

# ENVIRONMENTAL MANAGEMENT

## **POLICY AND SYSTEMS**

Our Environment Policy defines our intentions for achieving environmental performance and fostering environmental responsibility for our employees and their activities.

Ports North operates under an Environmental Management System that is consistent with the international standard ISO 14001. This system aligns with our other business processes so that management addresses all risks, including safety, business and environment in a consistent and comprehensive manner. Our EMS enables us to identify and prioritise activities undertaken by Ports North that could impact on the environment, such as dredging, project development and management of contractors, and then enables us to assess these for potential risk, and implement management controls or actions to prevent or minimise impacts. A register of risks and treatments plans is maintained for all significant risks. This information is reviewed and reported to senior management regularly. A key element of our EMS implementation is maintaining legal compliance and continuous improvement in environmental performance by conducting environmental audits and inspections of all our operations, contractors, major development and maintenance projects so that risks associated with these are identified, and so we can verify relevant permits, licences and project objectives are being achieved.

## **PLANNING and DEVELOPMENT**

Environmental management is a key component of land use and port operations planning to ensure obligations under applicable transport infrastructure, sustainable planning and environmental legislation are enacted.

A variety of activities are conducted by tenants or operators on strategic port land consistent with specific Land Use Plans and conditions of approval for those uses. We, as Port operator have a responsibility as a landlord to ensure development and ongoing operations meet applicable lease conditions, which include requirements that environmental regulations are being met. These activities are regulated by the State environment department and respective local council. Regular interaction with these agencies by our staff ensures compliance by tenants and continual improvement in port land uses.

Implementation of our requirements is delivered through land use plan codes and policies, clauses in lease and use agreements, port specific Environmental Management Plan's (EMP's), and guidelines on select topics which outline requirements for development, maintenance and operations.

## **INCIDENTS**

Spills or incidents are an unfortunate but regular occurrence for industrial and commercial operations, including activities at our ports. On average, thirty incidents that involve discharge to the environment are recorded each year predominantly due to accidental spills due to tenants, or customers using our port facilities, rather than malicious pollution events. Near miss events that don't result in loss of contamination to the environment also occur.

The most common events are minor volume marine refuelling, hydraulic line failures or bilge oil discharge spills where standard hydrocarbon spill response measures can be enacted. Spill events and chronic pollution to stormwater in the agricultural, commercial or urban catchments, are the main sources of contaminants to our port waterways. Large spill events are extremely rare, and most historical events have involved oil or fuel products where standard spill response equipment is very effective during implementation of the First Strike Oil Spill Response Plans in conjunction with Maritime Safety Queensland. Non-oil spill events are similarly quiet rare.

A system for recording, reporting and investigating incidents that result in, or have the potential to result in, adverse environmental impacts is established. Through the role of our port operations staff, an emergency response system ensures that all environmental incidents and near miss events are investigated in an effective and timely manner to ensure the cause is identified and corrective actions completed. Incidents may be referred to the relevant authority for investigation or where enforcement action is warranted under their jurisdiction. All operators on Strategic Port Land and within Port Limits have a responsibility to report events that have or may have to environmental harm.

## MONITORING PROGRAMS

From assessment of the aspects of our operations, and potential impacts, a series of monitoring programs have been implemented at our ports over an extensive period with the aims and objectives to;

- ≈ Aid the management of adjacent areas of ecological significance including port buffer areas,
- ≈ Inform day to day management and long term planning to ensure sustainable development,
- ≈ Monitor trends in condition of port ecosystems and surrounding waters,
- ≈ Increase the quality of information available to improve management,
- ≈ Assess the effectiveness of current and future management strategies,
- ≈ Determine sources of pollution which may affect the health of our ports.
- ≈ Assist in managing potential impacts of port operations,
- ≈ Understand these findings in the context of the broader condition of each catchment,
- ≈ Gather data to assist in justifying future development applications and subsequent conditions.

Due to the location of some of our ports at the mouth of river estuaries, natural catchment inflows and resultant hydrodynamics result in natural deposition, a process which means that sediments and water pollutants may accumulate in areas of the port. Understanding these processes is important to effective management of the port environment.

The Table below summarises the main monitoring conducted at our Ports. At locations where port activity is minor or not under our direct control (Burketown, Quintell Beach, and Cooktown) where risks are least, monitoring programs have not been established.

	Mourilyan	Cairns	Cape Flattery	Thursday Island	Skardon River	Karumba
<b>Water Quality</b>	B	A				B
<b>Sediment Quality</b>		A				D
<b>Biosecurity</b>						
Marine Pests	D	D	D	C	C	D
Mosquitos	C	C				
Weeds			C			D
<b>Groundwater</b>	D	D				
<b>Land Contamination</b>	D	D				D
<b>Marine Habitats</b>						
Seagrass	A	A		E	D	A
Benthic Fauna		D				D

Footnotes: (A= Annual, B=event based if triggered, C= facilitate access for surveys by agencies, D=periodic, E=Bi-Annual)

### WATER QUALITY

Storm water runoff from activities within the broader catchment or from port land has the potential to carry litter, sediments, nutrients and other contaminants into the surrounding port environment. Our water quality monitoring aims to determine the condition of storm water from developed and undeveloped sites so we can assess the effectiveness of the control measures in place, the quality of water that is discharged and interpret these findings in relation to the broader receiving environment.

