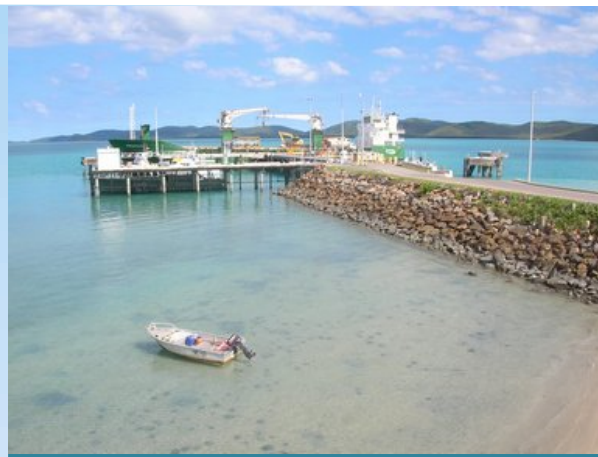


PORT OF THURSDAY ISLAND

ENVIRONMENTAL MANAGEMENT PLAN



July 2009

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1.0 INTRODUCTION

1.1 Port of Thursday Island

The Far North Queensland Ports Corporation Ltd (referred to as FNQPC, the Corporation in this document) manages six trading ports and four community ports throughout northern Queensland.

The Port of Thursday Island, also known as Port Kennedy, is a community port located in the Torres Strait a natural harbour in the Torres Strait, 15 nautical miles north of Cape York. The port is situated at Latitude 10_35 ϕ , Longitude 142_13 ϕ in Torres Strait (Figure 1).

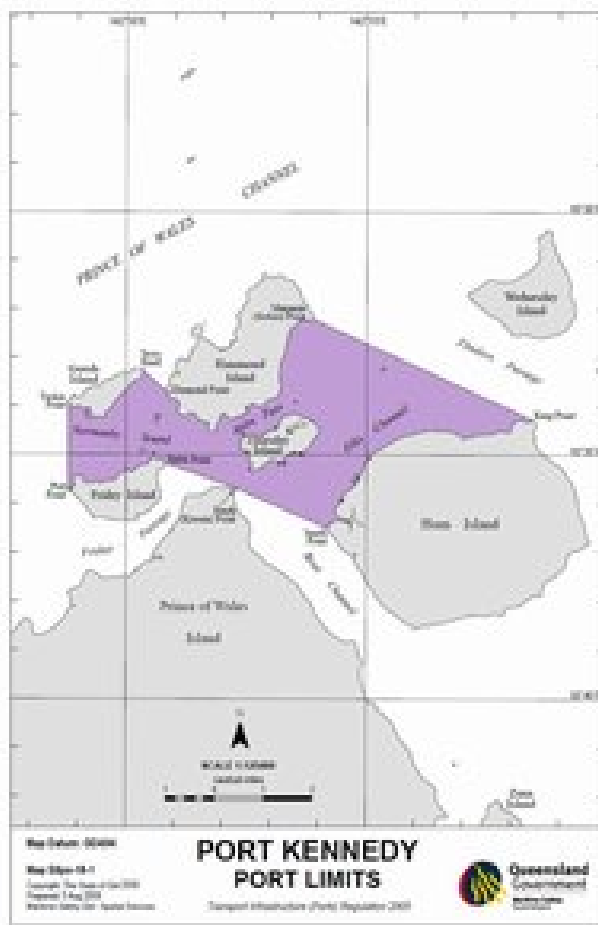


FIGURE 1: LOCATION OF PORT OF THURSDAY ISLAND

The port limits extend between Horn Island and Hammond Island, taking in the waters around Thursday Island as shown in Figure 1.

Port facilities are established on both Thursday Island and Horn Island. The port services the needs of these two islands and also operates as a major trans-shipment point for the supply of building materials, food, household goods and fuel to other islands of the Torres Strait.

Port facilities on Thursday Island include multi-user facilities at the Main Wharf for general cargo and at the Engineer's wharf for ferry passengers, plus a nearby multi-user fuel wharf used for refueling of small craft. FNQPC also owns a major fuel storage facility on Horn Island, which is leased and operated by a local company.

In 2007/8, general cargo trade of around 78,000 tonne passed through the port.

1.2 Overview of Port Environmental Management

It is our policy to manage its ports in a pro-active manner to minimise any impacts from port operations or new developments. We have a structured environmental program that involves environmental assessment, monitoring, protection and rehabilitation. It strives for continual improvement in the control of port and port user activities to maintain a healthy port environment. The detailed environmental policy, procedures and practices of the Corporation are documented in its Environmental Management System, which is based on the international standard ISO 14001.

This Environmental Management Plan for the port is complementary to, and consistent with, the Corporation's Environment Policy that is documented in its Environmental Management System and on its web site.

Under our Environmental Management System, new projects undertaken on strategic port land will require a project-specific Environment Management Plan to be developed by the proponent and then approved prior to commencement of the project. This plan must address the potential environmental issues from the project and the actions needed to minimise impacts. Our environment staff can supply a standard checklist of potential issues and will work with a project proponent to determine the environmental issues that need to be addressed.

Larger projects will normally require a full Environmental Impact Statement.

1.3 Document Use and Review

This Environmental Management Plan (the Plan) for the Port of Thursday Island has been developed to document in detail the environmental areas of significance within the Port of Thursday Island and the current environmental management practices and controls used to protect and enhance the port environment.

