

# Water Quality Management Sub-Plan

**Eden Cruise Wharf**

Rev 3, 17 October 2025

## Revisions table

<b>Revision</b>	<b>Description</b>	<b>Revision date</b>	<b>Author</b>	<b>Reviewer</b>	<b>Updates made</b>
Rev 1	Final Draft	July 2024	Francisca Alvarez	Christa Sams	
Rev 2	Final	September 2024	Francisca Alvarez	Christa Sams	
Rev 3	Revised Final	17 October 2025	Francisca Alvarez	Christa Sams	Revised monitoring locations. Updated consultation Table 2 and Appendix A.

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## Acronyms

<b>Acronym</b>	<b>Definition</b>
ANZECC	Australian and New Zealand Environment Conservation Council
AS	Australian Standard
BVSC	Bega Valley Shire Council
CCC	Community Consultative Committee
DO	Dissolved Oxygen
DPHI	Department of Planning, Housing and Infrastructure
DPIRD Fisheries	Department of Primary Industries and Regional Development – Fisheries (formerly DPI Fisheries)
EIS	Environment Impact Statement
EPA	NSW Environment Protection Authority
Km	Kilometres
LGA	Local Government Area
LOA	Length Overall (for a vessel)
m	Metres
MOD	Modification of the Infrastructure Approval SSI-7734
OEMP	Operational Environmental Management Plan
RTS	Response to Submission Report
SECO	Supervisor Eden Cruise Operations
SSI	State Significant Infrastructure
TSS	Total Suspended Solids

## Definitions

Term	Definition
Complaints	A written or verbal expression of dissatisfaction about an activity, or proposed activity, or failure to act by the Operator, Supervisor Eden Cruise Operations (SECO) or anyone else directly or indirectly related to the Wharf
Council	Bega Valley Shire Council
Cruise Ship Day	A day in which there is a cruise ship utilising the Eden Cruise Wharf
Cruise Ship Operator	Operators of cruise ships berthing at the Eden Cruise Wharf
Cruise Ship Season	Arrival of the first cruise ship in the last half of a calendar year until departure of the last cruise ship in the first half of the following calendar year.
EIS	Eden Breakwater Wharf Extension State Significant Infrastructure – Environmental Impact Statement, dated 3 November 2016
Incident	An occurrence or set of circumstances that: <ul style="list-style-type: none"> <li>• Cause, or threatens to cause, material harm to the environment, community or any member of the community, being actual or potential harm to the health or safety of human beings or to threatened species, endangered ecological communities or ecosystems that is not trivial; or</li> <li>• Results in non-compliance with SSI Approval No. 7734</li> </ul>
Infrastructure Approval	Infrastructure Approval (SSI) 7734 issued by the Executive Director, Priority Projects Assessment (as delegate of the Minister for Planning) Department of Planning and Environment under Section 115ZB of the Environmental Planning and Assessment Act 1979, (dated 5 July 2017) and modified on the 7 November 2018 (MOD 1), on the 21 October 2020 (MOD 2) and on the 24 May 2024 (MOD 3)
MARPOL	MARPOL (short for marine pollution) means the International Convention for the Prevention of Pollution from Ships 1973: <ul style="list-style-type: none"> <li>• As corrected by the Procès-Verbal of Rectification dated 13 June 1978, and</li> <li>• As affected by any amendment made under Article 16 of MARPOL, other than an amendment not accepted by Australia or that has not entered into force in Australia, and</li> <li>• As modified and added to by the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, as affected by any amendment to that Protocol made under Article VI of the Protocol other than an amendment not accepted by Australia or that has not entered into force in Australia.</li> </ul>
Non-Cruise Ship Day	A day in which there is no cruise ship utilising the Wharf
Oasis Class (or equivalent)	Cruise ships approximately 370m LOA
Operator	The Port Authority of New South Wales is the Operator for the Eden Cruise Wharf and responsible for overall compliance with the OEMP and subplans, and the operational aspects of the Infrastructure Approval and EPBC Act Referral Decision
Port	Port of Eden
Quantum Class (or equivalent)	Cruise ships approximately 348m LOA.
Relevant Maritime Acts	Commonwealth Protection of the Sea (Prevention of Pollution from Ships) Act 2012 and Commonwealth Navigation Act 2012 as amended from time to time, or the relevant Act(s) applying at the time.

Relevant Maritime Authority	Port Authority of NSW, including the Eden Harbour Master or authorised officer as defined in the <i>Marine Safety Act 1998</i> or authorised officer or inspector under the <i>Marine Pollution Act 2012</i>
RtS	Response to Submissions Report Eden Breakwater Wharf Extension, dated 24 February 2017, including the Summary of Proposed Mitigation Measures.

# 1 Introduction

## 1.1 Background and Context

This Water Quality Management Operational Environmental Management Plan (OEMP) Sub-plan (the WQMP) has been prepared by the Port Authority of NSW (Port Authority) to manage potential risks to water quality associated with the operation of the Eden Cruise Wharf (the Wharf) (also known as Eden Cruise Facility (the Facility), the Breakwater Wharf extension or the Project).

The Eden Cruise Wharf was approved by the Minister for Planning's delegate on the 5 July 2017 as State Significant Infrastructure (SSI 7734) under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), and subsequently modified on the 7 November 2018 (MOD 1), on the 21 October 2020 (MOD 2) and on the 24 May 2024 (MOD 3) (the Infrastructure Approval). The Infrastructure Approval allows the use of the Eden Cruise Wharf by cruise and non-cruise vessels of sizes up to approximately 370 in length, with berthing allowed on a 24/7 basis and shipping operations permitted from 7am to 10pm (as detailed in Section 2).

The Eden Cruise Wharf is located on land within Snug Cove and the bed of Twofold Bay, within the Port of Eden (the Port) on the Sapphire Coast of NSW in the Bega Valley Shire Local Government Area (LGA). It is the southern-most declared port in NSW, approximately equidistant between Sydney and Melbourne and approximately 40km from the NSW and Victorian border. **Figure 1** shows the locality of the Port in relation to major centres and within Twofold Bay, with the Eden Cruise Wharf located in the red square.



Figure 1: Eden Port Locality within Twofold Bay

The location of the Eden Cruise Wharf within Snug Cove in the Port of Eden is shown in **Figure 2**.



Figure 2: Location of Eden Cruise Wharf (Source: MetroMap, Sep 2023)

The specific conditions of the Infrastructure Approval relevant to this WQMP are outlined in Section 1.3.

In addition to this WQMP, an Operational Water Quality Monitoring Program (Worley Consulting, 2024) associated with MOD 3 has been prepared as a separate document in accordance with Conditions D19-D23 and in consultation with Department of Primary Industries and Regional Development (DPIRD) – Fisheries (formerly DPI Fisheries). A summary of the Operational Water Quality Monitoring Program (Worley Consulting, 2024) is provided in Section 9.

The primary use of the Facility is cruise operations and therefore this WQMP largely relates to cruise visitation and associated activities at the wharf. This WQMP also provides for the management of water quality risks associated with non-cruise ship activities (commercial ships, Navy ships, etc).

The operation of the Eden Cruise Wharf is the responsibility of the Port Authority. The implementation of the WQMP and overarching Eden Cruise Ship OEMP is undertaken by the Port Authority.

## 1.2 Purpose of the WQMP

The purpose of this WQMP is to:

- Identify operational activities with potential to impact on water quality.
- Detail control and mitigation measures which will be implemented to manage water quality risks associated with the operation of the Eden Cruise Wharf.
- Provide the process for environmental incident management.
- Outline a process for complaint investigation, action, management, and consultation with potentially affected sensitive receivers due to water quality impacts from the wharf operations

This WQMP, as well as the overarching OEMP, has been prepared in accordance with:

- Environmental Management Plan Guideline, Guideline for Infrastructure Projects, Department of Planning, Industry and Environment, 2020.
- Applicable Conditions of the Infrastructure Approval (SSI 7734).

## 1.3 Water Quality Management Plan Requirements Matrix

This WQMP addresses the requirements of the Infrastructure Approval as shown in **Table 1**.

Table 1: Requirements of Infrastructure Approval

Condition	Requirement	Reference				
D3	<p>The following <b>OEMP Sub-plans</b> must be prepared in consultation with the relevant government agencies identified for each OEMP Sub-plan, and in consideration of the relevant requirements in this approval and the Proposed Mitigation Measures:</p> <table border="1"> <thead> <tr> <th>Required OEMP sub-plan</th> <th>Relevant government agencies to be consulted</th> </tr> </thead> <tbody> <tr> <td>(d) Water Quality</td> <td>DPI Fisheries</td> </tr> </tbody> </table>	Required OEMP sub-plan	Relevant government agencies to be consulted	(d) Water Quality	DPI Fisheries	<p>This document</p> <p>Section 1.4</p> <p>Appendix A</p>
Required OEMP sub-plan	Relevant government agencies to be consulted					
(d) Water Quality	DPI Fisheries					
D4	The OEMP Sub-plans must include, to the written satisfaction of the Planning Secretary, information requested by an agency to be included in an OEMP Sub-plan, including copies of all correspondence from those agencies.	<p>Sections 1.4, 1.5</p> <p>Appendix A</p>				
D5	The OEMP and OEMP Sub-plans, must be submitted to the Planning Secretary for approval no later than one month prior to the commencement of relevant operations, unless another timeframe is agreed with the Planning Secretary. Revised OEMP and OEMP sub-plans resulting from the findings of Five Yearly Compliance Summary Report are to be submitted to the Planning Secretary for approval no later than one month following submission of the Five Yearly Compliance Summary Reports.	Section 1.5				
D5A	The approved OEMP and OEMP Sub-plans must be updated to address the requirements and mitigation measures proposed in the documents listed in Condition A1(c) in relation to Modification 3.	This document				
D10	Operational Monitoring Program(s) must be prepared to compare actual operational performance against predicted performance of that identified in Condition A1(c)(ix) and (x). The Operational Monitoring Program(s) must be prepared in consultation with the identified relevant authorities. Details of information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant Operational Monitoring Program, including copies of correspondence from those agencies as required by Condition A7.	Operational Water Quality Monitoring Program (Worley Consulting, 2024)				
D11	<p>Each Operational Monitoring Program must include:</p> <ul style="list-style-type: none"> <li>(a) details of baseline data;</li> <li>(b) the relevant environmental performance criteria or parameter (including reference to where the criteria or parameter are identified in the documents listed in Condition A1(c)(ix) and (x))</li> <li>(c) details of monitoring of the project to be undertaken;</li> <li>(d) the parameters of the project to be monitored;</li> <li>(e) the frequency and lifespan of monitoring to be undertaken;</li> <li>(f) the location of monitoring;</li> <li>(g) the reporting of monitoring and analysis of results against the relevant environmental performance criteria or parameter;</li> <li>(h) details of the methods that will be employed to analyse the monitoring data;</li> <li>(i) procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory; and</li> <li>(j) any consultation to be undertaken in relation to the monitoring programs.</li> </ul>	Operational Water Quality Monitoring Program (Worley Consulting, 2024)				
D19	An Operational Water Quality Monitoring Program must be prepared in consultation with DPI Fisheries.	Operational Water Quality Monitoring Program (Worley Consulting, 2024)				
D20	<p>The Operational Water Quality Monitoring Program must enable the monitoring of the first:</p> <ul style="list-style-type: none"> <li>(a) cruise season with more than 60 vessel visits; and</li> </ul>	Operational Water Quality Monitoring				

