, rotting hulk laying on the sea bed.

The 110 metre steel ship the **S.S. Yongala** was one of the best known passenger and cargo ships to run the east coast of Australia in the early 1900s.

In 1911 she was lost with 121 crew and passengers, a victim of a cyclone off Cape Bowling Green.

Max Gleeson and Mae Elliott have produced a well illustrated, concise account of the events surrounding the disappearance of the **Yongala**. The subject is treated with affection and tact, mainly to clear up the rumours and misconceptions regarding the history of the ship, but also to highlight the beauty of the wreck as it is now, encrusted in corals, providing shelter and habitat for a dazzling array of fish and other marine creatures.

NOTES

Reeflections is published by the Great Barrier Reef Marine Park Authority on a quarterly basis with the intention that it should cover a range of topics and serve as a forum for discussion. Your contributions are important to ensure that representative points of view are presented and items of interest are brought to the attention of our readers.

We ask that contributions be kept to a maximum length of 1500 words and be accompanied by the author's name, designation and address. Photographs (preferably black and white prints) drawings and diagrams will be gratefully received.

The Editor will assume that material submitted for publication has appropriate organisational approvals where necessary. The Editor reserves the right to reject or modify contributions. If modification is considered necessary, it will be referred to the author for approval.

Contributions should be sent to:

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