For the Port of Cairns, sampling commenced on a routine basis in 1995. This led to the Trinity Inlet Water Quality Guidelines during the establishment of the Trinity Inlet Management Plan (TIMP) during the 1990's.

Specific monitoring may be instigated during maintenance or development works, such as monitoring turbidity associated with dredging works, where a possible risk to surrounding sensitive areas (e.g. seagrass) has been assessed. This monitoring then feeds back and informs implementation of mitigation measures.

### SEDIMENT QUALITY

To allow vessel access via safe and navigable shipping channels and associated swing basins, some of our ports require dredging to maintain suitable depth. Knowledge of the quality of sediments to be dredged and disposed is gained via a comprehensive sediment Sampling and Analysis Plans (SAP) process with approval by the administering authority prior to implementation. Samples are collected by experienced environmental consultants using coring or grab equipment, dispatched to an environmental analytical laboratory for analysis, and the results

compared to criteria outlined in the National Assessment Guidelines for Dredging (NAGD), 2009.

At Cairns and Karumba, where there is an ongoing requirement for regular maintenance dredging and ocean disposal, a Long Term Dredge Spoil Disposal Management Plan (LTMMP) has been established as a condition of respective 10 year Sea Duping Permits. Refer to Links section below. This includes establishment of a Technical Advisory Consultative Committee (TACC) to ensure local marine resource knowledge and stakeholder issues are appropriately managed.

### **BIOSECURITY**

Pest animals and plants are an important risk, as our Ports may be the first arrival or last departure point to or from Australia. We continue to support the efforts of border control agencies such as AQIS (Australian Quarantine Inspection Service) and Bio-Security Queensland in their actions to manage biosecurity and disease vector control issues such as;

- ≈ Feral animals including cats, pigs, or toads,
- ≈ Mosquitoes, bees and other insects,
- ≈ Weeds, and;
- ≈ Marine pests (via ballast water or hull fouling)

Our staff are actively involved in keeping an eye out for potential threats, as well as promoting awareness of emerging pest issues. Assistance is provided to agency staff to facilitate access to port areas for conduct of surveys.

Baseline surveys for marine pests were completed at Mourilyan, Cairns, Cape Flattery and Thursday Island during the early 2000's to determine the existing marine communities and determine whether any non-indigenous species, of pest status or otherwise, were present. More recent surveys have been completed by agencies at Skardon River and Thursday Island to gauge the presence of pests associated with management of foreign fishing vessels. Sampling for certain marine pests is included in our Sediment Analysis Plan's and through periodic checking of devices deployed in the water adjacent to port infrastructure (wharfs, moorings and jetties) to sample larval and juvenile marine pests if they establish.

### **LAND CONTAMINATION AND GROUNDWATER**

To understand potential long term effects of activities on port land are understood, periodic assessment of the levels of natural elements and possible contamination of soil and groundwater is assessed as a baseline and an end of use exit report for new leases or certain temporary site uses. Such assessment may include establishment of boreholes for collection of soil samples, which may then be established as future groundwater monitoring wells to inform understanding of changes in level and quality of water.

### **MARINE HABITATS**

Coastlines and tidal areas surrounding our ports, as well as the actual port infrastructure are home to a myriad of flora and fauna. Mangrove wetlands or rocky coastal headlands encrusted with coral are often the most noticeable however the underlying seafloor, including the vast areas of silts and sands are home to many small benthic animals and plants such as seagrass. As a key pioneering plant, seagrass is an important indicator of general conditions and responds to fluctuations in natural cycles of water quality and climate, but may also respond to impacts from acute changes in catchment and port operations. An understanding of the status of seagrass habitats is therefore the key indicators and monitoring has been established at a selection of our ports for many years. These marine habitats support important food webs, including commercial and recreationally important fish and crab species, as well as iconic fauna like turtle, dugong and crocodiles. Understanding of benthic flora and fauna is one important components of effective management of dredging and dredge material management and periodic surveys are conducted where required.

### **WILDLIFE MANAGEMENT**

Our port locations are in areas of relatively intact coastal ecosystems and due to the long term land use planning required for port development many of the areas may contain remnant vegetation which may support flora and fauna of importance. Intertidal foreshore mudflats surrounding some of our ports are recognized as being of international significance due to the many migratory species that use those areas periodically. Crocodiles, turtles, dolphins and dugong are often residents within our port areas and present an important management issues as they are significant due to their iconic conservation and traditional marine resource use. Management of wildlife

issues includes protection of marine animals from harm during port operations and providing initial care and advice on injured wildlife.

### **INITIATIVES and COMMUNITY INVOLVEMENT**

Ports North has facilitated an annual bursary in conjunction with the Business Liaison Association to reward north region senior school students studying in the areas of science, geography or chemistry so as to foster a greater awareness of catchment health awards

### **REPORTS and LINKS**

Outcomes of the various environmental monitoring programs, management system initiatives are reported on regularly within the organisation and a summary is included within each Ports North Annual Report. Environment information is also available on each of the Port pages, or the following Links;

{Port of Cairns Long Term Management Plan>>../files/zip/Cairns LTMP 2010.zip}

{Port of Karumba Long Term Management and Monitoring Plan>>../files/zip/Karumba LTMP Mar 13.zip}



#### **Contact Us**

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