Condition	Requirement	Reference
	(b) visit of a Quantum class (or equivalent); (c) and visit of an Oasis class (or equivalent).	Program (Worley Consulting, 2024)
D21	The Operational Water Quality Monitoring Program must include: (a) details of the type and frequency of monitoring to be undertaken for single vessel events (the first Quantum class or equivalent and first Oasis class or equivalent) and the first cruise season with more than 60 vessel visits; (b) a review of the monitoring results that considers the performance of the SSI relative to the environmental parameters.	Operational Water Quality Monitoring Program (Worley Consulting, 2024)
D22	If an exceedance of the environmental parameters identified in the Operational Water Quality Monitoring Program occurs, the Proponent must notify the Planning Secretary and DPI Fisheries as soon as possible and within 24 hours of the identification of the exceedance.  This notification must provide details of the circumstances of the event, including: (a) the nature of the event; (b) the parameters that were exceeded; (c) the timing and duration of the event; and (d) the measures employed to minimise the exceedance.	Operational Water Quality Monitoring Program (Worley Consulting, 2024)
D23	Following a notification of an exceedance of environmental parameters (as required by Condition 0), the Planning Secretary may direct the Proponent to prepare a Report on Environmental Parameter Exceedance and submit it to the Planning Secretary within the time frame specified by the Planning Secretary. The Report must detail the cause and major contributor of the exceedance, the effectiveness of any action(s) taken in response the exceedance and the options available to prevent recurrence.	Operational Water Quality Monitoring Program (Worley Consulting, 2024)
D24	An Operational Monitoring Report(s) must be submitted to the Planning Secretary upon request, and to the relevant authorities and Council (listed in Condition D16 and D19) within 3 months of the monitoring being completed for each event identified within the Operational Monitoring Program. The Operational Monitoring Report must include: <ul style="list-style-type: none"><li>• a summary of the results of Operational Monitoring Program(s);</li><li>• identification of additional mitigation measures required (where results of monitoring are unsatisfactory or where environmental parameters are exceeded); and</li><li>• timeframes for the implementation of the proposed measures.</li><li>• The recommendations identified must be implemented as part of the SSI in the timeframes outlined in the Operational Monitoring Report. Additional mitigation measures must be included in the relevant OEMP Sub-plan.</li></ul>	Operational Water Quality Monitoring Program (Worley Consulting, 2024)  Section 10.2.2
D25	If an Operational Monitoring Report identifies an exceedance of parameters that cannot be mitigated following the implementation of mitigation measures, the Proponent must write to the Planning Secretary within 30 days of the completion of the Operational Monitoring Report and identify how any non-compliant operations would be prevented from reoccurring to ensure compliance with the environmental parameters identified in the Operational Monitoring Program. The Planning Secretary may require the Operational Monitoring Program(s) to be updated and re-submitted for approval.  <i>Note: The intent of this condition is to address systemic issues and not respond to a single non-compliance.</i>	Operational Water Quality Monitoring Program (Worley Consulting, 2024)  Section 10.2.2

## 1.4 OEMP Consultation

Extensive consultation for the Eden Cruise Wharf operation has been ongoing since the beginning of the Project and have included multiple agencies and stakeholders, including amongst others and relevant to this WQMP, the former DPI Fisheries (as of 1 July 2024 DPIRD - Fisheries), Bega Valley Shire Council (BVSC or Council), Biodiversity and Conservation Division (BCD) or the EPA (for details of the more recent consultation refer to MOD3 documentation in the Major Projects' website:

<https://www.planningportal.nsw.gov.au/major-projects/projects/mod-3-extension-wharf-usage>).

This WQMP has been prepared in consultation with the following stakeholders in accordance with Condition D3:

- DPIRD Fisheries

Details and outcomes of the consultation relating to the WQMP is outlined in **Table 2**. Consultation correspondence is provided in **Appendix A**.

Table 2: Agency and Stakeholder Consultation

Agency/Stakeholder	Comments relating to the WQMP
DPIRD Fisheries	<p>DPIRD Fisheries considered this Plan to satisfy the requirements in the Conditions of Approval and the proposed mitigation measures at the RTS Stage.</p> <p>DPIRD Fisheries is supportive of the changes made to the <i>Operational Water Quality Monitoring Program (Rev 2)</i> with the new options 1C and 1D, in the vicinity of WQ1.</p>

## 1.5 WQMP Approval, Revision and Distribution

In accordance with Condition D5 of the Infrastructure Approval, the original OEMP, which included a Water Quality Management Plan, was approved by the Secretary of Department of Planning, Housing and Infrastructure (DPHI) prior to commencement of operations in correspondence dated 15 July 2019. This WQMP prepared to include the requirements of MOD 3 must be submitted to the Secretary of DPHI for approval no later than one month prior to the commencement of Operations associated with MOD 3.

The WQMP is a live document and as such, may be updated due to the following:

- Recommendations made in the Five Yearly Compliance Summary Report
- As required as a result of a modification of the Infrastructure Approval
- Recommendations made in the Annual Compliance Audits or Operation Compliance Reports
- Changes to ownership or management responsibilities of the assets or activities related to the wharf operations
- Identified changes in the risk profile for the Facility.

The WQMP, and any revisions resulting from the findings of the Five Yearly Compliance Summary Report will be submitted to the Secretary of DPHI in accordance with Condition D5 for approval no later than one month following submission of the Five Yearly Compliance Summary Report.

Copies of the approved OEMP and OEMP Sub-plans, or their revisions, including this WQMP are publicly available on the Port Authority website: [www.portauthoritynsw.com.au](http://www.portauthoritynsw.com.au)

This WQMP will be publicly available for the duration of operation of the Facility. This document is uncontrolled when printed.

## 2 Description of the Eden Cruise Wharf and Operations

### 2.1 Eden Cruise Wharf and nearby Marine Facilities

The Eden Cruise Wharf is located at the end of Weecoon Street within Snug Cove which is on the northern side of Twofold Bay (**Figure 1**). The Eden Cruise Wharf is approximately 800 metres from the Eden town centre, with the closest residences situated approximately 250 metres from the wharf.

Maritime facilities located in the vicinity of the Eden Cruise Wharf include (refer to **Figure 3**):

- Breakwater Wharf
- Multipurpose Jetty
- Mooring Jetty
- NSW Water Police Mooring Facility
- Fishermen's Co-Operative 'T' Jetty
- Cat Balou Pontoon and Freedom Charters Berthing
- Northern and southern boat launching ramps
- Commercial and private swing moorings



Figure 3: Eden Cruise Wharf(or Breakwater Wharf Extension) within its context in Snug Cove, Eden (Source: MetroMap, Sep 2023)

The Breakwater Wharf, Multipurpose Jetty, Mooring Jetty and some other of the above marine facilities have been operational since 1970/80s and involve uses and activities such as fish unloading, berthing of yachts, tugs and other vessels, and repair and servicing of vessels.

## 2.2 Description of the Eden Cruise Wharf Infrastructure

The Eden Cruise Facility comprises the actual wharf and all associated infrastructure required to allow cruise and non-cruise ships to berth and undertake activities and operations as described in Section 2.3. In addition to the wharf and dredged pocket within Snug Cove, it includes land side areas, facilities and services for the management of passenger visitation including disembarkation, embarkation and transport, and for the management of cargo and the undertaking of maintenance activities.

Key elements of the Eden Cruise Wharf include (refer to Figure 4 for view of the wharf):

- The wharf extension (approximately 110 long), with a total wharf length of 220m
- Three mooring dolphins and two berthing dolphins
- Landside bollards to restrain the ship's bow
- Utilities and services (lighting and power, potable water, waste facilities, signage, emergency water)
- Navigation aids
- Land-based facilities (bollards, fenders, emergency access ladders, bus bays, footpaths, traffic barriers).

Sewage or fuel services are provided through mobile licensed contractors.

**Table 3** shows the service assets at the Eden Cruise Wharf:

Table 3: Service Assets

Asset	Description
Dolphin Lighting	<ul style="list-style-type: none"> <li>▪ 10 x 5m light pole (2 per dolphin)</li> <li>▪ 10 x Solar powered LED light fittings.</li> </ul>
Potable Water	<ul style="list-style-type: none"> <li>▪ Ø100 water main along Wharf</li> <li>▪ 1 x ø65 water connections along Wharf</li> <li>▪ 4 x ø25 water connections along Wharf</li> </ul>
Emergency Water (fire-fighting)	<ul style="list-style-type: none"> <li>▪ 5 x fire hydrants along Wharf.</li> </ul>
Wharf Lighting and Power Outlets	<ul style="list-style-type: none"> <li>▪ Electrical cables, conduits, pits, junction boxes, and distribution boards</li> <li>▪ 8 x 9m LED flood lighting poles and fittings – southern side of wharf</li> <li>▪ 12 x LED fender line light fittings – northern side of wharf</li> <li>▪ 5 x single phase General Power Outlets (GPO) along wharf.</li> <li>▪ 5 x 3 phase General Power Outlets (GPO) along wharf</li> </ul>

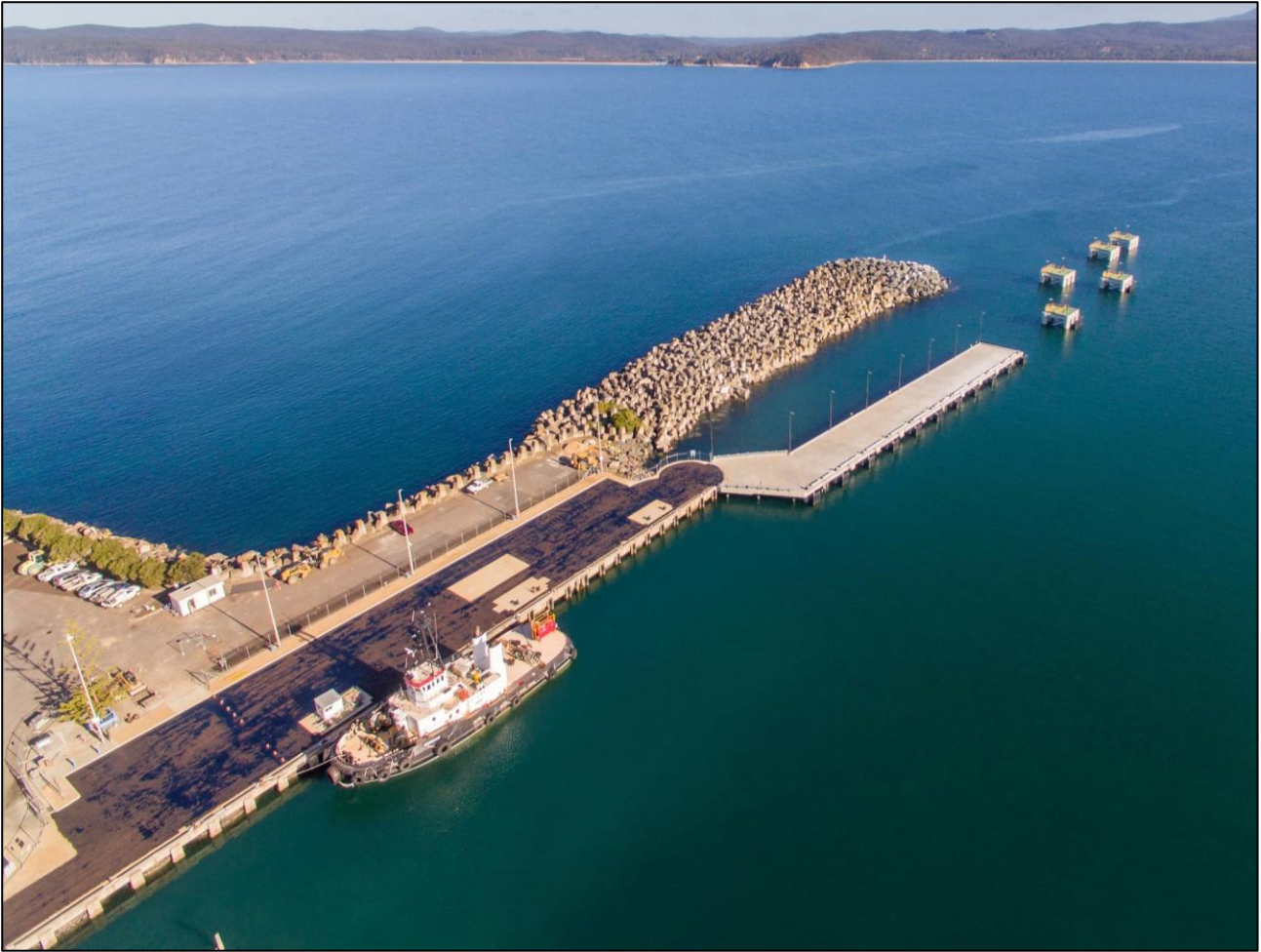


Figure 4: Aerial photograph of the Eden Cruise Wharf (Source: Peter Whiter, Eden Magnet, 2019)

## 2.3 Description of the Eden Cruise Wharf Use and Operations

The operation of the Eden Cruise Wharf will be undertaken by Port Authority.

