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Great Barrier Reef Study
Productivity Commission
LB2 Collins Street East
Melbourne Vic 8003

Dear Sir/Madam

Attached is the submission by Ports Corporation of Queensland into the Productivity Commission's Study into Industries in the Great Barrier Reef Catchment and Measures to Address Declining Water Quality.

We appreciate the opportunity to be able to make the submission.

If you have any queries regarding our submission please contact PCQ's Communication Manager Gary Campbell on telephone (07) 3224 4346 or e-mail gcampbell@pcq.com.au.

Yours faithfully

A handwritten signature in black ink, appearing to read 'G. Rawlings', is written over the typed name 'Graham Rawlings'.

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Ports Corporation of Queensland

Submission to Productivity Commission

**Industries in the Great Barrier Reef Catchment and
Measures to Address Declining Water Quality**



1.0 INTRODUCTION

Ports Corporation of Queensland (PCQ) is a Government Owned Corporation with responsibility as a port authority for eight trading ports and two community ports in the north of Queensland. These ports are located away from the major provincial centres where the ports are managed by their own port authorities, separate to PCQ.

Of the ports which PCQ has port authority responsibility for, six fall within the Great Barrier Reef Marine Park catchment. They are the trading ports of Hay Point, Abbot Point, Lucinda, Mourilyan and Cape Flattery and the community port of Quintell Beach. This submission deals only with these ports.

The trading ports handle bulk export commodities, while the community ports allow neighbouring populations access to essential general cargo and fuel.

1.1 About PCQ

Ports Corporation of Queensland (PCQ) develops and manages port facilities. Its ports within the Great Barrier Reef Marine Park area handle bulk shipments of coal, silica sand, sugar and molasses, in addition to live cattle and general cargo. Coal is by far the main commodity handled, but each port and each commodity is important in its own right. The value of these exports was about \$8 billion in 2001/02.

As a port authority, the Corporation issues licences, leases and permits for the use of its port facilities and has a multi-user access policy at its ports to achieve higher utilisation of infrastructure and greater efficiency.

PCQ strives for sustainable operations and development of the ports and has in place a comprehensive environmental management program.

1.2 Planning, Ownership and Operational Arrangements

The Corporation is primarily focussed on strategic issues and infrastructure development within its ports, as well as emergency response planning and protection of the environment. Maintaining navigable port depths and providing pilotage services are Corporation responsibilities, while port navigation is controlled by Queensland Transport's Regional Harbour Masters.

PCQ holds significant landholdings in the ports and in some cases owns infrastructure facilities at the ports. However, there is also ownership of facilities by port customers. PCQ does not operate any of the facilities and this is undertaken by companies either contracted to the exporters or by those companies themselves.

2.0 ECONOMIC AND SOCIAL IMPORTANCE OF PCQ PORTS

Details on each of the ports is listed below. It includes reference to the economic and social impacts from each port.

(PCQ is currently having an Economic Impact Study prepared by external consultants which will look in detail at the economic input from each port. This information will be provided when it becomes available to supplement this submission.)

2.1 Port Profiles

PORT OF HAY POINT

Situated about 40 kilometres south of Mackay in Sarina Shire, the Port of Hay Point is one of the largest coal export ports in the world. It comprises two separate coal export terminals, Dalrymple Bay Coal Terminal (DBCT), leased from the State Government by the private company, Prime Infrastructure and the Hay Point Services Coal Terminal, operated and supplied by BHP Billiton Mitsubishi Alliance (BMA). Together the two terminals serve the mines of Central Queensland. The mines are linked to the port terminals through an integrated rail-port network.

Both terminals have purpose-built, rail in-loading facilities, on-shore stockpile yards and off-shore wharves. The off-shore wharves are serviced by conveyor systems, supported on jetties, which run out to sea and allow loading in deep water. The DBCT wharf is 3.8 km offshore and Hay Point Terminal 1.8km.