This Plan will be used in determining environmental standards for the on-going development and operation of the port. This Plan is designed to complement the *Port of Thursday Island Land Use Plan* to ensure that any development in the Port of Thursday Island is carried out in an environmentally sustainable manner and in a manner consistent with the planned strategic development of the area.

This Plan is also intended to provide a reference document for current and potential users of the port, government agencies and the local communities. This Plan is not a statutory document and is not required by legislation.

The following information is presented in this document:

- Section 2 presents the key legislation and policies that need to be considered in port operations and developments.
- Section 3 provides a general description of the environmental values in the Port of Thursday Island and surrounding areas, including areas designated as environmental buffer.
- Section 4 describes potential industry or operational impacts in the port and presents the environmental control measures to be employed in the port.

This Plan will be reviewed and updated as needed to ensure that it reflects any significant changes that may occur within the port. It will be completely reviewed at least every six years and a new document issued.

FNQPC will seek community, industry and relevant government agency feedback on any major changes to this Plan and will incorporate external feedback where appropriate. Minor changes to the Plan will be carried out throughout the life of the Plan and these minor revisions will not necessarily be subject to external consultation. Examples of minor changes not requiring consultation are changes in the description of goods handled in the port; legislation changes; property lot subdivisions, lot number changes or other minor changes in the Land Use Plan; changes to port limits; or the incorporation of new environmental information. Major changes to this document that would be externally consulted include any changes to the declared Environmental Buffer areas.

2.0 KEY LEGISLATION

2.1 State Legislation

Far North Queensland Ports Corporation Ltd (FNQPC) has responsibilities conferred on it by State legislation (*Transport Infrastructure Act 1994* and *Transport Operations (Marine Pollution) Act 1995*) for the safe and efficient management of the port and its infrastructure and for managing pollution from shipping activities. The jurisdiction of the Corporation at the Port of Thursday Island includes all land under the Corporation's control, as documented in the Corporation's *Land Use Plan* for Thursday Island, and all waters within designated port limits, as defined under the *Transport Infrastructure (Ports) Regulation 2005* (see Figure 1). The geographical extent of this Plan applies only to the area under the jurisdiction of the Corporation.

Port activities carried out by either port users or the Corporation must comply with all relevant government legislation. The key State legislation for protection of the environment is the Queensland *Environment Protection Act 1994*. The Queensland Department of Environment and Resource Management (DERM) is responsible for ensuring compliance with this Act. Under the *Environment Protection Act*, the Corporation has an approval to operate the port as the port authority under the *Transport Infrastructure Act*. However, this does not provide any umbrella approvals for the individual activities of port users. Port users are required to hold all the relevant environmental authorities or licences from DERM or the Local Council for their day-to-day activities, which might include environmentally relevant activities such as stockpiling, loading or unloading in bulk, fuel or chemical storage, sewage treatment, aquaculture or boat repair and maintenance.

Significant new developments in the port are likely to require approval under *the Integrated Planning Act 1997*. For projects proposed on Strategic Port Land¹, the Corporation would be the Assessment Manager under the Act. Further information is provided in the Corporation's Land Use Plan.

Another piece of key State legislation that could affect port development or operation is the *Fisheries Act 1994*. It should be noted that under this Act, marine plants, which include seagrass, mangroves, saltmarsh and other tidal plants, may not be removed, damaged or trimmed without a permit from Primary Industries and Fisheries. The Act also prohibits work in a declared fish habitat area without a permit, although no such areas were proclaimed in the port at the time of writing.

2.2 State Planning Policies

The *State Coastal Management Plan* was published by the EPA in August 2001. This Plan seeks to protect and manage Queensland's coastal resources. In considering assessable developments on Strategic Port Land, the Corporation will have regard to this plan in its decision-making as Assessment Manager under *the Integrated Planning Act*.

A State Planning Policy SPP 2/02, *Planning and Managing Development Involving Acid Sulphate Soils*, came into effect in late 2002. This policy applies to all land, soil and sediment at or below 5 metres Australian Height Datum. The Corporation will have regard to this policy in its decision-making role. Further information is provided in Section 4.4 on acid sulphate soils.

2.3 Commonwealth Legislation

Projects that may have an impact on issues of national environmental significance could require assessment and approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Examples of triggers of the Act include impacts on World Heritage areas; Ramsar wetlands of international significance; nationally threatened species and communities listed by the Commonwealth; migratory species protected under international agreements; nuclear actions; or Commonwealth marine environment. Such projects will need to be referred by the project proponent to determine if Commonwealth approval is required.

The disposal of dredged material at sea (outside internal State waters) is covered by the *Environment Protection (Sea Dumping) Act 1981*. Under this Act, any such disposal requires an approval from Environment Australia.

¹ Strategic Port Land is land owned by the Corporation that has been designated as land required for port purposes and approved as such by the Minister for Transport. Strategic Port Land is listed in the Land Use Strategy.

3.0 PORT ENVIRONMENT

All port facilities and Strategic Port Land in the Port are located on Thursday Island and Horn Island. The environmental resources and values provided below are focused on these areas as the main areas of interest for port operations or development.

3.1 Climate and Coastal Conditions

The Torres Strait is a major shipping channel for Australia, linking the Coral Sea in the east with the Arafura Sea in the west. The marine environment in the region is effected by strong winds (> 20 knots) in winter (April-November) that generally blow from the southeast. Summer winds (December-March) are usually calmer and blow from the northwest and the northeast. Tides can vary up to 3m, while currents can exceed 8 knots through Normanby Sound. Strong, complex tides and currents that are poorly understood potentially make the Strait a hazardous place for shipping (TORRESPLAN, 2001). Air temperatures vary from 15_C in winter to 32_C in summer. Sea temperatures range from a minimum of 25_C in July to 28_C in January.