### 2.3.1 Cruise Ships

The primary use of the Eden Cruise Wharf will be a cruise transit terminal. Cruise ships up to the Oasis class (**Figure 6**), which is approximately 370m length overall (LOA) and can carry up to approximately 6,780 passengers (maximum) and 2,300 crew), will use the wharf as discussed below. There are no restrictions regarding the number of cruise ship visits that may visit annually.

The Infrastructure Approval defines the cruise season as follows:

*“Arrival of the first cruise ship in the last half of a calendar year until departure of the last cruise ship in the first half of the following calendar year”.*

Generally, most cruise ship visits will occur between October and March. Cruise ship visits may however also occasionally occur in other months, particularly August, September, April and May. Cruise ships will typically arrive in the morning (around 7:00am) and depart in the evening (before 10:00pm) the same day. There is the possibility that in some instances a cruise ship may request to stay overnight. Cruise ships in Eden generally do not exchange passengers with Eden designated as a transit port. All bookings will be approved by Port Authority and the visits supervised by the Eden Harbour Master and Port Authority.

Cruise ships will transit Twofold Bay from waters of the Tasman Sea, escorted by tugs and under the pilotage direction of the Eden Harbour Master. Tug operations are managed by commercial operators located on the two adjacent jetties.

Once berthed, passengers and crew will disembark the vessel via the ship's gangway, directly onto the wharf (refer to **Figure 5** for view of a cruise ship at the wharf). From the wharf passengers will be able to access the shuttle bus services to town, buses to organised activities or other transport methods as required (taxis, footpaths).



Figure 5: Cruise Ship, Pacific Explorer at the Eden Cruise Wharf in 2019 (Source: Port Authority, 2019)

The larger cruise ships (i.e. Oasis class or equivalent) will not visit Eden until one additional mooring dolphin has been constructed. Quantum class vessels or equivalent (approximately 348m LOA) can currently visit the Eden Cruise Wharf using the existing infrastructure.



Figure 6: Oasis class cruise ship, Allure of the Seas (Source: Business Insider Africa, 2023)

### 2.3.2 Customs and Quarantine

Australian Border Force has an office located at 253 Imlay Street, Snug Cove for Quarantine, Immigration and Customs for vessels using the Port as their first port of call in Australia. It is staffed by a number of Customs Officers.

Passengers and crew from cruise ships may be subject to customs and quarantine processes which are generally carried out on board the ship, and therefore the Eden Cruise Wharf is not required to facilitate Customs and Quarantine services.

### 2.3.3 Non-Cruise Ships

Non-cruise ships will be able to use the Eden Cruise Wharf at times when the wharf is not used by a cruise ship (primarily during the cruise off season). Non-cruise vessels will include any vessels up to 370m LOA excluding dry/wet bulk cargo (liquid or solid bulk materials) and dangerous goods or hazardous materials vessels. Typical non-cruise vessels to use the Eden Cruise Wharf will include fishing vessels, RAN ships, project cargo vessels for the transport of equipment, parts and the like, offshore oil and gas support vessels and any other types of non-bulk commercial (refer to **Figure 7**). The Navy may, on an ad hoc basis, request a visit to the wharf, however, other than for the purpose of community engagement, there is no logistical need for navy ships to berth at the Eden Cruise Wharf. There are no restrictions regarding the number of visits by non-cruise ships that may use the wharf annually.

Some non-cruise ships may stay overnight, generally ranging from one to several nights. For example, overnight stays may be required for some commercial vessels to load or unload project cargo (e.g. parts of wind turbines, etc.) or service the vessel. Overnight stays may also occur due to scheduling crew or other requirements, similar to other shipping berths at ports across NSW. Any loading/unloading or other operations, such as refuelling and general vessel maintenance and servicing (including sewer, waste and sullage offload) will be undertaken between 7:00am and 10:00pm. As per cruise ships, all visits will need to be approved by Port Authority and supervised by the Harbour Master.



Figure 7: Typical project cargo vessel, ERIK (Source: Erwin Willemse, 2019)

Project cargo operations may require the occasional use of equipment at the wharf, such as mobile shore cranes or forklifts. Heavy vehicles will be able to access the Eden Cruise Wharf, if required, as the wharf has been designed for HS20-44 trucks. Heavy vehicles will be able to park on the Breakwater Wharf and on the south and western side of the Gotcha Bait building (i.e., cruise tour bus bays) and will comply with the Traffic, Transport and Access Sub-Plan.

### 2.3.4 Hours of Operation

Hours of operations are as follows:

- All vessels are allowed to remain at berth on a 24/7 basis.
- Vessel operational activities (loading/unloading, refuelling, maintenance, servicing, passenger embarkation and disembarkation, etc) are allowed any time between 7:00am and 10:00pm.

### **2.3.5 Servicing Ships**

The provision of potable water and food supplies may be required for some ships upon request and local availability of supply.

Sewage discharge at Eden is generally not required by cruise vessels. The discharge of ship wastewater (e.g., sewage), if required and requested, will be undertaken by connecting the ship wastewater tanks to a tanker at the wharf under strict protocols. The tanker will be taken to the local sewage treatment plant under the requirements of the local council. Sewage discharge will be upon request and local availability to service.

Vessels at berth would access potable water via existing direct connections provided at the Eden Cruise Wharf. It is estimated that the potable water demand could be approximately between 300 to 500 tonnes per cruise vessel with smaller quantities required for RAN and project cargo vessels. The town water supply is considered to have adequate capacity to address this additional demand (Advisian, September 2023).

Any required refuelling would continue to be via road tanker and will likely only be required for non-cruise vessels.

## 3 Roles, Responsibilities and Training

### 3.1 Eden Cruise Wharf Roles and Responsibilities

**Table 4** identifies responsibilities for the Eden Cruise Wharf Operations

Table 4: Roles and Responsibilities

Position	Responsibility
Operator, Port Authority	<ul style="list-style-type: none"> <li>Overall responsibility for the Eden Cruise Wharf Operations</li> <li>Responsibility for implementation of the Eden Cruise Wharf WQMP and the overarching OEMP</li> <li>Responsibility to ensure compliance with Statutory Requirements as they relate to the Eden Cruise Wharf Operations</li> <li>Responsibility for compliance with the operational aspects of the Infrastructure Approval</li> <li>External communication in relation to matters concerning the Eden Cruise Wharf</li> </ul>
Harbour Master (Eden)	<ul style="list-style-type: none"> <li>First point of contact for any matters related to the operation of the Eden Cruise Wharf</li> <li>Coordinate the safe transit of all Port users including cruise ships, fishing vessels, private vessels etc.</li> <li>Assist in waterside management of emergency response including oil spill, security threat, fire, and natural disaster</li> <li>Liaise with Port Authority's site staff regarding overall Port Security</li> <li>Oversee the implementation of the WQMP. The Harbour Master will delegate responsibilities to site personnel as required</li> </ul>
Regional Manager Cruise	<ul style="list-style-type: none"> <li>Overall responsibility for cruise operations outside Sydney</li> <li>Delegating cruise responsibilities in Eden to the Supervisor Eden Cruise Operations (SECO)</li> </ul>
Supervisor Eden Cruise Operations (SECO)	<ul style="list-style-type: none"> <li>The SECO is a site-based role to manage the cruise operation of the Eden Cruise Wharf</li> <li>Overall management of all Cruise Ship Day activities including</li> <li>Ensure compliance of Cruise Ship Operators, the Cruise Ship Wharf and maintenance activities to this WQMP, and the conditions associated with it, including but not limited to the conditions of the Infrastructure Approval</li> <li>Manage security access to and at the Cruise Ship Wharf</li> <li>Provide and manage traffic and pedestrian movements at the Cruise Ship Wharf during cruise ship days</li> <li>Ensure compliance in relation to all wharf side activities during cruise ship days</li> <li>Supervise specific security access for vehicles and pedestrians around the Cruise Ship Wharf</li> <li>Manage cruise bookings and associated activities</li> <li>Report and investigate Incidents of non-compliance with this WQMP</li> <li>Prepare and provide all relevant reporting associated with the Infrastructure Approvals related to cruise operations, and assist as required with reporting associated with the OEMP and subplans</li> <li>Manage Traffic movement on cruise days (i.e. Passenger transport)</li> </ul>

	<ul style="list-style-type: none"> <li>• Communicate compliance requirements of this WQMP to Cruise Ship Operator at time of booking, including but not limited to, conditions as listed in the Infrastructure Approval</li> <li>• Communicate findings of complaints, Incidents and non-conformances investigations with the Cruise Ship Operator to discuss appropriate corrective actions</li> <li>• Communicate complaints, Incidents and non-conformances to the Operator and regulatory agency as required</li> <li>• Investigate and close out complaints, Incidents and non-conformances related to cruise operations</li> </ul>
Senior Manager Environment (and Environmental Management Team)	<ul style="list-style-type: none"> <li>• Responsible for the implementation of the overarching OEMP</li> <li>• Managing and reporting environmental incidents in consultation with the Harbour Master</li> <li>• Implementing monitoring programs in accordance with the overarching OEMP and subplans</li> <li>• Assisting the Community and Stakeholder Relations Manager in responding to environmental related complaints / inquiries</li> </ul>
Community and Stakeholder Relations Manager	<ul style="list-style-type: none"> <li>• Maintaining the community complaints register</li> <li>• Responding or managing responses to community inquiries and complaints</li> <li>• Attending the meetings of the CCC</li> <li>• Addressing community groups, businesses and other stakeholders as required</li> </ul>
Business operators and users (including cruise liners and ship companies using the Eden Cruise Wharf)	<ul style="list-style-type: none"> <li>• Carry out their activities to be compliant with the WQMP and overarching OEMP and the Infrastructure Approval. Compliance will be overseen by Port Authority site personnel</li> <li>• Exercise a duty of care to the environment at all times</li> </ul>
All other staff and contractors (Work Health and Safety Officer, maintenance workers, Cruise Eden staff and volunteers etc.)	<ul style="list-style-type: none"> <li>• Comply with the requirements of the Eden Cruise Wharf WQMP and overarching OEMP and the Infrastructure Approval</li> <li>• Comply with all statutory requirements as far as they pertain to their respective roles</li> <li>• Exercise a duty of care to the environment at all times</li> <li>• Follow emergency response actions and reporting requirements in the event of environmental Incidents</li> </ul>

All staff employed, and contractors appointed by the Operator will be formally advised of their obligations under the Eden Cruise Wharf OEMP.

## 3.2 Inductions and Training

### 3.2.1 Site-specific Induction

Port Authority has developed an induction specific to the Eden Cruise Wharf. The induction is compulsory to all employees and contractors using or working in the Eden Cruise Wharf. Induction refreshers are required on a bi-annual basis.

Key elements of the induction include:

- A summary of key environmental risks associated with the operation with the Eden Cruise Wharf
- The requirement for mandatory compliance with the Infrastructure Approval
- Key operational and safety requirements

### **3.2.2 Other Training**

In addition to the site specific induction, Port Authority requires its employees and contractors to undertake a number of environmental related training modules, including, amongst others, environmental incident response and storage and handling of hazardous liquids and refuelling.