DBCT has a throughput capacity of about 44 million tonnes per annum (mtpa) and is undergoing further expansion at present. Mines supplying DBCT are Blair Athol, Goonyella – Riverside, German Creek, Oaky Creek, North Goonyella, Burton, Moranbah North, Foxleigh and Coppabella. Mines supplying Hay Point Services are Goonyella – Riverside, Peak Downs, Saraji, Gregory, Norwich Park and South Walker. Hay Point Coal Terminal has a throughput capacity of over 30 mtpa.

Economic Importance: The Port of Hay Point and its two export coal terminals play a key role in the economic fabric of the Mackay region and Central Queensland. The value of coal exported through the port last year was \$4.8 billion. It is estimated about 350 people are employed directly at the terminals. In addition there are significant ancillary services provided to the terminals through contractors.

The coal industry, which the port services, is one of the major economic contributors to the Mackay and Central Queensland economies. Restricted activity in the industry as a result of port limitations would potentially have a direct and serious affect on jobs in the sector. Hay Point is now such a large exporter of coal to the world market that it is integral to the wellbeing of the steelmaking and energy sectors of Japan and Asia, which rely heavily on its product.

In 2001/02, total throughput for the port was 70,752,744 tonnes, comprising 40,171,033 tonnes through DBCT and 30,581,711 tonnes through Hay Point Coal Terminal. The continued growth in Central Queensland coal production ensured the total port throughput was a record, up 1.9% over the previous best in 2000/01. Hay Point Services set an individual throughput record, up by just over 6% on the previous best ever in 2000/01. DBCT was slightly below its previous record from 2000/01. A total of 759 bulk carriers visited the port.

Since 1992, over \$400 million has been invested in DBCT in expanding the facility to cater for new mines and mine expansion. In addition, DBCT spends over \$30 million annually in maintenance. Similarly, Hay Point Services has invested over \$60 million on expansion and refurbishment in recent times and it is estimated it spends about \$20 million annually on maintenance.

Social Importance: The port represents a major industry in its own right within the region and because of the employment and associated business it generates, is an integral component of the economic and social fabric of the area. The key port stakeholders are active participants in supporting community groups, including PCQ through its Port Communities Program, which provides funds for local community organisations, which contribute to community wellbeing. Funding is mainly directed towards organisations and projects assisting local young people in their education and development.

PORT OF ABBOT POINT

The Port of Abbot Point, 25 kilometres north of Bowen, is Australia's most northerly coal port. It comprises a rail in-loading facility, coal handling and stockpile areas and a single trestle jetty and conveyor connecting to an off-shore berth and shiploader, 2.75km off-shore.

Coal is supplied to Abbot Point by rail from Newlands and Collinsville mines. The terminal is operated by Abbot Point BulkCoal Pty Ltd (APB), which is part of the NCA (Newlands-Collinsville-Abbot Point) Project. The NCA Project is 75% owned by MIM and 25% by Itochu Coal Resources Australia Pty Ltd.

The port is serviced by two tugs which are based in Bowen and pilotage is provided by PCQ subsidiary, Port Pilots Queensland.

Economic Importance: The Port of Abbot Point plays a key role in the economic fabric of the Bowen region. The value of coal exported through the port last year was \$0.8 billion. It is estimated over 50 people are employed directly at the terminal. In addition there are significant ancillary services provided to the terminal through contractors. Over \$8.5 million is spent each year in operating, maintaining and upgrading the facility.

In 2001/02, total throughput was 11,878,266 tonnes which was a new record, up by 11% on the previous best in 2000/01. The port handled 119 ships during the financial year.

MIM have publicly announced expansion of coal mines which are expected to lift throughout at the terminal to about 16 million tonnes per annum over the next five years.

Social Importance: Bowen Shire has experienced significant economic hardship in recent times as several major industries have closed. One of the most buoyant industries has been coal mining and the port operation. The port represents a major industry in its own right within the region and because of the employment and associated business it generates is an integral component of the economic and social well being of the area. The key port stakeholders are active participants in supporting community groups, including PCQ through its Port Communities Program, which provides funds for local community

organisations which contribute to community wellbeing. Funding is mainly directed towards organisations and projects assisting local young people in their education and development.