The coastline within port limits contains a diverse variety of habitats featuring coral and rocky reefs, mangrove communities, bird rookeries, seagrass meadows, spawning grounds and offshore fisheries. Aquaculture (pearl shell farming) and commercial fishing is prevalent in the area, as well as subsistence hunting by Torres Strait Islanders for turtles, dugong, mud crabs, lobster and local fish species.

3.2 Marine Parks and Areas of Significance

The port is outside the Great Barrier Reef Marine Park and World Heritage areas. There are no Ramsar sites or State Marine Parks within port limits.

The Commonwealth environment departments website notes a number of threatened and migratory species in this North Queensland region. These include a number of turtle species, including the endangered turtle species of Loggerhead and Pacific Ridley and the turtle species designated as %vulnerable+ of Green, Leatherback, Hawksbill and Flatback. The blue whale is another endangered marine species noted in the region.

3.3 Cultural Heritage

A full cultural heritage assessment of port land was commissioned in 2001 and is documented in a report by Duke & Collins (2001). The information below has been taken from this report.

3.3.1 Cultural Heritage Places and Values

Thursday Island (Waiben*) and Horn Island (Ngurupai*) are the traditional country of the Kaurareg people, whose sea and country estates encompassed the Prince of Wales group of islands. The Kaurareg traditionally were based on Prince of Wales Island (Muralag*) and moved freely in large outrigger sailing canoes around the whole island group. Prince of Wales Island is not within port limits.

The eastern islands, with their rich red volcanic soil and good rains, were used for horticulture of yams, bananas, sweet potatoes, sugar, taro and coconuts. Other islands were used for horticulture to a lesser extent due to poorer soils and a scarcity of fresh water. On these islands, there was a greater reliance on shellfish, turtle and dugong that are found in the shallow areas around the islands.

Two areas of cultural significance to the Kaurareg people have been identified on Port land - Lot 173 on Plan TS332 and Lot 1 on Plan TS371 on Horn Is (Nguruapi) (see Land Use Strategy for location).

These are the only undeveloped blocks of landholding in the Port. Lot 173 contains mangroves and coastal vegetation. The adjacent waters support a range of marine resources. These areas are used by the Kaurareg people to harvest local resources and the land is of economic and cultural importance to the Kaurareg people. In the Land Use Plan, most of this area has been designated as a General Buffer, with a small area adjacent to the existing port facilities designated for Port Handling Activities to cater for a limited expansion of the current facility. The designation would allow only low impact development or retention in an undeveloped state to provide a buffer between neighbouring residential areas and port activities. Any development proposed on this lot would require consultation with the Kaurareg people in the planning stages to maximise preservation of the values of the land.

Lot 1 also contains an area of high significance to the Kaurareg people. The block contains an area used as the meeting place for the Kaurareg. Very recently this area has been imbued with additional cultural significance as a site associated with the official handover ceremony of Native Title to the Kaurareg people. In the Port Land Use Plan, this lot has been designated as Environmental Buffer to protect it from development.

There were no specific places of cultural significance identified on Thursday Island (Waiben*).

3.3.2 European History

In the late sixteenth and seventh centuries, Dutch and Spanish traders and explorers voyaged through the Torres Strait. The Strait was named after Luis Baes de Torres, who was the first recorded European navigator to have passed in 1606. In 1770, James Cook sailed round Cape York and confirmed Torres discovery.

In the 1800s, the strait was increasingly used as a route for ships between England and Sydney. In 1862, the then Governor of Queensland, George Bowen, visited the Torres Strait and recommended its settlement. A colonial administration centre was established on Thursday Island in 1877 and a port, Port Kennedy (named after explorer Edmund Kennedy), was proclaimed by the government in 1877. Following this, the port and the settlement of Thursday Island grew rapidly.

* *Kaurareg traditional names*

The first jetty, at the Main Wharf area, was completed in 1892. Following extensive repairs over the years, the jetty was finally replaced by the existing general cargo wharf in 1975. In 1976, the old Engineer's wharf was also demolished and a new jetty constructed on its site.

The port and its facilities have a long military history, with the perceived need to respond to nineteenth century fears of foreign expansion into the area and two world wars. The port has adapted to changes in shipping and in passenger and cargo trades from the days of beche-de-mer fishing and pearling fleets to today servicing the region as a community port. The port has historically, and today remains in a real sense, an integral part of Thursday/Horn Island and Torres Strait community life and economy.

3.3.3 Historical Significance

Little of the existing port infrastructure dates to before the 1970s. The cultural heritage assessment concluded that it is considered unlikely that any significant archaeological material would be present in the heavily disturbed areas associated with the working port infrastructure on both Thursday Island and Horn Islands.

However, it was noted that the currently vacant Lot 141 on SP 108491 (originally part of the Customs Reserve and now leased to Queensland Transport) does have archaeological potential because archaeological material had been excavated from a similar area in Cairns.

Although the main wharf has been rebuilt in the 1970s, some of the dry stone pitching on the western side may be from the original circa 1890 jetty, although it is also possible it is part of works undertaken in the mid 1950s, although this was considered less likely by the archaeologists. It was recommended that any future works on the Main wharf should avoid disturbing the wall on the western side. It was considered acceptable for the wall to be protected and covered if required for a planned expansion of this area.

3.4 Seagrass

Seagrass play an important role in providing nursery grounds for juvenile fish, prawns and crabs, which contribute to the fisheries stocks of these species. Seagrass is a major component of the diet of dugong (*Dugong dugong*) and some turtles which are common in the area.