Port Authority personnel will undertake additional training as required for their specific roles and needs.

## 4 Complaints and Incident Management

### 4.1 Complaints Management

#### 4.1.1 Complaints Procedure

All complaints and enquires are managed in accordance with the Community Complaints Procedure developed and implemented by the Port Authority. A link to the procedure is below:

<https://www.portauthoritynsw.com.au/community/community-complaints-procedure/>

OracleCMS manages Port Authority's complaints and enquiries line on a 24/7 basis. This ensures complaints are managed in real-time at any time of the day or night. The complaints and inquiry process generally involves the following:

- community enquiries and complaints are made by the 24/7 line: 02 9296 4962;
- OracleCMS receives the complaint and takes details of the nature of the call (ie. date, time, vessel name, etc);
- a verbal response is provided, including an outline of how the call will be managed;
- action is taken by OracleCMS depending on the nature of the complaint. This may include contacting Port Authority's operations team for real-time investigation and action if required (e.g. contacting a ship and/or the ship's agent in the event of a water quality complaint);
- OracleCMS emails the complaint to Port Authority;
- details on the response outcome is emailed to the complainant by Port Authority within three working days;
- complaints are registered, and allocated a reference number and kept in a central database by Port Authority.

Emergency calls directed to OracleCMS will be immediately forwarded through to the Port Authority Vessel Traffic Service (VTS) for immediate action.

#### 4.1.2 Compliants Register

Port Authority's Community and Stakeholder Relations Manager is responsible for maintaining the Complaints Register.

For each complaint and inquiry, the following information will be obtained:

- Date and time of complaint (if provided)
- Method by which complaint was made (phone, email, post, in person)
- Personal details of complainant which were provided by the complainant or, if no such details were provided, a note to that effect
- Nature of the complaint
- Action taken in relation to the complaint, including follow up contact with complainant. including follow up contact with complainant. Follow up with the complainant will be undertaken by the Community and Stakeholder Relations Manager or its delegate.
- If no action taken, note outlining the reason(s) why no action was taken.

The complaints register will be provided to the Secretary upon request, within the timeframe stated in the request.

## 4.2 Environmental Incident Management

### 4.2.1 Pollution Incident Management

Environmental hazards, incidents and emergencies will be managed as to minimise potential environmental impacts to the maximum extent practicable.

All pollution incidents and near misses must be reported to the Harbour Master or its delegate as soon as possible after becoming aware of the incident for corrective actions and investigations to occur.

Pollution incidents causing or threatening material harm to the environment will be notified to the EPA and relevant agencies immediately after the person becomes aware of the incident in accordance with Section 148 of the *Protection of the Environment Operations Act 1997* (POEO Act). Under Section 147 of the POEO Act, harm to the environment is material if:

- it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and
- loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Material harm includes on-site harm, as well as harm to the environment beyond the premises where the pollution incident occurred.

Notifications under Section 148 of the POEO Act will be given immediately after becoming aware of the incident. After the initial notification, a written follow up notification must be prepared within 7 days of the date on which the incident occurred.

Pollution incidents causing or threatening material harm must be notified to each of the following relevant authorities in accordance with Section 148 of the POEO Act:

- DPHI
- the EPA
- the Ministry of Health
- SafeWork NSW
- Bega Valley Shire Council
- Fire and Rescue NSW

If the incident presents an immediate threat to human health or property, Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service should be contacted first for emergency assistance - phone 000. The other response agencies must still be contacted after that to satisfy notification obligations.

If the incident does not require an initial combat agency, or once the 000 call has been made, notify the pollution incident to the relevant authorities in accordance with Section 148 of the POEO Act. Contact details of relevant authorities under Section 148 of the POEO Act and other key agencies are provided in **Table 5**.

Pollution Incidents notification must include the following information:

- Time, date, nature and duration of the pollution Incident
- Location of the place where the Incident occurred or is likely to occur
- Details of Incident, including nature and circumstances in which the incident occurred, including the estimated quantity or volume and the concentration of any pollutants involved, if known, and the cause of the incident if known
- Action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known

- Any non-compliance with the Conditions of the Infrastructure Approval associated with the incident.

## 4.2.2 Emergency Contacts and Response

Port Authority has prepared and implemented emergency response procedures. For immediate emergencies, the relevant government agencies and emergency services identified in **Table 5** are to be contacted as required.

Table 5: Emergency Contact Details

Reporting Agency	Contact Details
NSW Police (000) - Eden Police Station and Water Police	Phone (02) 6496 1444 Address: 229 Imlay St, Eden NSW 2551
Fire and Rescue NSW Fire (000)	Phone (02) 6496 1506 / (02) 6453 4786 Address: 44 Hopkins Street, Eden NSW 2551
Port of Eden Harbour Master	Phone (02) 6496 1719, 0438 374 034 Radio VHF Channel 16 or 08 (Port working frequencies are VHF Channel 08 and 12) Address: Harbour Master/Pilot, Port of Eden Main Jetty (PO Box 137, Eden NSW 2551) Email edenpilots@portauthoritynsw.com.au
Port Authority	Phone Enquiries Line 9296 4962 (24-hour) or Reception 9296 4999 (8.30am - 5.00pm Monday to Friday) Email enquiries@portauthoritynsw.com.au
Bega Valley Shire Council	Phone (02) 6499 2222 council@begavalley.nsw.gov.au
Ambulance Service of NSW (000)	Phone 131 233 Address: 11 Bass St, Eden NSW 2551
EPA	Phone (Environment Line) 131 555
NSW Ministry of Health Goulburn Public Health Unit	Phone: (02) 4825 4944 Phone (after hours): (02) 6053 4800 Fax: (02) 4824 1831 Goulburn PHU (Murrumbidgee & Southern NSW LHD) PO Box 472, Goulburn, 2580
SafeWork NSW	13 10 50
NPWS	Phone: 1300 072 757 (7am to 7pm daily)
DPHI – Principal Contact for non-compliance	Phone 1300 305 695 Email compliance@planning.nsw.gov.au Online complaints and inquiries: <a href="https://www.planningportal.nsw.gov.au/help-and-resources/submit-enquiry">https://www.planningportal.nsw.gov.au/help-and-resources/submit-enquiry</a>

### 4.2.3 Other Environmental Incidents and Notifications Procedures

Other environmental incidents considered in this WQMP included those that can potentially impact on aquaculture in the Port of Eden.

#### 4.2.3.1 NSW Food Authority

##### Aquaculture Leases

There are commercial aquaculture leases located within Twofold Bay. These include farms approximately 700 m west of the Eden Cruise Wharf, off Cocora Point (lease numbers AL07/098 and AL08/098), and alternate farms established within an existing aquaculture lease area at Boydtown (lease numbers AL06/001 and AL06/002). It is noted that a small lease to the north of AL07/098 is no longer current. Mussel farming is the main activity on these leases, but oyster, algae and scallop production may also be undertaken. A map of existing aquaculture leases and water sampling sites in Twofold Bay is included in Figure 8.

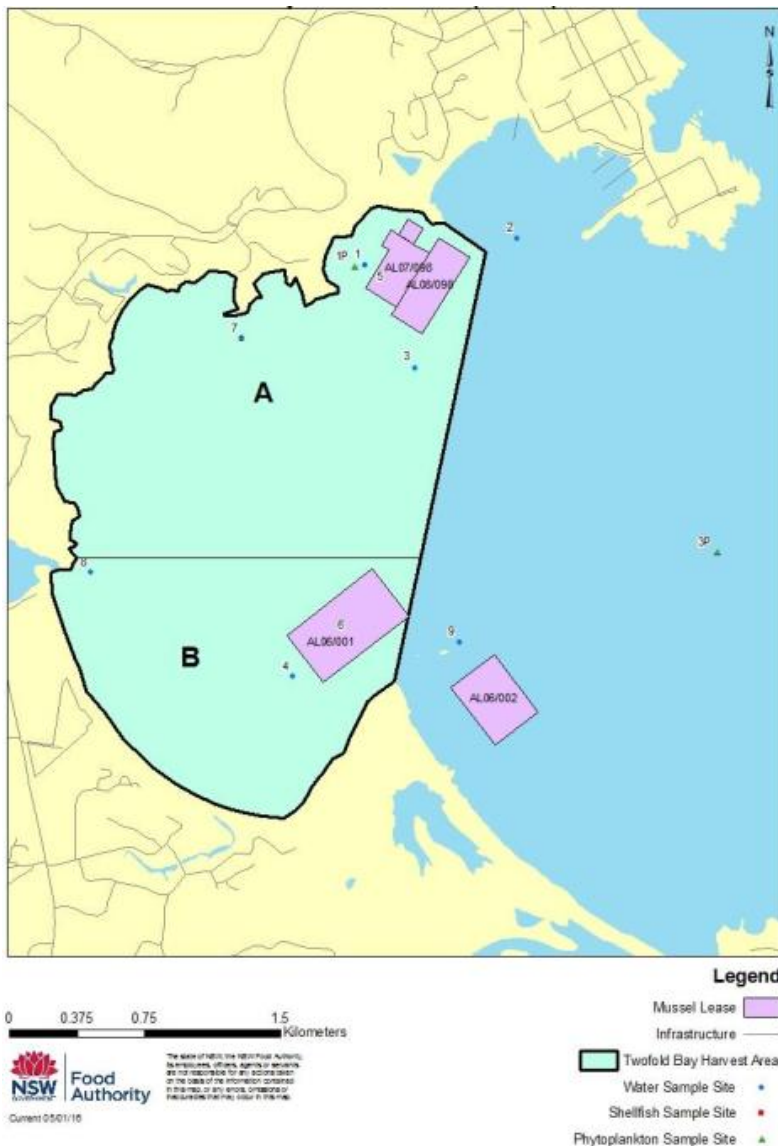


Figure 8: location of mussel aquaculture leases

Eden Sea Farms undertake routine water quality monitoring of temperature, salinity, faecal coliforms and phytoplankton, including within Snug Cove, to monitor water quality in the vicinity of these aquaculture facilities (Advisian, September 2023).

##### Notification Procedure

In the event of a sewage, fuel or oil spill event at the Eden Cruise Wharf or associated with the vessel travelling along the Port of Eden to/from the Eden Cruise Wharf, the following procedure will be followed:

- Upon identification of a spill, the Eden Harbour Master will be immediately notified. Identification of a sewage, fuel or oil spill events will be by:
  - Direct reports from the ship
  - During routine inspections by Port Authority personnel (refer to Section 9.1 for details)
  - During water quality monitoring events by Port Authority (refer to Water Quality Monitoring Program)
  - During water quality monitoring undertaken by others (e.g. Eden Sea Farms)
  - Other visual observations reported by other port users
- The Harbour Master will activate the Port of Eden Marine Oil and Chemical Spill Contingency Plan and the Code of Practice Non-Cargo Oil Transfers in the Port of Eden as required (refer to Section 7.1 of the OEMP).
- The Harbour Master will notify the Port Authority's environmental management team as soon as it becomes aware of the spill. The initial notification to the environmental team will include details such as type of spill, estimated spill volume and initial action undertaken to contain the spill. Subsequent information to be provided will include additional details such as any water quality sampling results undertaken after the spill, identified impacts, and other information obtained from a spill investigation.
- The Port Authority's Harbour Master or the environmental team will notify the aquaculture leases in the Port of Eden as a precaution as considered necessary.
- If the initial investigations determine that the spill is a reportable incident under Section 147 of the POEO Act, the EPA and the agencies in Section 4.3 will be notified.
- If the spill has impacted or has the potential to impact on the approved harvest area (refer to Figure 8), the Port Authority will immediately notify the NSW Food Authority:
  - 1300 552 406 (8:30am to 5:30pm business days)
  - [Food.contact@dpi.nsw.gov.au](mailto:Food.contact@dpi.nsw.gov.au)

The notification to the NSW Food Authority will include an initial phone call followed by written details of the spill event. The written notification will include details of the spill (type, extent, etc) and the results of investigations / details of proposed investigations

## 5 Environmental Legislative Framework and Water Quality Guidelines

### 5.1 Legislative Framework

The key approvals for the Operation of the Eden Cruise Wharf include:

- Infrastructure Approval (SSI 7734)
- EPBC Act Referral Decision 2016/7828.