PORT OF LUCINDA

The Port of Lucinda, 100 kilometres north of Townsville, is dedicated to the export of raw sugar from the Ingham sugar-growing district. It comprises on-shore sugar handling and storage facilities and a single trestle jetty and conveyor running out to an off-shore berth and shiploader.

The terminal is operated by Lucinda Bulk Sugar Terminal, a subsidiary of Queensland Sugar Limited (QSL). Supplying mills are Victoria and Macknade. The Port of Lucinda is serviced by North Queensland Marine Towage Pty Ltd tugs based in Mourilyan, while pilotage is provided by PCQ.

Economic Importance: The Port of Lucinda is historically an important part of the immediate local community and wider Ingham economy. Sugar production continues to be the main industry in the area and the port forms an integral part of the industry in the area. The value of sugar exported through the port last year was \$150 million. It is estimated about 15 people are employed directly at the terminal. In addition there are significant ancillary services provided to the terminal through contractors.

PCQ understands that it would be uneconomical to transport sugar from the Ingham area through another port and that restriction or closure of the Lucinda port would likely result in the collapse of the sugar industry in that area.

The port handled 18 ships in 2001/02, with exports of 465,607 tonnes, up 23.5% on the previous year. A total of 9,275 tonne of general cargo was also handled during the year.

Social Importance: The port represents a major industry in its own right within the region and because of the employment and associated business it generates is an integral component of the economic and social well being of the area. The key port stakeholders are active participants in supporting community groups, including PCQ through the Port Communities Program.

PORT OF MOURILYAN

The Port of Mourilyan is on the coastline near Innisfail. Its main trade is the export of raw sugar and molasses from the Innisfail, Babinda and Atherton Tablelands sugar-growing districts. It comprises on-shore sugar and molasses handling and storage facilities and a single sugar loader and associated wharf located within a sheltered natural harbour.

The terminal is operated by Mourilyan Bulk Sugar Terminal, a subsidiary of Queensland Sugar Limited (QSL). Mills supplying the terminal are South Johnstone, Mourilyan, Tully and Babinda.

Tug requirements are provided by North Queensland Marine Towage Pty Ltd tugs based in Mourilyan, while pilotage is provided by PCQ subsidiary, Port Pilots Queensland, through the North Queensland group.

Molasses is exported through the port by Australian Molasses Trading Pty Ltd and live cattle exports also take place.

Economic Importance: The Port of Mourilyan is historically an important part of the immediate local community and wider Innisfail economy. Sugar production continues to be the main industry in the area and the port forms an integral part of the industry in the area. The value of sugar exported through the port last year was \$175 million. In addition, molasses exports last year were worth about \$9 million and live cattle \$1 million. It is estimated about 15 people are employed directly at the terminal.

In 2001/02, the Port of Mourilyan handled 31 ships which carried 533,130 tonnes of sugar (up 30% compared to last year), 77,376 tonnes of molasses (up 4%) and 2,248 head of live cattle (down by about half).

Social Importance: The port represents a major industry in its own right within the region and because of the employment and associated business it generates is an integral component of the economic and social well being of the area. The key port stakeholders are active participants in supporting community groups, including PCQ through its Port Communities Program, which provides funds for local community organisations which contribute to community wellbeing. Funding is mainly directed towards organisations and projects assisting local young people in their education and development.

PORT OF CAPE FLATTERY

The Port of Cape Flattery is situated more than 200 kilometres north of Cairns on the east coast of Cape York Peninsula. It is used for the export of silica sand from the Cape Flattery mine, the facility being operated by Cape Flattery Silica Mines Pty Ltd (CFSM). There are on-shore silica sand handling and stockpile facilities and a single trestle jetty and conveyor running from the mine to an off-shore berth and shiploader. There is also a general purpose wharf for the import of fuel and other supplies for the mine and for the mooring of two line boats which assist in ship berthing. No tugs are required at the port. Pilotage services are provided by PCQ.

Economic Importance: The Port of Cape Flattery which is part of the Cape Flattery silica sand mining operation is the major industry in this remote region. The value of silica sand exported through the port last year was \$32 million. It is estimated about 80 people are employed directly at the mine which includes the port operation. There are significant ancillary services provided to the port facility through contractors.