In March 2002, a seagrass baseline survey was conducted for the Port of Thursday Island. Extensive and diverse seagrass meadows were identified throughout a large proportion of the survey area, including the vicinity of port infrastructure on both Thursday and Horn Islands. Eleven species of seagrass in 33 individual meadows were identified in the survey with a total of 1503 +/- 240 hectares of seagrass mapped. The majority of the seagrass area (1057 ha) had between 10-50% cover of seagrass. A further 386 ha had greater than 50% cover. The remaining 60 ha had less than 10% cover (Rasheed et al, 2002). The majority of seagrass habitat was found on sand/mud/shell sediments. The maximum depth at which seagrass was found was 10.4 metres below MSL.

The DPI report noted that the Port of Thursday Island contained some of the best examples of seagrass meadows that have been identified in Queensland, containing 11 of the 15 currently recognised seagrass species in Queensland.

3.5 Marine Fauna

The seagrass meadows in the region are a source of food for turtles and dugong. The area is an important area for dugong in Australia. Earlier aerial surveys have indicated the density of dugong in the vicinity of Thursday Island at between 0.1 and 0.5 animals per square kilometre (Marsh et al, 1991).

Six species of turtle have been recorded in the port area. These include the green turtle (*Chelonia mydas*), flatback turtle (*Natator depressus*), hawksbill turtle (*Eretmochelys imbricata*), leatherback turtle (*Dermochelys coriacea*), olive ridley turtle (*Lepidochelys olivacea*) and loggerhead turtle (*Caretta caretta*). Green, flatback and hawksbill turtles have been recorded as nesting on some islands in the Torres Strait, however they have not been recorded on Thursday Island itself.

Dugong and turtle form part of the traditional diet of the Kaurareg and islander peoples. They are still hunted in the region. Green turtles are the predominant species of turtles captured.

3.6 Intertidal Sand and Mud Flats

Extensive sandbanks supporting colonies of yabbies, sand bubbler crabs and other infaunal organisms commonly associated with sandy environments, occur throughout much of the port area.

Coral reefs occur along the coastlines of some areas of Thursday and Prince of Wales Islands and in the channel between Thursday and Horn Islands. These communities typically contain high diversities of benthic invertebrates, which in turn support communities of fish. The channel between Thursday and Horn Islands also contains pearl oyster beds, which contribute to the local commercial aquaculture operations.

Figure 2 on page 11 illustrates the coastal resources in the Port of Thursday Island.

3.7 Fisheries and Aquaculture

3.7.1 Fisheries Management

Australia and Papua New Guinea entered into the Torres Strait Treaty in 1985. Part of this treaty established the Torres Strait Protection Zone (TSPZ) providing for sovereign jurisdiction for finfish, crab, trochus, bech-de-mer and sedentary species on the respective sides of the agreed Fisheries Jurisdiction Line and Seabed Jurisdiction Line. Within the TSPZ, the Protection Zone Joint Authority (PZJA) manages:

- traditional fishing
- joint fishery areas between Australia and Papua New Guinea involving prawns, Spanish mackerel, dugong, tropical rock lobster, turtles and pearl shell and other resources within the Harvest Fisheries
- the barramundi fishery at the northern tip of the TSPZ.

The PZJA currently has one Torres Strait representative, as well as the Commonwealth and Queensland Ministers responsible for fisheries. To increase the extent of islanders' participation in these decision-making processes, local islanders have established a Torres Strait Fisheries Task Force to develop a new structure through which islander fishermen will

have greater influence and will be able to advise the ministers on appropriate legislation and policy changes+(TSRA, 2001).

Queensland authorities such as the Queensland Fisheries Service manage all other commercial and recreational fishing in the Australian portion of the TSPZ.

3.7.2 Traditional Fisheries

Marine animals caught by the traditional inhabitants of Torres Strait include dugong, sea turtles, reef fish, shell fish and other invertebrates.

Traditional or subsistence fishing is still a major cultural activity. Consumption of seafood by Torres Strait Islanders is among the highest rates in the world. Crayfishing and handlining are the most common fishing activities. The level of exploitation of the marine resources by traditional/subsistence fishing is considered to be low. Islanders and the QFMA have entered into agreements regarding regulation and restrictions on islander fishing activities relating to dugongs, turtles, clamshell meat and the tropical rock lobster. These restrictions relate to numbers taken, method of fishing (e.g. dugong can only be taken using the traditional spear) and that the catch not be sold on.

Reef fishing is also conducted on a subsistence basis throughout Torres Strait. Species taken include coral trout, red emperor, saddle-tailed snapper, spangled emperor, slatey sea bream, rabbitfish and various species of shellfish. The majority of reef fishing is done with a handline. Nets are also used widely and the wharves on Thursday Island are frequently used for fishing.

