

## 7. Water Quality

### 7.1 Stormwater

Management of stormwater and incorporation of existing stormwater flows into the proposed Port of Airlie development are discussed in Sections 2.6.1 and 7.2.2 of the Supplementary Environmental Impact Statement.

Currently, stormwater flows from Shute Harbour Road and areas uphill as well as from the Coconut Grove area flow directly into Boathaven Bay, via culverts and overland flow. Flows from the Shute Harbour Road catchment will be directed into a tidal drain that will run parallel to Shute Harbour Road and then discharge to Boathaven Bay (see Figure 2-7 of the Supplementary EIS). The presence of mangroves in this tidal drain is likely to assist in the removal of sediment load from these stormwater flows.

Stormwater from the Coconut Grove catchment will flow into stormwater drains running through the Port of Airlie and discharging into the marina basin. The use of catchpits and trash racks on these stormwater flows will assist in removing some sediment and gross solids from stormwater generated in the Coconut Grove catchment as well as the Port of Airlie catchments. These features are not currently present in the stormwater system draining the Coconut Grove catchment. This may lead to a reduction in sediment and gross solids discharges to Boathaven Bay via stormwater from the Coconut Grove catchment.

In addition, stormwater flows from the proposed Port of Airlie development are not expected to lead to a significant change in the quality of stormwater currently being discharged to Boathaven Bay via stormwater flows. With the exception of the boat repair facility, there will be no activities taking place within the proposed Port of Airlie development that are not already taking place within the Boathaven Bay catchment. The boat repair facility will have separate stormwater management systems (see also Section 2.5.2 of the Supplementary EIS and **Section 2.2** of this Addendum). Stormwater management systems to be installed at the development will include removal of sediment and gross solids and thus, stormwater flows from the proposed Port of Airlie are likely to have lower levels of these pollutants than current stormwater flows from the surrounding urban areas. Most car parking will be underground, and thus, the volume of hydrocarbon contaminated stormwater generated from car park areas will be minimal.

### 7.2 Sewage from Vessels

Section 2.5.2 of the Supplementary EIS states that “boats without holding tanks will have their heads sealed by the marina superintendent on entry to the marina”. This will be the policy of the marina.

The number of pumpout facilities to be provided will be determined in accordance with appropriate marina design and operation standards. It is recognised that boat owners may find it inconvenient to queue for use of these facilities; however it is anticipated that boats will soon be prohibited by law from discharging sewage within 1 km of land (see Supplementary Report 4.1.2 and 4.2.2.6). Boat owners will

therefore have to accept this inconvenience as a condition of boating in the Whitsundays.

### 7.3 Consistency with *EPP(Water) 1997*

Section 7(2) of the Environmental Protection (Water) Policy 1997 (EPP(Water)) specifies water quality values to be preserved as follows:

- a) *if the water—*
  - (i) *is a pristine water—biological integrity of a pristine aquatic ecosystem; or*
  - (ii) *is not a pristine water—biological integrity of a modified aquatic ecosystem;*
- and*
- b) *suitability for recreational use; and*
- c) *suitability for minimal treatment before supply as drinking water; and*
- d) *suitability for agricultural use; and*
- e) *suitability for industrial use.*

Boathaven Bay has been somewhat modified by human activities including urban development in most of the catchment, the presence of live-aboard boats drawn up on the shores of the bay and the mooring of other boats in the mouth of the bay.

The definition of pristine aquatic ecosystem used in the EPP(Water), is as follows:

***“pristine aquatic ecosystem”*** means an aquatic ecosystem that has not been, or is not, subject to human interference through—

- a) *releases (whether direct or indirect) into a water forming part of the ecosystem;*
- or*
- b) *activities in the water’s catchment area.*

On this basis, Boathaven Bay is not a pristine aquatic ecosystem and water quality values to be preserved in the bay are those consistent with supporting a modified ecosystem. It is therefore appropriate to adopt existing water quality in Boathaven Bay as that which is suitable for maintaining the biological integrity of the ecosystem of Boathaven Bay.

Section 9 of the EPP(Water) stipulates the following in relation to determination of suitable water quality guidelines for a location:

#### ***9 Water quality guidelines for indicators for environmental values***

- (1) ***“Water quality guidelines”*** are numerical concentration levels or statements for indicators that protect a stated environmental value.
- (2) *The following documents are used to decide the water quality guidelines for an environmental value for a water—*
  - (a) *site specific documents;*
  - (b) *the AWQ guidelines;*
  - (c) *documents published by a recognised entity.*
- (3) *To the extent of any inconsistency between the documents for a particular water quality guideline, the documents are to be used in the order in which they are listed in subsection (2).*

Section 21.3.2 sets out a program for conducting site specific studies of water quality in order to identify existing water quality guidelines for Boathaven Bay. These water

quality guidelines will form the basis of standards to be maintained during both construction and operation of the proposed Port of Airlie.

A Dredge Management Plan is outlined in **Section 21.5** of this Addendum and will be the means by which water quality guidelines are maintained during construction.

Detailed hydrodynamic modelling of Boathaven Bay to be undertaken as part of detailed design will assist in understanding water flushing and flows within Boathaven Bay and allow assessment of likely changes in water quality during operation of the site. Detailed design of stormwater and wastewater systems for the proposed Port of Airlie will then be tailored to maintain water quality in Boathaven Bay such that the integrity of the modified aquatic ecosystem is not compromised.

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