

Port of Weipa Long Term Maintenance Dredging Plan Supplementary Information



May 2019



Summary

North Queensland Bulk Ports (NQBP) is undertaking critical maintenance dredging at the Port of Weipa from early June until late July 2019 in response to unprecedented siltation within the South Channel over the summer season.

The purpose of this report is to supplement the [NQBP Long Term Dredge Management Plan](#) for the Port of Weipa and describe the additional environmental management measures for the 2019 program.

Background

NQBP is responsible for the maintenance of the South Channel and Inner Harbour at the Port of Weipa.

Over the summer season, Weipa has been subjected to four significant weather events, which have resulted in unprecedented siltation within the South Channel. The events were TC Owen, TC Penny, a large monsoonal event and more recently, TC Trevor.

From the most recent survey, the volume expected for maintenance dredging this year is around 2.65 Mm³. Recent annual maintenance dredging volumes have been about 0.5 Mm³ arising through natural accumulation and sediment transport processes.

The current siltation levels within the South Channel have resulted in a two-metre average loss of depth over about eight kilometres of the channel.

From information provided by RTA, this is impacting their shipping in the order of 10,000 tonnes per ship short-loading.

NQBP has been working closely with RTA to restore normal shipping operations whilst maintaining a high level of environmental management and control.

Due to the extraordinary level of siltation, the engagement of an additional dredge to support the normal Port of Brisbane dredge is necessary.

NQBP is in the process of engaging the Port of Brisbane (PBPL) to undertake dredging in Weipa utilising both the TSHD Brisbane and a second, much larger international dredge, TSHD Oranje, from the international dredging company Boskalis.



Approvals

Both State and Commonwealth permits are in place for maintenance dredging at the port of Weipa. State permits are perpetual and allow for the dredging and relocation of greater than 1 Mm³ per/annum.

NQBP has a current Sea Dumping Permit (SD2009/1382) which allows for 12Mm³ over the ten-year permit period 2010-2020.

NQBP has conducted a detailed review of our Sea Dumping Approval, including direct engagement with the Department of Environment and Energy (DoEE). Upon receiving written advice from the DoEE, NQBP is satisfied that the required approvals are in place.

Dredging will be conducted in accordance with Commonwealth and State Approvals and [NQBP Long Term Dredge Management Plan](#) for the Port of Weipa.

Stakeholder engagement

NQBP have convened a meeting of the Port of Weipa Technical Advisory and Consultative Committee (TACC) to talk through the range of environmental controls. The TACC will also be provided with weekly updates during maintenance dredging program.

TACC includes representatives from:

- North Queensland Bulk Ports Corporation
- Department of Environment and Energy (DoEE)
- Department of Agriculture and Water Resources (DoAWR)
- Port of Brisbane
- James Cook University TropWater
- CSIRO
- Rio Tinto Alcan;
- Department of Environment and Sciences
- Department of Agriculture Fisheries and Forestry – DAFF
- Maritime Safety Queensland – MSQ; and
- Local stakeholders



Environmental risks and management

The management of the program will continue to be undertaken as per NQBP's Port of Weipa - Long Term Environmental Management Plan (LTDMP) Maintenance Dredging including:

- Only place material within approved Dredge Material Placement Area (DMPA) to mitigate risk surround environs impacted
- Long-term ambient seagrass monitoring program
- Regular sediment characterization assessments (every 5 years)
- Turtle excluders on drag-heads and 300m exclusion zone for marine megafauna and turtle
- Periodic pre and post-dredging assessment of benthic infauna at the DMPA (including 2019)

- Adaptive management of dredge when visual plumes are seen near sensitive seagrass or mangrove areas (such as dredging of inshore environments during an ebbing tide)
- Biosecurity risk assessment of dredge vessels prior to entering the Port

In addition, a new Marine Water Quality Monitoring program was introduced in 2018 in partnership with James Cook University TropWater. Permanent seafloor loggers have been established at locations within the inner harbour and outer channel area.



2019 risk assessment

NQBP have conducted an environmental risk assessment in line with the requirements of the *Queensland Maintenance Dredging Strategy*, taking into consideration the higher than average dredge volumes, and introduced a range of additional environmental control measures. These additional controls satisfy NQBP that the level of environmental risk remains manageable.

Sensitive receptor	Potential outcome with LTDMP actions in place	Mitigation/Management Controls in addition to LTDMP actions
Seagrass meadows inshore of Albatross Bay	<p>Declines in water quality reducing light availability and photosynthetic capability of at-risk receptor.</p> <p>Meadows may be at low resilience from recent flood/storm events.</p> <p>Impact expected to be temporary but would have flow on affects to health/ food availability for dependent species including fisheries and megafauna.</p>	<ul style="list-style-type: none"> • Implementation of real time water quality monitoring and management dashboard (internal) • Daily satellite imagery to assist in monitoring water quality, commencing 10 days prior to dredging and a week after dredging • Daily assessment of water quality using real time logger data and satellite imagery • GPS transponders on both TSHDs to assist in assessing water quality trends • In addition to our ongoing ambient seagrass monitoring program, JCU have undertaken pre-dredge seagrass monitoring this year to better inform environmental reporting. • Assess seagrass meadows post dredging to confirm effectiveness of controls • Weekly updates and reporting to the Port of Weipa TACC
Infauna biodiversity at DMPA	<p>Increased potential for marine pest introduction that would affect biodiversity of these habitats/ environments from use of an internationally sourced dredging plant. Impacts could be permanent.</p> <p>Benthic infauna communities at the DMPA denuded/lost or unable to migrate through volume of dredge material placed at DMPA.</p> <p>Loss of infauna has risk of impacting upon dependent species (fisheries, megafauna) that use infauna as a food resource.</p>	<ul style="list-style-type: none"> • Placement of dredged material be biased to as far north, as is safely and operationally practical, of the DMPA during relevant current/tidal conditions such that plume drift to south-west beyond the DMPA is minimised.

Seagrass Update – Post cyclone season 2019

James Cook University researchers from TropWater undertook additional seagrass assessments for the Port of Weipa in early May 2019 to check on the condition of seagrasses post severe wet-season events and to assist in informing potential management actions should they be required.

Assessments were made of three of the five core monitoring meadows within the port and found that seagrasses in these meadows were in a good condition, including continued recovery of coastal meadows between Evans Landing and Lorim Point.

Overall seagrasses in Weipa did not appear to have suffered any dramatic or sustained impacts from the wet season storms and flooding events.

Researchers concluded that it is likely seagrasses were in a reasonably resilient state leading into planned maintenance dredging with biomass and area of the meadows assessed remaining in good condition.

NQBP recognize that although the seagrasses remain in good condition minimizing interactions between maintenance dredging activities and adjacent seagrass meadows remains high priority in our ongoing management.





Albatross bay

Weipa

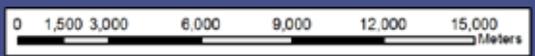
Dredge Material Placement Area

South Channel

Amrun

Dredge Material Placement Area

- Light and temperature loggers
- Ambient with telemetered surface loggers
- Ambient marine water quality monitoring





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