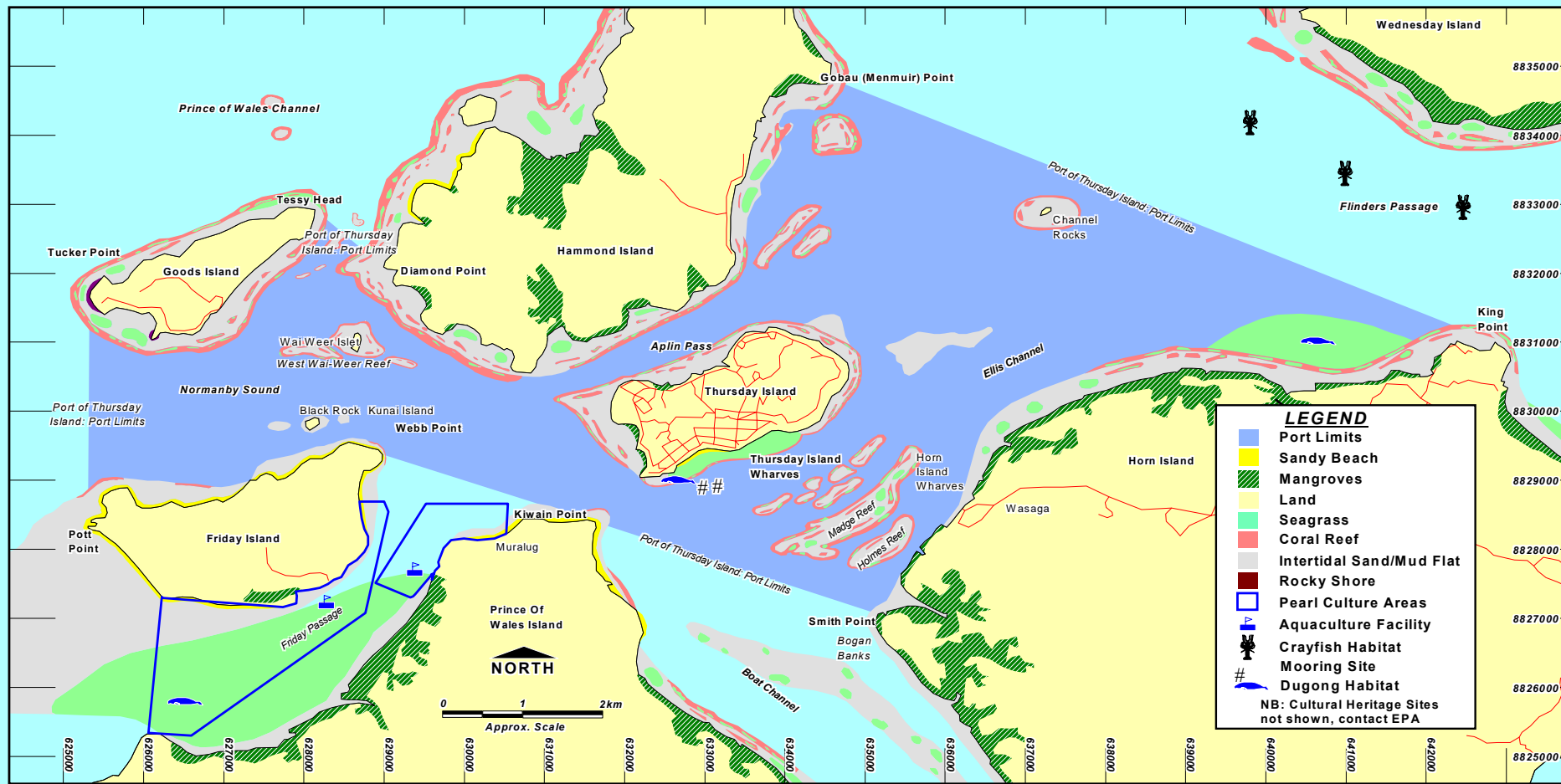
3.7.3 Commercial Fisheries

Commercial fishing provides a valuable income for islander communities. The main commercial fisheries include prawn, pearl shell, Spanish mackerel, tropical rock lobster and barramundi. Of these fisheries, the prawn fishery in the Strait is the largest and most valuable. Species predominantly caught are endeavour, tiger and king prawns. The resource has been reported to be fully exploited.

Torres Strait is also a source point for the ornate rock lobster (*Panulirus ornatus*) fishing industry. Annual catches in the past few years have averaged 200 tonnes for the region. This represents \$5-8 million in exports annually, and under current practices it is considered a sustainable fishery (Pitcher *et al.* 1997). Several locations within the port limits contain mature lobsters that are regularly taken for subsistence use.

3.7.4 Aquaculture

No fish are farmed within port limits. Two pearl farms are located in Friday Passage just outside port limits.



M:\Mapbase\Thursday Island\Data from Topo 09_10_01\Resources.WOR

3.8 Coastal Vegetation

Mangroves line some of the coastlines of the islands within the Port. Mangrove communities are well developed on Horn and Hammond Islands but are sparse on Thursday Island. Near developed areas on Horn and Thursday Islands, the predominant coastal vegetation is grasses and ornamental or remnant trees. Flora found on Thursday Island include *Acacia* spp., *Alphitonia* spp., *Grevillea* spp., *Spinifex* spp. and *Melaleuca* spp.

3.9 Natural Amenity

Thursday Island is part of a group of over 100 islands situated on the continental shelf north of Cape York and south of Papua New Guinea. The remoteness of the region, with its picturesque scenery, lends itself to a physical environment still rich in diversity of flora and fauna. Diving, fishing, sailing and cultural tours of the islands are key selling points for tourism promotion of the area, although tourism industry investment in the region is low and, as a result, relatively few tourists enter the region according to the Aboriginal and Torres Strait Islander Tourism Industry Strategy and the Office of National Tourism (1997). There is potential for expansion of the tourism industry and opportunities for employment of the local people.

A relatively unspoilt marine environment provides for excellent fishing opportunities for recreational fishing enthusiasts. Sport and recreational fishing enthusiasts commonly seek barramundi, Spanish mackerel and pelagic species. The future of the region relies significantly on the balance between infrastructure development of tourism, the fishing industry and civil facilities, and the retention of cultural values and practices. The incorporation of fishing and tourism is one way of improving local employment opportunities and enhancing the tourist industry of the region.