In 2001/02, the Port of Cape Flattery handled 35 ships, which carried 1,633,802 tonnes. This was down by 8.5% on the previous year.

Social Importance: Cape Flattery mine is regarded as a major employer in this remoter area and has a high proportion of indigenous workers at the mine and port, who would otherwise not have as much access to work opportunities within their region.

PORT OF QUINTELL BEACH

Quintell Beach is a community port with a barge facility located on the east coast of northern Cape York, servicing the needs of the Lockhart River community and remote grazing properties. No tug or pilotage services are required at the port.

Economic Importance: The port provides local economic benefit for the operators providing barge services to the port and for the suppliers whose products are carried to the port.

The Port of Quintell Beach handled 3,500 tonnes of cargo in 2001/02, establishing a new record and up by almost 50% on the previous year. This increased trade was the result of building projects in the area.

Social Importance: The port is of major social importance for the Lockhart River community as the major connection to goods and outside supplies for much of the year and exclusively in the wet months being the only economical means of bringing goods into the community.

3.0 POTENTIAL WATER QUALITY RISKS

3.1 Potential Water Quality Risks

There are several issues which PCQ considers of potential risk to water quality in and around its ports in the Marine Park area. They are:

- marine oil spills
- shipping incidents and accidents
- contaminated water run-off from land
- introduced marine species from ships' ballast water
- waste discharges from ships.

PCQ manages these risks through a variety of general environmental management programs as well as specific initiatives. An overview of PCQ's environmental program and specific initiatives is outlined below.

4.0 OVERALL ENVIRONMENTAL MANAGEMENT

4.1 Environmental Policy

PCQ is an environmentally responsible organisation, committed to providing cost-effective and competitive facilities and services required by existing and potential port users, with minimum adverse impact on the natural and social environment.

PCQ's environmental policy is to:

- comply with all relevant environmental legislation and government policies and aim for best practice
- monitor the impact on the natural and social environment surrounding ports
- minimise the environmental impacts of port operations and developments and seek continual improvement
- use resources efficiently and minimise wastes
- strive for usage and development of ports consistent with the concept of ecologically sustainable development
- enhance PCQ's reputation through high environmental standards and performance
- develop and maintain effective Environmental Management Plans and Emergency Plans
- communicate openly and honestly on the environmental performance of ports to key stakeholders, government and the general community
- work co-operatively with other organisations or provide appropriate support, including sharing any outcomes from the Corporation's own research work, where it will help achieve the environmental objectives of the Corporation
- hold all employees accountable for environmental performance
- ensure contractors meet PCQ's environmental standards and requirements
- encourage port tenants/lessees to meet the Corporation's environmental standards and requirements.

4.2 Risk Management

A comprehensive risk management program is in place and has actively managed the risks in its business through mechanisms such as formal risk reviews, the maintenance of a risk register and the implementation of risk management strategies. The Corporation manages risks (as they relate to water quality) by:

- disaster and safety planning
- undertaking environmental planning and monitoring.
- ensuring staff are properly trained
- conducting regular maintenance inspections and developing 10 year maintenance programs to ensure the long-term integrity of facilities
- reviewing the Corporation's insurance and those of leaseholders, operating companies and other users of port facilities
- environmental auditing of port operations.

To fill any gaps that may have existed in the processes undertaken, PCQ has developed a draft Risk Management Manual based on the Australian Standard for risk management, AS/NZS 4360-1999. This risk management system is now being integrated with the Corporation's other policies and management systems.

4.3 Environmental Management System

PCQ has a well established Environmental Management System (EMS) in place. The EMS documents the Corporation's Environment Policy, procedures, practices and legislative requirements to ensure sound environmental management across all of its ports. The EMS documents the responsibilities and accountabilities for environmental management within the Corporation. It also provides details of how environmental performance is to be measured against internal and external standards.

The system is based on *International Standard ISO 14001* and has been continually improved by Corporation staff since its inception to reflect best industry practices.

The Corporation will move to external certification of this system in 2003 as part of its ongoing system development of the system, as well as to recognise PCQ's commitment to international standards.