The Infrastructure Approval, as amended, allowed use of the wharf in accordance with the Conditions of Approval (Conditions) and mitigation measures identified in the Environmental Assessment documents.

The Eden Cruise Wharf was also subject to a Referral decision under the EPBC Act, issued by the former Commonwealth Department of the Environment and Energy (DoEE), dated 13 April 2017 (EPBC 2016/7828). The Referral decision did not contain any operational requirements related to water quality.

No other approvals licences and/or permits are required for the Operation of the Eden Cruise Wharf. The Eden Cruise Wharf is not a scheduled activity under the *Protection of the Environment Operations Act 1997* and therefore does not require an Environment Protection Licence.

### 5.2 International Convention - MARPOL

The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. In Australia, MARPOL is given effect domestically through the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* and the *Navigation Act 2012*. Other relevant Commonwealth's legislation giving effect to MARPOL includes:

- Marine Order 91 (Marine pollution prevention—oil) 2014
- Marine Order 93 (Marine pollution prevention—noxious liquid substances) 2014
- Marine Order 94 (Marine pollution prevention—packaged harmful substances) 2014
- Marine Order 95 (Marine pollution prevention—garbage) 2013
- Marine Order 96 (Marine pollution prevention—sewage) 2013

In NSW, MARPOL is given effect through the *Marine Pollution Act 2012*.

The technical requirements of MARPOL are included in six separate Annexes. The following Annexes are relevant to this document:

- Annex I: Regulations for the prevention of pollution by oil
- Annex II: Regulations for the control of pollution by noxious liquid substances in bulk
- Annex III: Regulations for the prevention of pollution by harmful substances carried by sea in packaged form
- Annex IV: Regulations for the prevention of pollution by sewage from ships
- Annex V: Regulations for the prevention of pollution by garbage from ships.

The Australian Maritime Safety Authority (AMSA), is the Commonwealth agency responsible for maritime safety, protection of the marine environment and management of Australia's international maritime obligations.

### 5.3 Water Quality Guidelines

The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018) provide high-level guidance on the management context, ecological descriptions, biological indicator selection and other advice for Australia's marine planning regions.

The following guidelines are applicable to this WQMP:

- NSW Department of Environment and Conservation – Marine Water Quality Objectives for NSW Ocean Waters (2005)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG – 2018) - Toxicant Default Guideline Values for 95% species protection. <http://www.waterquality.gov.au/anz-guidelines>
- Integrated Marine and Coastal Regionalisation of Australia (IMCRA) mesoscale bioregions Default Guideline Values for Physical and Chemical Stressors, Batemans Shelf. <http://www.waterquality.gov.au/anz-guidelines>
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC – 2000) - Default Guideline Values for Physical and Chemical Stressors, East Coast Australia and Guidelines for Aquaculture and human consumption of aquatic foods
- NSW Food Authority Shellfish Industry Manual (NSWFA 2018).

The following water quality values are current or projected to be relevant to the Project site:

- Protection of Aquatic Ecosystems (including protected adjacent seagrass communities)
- Protection of Shellfish Aquaculture
- Protection of Cultural and Spiritual values associated with marine waters
- Protection of Visual Amenity.

Protection of water quality values is achieved through the selection of appropriate water quality guideline values. The adopted relevant water quality guideline values for the Project are provided in the Operational Water Quality Monitoring Program (Worley Consulting, 2024) and are not repeated in this document.

## 6 Operational Water Quality Risks

Water quality impact assessments have been undertaken as part of the Infrastructure Approval, the most recent being the water and sediment quality assessment (Advisian, September 2023) and sediment plume modelling (Jacobs, 2023) undertaken as part of MOD 3 (these assessments are available in DPHI's website: <https://www.planningportal.nsw.gov.au/major-projects/projects/mod-3-extension-wharf-usage>).

Operation of the Eden Cruise Wharf presents moderate risks to the water quality of Twofold Bay. The Eden Cruise Wharf has been operational since 2019. No water quality incidents or issues have occurred to date. Advisian (September 2023) identified the following key risks to water quality associated with the operation of the Eden Cruise Wharf:

- **Potential remobilisation of sediments**

Modelling by Jacobs (2023) showed that large cruise vessel operations have the potential to generate a suspended sediment plume along the vessel arrival and departure route, however the spatial extent of the plume was found to be limited to the cruise vessel routes. The model findings indicate that the worst case peak TSS increase at key environmental receptors will typically remain below 5 mg/L. Jacobs (2023) modelling results showed peak suspended sediment concentrations at all seagrass locations remaining below 5mg/L, with the highest concentrations observed at the seagrass community off Cocora Beach. Similarly, the majority of the mussel farm lease was exposed to peak TSS less than 5mg/L, with slightly higher peak TSS (less than 10 mg/L) generated at the northwest corner of the Lease. Increases in TSS are expected to be short-lived and generally restricted in extent to navigation channels, and therefore impacts on water quality are not expected to be significant.

- **Accidental spills from fuel and other liquids**

Advisian (2023) concluded that the likelihood of a significant spill of fuel or oil while in Snug Cove is extremely low, and small accidental spills should be able to be effectively contained and remediated before significantly impacting marine biota or settling to the seabed. Advisian (2023)'s mitigation measures have been incorporated in this WQMP.

- **Washwater discharges from Ship maintenance activities**

Ship maintenance activities on site have the potential to result in washwater discharges into the water column. Advisian (2023) concluded that impacts on water quality from ship maintenance activities are unlikely where proper management practices are implemented.

- **Anti-fouling**

Anti-fouling coating (e.g. copper biocides) on ship hulls have the potential to result in heavy metal releases into the local water column. The regulation of anti-fouling throughout all ports and vessels in Australia is via the Commonwealth *Protection of the Sea (Harmful Anti-fouling Systems) Act 2006*. However, in-water cleaning is currently not permitted in any ports in NSW as there is currently not a suitable legislative framework to support both consideration and approval of in-water cleaning technologies, particularly when associated with macrofouling on vessels. The Commonwealth's Department of Agriculture Fisheries and Forestry (DAFF) is updating the Australian in-water cleaning standards that specify the requirements for the removal of biofouling and cleaning of vessels that occur in-water in Australian territorial seas. The standards seek to manage the biosecurity and chemical contamination risks associated with in-water cleaning to an acceptable level. Once the national standard is finalised, and an appropriate framework is in place, then it could be possible to allow in-water cleaning request to be considered in Eden, and in all other ports in NSW, based on NSW agency advice. In anticipation of this future framework, Port Authority would propose to have this approach adopted in Eden, as for all ports in NSW.

- **Ship air emissions impacting on air quality**

Contamination of local waters may arise as emissions into the air have the potential to transmit across the air-water interface. Ship emissions to air are managed through the Air Quality Management Plan.

Measures to mitigate these risks are presented in Section 8. Biosecurity is addressed in the overarching OEMP.

## 7 Existing Water Quality Conditions

Existing water quality at Twofold Bay and the Port is described in Advisian (September 2023) and the Operational Water Quality Monitoring Program (Worley Consulting, 2024), and summarised below.

### 7.1 Water Quality

Port of Eden is a seaport which is located in Snug Cove within Twofold Bay. Twofold Bay is an open oceanic embayment with a catchment area of approximately 11 km<sup>2</sup> and an average depth of approximately 10.9m. Twofold Bay is the third deepest natural harbour in the Southern Hemisphere. The area adjacent to the Breakwater Wharf Extension was dredged in 2019 to -10.5 m to enable the safe passage of vessels to the Cruise Wharf.

Twofold Bay is fed by three key fluvial systems; the Towamba, Nullica and Pallestine catchments. The most dominant of the three is the Towamba River, of which flows at peak height during February and March annually. However, average flows for the catchment are somewhat high all year round. None of the three river systems typically carry sediment near Eden Cruise Wharf, although, during extreme meteorological events such as the flooding which occurred in 2011, a mud plume discharge from Towamba River entered and remained in Twofold Bay for several days. The tidal range between Highest Astronomical Tide (HAT) and Lowest Astronomical Tide (LAT) in Snug Cove is approximately 2.03m.

The nearest recreational swimming location to the Cruise Wharf is Cocora Beach, approximately 550m to the west of the Facility. The NSW Beachwatch Program (DEH) monitored Cocora Beach for water quality until March 2020, at which time it was rated in accordance with the NHMRC (2008) as 'Good'.

Physico-chemical water quality data was collected in September 2023 at six sites within the berth next to the Eden Cruise Wharf and within the ship manoeuvring area, and three reference sites at Cattle Bay, Cocora Beach and the Mussel Farm south of Cocora Beach. The water quality was determined to meet all available water quality criteria, with conductivity, salinity and total dissolved solids returning higher results than the reference sites (Advisian, September 2023).

### 7.2 Sediment Quality

Historical sediment quality investigations were undertaken within ship manoeuvring areas and within Snug Cove and Cattle Bay as part of the EIS studies. These studies typically found that concentrations of organic and inorganic contaminants have been low, and usually below the ANZECC (2000) Default Sediment Quality Guidelines (SQGs) (now replaced by the ANZG (2018) Sediment Default Guideline Values (DGVs)). Advisian (2023) reported that this historical data provides some assurance that the sediment currently occurring within the vicinity of the Eden Cruise Wharf is likely to be clean.

Sediment sampling was recently undertaken by Advisian in September 2022 at six sites within the berth next to the Eden Cruise Wharf and within the ship manoeuvring area, and three reference sites at Cattle Bay, Cocora Beach and the Mussel Farm south of Cocora Beach. Sediment from all sample sites were predominantly sand (77-93%), followed by clay and silt. No exceedances of the ANZG (2018) sediment quality guidelines (DGVs or SQG-High) were detected for any analyte at any site.

## 8 Water Quality Management

### 8.1 Water Quality Control Measures

Specific environmental control measures are required to:

- Manage environmental impacts identified in the EIS, RTS, and environmental assessments undertaken under MODs 1-3.
- Outline the procedures to achieve the environmental performance objectives and the mitigation measures.
- Ensure compliance with the Infrastructure Approval.

For the management of water risks from all vessels operating at the Eden Cruise Wharf, the following is identified (**Table 8**):

- Performance Objective
- Key Performance Indicators
- Management Actions
- Monitoring
- Reporting
- Corrective Action
- Relevant references/standards.

All activities must be carried out in a competent manner. Suitable equipment, facilities, training, work practices and other necessary precautions will be taken to minimise risks and impacts to the environment and community. Management actions are to be complied with by all staff and Cruise Ship Operators.

All activities will be performed in a way that minimises risks and impacts on the natural environment and complies with the OEMP and this WQMP, relevant legislation, regulations and the Infrastructure Approval.

Additional management measures may be applied following operational water quality monitoring (Section 9) and/or complaints investigations (Section 4) that determine further mitigation action should be undertaken.