3.10 Water and Sediment Quality

There is very little recent data available on the quality of water or sediment either in the Port or in neighbouring waters. The waters are open and are expected to be of a reasonable quality except near the shoreline of the islands.

The likely water contaminants in in-shore areas include coliforms and nutrients from sewage treatment plants or septic systems. Shellfish from areas near sewage discharge points should obviously be avoided.

Oil spills have occurred on a regular basis from on-shore facilities and sediment may contain elevated levels of Polycyclic Aromatic Hydrocarbons (PAHs). Tributyltin (TBT) may also be present in sediment near the slipways that operated on Thursday Island.

3.11 Port Buffer Areas

The Land Use Plan for the Port of Thursday Island identifies land designated as Environmental Buffer or General Buffer Areas in the Port. Environmental Buffer Areas are areas that are to be protected from development and conserved due to their significant ecological or cultural significance. It is intended that these areas will be protected into the future. One lot of land has been designated as Environmental Buffer in the Land Use Plan. This is Lot 1 on Plan TS371 on Horn Island (see Land Use Plan for a location map). The block contains an area used as the meeting place for the Kaurareg and is of high cultural

significance to the Kaurareg people. This area has been recently imbued with additional cultural significance as a site associated with the official handover ceremony of Native Title to the Kaurareg people.

General Buffer Areas are those that will be used to provide a buffer between port activity and neighbouring uses. Low impact development is allowed on this land, but the main purpose is to protect the amenity of neighbouring land owners and to avoid nuisance impact from port activities.

One area of port land has been designated as General Buffer. This is the bulk of Lot 173 on Plan SP108488 on Horn Island. This land is used by the Kaurareg people and it is intended to maintain this land for this purpose where possible.

4. ENVIRONMENTAL MANAGEMENT MEASURES

4.1 General Environmental Management

The Department of Environment and Resource Management (DERM) and the Local Council oversees environmental regulation of port users and their activities. This regulation includes licensing activities in the port and any monitoring of compliance with licence conditions.

As detailed in our Environment Policy, the Corporation strives for ecologically sustainable operations and development of its ports, which is consistent with Queensland Transport's Environmental Policy for Queensland Ports. This may result in the Corporation setting higher environmental standards on operations or new developments than required by environmental legislation or licences. This is achieved through a detailed environmental assessment of all proposed projects on port land or in waters within port limits and auditing of both Corporation and port user activities.

We will require a detailed Environmental Management Plan to be prepared by the project proponent as part of the approval process for any new development. This Plan would be developed in consultation with environment staff. Larger projects will require preparation of a formal Environmental Impact Statement (EIS).

To assess the overall state of the port environment or to detect any changes occurring, the Corporation also undertakes regular scientific monitoring of key environmental values, although the level of monitoring is restricted to control the costs of using the port by the community. Results from these monitoring programs are made publicly available.

4.2 Emergency Response

4.2.1 Management of Emergencies

As port operator, we have statutory responsibilities and powers under the *Transport Infrastructure Act 1994* to maintain the safety and security of the port. This Act gives the port authority the power to control movement of vessels in the port, to inspect ships or to move ships moored or goods left against the authority's direction.

We have developed an Emergency Response Plan that covers situations such as cyclones, marine incidents, bomb threats, fire, explosion or fatalities. Copies of the Response Plan are held at the Port office, by the Regional Harbour Master in Cairns and by a number of port users and other key agency contacts.

Where a non-marine incident is caused through the activities of a port user on port land, the initial response is the responsibility of the port user, with notification required to the Corporation and the appropriate agency (DERM or Torres Shire Council). If the incident has the potential to escalate beyond the boundaries of the port user's responsibility, The Corporation maintains the right to initiate external resources and response agencies to assist in reducing the impact of the incident on other port users.

4.2.2 Cyclone Procedures

Detailed cyclone procedures are provided in the Port Emergency Response Plan and are consistent with Queensland Transport's Maritime Cyclone Contingency Plan for Port of Thursday Island. Below is a summary of key actions during the approach of a cyclone. Alert phases in the port provide a guide for action as a cyclone or severe heavy weather approaches an area. The alert will be announced by the Regional Harbour Master over VHF Channel 16.

CYCLONE ALERT SCHEDULE

Alert Phase	Storm/Cyclone Position	Action by Port Users
Yellow Alert	A cyclone exists and destructive winds are within 20 hours from port.	<ul style="list-style-type: none"> Port Authority will liaise with port users to advise of Yellow Alert. Emergency Services are placed on alert. Ship's Masters are advised to prepare to sail on short notice. Loading is to be stopped. The ship's load is to be brought to satisfactory handling trim if time and draft permit. Port Authority will monitor & plot cyclone movement and liaise with Harbour Master.
Blue Alert	Destructive winds are less than 16 hours from Port	<ul style="list-style-type: none"> All vessels should be moored in their designated areas and final preparations and tying off completed. Port Authority will liaise with port users & QT on final arrangements
Red Alert	Destructive winds are less than 6 hours from Port	<ul style="list-style-type: none"> The Port is closed. The Port area should be completely evacuated and all vessels secured in their positions of shelter. Vessels are not to leave their cyclone moorings until the official ALL CLEAR has been given by the Regional Harbour Master.