5.0 SPECIFIC ENVIRONMENTAL MANAGEMENT ACTIVITIES

5.1 Environmental Auditing

PCQ has an environmental audit system to verify compliance with legislative requirements, as well as with the Corporation's policies, procedures and approved environmental management plans. Audits are also used as a valuable tool to identify areas for potential improvement.

5.2 Environmental Monitoring

PCQ has a comprehensive program of environmental monitoring which is reviewed each year. It is developed on a port-by-port basis to ensure any environmental aspects under pressure are being adequately monitored. Baseline monitoring is carried out where appropriate.

The range of monitoring includes seagrass in or adjacent to ports (area, biomass and type of species); baseline surveys for marine species and monitoring for any introduced marine pests; water and sediment quality testing; flora and fauna surveys; benthic monitoring in areas potentially impacted by dredging operations; groundwater monitoring; and noise and dust monitoring

5.3 Impact Assessment of Projects

The Corporation requires the preparation of an impact assessment for projects proposed for port land. For smaller projects, an Environmental Management Plan (EMP) must be approved by the Corporation before the start of works. For major projects, an Environmental Impact Statement (EIS) is required.

5.4 Incident Reporting

There is usually a low number of incidents in PCQ ports and any environmental or safety incidents are reported on an incident form. The outcomes of the investigation and recommendations to prevent their recurrence are also reported and followed up.

5.5 Employee Training

To ensure a high standard of environmental performance, effective training and a strong awareness of environmental issues are required. Training is provided by the Corporation's environmental group, complemented by speciality training provided by external organisations.

Due to the small size of the organisation, all staff are expected to contribute significantly to the high environmental and social performance of the Corporation. Appropriate performance measures are included in the annual work plans of all staff.

5.6 Water and Sediment Quality

PCQ is developing a cost-effective water quality monitoring program, using consistent key environmental performance indicators, for all PCQ ports. The purpose of the monitoring is to determine the health of port waters and the success of PCQ in protecting the port aquatic environment. This study reviewed potential contaminants and impacts from both port land and the wider catchment, as well as other "best practice" monitoring programs. The program includes an Environmental Performance Evaluation System based on International Standard AS/ ISO 14031: 2000. The study recommends a number of Environmental Condition Indicators for ongoing assessment of port waters and sediments. The recommendations from this study will be implemented in the coming year.

5.7 Stewardship of Habitats and Ecosystem - Seagrass

Seagrass at Mourilyan has been regularly monitored by PCQ since 1993. It is now monitored annually in December in a joint program with the Queensland Department of Industries. The December 2001 survey showed a large increase in the total area of seagrass since the last survey and the area was the highest amount mapped since surveys started in 1993.

5.8 Stewardship of Habitats and Ecosystem - Flora and Fauna

PCQ is currently developing Land Use Strategies and Environmental Management Plans (EMPs) for all ports to ensure appropriate development occurs on port land and suitable environmental protection measures are in place. As part of PCQ's ongoing program to protect valuable flora and fauna areas, land areas of high environmental value (flora, fauna or cultural heritage importance) are being designated as environmental buffer areas in these plans to ensure their ongoing protection.

A detailed flora and fauna study was carried out of selected lots of land in Mourilyan during the year. This complements detailed surveys of other lots that have been carried out in the past. The study identified one lot (Lot 555 of 2.5 ha area) as containing flora of regional significance. The lot contains a fan palm forest of moderate to high integrity, as well as mangrove forest. A number of flora species classified as "rare" were identified on this lot: *Acmena divaricata*, *Macaranga polyadenia*, *Rourea brachyandra*, *Syzygium alliligneum*, *Lepidozamia hopei*. The area provides habitat for local cassowary. PCQ has designated this land as environmental buffer to protect it from disturbance.

At Hay Point, PCQ previously planted around 120,000 native trees on port land to revegetate buffer land around the coal terminals. Maintenance of these areas has continued.

Land Use Strategies and EMPs for two ports - Hay Point and Mourilyan – were completed and issued for public comment. At Hay Point, around 22 hectares of highly significant mangroves and other habitat types have been designated as an environmental buffer area to ensure the area remains undisturbed. In Mourilyan, where there are still significant areas of undisturbed mangroves and rainforest on PCQ land, over 150 hectares, or around 70% of the port land, has been designated as environmental buffer area to ensure its ongoing protection. Land Use Strategies and Port EMPs are being developed for other ports.