Table 8: Water Quality Management Measures

Element	Action
Potential Environmental Impact	<ul style="list-style-type: none"> <li>• Mobilisation of seabed sediments from propeller wash.</li> <li>• Pollution of the Port waterway through introduction of contaminants by operational activities:               <ul style="list-style-type: none"> <li>- Oil and fuel spills</li> <li>- Cleaning activity runoff or washwater discharges from maintenance activities</li> <li>- General waste litter</li> <li>- Chemical contaminants from vessel hull coatings</li> <li>- Illegal or accidental discharge of vessel holding tanks (sewage, grey water, bilge water) or during refuelling</li> <li>- Spills during loading/unloading of materials and cargo</li> <li>- Ship emissions to air while at berth settling in the water column</li> </ul> </li> <li>• Aesthetic impacts on the local waterway from ship activities (e.g. litter, accidental discharges)</li> </ul>
Objectives	<ul style="list-style-type: none"> <li>• Minimise the generation of sediment plumes during operational activities</li> </ul>

Element	Action
	<ul style="list-style-type: none"> <li>• Avoid detrimental impacts on the water quality and marine environment of the Port through operational activities</li> <li>• Contain and manage any spills, runoff or discharge events, and have procedures and appropriate equipment in place</li> </ul>
Performance Indicators	<ul style="list-style-type: none"> <li>• No observable or measurable deterioration in water quality as a result of the Eden Cruise Wharf Operations</li> <li>• No pollution spills or incidents</li> <li>• No detected injury/mortality to marine fauna as a result of deterioration in water and sediment quality</li> <li>• Compliance with POEO Act</li> </ul>
Management Actions	<ul style="list-style-type: none"> <li>• Vessels within the Port will adhere to speeds of 10 knots or less, except in circumstances where the Harbour Master (or their Delegate) or a Pilot considers that a higher speed is necessary to maintain safe navigation in the Port</li> <li>• In-water cleaning will only occur on anti-fouling coatings suitable for in-water cleaning (obtainable from coating manufacturer) and in compliance with Anti-fouling and In-water Cleaning Guidelines and subject to agreement with relevant authorities including Port Authority, DPI-Fisheries and NSW Department of Climate Change, Energy, the Environment and Water</li> <li>• In unlikely event that ballast water needs to be managed on site, it will be undertaken in accordance with the Australian Ballast Water Management Requirements (DAWE, 2020)</li> <li>• Appropriate waste facilities will be readily accessible for the Operation of the Facility for workers and passenger waste (litter)</li> <li>• Regular inspection and clearing of marine debris from waters, landside, adjacent to the cruise ship berth and along the foreshore should be undertaken by management and / or subcontractors</li> <li>• All staff associated with the Eden Cruise Wharf will be inducted on site operations and best practice for cleaning the wharf/land-based facilities</li> <li>• Any oils and hazardous chemicals will be stored in appropriately bunded and covered storage areas with containment in accordance with the relevant product Safety Data Sheets and applicable Australian Standards.</li> <li>• Emergency spill response equipment within Facility will be available and maintained</li> <li>• The Code of Practice Non-Cargo Oil Transfers in the Port of Eden (Issued by the Harbour Master, Eden, February 2023) will be implemented for the Eden Cruise Wharf operations, which includes, amongst other items, the following: <ul style="list-style-type: none"> <li>- The Code of Practice covers transfers where a flexible or portable hose is used to transfer fuel oils (such as marine diesel oil and heavy fuel oil), lubricating oils, hydraulic oils, waste oils, oil/water mixtures and oiled bilge water, tank or hold washings and grey water and sewage.</li> <li>- Vessels of 30m or more in length will require an Oil Transfer Permit by the Port of Eden prior to any transfers being conducted.</li> <li>- A port officer will attend operations requiring an Oil Transfer Permit to verify that permit conditions are being complied with</li> <li>- The owner of commercial vessels less than 30m in length and recreational vessels has a duty to act responsibly, take precautions to ensure that the</li> </ul> </li> </ul>

Element	Action
	<p>risk of accidental spillage from a fuel oil transfer operation is minimised, and comply with the Requirements of the Code of Practice. A Safety Checklist must be completed prior to commencing transfers.</p> <ul style="list-style-type: none"> <li>- Oil transfers are only permitted between the hours of sunrise and sunset. In exceptional circumstances the Harbour Master may grant approval for transfers to occur during the hours of darkness if the sea conditions permit, however written approval must have been sought prior.</li> <li>- Any oil spill occurring during transfer operations, no matter how minor, must be immediately reported to the Harbour Master or his/her representative.</li> <li>- Road Tanker operators must coordinate with the owner of ships and vessels prior to any oil transfer.</li> <li>- All non-cargo liquid transfer operations conducted within the Port of Eden are to be recorded and may be audited for compliance by the Harbour Master.</li> <li>- the Master of the vessel and the person in charge of the tanker truck or pipeline operation, must ensure that all staff involved are provided with a formal training program. All staff are trained in emergency responses.</li> </ul> <ul style="list-style-type: none"> <li>• Management of marine pests will be undertaken as per the National Biofouling Management Guidelines for Marinas Slipways, Boat Maintenance and Recreational Boating Facilities (2021) and Australian Biofouling Management Requirements (DAWE, 2022)</li> <li>• Discharge of contaminated bilge water or sewage into waterways is prohibited</li> <li>• The use of any surfactants, dispersants and detergents will be restricted to the minimum amount required to complete tasks, and these will not be allowed to enter the water</li> <li>• Low Environmental Health and Safety (EHS)-risk cleaning products will be preferentially selected (i.e. biodegradable detergents and dispersants)</li> <li>• In NSW State waters, Transport for NSW is responsible for ensuring that maritime incidents (including oil and chemical spills) are responded to quickly and effectively and at the Port of Eden, Port Authority is the lead response agency</li> <li>• Spills and leaks will be contained in accordance with Port of Eden Marine Oil and Chemical Spill Contingency Plan, the Code of Practice Non-Cargo Oil Transfers in the Port of Eden, and the technical guidelines section of Bunding and Spill Management of the Authorised Officers (EPA's website).</li> <li>• Spill response strategy and procedures developed by the Port Authority will be followed in the event of a spill, Port Authority will be contacted immediately:  <b>Harbour Master/Pilot, PANSW</b>  Port of Eden  Main Jetty, Eden  NSW 2551  T: +61 2 6496 1719  E: edenpilots@portauthoritynsw.com.au  W: <a href="https://www.portauthoritynsw.com.au/corporate/about-us/contact-us/">https://www.portauthoritynsw.com.au/corporate/about-us/contact-us/</a> </li> </ul>
Monitoring and Frequency	<ul style="list-style-type: none"> <li>• An Operational Water Quality Monitoring Program (Worley Consulting, 2024) has been prepared in consultation with DPIRD Fisheries, to monitor turbidity and will be implemented during:</li> </ul>

Element	Action
	<ul style="list-style-type: none"> <li>a) the first cruise season with more than 60 vessel visits;</li> <li>b) the first visit of a Quantum Class vessel (or equivalent); and</li> <li>c) the first visit of an Oasis Class vessel (equivalent).</li> </ul> <p>The Water quality monitoring program is discussed in Section 9</p> <ul style="list-style-type: none"> <li>• Water quality will be visually monitored on Cruise Ship Days for any visible signs of sediment or hydrocarbon contamination. If visual monitoring indicates potential contamination, then additional water and sediment quality monitoring may be implemented. If visual monitoring indicates potential contamination water and sediment quality monitoring may be implemented</li> <li>• If water quality monitoring is undertaken as a result of a visual inspection, the parameters for analysis will be selected based on the type of contamination observed, for example.: <ul style="list-style-type: none"> <li>– if significant turbidity is observed, then TDS and turbidity will be measured</li> <li>– if an oil chemical spill is observed, then hydrocarbons (TRH) and BTEX will be measured</li> <li>– if paint spill is observed, then volatile organic compounds such as toluene, xylene or formaldehyde and solvents will be measured</li> </ul> </li> <li>• The monitoring results will be assessed against ANZG (2018 or as updated) water quality guidelines for protection of aquatic ecosystems.</li> </ul>
Reporting	<ul style="list-style-type: none"> <li>• Compliance reporting will be undertaken in accordance with Section 10.2</li> <li>• Incidents reporting will be undertaken in accordance with Section 4.</li> <li>• Any sewage, fuel, oil sullage, or similar spill will be notified immediate to the NSW EPA, the NSW DPI Food Authority and other agencies as required as detailed in Section 4</li> </ul>
Corrective Actions and Responsibilities	<ul style="list-style-type: none"> <li>• If a release, spill or leak is identified the activity will cease, with containment by deploying spill kits or other methods to minimise potential impacts.</li> <li>• Containment will comply with the Port of Eden Marine Oil and Chemical Spill Contingency Plan, the Code or Practice Non-Cargo Oil Transfers in the Port of Eden, and with the technical guidelines section of Bunding and Spill Management of the Authorised Officers Manual (EPA's website).</li> <li>• If a non-conformance and/or non-adherence to this plan is identified, corrective actions will be identified and implemented based on the results of any investigations and the best possible outcome for operational activities, the environment and the local community.</li> </ul>
Relevant References/Standards	<ul style="list-style-type: none"> <li>• Code of Practice Non-Cargo Oil Transfers in the Port of Eden (Issued by the Harbour Master, Eden, February 2023)</li> <li>• Anti-fouling and In-water Cleaning Guidelines (DAFF, 2015, currently being updated)</li> <li>• Australian Ballast Water Management Requirements (DAWE, 2020)</li> <li>• Coastal Waters Marine Pollution Plan (NSW Government September 2022)</li> <li>• Port of Eden Marine Oil and Chemical Spill Contingency Plan</li> <li>• AS 3846-2005: The Handling and Transport of Dangerous Cargoes in Port Areas</li> <li>• Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018)</li> </ul>

## 9 Water Quality Monitoring

### 9.1 Operational Water Quality Monitoring Program

An Operational Water Quality Monitoring Program (Worley Consulting, 2024) has been prepared as a separate document in accordance with Conditions D19-D23 and in consultation with Department of Primary Industries and Regional Development (DPIRD) – Fisheries (formerly DPI Fisheries).

In accordance with Condition D20, the Operational Water Quality Monitoring Program will be implemented during the first:

- cruise season with more than 60 cruise ship visits; and
- visit of a Quantum Class (or equivalent) ship; and
- visit an Oasis class (or equivalent) ship.

For the first Oasis and Quantum Vessel events, water quality monitoring would be undertaken over three days including the day prior to berthing, day during berthing and day following berthing. There would be 12 monitoring sites included in this program, the location of these sites has been selected to encompass the extent of the predicted vessel generated sediment disturbance modelling domain and the sensitive receptors of aquaculture leases and seagrasses. Physiochemistry parameters (dissolved oxygen (DO), turbidity, temperature, conductivity/salinity and pH) would be measured using a hand held water quality meter throughout the water column, every hour for six hours per day, for the three days. Water samples would be collected for measurement of total suspended solids (TSS) twice per day at two water depths, for the three days. The intent of this program is to compare the actual operational performance against the predicted performance to validate MOD 3 water quality modelling studies and impact assessment on identified sensitive receptors.

For the first cruise season that has over 60 vessel visits, a longer-term continuous monitoring program would be implemented throughout a cruise season. Two water quality loggers would be deployed at the locations of the sensitive receptors of the aquaculture leases and the seagrasses to monitor pH, DO and turbidity. The length of the deployment would be for one month prior to the cruise season to one month following the cruise season (September – May). The intent of this program is to compare the actual operational performance against the predicted performance to validate MOD 3 water quality modelling studies and impact assessment on identified sensitive receptors capturing a longer-term dataset and all conditions, including periods of storms and stronger currents.

As discussed in Section 10.2, Operational Water Quality Compliance Reports documenting the findings of the water quality monitoring will be prepared within 3 months of monitoring completion. They will include, at a minimum, a summary of the results, identification of additional mitigation measures required, and timeframes for implementation of proposed measures.

For further details refer to the Operational Water Quality Monitoring Program (Worley Consulting, 2024).