4.2.3 Management of Oil Spills

Oil spills in port waters could result from a variety of sources including on-shore industries; unsupervised bilge pump-outs; groundings, collisions and sinking of vessels; illegal discharges from vessels; accidents when transferring waste oil to storage facilities on shore and accidents when refuelling vessels.

To reduce the risk of oil spills occurring from a vessel, Maritime Safety Queensland ensures the safety of navigation, including the provision of navigation aids.

Thursday Island is equipped for smaller spills of oil. The Port Supervisor is responsible for provision of the first strike response to an oil spill within the Port. Maritime Safety Queensland provides resources out of Cairns, or other centres, for larger spills.

The response plan for an oil spill is documented in the *Port of Thursday Island Oil Spill Contingency Plan*, which was developed and is regularly updated by the Corporation. This plan is complementary to the *Torres Strait Contingency Action Plan (TORRESPLAN)*, and the *National Plan to Combat the Pollution of the Sea by Oil and other Noxious and Hazardous Substances (National Plan)* for larger spills.

4.2.4 Management of Fires

For any fire within the Port, the Queensland Fire and Rescue Service will be the response agency who will respond to and fight the fire. This will be for both land and marine fires.

The Corporation's main building and storage area on Thursday Island has a fire hydrant system installed for fire use. However, there are no special fire fighting facilities available on the stems of the Main Wharf and Engineer's Wharf, apart from the normal town water and smaller hose connections.

4.2.5 Location of Buildings and Infrastructure

The location of key buildings and infrastructure are documented in our Corporation's Infrastructure Plans, which are internal documents. A map of the infrastructure of the Port can be provided to government agencies on request. The Corporation includes these maps in the Emergency Response Plan for the Port.

4.3 Water Quality

4.3.1 Stormwater

Storm water runoff is still a major contributor of pollutants to the marine environment from shore-based industries. The lack of best practice policies from some industries can result in pollutants being washed or poured into drains, and flushed directly into the marine environment during the next rain event. With many local people reliant on neighboring waters as part of their diet, the prospect of bioaccumulation of pollutants in food sources is considered to be a potential issue for the local Council.

4.3.2 Management of Discharges from Shore-Based Industries

Shore-based oil spills remain one of the largest pollution issues for the port. There are a number of large fuel storage facilities on Thursday Island and Horn Island - marine spills have occurred from these facilities in the past (see Section 4.6 for more detail). Spills have occurred from other facilities such as the power station and garages.

Other sources of potential contaminants into the marine environment include sewage discharge from the sewage treatment plant on Thursday Island, the septic systems on Horn Island and the refuse dump on Thursday Island, which is located near the shore. The Torres Shire Council is responsible for policing any spills from such shore-based industries and would license many of these industries (except the power station) under the *Environmental Protection Act*.

Tributyl tin (TBT) is used as an antifoulant and biocide in the hull paint on large vessels (over 25 metres) to prevent the growth of marine organisms on the hull. Even in very low concentrations, TBT is highly toxic to shellfish such as mussels and oysters. In an area where these are included in the traditional diet, this can have a significant impact.

TBT can enter the marine environment through paint being removed from a hull or from a small amount of leaching of TBT from the paint. Three slipways have operated in the past within the port area. These slipways represent a potential source of TBT into the marine environment. The Australian and New Zealand Environment and Conservation Council (ANZECC) have issued guidelines for the operation of slipways (ANZECC, 1997) which involve the collection of any hull scrapings and appropriate disposal as a hazardous waste. It is expected that this standard would be applied to any new slipways to be licensed. Due to

the potential for discharge of marine pests, and paint residues, including TBT, hull cleaning is banned within the Port of Thursday Island.

4.3.3 Management of Marine Waste and Contaminants

Large international ships cannot access the port and there are no facilities provided in the Port for the receipt of any quarantine waste. Domestic waste from vessels is accepted by the Torres Shire Council.

4.3.4 Management of Introduced Marine Species

With over 200 species of exotic marine organisms known to have been introduced into Australian waters, the introduction of foreign marine organisms through ships' ballast and hull fouling is a major concern for Australia. Because no large international vessels visit the Port of Thursday Island due to the shallow waters, ballast water is not typically discharged within port limits and this does not present a likely avenue for introducing foreign marine species.

However, the Port of Cairns trades with ships from *moderate* and *high-risk* ports overseas. It also has a number of smaller vessels such as yachts and fishing vessels coming in from overseas destinations. Two foreign pest species, the Asian Green Mussel and the Caribbean Tubeworm were found in Cairns in 2000 and 2001. Both are believed to be eradicated. As a source port for imports to Thursday Island, there is a possibility for transport of pest species on the hulls of barges. An even greater risk is the transport of seized foreign fishing vessels into the Port by the Commonwealth Government. These vessels are often poorly maintained and can have growths on their hulls.

An underwater inspection was commissioned of the port areas to check for the presence of possible foreign pest species. Areas such as wharves, navigation buoys and fouled vessels at anchor were checked. No pest specimens were observed.

Larval monitoring devices are deployed at two marine locations in the port area to provide an early warning of any invasive pest species that might establish. The traps are checked at least three monthly by port staff.

4.3.5 Management and Enforcement

The Corporation has a trained Port Supervisor and staff located in the Port. Port staff who are authorised officers under the *Transport Infrastructure (Ports) Regulation 1994* may issue directives to vessels to ensure the safety or efficient operation of the port or to enforce port regulations or the requirements of *Transport Operations (Marine Pollution) Act* with regard to discharges from vessels.

The port staff will respond to oil spills in the port and may board vessels for sampling purposes during an investigation of a spill.