5.9 Environmental Impacts

The environmental impacts associated with PCQ's activities are tracked through the extensive environmental monitoring programs. Specific monitoring of habitats and ecosystems was reported earlier, together with a summary of air, water and noise quality. Additional information is provided in the port-by-port analysis.

However, one of the key tools used by PCQ to monitor the cumulative impact of port operations is the regular monitoring of seagrass in port areas.

5.10 Emergency Response

One of PCQ's roles as a port authority is to take action to remove pollutants discharged into waters within the port limits. PCQ has developed oil spill contingency plans for all of its trading ports and these are regularly reviewed and updated. These plans include procedures for the use of dispersants to ensure environmental protection is paramount in the decision making. Consideration is given to sensitive areas in relation to use of dispersants.

5.11 Introduced Marine Species

The Corporation has been concerned about the possible risk of introduction of marine pests into Queensland waters through shipping activities, particularly from ballast water discharges and hull fouling. Over 200 introduced species have been discovered in port surveys around Australia, although only a few of these have been pest species that could threaten the native biota. These pest species incursions are currently concentrated in ports in southern parts of Australia.

Risk studies carried out by PCQ in the past have concluded there is mainly a low risk in PCQ ports, due to the difference in environmental conditions (eg. temperature, salinity and silt loading) between Corporation ports and the foreign ports where ballast water is taken up.

PCQ has undertaken surveys in the Ports of Hay Point, Abbot Point, Lucinda, Mourilyan and Cape Flattery and no introduced marine pest species have been found.

As part of its ongoing monitoring for marine pest species, PCQ has deployed "larval monitoring devices" in its trading ports. These devices are checked at least every three months by port staff for any evidence of abnormal growth of organisms.

PCQ has for many years been a major supporter of research into effective treatment of ballast water. It has helped to facilitate the formation of the Australian Ballast Water Treatment Consortium to carry out field trials of technology with the potential to treat ballast water to remove foreign organisms.

5.12 Managing Ship Discharges

PCQ is committed to providing a leadership role in protection of the marine environment. In 2000/01, PCQ established an oil collection facility in the Port of Mourilyan next to the public jetty to enable commercial and recreational fishermen to dispose of any waste oil without affecting the marine environment. The waste oil is collected and recycled. PCQ is considering similar facilities for other ports where a need is identified.

Waste reception facilities for commercial shipping, such as the collection of oily waste, sewage or quarantine waste, are being established in all PCQ trading ports. PCQ has already carried out a needs analysis for these facilities in the ports. Although the analysis showed there was little demand for such services because most large bulk carriers have on-board treatment facilities, PCQ acknowledges the importance of these facilities to ensure ship's waste is disposed of in an environmentally acceptable manner and is actively working with waste companies and port users to make these facilities available.

5.13 Dredging Impacts

Many of the shipping facilities in PCQ's trading ports have been designed as offshore facilities to minimise the need for regular dredging of shipping navigation channels and berth areas. As an example, the jetty to the ship berth in the Port of Lucinda is nearly 6 kilometers long and is the longest of its type in Australia. As a result, the Port of Lucinda does not require regular maintenance dredging.

PCQ has also been exploring other techniques to reduce the frequency of dredging. An example is in the Port of Mourilyan where bed leveling, or dragging a heavy bar over the normal dredging area, is used to remove high points of sedimentation. Bed leveling is a lower impact operation and it reduces the frequency of dredging required in the Port.

Where capital dredging has been carried out, such as in the Port of Hay Point, the sediment to be relocated is tested against stringent ANZECC contaminant guidelines to ensure the material is clean before it is relocated to the disposal area. A sea disposal area within port limits, but outside the marine park area, is used in this port because of a lack of suitable land disposal sites. The area was chosen to ensure no marine sensitive areas would be affected. The dredging and sea disposal is closely monitored through turbidity measurements and aerial surveillance.