### 9.2 Incident Monitoring

In addition, water quality will be visually monitored on Cruise Ship Days for any visible signs of sediment or hydrocarbon contamination. If visual monitoring indicates potential contamination, then additional water and sediment quality monitoring may be implemented as determined by the Senior Manager Environment. If water quality monitoring is undertaken as a result of a visual inspection, the parameters for analysis will be selected based on the type of contamination observed, which may involve:

- if significant turbidity is observed, then TDS and turbidity will be measured
- if an oil chemical spill is observed, then hydrocarbons (TRH) and BTEX will be measured
- if paint spill is observed, then volatile organic compounds such as toluene, xylene or formaldehyde and solvents will be measured

The monitoring results will be assessed against ANZG (2018 or as updated) water quality guidelines for protection of aquatic ecosystems.

Additional water quality monitoring may be undertaken by Port Authority in response to a reportable pollution incident or other event with potential to impact on water quality. Investigative monitoring in response to a reportable Pollution Incident will be undertaken in consultation with the relevant agency as per incident management procedures discussed in Section 4.

# 10 Inspections, Auditing and Reporting

Routine inspections, reporting and auditing will be undertaken throughout the duration of operation and implementation of the WQMP.

## 10.1 Inspections

Regular inspections of the Eden Cruise Wharf operations will be undertaken by Port Authority's on-site personnel involving a walk-over of the land-based areas of the Wharf (while ships are at berth). The Port Authority and Harbour Master's office is located next to the Eden Cruise Wharf and has views of the Port and the wharf. Personnel from Port Authority, based at the Port Authority's office next to the Eden Cruise Wharf will inspect the Facility when in operations.

These inspections will involve a visual surveillance of Eden Cruise Wharf operations for environmental incidents or potential non-compliances with the Infrastructure Approval. Amongst other items, the visual inspections will check for visible signs of water or sediment contamination and disturbance from the operating Eden Cruise Wharf. Further details of this inspections are provided in the overarching OEMP.

## 10.2 Operation Compliance Reporting

### 10.2.1 Project Compliance Reports

In accordance with the requirements of Conditions A21 and A23 of the Infrastructure Approval, Operation Compliance Reports will be prepared and submitted to the Secretary for information on an annual basis or within another timeframe agreed with the Secretary.

At a minimum, Operation Compliance Reports will include:

- A results summary and analysis of environmental monitoring
- A summary of the Complaints Register required under Condition A28 including the number of any complaints received, a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints
- Details of any review of, and minor amendments made to this OEMP
- A register of any consistency assessments undertaken and their status
- Results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit
- A summary of all Incidents notified in accordance with condition A33 and condition A34 of the approval including actions taken to address the cause or impact of an Incident.

Five Year Operational Compliance Summary Reports will be prepared every five years of commencement of Operation, unless otherwise agreed by the Planning Secretary, which will include:

- The name and size of visiting cruise ships and date of visits
- The number and nature of Complaints in relation to specific cruise ships
- Results of air quality monitoring and any noise monitoring undertaken to investigate repeated noise Complaints
- Identification of any issues that need to be addressed through revision of the OEMP and/or OEMP Sub-plans.
- Any other matter relating to compliance with the terms of the infrastructure Approval or as requested by the Planning Secretary.

### 10.2.2 Operational Water Monitoring Reports

Operational Water Monitoring Reports will be prepared in accordance with Condition D24 to document the findings of the operational water quality monitoring undertaken under Condition D19 and discussed in Section 9 of this WQMP. The Operational Water Monitoring Report(s) will be submitted within 3 months of the monitoring being completed to Council and DPHI upon request and will include:

- a summary of the results of the Operational Monitoring Program;
- identification of additional mitigation measures required (where results of monitoring are unsatisfactory or where environmental parameters are exceeded); and
- timeframes for the implementation of the proposed measures.

In accordance with Condition D25, if a Report identifies an exceedance of parameters that cannot be mitigated using the measures identified in this WQMP, Port Authority will write to the Planning Secretary within 30 days of the completion of the Report and identify how any non-compliant operations would be prevented from reoccurring. The Planning Secretary may require the Operational Monitoring Program(s) to be updated and re-submitted for approval.

### 10.3 Auditing

Compliance audits will be conducted annually by an independent, suitably qualified and experienced expert, or within another timeframe agreed with the Secretary. The Compliance Audits will be carried out in accordance with Conditions A24 to A27 of the Infrastructure Approval.

# 11 References

- Advisian (November 2016). Eden Breakwater Wharf Extension State Significant Infrastructure – Environmental Impact Statement.
- Advisian (February 2017). Eden Breakwater Wharf Extension State Significant Infrastructure – Response to Submissions Report.
- Advisian (September 2023). Environmental Assessment Report Eden Cruise Wharf – Modification 3 to SSI 7734
- Advisian (2024) Eden Cruise Wharf – Modification 3 to SSI 7734 Submissions Report.
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018) – Toxicant Default Guideline Values for 95% species protection. <http://www.waterquality.gov.au/anz-guidelines>.
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018) – IMCRA mesoscale bioregions Default Guideline Values for Physical and Chemical Stressors, Batemans Shelf. <http://www.waterquality.gov.au/anz-guidelines>.
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000) – Default Guideline Values for Physical and Chemical Stressors, East Coast Australia.
- DAFF (April 2015, currently being updated). Anti-fouling and In-water Cleaning Guidelines. Department of Agriculture and Water Resources.
- Department of Agriculture, Water and the Environment (DAWE) (2020). Australian Ballast Water Management Requirements.
- DAWE (2021). National Biofouling Management Guidelines for Marinas Slipways, Boat Maintenance and Recreational Boating Facilities.
- Jacobs (2023). Operational Sediment Plume Assessment. Document number: IW300600- 0001-CM-001. A report prepared for the Port Authority of New South Wales.
- NSW Department of Primary Industries and State Government of NSW (2023). NSW Macrophyte Mapping. Available from: <https://datasets.seed.nsw.gov.au/dataset/estuariesincluding-macrophyte-detail5ebff>.
- NSW Department of Primary Industries and State Government of NSW (2024). NSW Aquaculture Leases. Available from: <http://datasets.seed.nsw.gov.au>.
- Port Authority (July 2020). Eden Cruise Facility Modification 2 to SSI 7734 Extending Use of Cruise Facility to other Vessels
- Port Authority – Eden Harbour Masters (February 2023). Code of Practice Non-Cargo Oil Transfers in the Port of Eden (Issued by the Harbour Master, Eden, February 2023)
- Ports Australia (2008). Non Cargo Liquid Transfer Practices in Australian Ports

# Appendix A: Results of Consultation

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**From:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>  
**Sent:** Monday, August 12, 2024 5:47 PM  
**To:** Sam Isaacs <[SIsaacs@portauthoritynsw.com.au](mailto:SIsaacs@portauthoritynsw.com.au)>  
**Cc:** Christa Sams <[CSams@portauthoritynsw.com.au](mailto:CSams@portauthoritynsw.com.au)>  
**Subject:** RE: Eden MOD3: OEMP Water Quality Sub Plan - consultation request

Hi Sam,

DPI Fisheries has reviewed the attached EOMP Water Quality Sub-Plan and considers it to satisfy the requirements in the Conditions of Approval and the proposed mitigation measures at the RTS Stage.

DPIRD Fisheries has undertaken a restructure. As part of this restructure, the Aquatic Biosecurity team now sits under DPIRD Agriculture and Biosecurity. For comment on matters in the plan relating to Aquatic Biosecurity, please refer this plan to:  
[aquatic.biosecurity@dpi.nsw.gov.au](mailto:aquatic.biosecurity@dpi.nsw.gov.au)

Regards,

**Carla Ganassin**

Senior Fisheries Manager, Coastal Systems  
Marine Estate Management Branch, Fisheries and Forestry Division  
P 0447 644 357 E [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)  
[dpi.nsw.gov.au](http://dpi.nsw.gov.au)



**Department of Primary Industries  
and Regional Development**

## Francisca Alvarez

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**From:** Carla Ganassin <carla.ganassin@dpird.nsw.gov.au>  
**Sent:** Thursday, 16 October 2025 12:41 PM  
**To:** Francisca Alvarez  
**Cc:** Christa Sams; Sam Isaacs; Kate de Roover; Emma Wilkie  
**Subject:** RE: Eden Mod 3 Operational Water Quality Monitoring Program

Hi Francisca,

DPIRD Fisheries is supportive of these changes. Thank you for making them.

Regards,

### Carla Ganassin

Senior Fisheries Manager, Aquatic Ecosystems Assessments  
Aquatic Assessments, Regulation & Engagement Branch, Fisheries and  
Forestry Division  
P 0447 644 357 E [carla.ganassin@dpird.nsw.gov.au](mailto:carla.ganassin@dpird.nsw.gov.au)  
[dpird.nsw.gov.au](http://dpird.nsw.gov.au)



**Department of Primary Industries  
and Regional Development**

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**From:** Francisca Alvarez <falvarez@portauthoritynsw.com.au>  
**Sent:** Wednesday, 15 October 2025 2:19 PM  
**To:** Carla Ganassin <carla.ganassin@dpird.nsw.gov.au>  
**Cc:** Christa Sams <CSams@portauthoritynsw.com.au>; Sam Isaacs <SIsaacs@portauthoritynsw.com.au>; Kate de Roover <kate.deroover@dpird.nsw.gov.au>; Emma Wilkie <emma.wilkie@dpird.nsw.gov.au>  
**Subject:** RE: Eden Mod 3 Operational Water Quality Monitoring Program

Hi Carla,

We've discussed DPI Fisheries comments with Worley and have updated the *Operational Water Quality Monitoring Program (Rev 2)* with the new options 1C and 1D, in the vicinity of WQ1 (see updated Section 5.6, Figure 5.1 and Appendix C – consultation). As per condition D19, Port Authority is providing DPI Fisheries / DPIRD with the updated *Operational Water Quality Monitoring program (attached)* for consultation. Please let me know if you agree with the updates made to the Operational Water Quality Monitoring Program.

Please note, we have not made any changes to the [Water Quality Management Sub-Plan](#) (on our website), as it refers back to the WQ Monitoring Program; section 9 of the WQ Management Sub-Plan states 'Two water quality loggers would be deployed at the locations of the sensitive receptors of the aquaculture leases and the seagrasses to monitor pH, DO and turbidity'.

Following confirmation from DPI Fisheries of our new options 1C and 1D and acceptance of changes to Operational WQ Monitoring Program, we will update the Water Quality OEMP Sub-Plan (*Table 2 and Appendix A showing evidence of consultation with DPI Fisheries*).

Kind regards,

**Francisca Alvarez** | Environmental Planning Officer

My work days are Monday to Friday

**Port Authority of New South Wales**

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We acknowledge and pay our respect to the traditional custodians of the lands and waters of NSW and all Aboriginal Elders, past, present and emerging.

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**From:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>

**Sent:** Monday, 4 August 2025 11:50 AM

**To:** Francisca Alvarez <[falvarez@portauthoritynsw.com.au](mailto:falvarez@portauthoritynsw.com.au)>

**Cc:** Christa Sams <[CSams@portauthoritynsw.com.au](mailto:CSams@portauthoritynsw.com.au)>; Sam Isaacs <[SIsaacs@portauthoritynsw.com.au](mailto:SIsaacs@portauthoritynsw.com.au)>; Kate de Roover <[kate.deroover@dpi.nsw.gov.au](mailto:kate.deroover@dpi.nsw.gov.au)>; Emma Wilkie <[emma.wilkie@dpi.nsw.gov.au](mailto:emma.wilkie@dpi.nsw.gov.au)>

**Subject:** RE: Eden Mod 3 Operational Water Quality Monitoring Report

Hi Francisca,

Yes, you have interpreted our advice correctly.

Your approach below sounds good. Can you please notify DPIRD Fisheries of the advice received from your consultants Worley, and keep us informed of any changes to the seagrass water quality monitoring location.

