

***Maintenance Dredging of Queensland Ports***  
***Review of 2017 Activities***  
**21 December 2017**

## **Background**

Queensland ports require routine maintenance dredging to remove sediments that have accumulated in channels, berths and swing basins due to siltation and sediment transport processes. Most ports cannot sustainably function without maintenance dredging. Maintenance dredging has occurred in Queensland since ports were first established.

Most maintenance dredging is carried out by the *Brisbane* Trailer Suction Hopper Dredge which undertakes an annual dredging program of Queensland ports over a period of 6-8 months. The dredge, based in Brisbane and operated by the Port of Brisbane Pty Ltd, was specifically designed and built for Queensland conditions with the vessel applying high standards of environmental management.

The Department of Transport and Main Roads (DTMR) has developed a Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports (the Strategy) consistent with the requirements of the Reef 2050 Long Term Sustainability Plan. The Strategy aims to build on the current strong regulatory requirements and ensure the ongoing protection of the Reef's values and the continued operating efficiency of ports within the GBRWHA.

In accordance with the Strategy, a high-level schedule of maintenance dredging activities was prepared on 31 March 2017 and provided to DTMR. The schedule specifically considered opportunities to minimise both the extent and footprint of dredging activities.

During 2018, maintenance dredging was undertaken at the following GBR ports:

- Bundaberg
- Weipa
- Cairns
- Townsville
- Gladstone

Maintenance dredging is now complete and this document summarises the outcomes of the 2017 dredge program in relation to environmental performance. The results of this review will be incorporated into the maintenance dredging schedule for 2018 which will be prepared and finalised at the end of Q1 2018.

	Bundaberg	Weipa	Cairns	Townsville	Gladstone
<b>Dredge Activities</b>					
Dredge Type	Brisbane TSHD	Brisbane TSHD	Brisbane TSHD and Willunga Grab Dredge	Brisbane TSHD, POTL Grab Dredge and Everglade CSD	Brisbane TSHD
Dredge Volume	75,264 m <sup>3</sup>	297,301 m <sup>3</sup>	Brisbane (358,095 m <sup>3</sup> ) Willunga (33,500 m <sup>3</sup> )	Brisbane (487,750 m <sup>3</sup> ) POTL (1,750 m <sup>3</sup> ) Everglade (141,750 m <sup>3</sup> )	209,456 m <sup>3</sup>
Dates	05/04/17 to 13/04/17	17/05/17 to 08/06/17	Brisbane (11/06/17 to 06/07/17 and 21/07/17 to 23/07/17) Willunga (17/01/17 to 13/11/17)	Brisbane (24/07/2017 – 27/08/2017) POTL (2/08/2017- 3/08/2017; 23/08/2017 – 31/08/2017; and 04/09/2017 – 11/09/2017) Everglade (17/07/2017 – 23/09/2017)	30/08/17 to 30/09/17
Dredge Location	Sugar berth, swing basin, Inner Reach, Middle Reach, Sea Reach	South Channel, Inner Harbour and Berths.	Brisbane (Channel) Willunga (Inner wharves, commercial fishing base, navy base).	Brisbane (Sea and Platypus channels, outer and inner harbours) POTL (Berth 1 and Berth 9) Everglade (Ross River and channel)	Berths, swing basins, inner and outer channels.
<b>Environmental management</b>					
Permit compliance	No non-compliances.	No non-compliances.	No non-compliances.	No non-compliances.	No non-compliances.
Environmental incidents	No incidents.	No incidents.	No incidents.	No incidents.	No incidents.
Environmental complaints	No complaints.	No complaints.	No complaints.	DEHP notified POTL they received one complaint regarding suspected sediment movement around Jan 2017 (a period where no dredging was occurring). POTL provided requested detail and DEHP closed out the complaint.	No complaints.
<b>Environmental monitoring</b>					
Seagrass	No seagrass issues.	Annual seagrass survey completed in August 2017. No immediate impacts identified from dredging activity.	Annual seagrass survey completed during October (helicopter) and December (vessel) 2017. Management of maintenance dredging effective - seagrass meadows continue to recover and no impacts from dredging activity identified. Quarterly PAR light data collection and seed viability surveys continued.	Annual seagrass sampling completed in September 2017. No immediate impacts identified from dredging activity.	BPAR monitor deployed at sensitive receptor before, during and after dredging. Site was selected from maintenance dredging modelling. No immediate impacts identified from dredging activity. Annual surveys are undertaken in November.
Water	Water quality monitoring did not identify any impacts from dredging.	Monitoring of turbidity was undertaken within the Port of Weipa. No issues were reported.	Monitoring for Trinity Inlet inner port areas continued, with outcomes consistent with long-term trends. Additional water quality data collection within Trinity Inlet and Bay for the Cairns Shipping Development Project EIS process, also inclusive of maintenance dredging periods. No issues were reported.	Dredge plume monitoring was undertaken in the Platypus and Sea channels, and at the Dredge Material Placement Area. Results showed localised plumes. NTU levels were undiscernible from background NTU within 90 minutes of the dredge passing, and were localised to a maximum distance of 300m.	Turbidity compliance and background site monitoring did not identify any impacts from dredging. Metals and TBT monitoring sites did not identify any impacts from dredging. Water Quality sites were sampled before, during and after dredging. Sites have been established during previous campaigns and data sets are extensive.
Sediment	Sediment quality assessed using the <i>National Assessment Guidelines for Dredging 2009</i> (NAGD) and found to be suitable for placement at sea.	Sediment quality assessment, in accordance with the NAGD has determined that material is suitable for placement at sea.	Sediment quality assessed for the Channel, Inner Port, Marina, and Navy Base areas in accordance with the NAGD. No detection of contaminants exceeding NAGD limits, and material assessed as suitable for placement at sea.	Sediment quality assessed using the NAGD and found to be suitable for placement at sea.	Sediment quality assessed using the NAGD and found to be suitable for placement at sea.
Turtles and dugongs	No impacts to marine megafauna from dredging activity. Visual observations undertaken and no modification to dredging required.	Management of potential interaction with protected marine fauna was conducted in accordance with established protocols. No marine fauna interactions or incidents were recorded during the 2017 maintenance dredging campaign.	Nil interactions or observations recorded during dredging or placement operations of either the TSHD Brisbane or Willunga-tug and barge activity.	Visual observations during dredging – nil recorded and no modification of the dredge activity necessary. General visual observations during day to day observations are reported and captured on the Eye on the Reef (a GBRMPA initiative)	No impacts to marine megafauna from dredging activity. Two whales were breaching near the East Banks Sea Disposal Site (EBSDS) and within the 300m exclusion zone as <i>TSHD Brisbane</i> approached on 14/09/2017. As per Sea Dumping approval conditions the crew waited for the cetaceans to move on naturally before commencing sea dumping activity.