Penalties for contravention of a port notice or legal direction of an authorised officer can be applied.

4.4 Acid Sulphate Soils

Because the port land is of low elevation, there is a risk of acid sulphate soils being present in the area. Acid sulphate soils contain pyrites or iron sulphide. While they remain undisturbed, they do not have any detrimental impacts. However, if the soils are exposed to the air, the iron sulphide will be oxidised to form sulphuric acid. Any water run-off from the exposed acid sulphate soils will reduce the pH of the receiving waters and release iron and aluminium from the soil into the water body.

Disturbance of acid sulphate soils should be avoided where possible. If disturbance cannot be avoided, the appropriate treatment of the soil must be determined prior to commencement of works.

State Planning Policy 2/02, *Planning and Managing Acid Sulphate Soils*, came into effect in 2002 and applies to land below 5 metres Australian Height Datum. The Policy provides development outcomes expected by the State Government. For any development involving acid sulphate soils below this height datum, the Policy requires that the release of acid and associated metal contaminants into the environment be avoided by:

- Not disturbing acid sulphate soils when excavating or removing soil or sediment or when filling land; or
- Treating and undertaking ongoing management of any disturbed acid sulphate soils and drainage waters resulting from the disturbance.

As part of any development application on port land, the Corporation will require testing for the presence of acid sulphate soils in the area of any planned significant soil disturbance. If acid sulphate soils are present, a management plan for the acid sulphate soils must be developed prior to commencement of works.

The Department of Natural Resources and Mines has released a draft document *Queensland Acid Sulphate Technical Manual*. This manual presents risk-based guidelines to help manage acid sulphate soil issues. It includes management strategies. It should be used to help achieve best practice environmental management on any project involving acid sulphate soils.

4.5 Air Quality and Noise

No manufacturing is carried out on port land. There are two identified sources of air emissions . fuel vapour and dust.

Some vapour losses will occur from the storage of fuel on Horn Island in permanent tanks. A significant proportion of fuel however is trans-shipped in sealed tanks which minimises vapour losses. Hydrocarbon odour has not been reported as an issue with any neighbouring residents.

Most port areas used by traffic have been sealed to minimise dust generation. However, there are still some traffic areas on the Horn Island facility that are not sealed. The Corporation would expect operators of the facility to use water to dampen any traffic areas as needed to minimise dust. The Corporation has plans to seal the heavy traffic areas of the causeway within the next twelve months.

Port activities are predominantly carried out during day-light hours. Noise has not been reported as a current issue and no special noise abatement strategies have been required to-date.

4.6 Hazardous or Flammable Goods

Fuel is transported to Thursday Island largely in bulk, however a limited number of 200 litre drums on pallets are also used for transport. These drums are stored within the Corporations storage compound for a short period before being transported to local customers. This storage in drums and containers limits the potential size of any spill from a transportation incident around Thursday Island. A bunded storage area in its compound is in place to further minimise the risk of spills from the area.

Large volumes of fuel are also stored at the fuel storage facility on Horn Island. This facility has storage for around 800,000 litres of fuel in fixed storage tanks. The site also typically has five iso-containers (each around 10,000 litres) temporarily stored on the site. The site is therefore a major fuel storage facility and was upgraded to Australian Standard AS1940 in 2003 and included

an upgrade to the on-site fire fighting systems, tanker loading facility and a bunded area for fuel.

Because of the sensitive marine environment surrounding the islands, oil spills remain the largest environmental risk for the port. International ships travelling through the Torres Strait, although outside the port limits, further increases the risk of an oil spill occurring in the region. Local Corporation and Maritime Safety Queensland staff respond to oil spills. An inventory of oil spill equipment is held on Thursday Island.

Before any new imports of dangerous goods through the Port could be considered, a risk assessment would need to be carried out. The requirements for such cargoes are detailed in the *Transport Operations (Marine Safety) Act* and the *Transport Operations (Marine Safety) Regulation*. The Australian Standard AS3846, *The Handling and Transport of Dangerous Cargoes in Port Areas*, documents the requirements and recommendations for safe handling and transport of dangerous goods in port areas. The standard provides the minimum acceptable safety requirements for port facilities and their operating practices. The Corporation has a documented Dangerous Cargoes Management Plan that would be used to assess new dangerous cargoes into the Port.

4.7 Flora, Fauna and Natural Amenity

The Corporation's Land Use Plan has designated areas of conservation value on port land as Environmental Buffer Area. These areas and their environmental values are documented in Section 3.11 of this Plan. This Environmental Management Plan seeks to protect these designated areas from development.

The potential impact of development in areas adjacent to the environmental buffer zones are considered in project impact studies, to minimise any significant adverse impacts, such as a possible deterioration in the quality of stormwater run-off. Developments will have due regard to the flora and fauna values documented in this Plan.

New port developments also should incorporate landscaping and vegetation planting to protect the visual amenity of the port area.

4.8 Dredging

Due to the shallow waters in the region, large international ships do not use the port. The main vessels using the Port are shallow draft barges and fishing vessels. Dredging of the Port is not routinely carried out and there are no proposals for dredging in the near future.

5. GLOSSARY OF TERMS

the Corporation	Far North Queensland Ports Corporation Limited (FNQPC)
dB(A)	decibels (A . weighted), which is a measure of noise intensity
DPI	Department of Primary Industries
DERM	Department of Environment and Resource Management
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
PZFA	Protection Zone Joint Authority
QT	Queensland Department of Transport
TSPZ	Torres Strait Protection Zone
TSRA	Torres Strait Regional Authority

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