Regards,

**Carla Ganassin**

Senior Fisheries Manager, Aquatic Ecosystems Assessments  
Aquatic Assessments, Regulation & Engagement Unit, Fisheries and  
Forestry Division

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**Department of Primary Industries  
and Regional Development**

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**From:** Francisca Alvarez <[falvarez@portauthoritynsw.com.au](mailto:falvarez@portauthoritynsw.com.au)>

**Sent:** Friday, 1 August 2025 11:32 AM

**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>

**Cc:** Christa Sams <[CSams@portauthoritynsw.com.au](mailto:CSams@portauthoritynsw.com.au)>; Sam Isaacs <[SIsaacs@portauthoritynsw.com.au](mailto:SIsaacs@portauthoritynsw.com.au)>; Kate de Roover <[kate.deroover@dpi.nsw.gov.au](mailto:kate.deroover@dpi.nsw.gov.au)>; Emma Wilkie <[emma.wilkie@dpi.nsw.gov.au](mailto:emma.wilkie@dpi.nsw.gov.au)>

**Subject:** Re: Eden Mod 3 Operational Water Quality Monitoring Report

Hi Carla,

Please see the **attached** figure from the Operational Water Quality Monitoring Program. I forgot to include this in my previous email (below). This figure makes it clearer where the proposed 2 continuous monitoring location options are - one for the aquaculture leases, and one for seagrass.



Kind regards,

Francisca

**Francisca Alvarez** | Environmental Planning Officer

My work days are Monday to Friday

**Port Authority of New South Wales**

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We acknowledge and pay our respect to the traditional custodians of the lands and waters of NSW and all Aboriginal Elders, past, present and emerging.

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**From:** Francisca Alvarez

**Sent:** Thursday, July 31, 2025 10:51:57 AM

**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>

**Cc:** Christa Sams <[CSams@portauthoritynsw.com.au](mailto:CSams@portauthoritynsw.com.au)>; Sam Isaacs <[Sisaacs@portauthoritynsw.com.au](mailto:Sisaacs@portauthoritynsw.com.au)>; Kate de Roover <[kate.deroover@dpi.nsw.gov.au](mailto:kate.deroover@dpi.nsw.gov.au)>; Emma Wilkie <[emma.wilkie@dpi.nsw.gov.au](mailto:emma.wilkie@dpi.nsw.gov.au)>

**Subject:** RE: Eden Mod 3 Operational Water Quality Monitoring Report

Hi Carla,

Thank you for your comments on the *Operational Water Quality Monitoring Report- Quantum Class Visit for the Eden Cruise What Modification 3 to SSI 7734* (Worley Consulting, 311015-00687\_RevO, 9 May 2025).

Condition **D21** states that '*The Operational Water Quality Monitoring Program must include:*

- a. *details of the type and frequency of monitoring to be undertaken for single vessel events (the first Quantum class or equivalent and first Oasis class or equivalent) and the first cruise season with more than 60 vessel visits;*
- b. *a review of the monitoring results that considers the performance of the SSI relative to the environmental parameters.'*

Section 5.6 of the Water Quality Monitoring Program specifies that 'Two continuous water quality monitoring loggers would be deployed at two locations in the vicinity of sensitive receptors including 1) aquaculture lease and 2) seagrasses.'

In response to your feedback, **Port Authority proposes to:**

- seek advice from our consultants Worley to determine whether:
  - a location at/near WQ1 for a continuous water quality monitoring station is appropriate, noting the Water Quality Monitoring Program included an assessment of different monitoring sites as part of the process of selecting final locations (see section 5.6 of the WQ Monitoring Program).
  - a continuous water quality monitoring station at/near WQ1 could replace one of the selected location options, i.e. there would be two continuous water quality monitoring loggers deployed at two locations, with WQ1 being selected to measure water quality parameters at seagrass sensitive receptors.
- (following confirmation by Worley) edit the *Operational Water Quality Monitoring Program* (prepared under condition **D21**) to add a requirement that once the 'first cruise season with more than 60 vessel visits' event has been triggered, Port Authority would continuously monitor water quality at location WQ1 as one of the locations.
- add the above additional mitigation measure / edit to the WQ Monitoring Program, to the Water Quality Monitoring Sub Plan – as per condition **D24**. Condition D24 requires that the recommendations identified in the Operational Monitoring Report '... must be implemented as part of the SSI in the timeframes outlined in the Operational Monitoring Report. Additional mitigation measures must be included in the relevant OEMP Sub-plan.'

### DPI Fisheries consultation

It is noted that section 5.12 of the Water Quality Monitoring Program specifies additional consultation closer to the execution of the program, including updated consultation with NSW DPIRD Fisheries on the final location of the loggers.

As per condition **D3**, the Water Quality Management Sub Plan would be subject to DPI Fisheries review, and any edits to this Sub-Plan would be made in consultation with DPI Fisheries. Condition D19 states that the Operational Water Quality Monitoring Program must be prepared in consultation with DPI Fisheries. Therefore any future edits to this program would also be made in consultation with DPI Fisheries.

Can you please clarify if I have understood your request correctly? Are you agreeable to our proposal above?

Thank you

Kind regards,

**Francisca Alvarez** | Environmental Planning Officer

My work days are Monday to Friday

### **Port Authority of New South Wales**

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We acknowledge and pay our respect to the traditional custodians of the lands and waters of NSW and all Aboriginal Elders, past, present and emerging.

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**From:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>

**Sent:** Wednesday, 2 July 2025 9:41 AM

**To:** Francisca Alvarez <[fvarez@portauthoritynsw.com.au](mailto:fvarez@portauthoritynsw.com.au)>

**Cc:** Christa Sams <[CSams@portauthoritynsw.com.au](mailto:CSams@portauthoritynsw.com.au)>; Sam Isaacs <[Sisaacs@portauthoritynsw.com.au](mailto:Sisaacs@portauthoritynsw.com.au)>; Kate de Roover <[kate.deroover@dpi.nsw.gov.au](mailto:kate.deroover@dpi.nsw.gov.au)>; Emma Wilkie <[emma.wilkie@dpi.nsw.gov.au](mailto:emma.wilkie@dpi.nsw.gov.au)>

**Subject:** FW: Eden Mod 3 Operational Water Quality Monitoring Report

Hi Francisca,

Thank you for referring these reports in accordance Condition of Approval D24 for the Eden Wharf Mod3 state significant project.

DPIRD Fisheries acknowledges receipt of the Operational Water Quality Monitoring Report- Quantum Class Visit for the Eden Cruise What Modification 3 to SSI 7734 (Worley Consulting, 311015-00687\_RevO, 9 May 2025) and has reviewed this report.

DPIRD Fisheries commends the comprehensive water quality monitoring undertaken in this report, and provides the following comments:

Key Fish Habitat/Sensitive Seagrass Receivers

DPIRD Fisheries expresses concern for the turbidity levels reported near sparse Posidonia seagrass at site WQ1. At this location 14 – 16mg/L TSS was recorded associated with the quantum vessel transit. These levels are above Aquatic Food Water Quality guideline of 10mg/L, and also above the Jacobs modelling which (contrary to the 0-5mg/L TSS stated in this water quality report) did not report any TSS values at the WQ1 site (i.e. <1mg/L).

The inclusion of the following operational measure as part of the Harbour Master’s Berthing Requirements is commended and supported by DPIRD Fisheries and will assist in managing turbidity impacts where practicable to do so:

‘Where practicable minimise the power and duration thrusters are used, especially in the berth box, to reduce sediment disturbance and the resultant impacts on water quality and sensitive ecological communities and habitats in Port of Eden’.

However, while the turbidity from Quantum and OASIS vessels would be infrequent pulse events, DPIRD Fisheries is concerned about the resilience of the seagrass at site WQ1 against additional potential turbidity from other cruise vessels at the wharf. Noting that the Eden Wharf Mod 3 application included approval for an unlimited number of cruise vessel visits to the port, the modelling undertaken for this Mod 3 application was inaccurate regarding turbidity impacts to site WQ1 from Quantum/OASIS size class vessels, and there is potential for turbidity in this area from smaller sized cruise vessels.

To better consider potential impacts on the seagrass at site WQ1 from all cruise vessel activities at the wharf, DPIRD Fisheries recommends that the peak season water quality monitoring required under Condition of Approval 21 for this Mod 3 approval includes specific monitoring of turbidity at this site.

#### Aquaculture Lease Sensitive Receiver

The reported TSS and other water quality levels are not expected to be significantly impacting any food safety or aquaculture concerns in the area.

The Aquaculture Unit within DPIRD Fisheries supports the above request for additional/increased monitoring during peak seasons.

If you wish to discuss the above response, please make contact.

Regards,

#### **Carla Ganassin**

Senior Fisheries Manager, Aquatic Ecosystems Assessments  
Aquatic Assessments, Regulation & Engagement Unit, Fisheries and  
Forestry Division

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**Department of Primary Industries  
and Regional Development**

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**From:** Kate de Roover <[kate.deroover@dpi.nsw.gov.au](mailto:kate.deroover@dpi.nsw.gov.au)>  
**Sent:** Thursday, 5 June 2025 11:52 AM  
**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>  
**Cc:** Emma Wilkie <[emma.wilkie@dpi.nsw.gov.au](mailto:emma.wilkie@dpi.nsw.gov.au)>  
**Subject:** Fw: Eden Mod 3 Operational Water Quality Monitoring Report

Morning Carla,

We have just received the Water Quality Monitoring Program results from the recent 24 May 2024 modification to the Eden Breakwater Wharf Extension (SSI-7734).  
<https://www.planningportal.nsw.gov.au/major-projects/projects/eden-breakwater-wharf-extension>  
This was required under D25 of their consolidated conditions.  
I just wanted to make sure someone from your team had also seen this.

Thank you, and have a lovely rest of your week.

**Kate de Roover** (*she/her*)

Policy Officer Aquaculture  
Aquaculture Management | Primary Industries  
**Department of Primary Industries  
and Regional Development**

**M** 0456 495 806 **E** [kate.deroover@dpi.nsw.gov.au](mailto:kate.deroover@dpi.nsw.gov.au)

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Port Stephens Fisheries Institute TAYLORS BEACH

**Working Hours:** Mon -Fri: 7:30am-3pm



**Department of Primary Industries  
and Regional Development**



We stand on Country that always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.

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**From:** Francisca Alvarez <[falvarez@portauthoritynsw.com.au](mailto:falvarez@portauthoritynsw.com.au)>

**Sent:** Wednesday, 4 June 2025 1:02 PM

**To:** Emma Wilkie <[emma.wilkie@dpi.nsw.gov.au](mailto:emma.wilkie@dpi.nsw.gov.au)>

**Cc:** DPIRD Fisheries Info <[fisheries.info@dpird.nsw.gov.au](mailto:fisheries.info@dpird.nsw.gov.au)>; Christa Sams <[CSams@portauthoritynsw.com.au](mailto:CSams@portauthoritynsw.com.au)>; Sam Isaacs <[SIsaacs@portauthoritynsw.com.au](mailto:SIsaacs@portauthoritynsw.com.au)>

**Subject:** Eden Mod 3 Operational Water Quality Monitoring Report

Hi Emma,

Please see **attached** the Eden (MOD 3 to SSI 7734) Operational Water Quality Monitoring Report – Quantum Class Visit. Note that Appendix E has been **attached** separately (not in the pdf report) due to the length of the file.

The Port Authority of New South Wales (Port Authority) is providing DPIRD with this report as per condition [D24 of the Eden Mod 3 conditions of approval](#).

Please also see **attached** the updated Harbour Master Instructions (HMI) for your information. The following additional measure has been incorporated into page 3 of the HMI for all future cruise vessel visits to the berth.

*Where practicable minimise the power and duration thrusters are used, especially in the berth box, to reduce sediment disturbance and the resultant impacts on water quality and sensitive ecological communities and habitats in Port of Eden.*

Kind regards,

**Francisca Alvarez** | Environmental Planning Officer

My work days are Monday to Friday

**Port Authority of New South Wales**

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We acknowledge and pay our respect to the traditional custodians of the lands and waters of NSW and all Aboriginal Elders, past, present and emerging.

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