



GIPPSLAND LAKES OCEAN ACCESS

Maintenance Dredging 2018:

Independent Audit of Environmental Management Plan

Final Audit Report

Gippsland Ports: March 2019



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**ENVIRONMENTAL ASSESSMENT & NATURAL RESOURCE MANAGEMENT
CONSULTANTS**

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ABBREVIATIONS

CMA	Coastal Management Act
CSD	Cutter Suction Dredge
DEPI	Department of Environment and Primary Industries (formerly DSE)
DELWP	Department of Environment Land Water and Planning (formerly DEPI)
DoEE	Department of Environment and Energy (formerly SEWPaC)
DMG	Dredged Material Ground
DSE	Department of Sustainability and Environment
EMP	Environmental Management Plan
EPBC	Environment Protection and Biodiversity Conservation Act 1999
GLOA	Gippsland Lakes Ocean Access
GP	Gippsland Ports
IMO	International Maritime Organisation
IMS	Invasive Marine Species
LESMP	Lakes Entrance Sand Management Program
MDP	Maintenance Dredging Program
PDS	Project Delivery Standards (also referred to as Audit Criteria)
SCD	Side Casting Dredge
SDP	Sea Dumping Permit
SEAMEC	South East Australia Maritime Education Centre
SEMP	Safety and Environment Management Plan
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities
SMS	Safety management System
STS	Sand Transfer System
TACC	Technical Advisory and Consultative Committee
TSHD	Trailing Suction Hopper Dredge

Ethos NRM Pty Ltd

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ETHOS NRM

ENVIRONMENTAL ASSESSMENT & NATURAL RESOURCE MANAGEMENT
 CONSULTANTS

EXECUTIVE SUMMARY

The Gippsland Lakes Ocean Access (GLOA) Program seeks to maintain a navigable entrance to the Port of Gippsland Lakes at Lakes Entrance. GLOA is managed by Gippsland Ports and involves maintenance dredging of the Entrance Bar and immediate inner channels.

During late 2017 and 2018, maintenance dredging was undertaken on a year-round basis at Lakes Entrance using a new trailing suction hopper dredge – the TSHD Tommy Norton, which is owned and operated by Gippsland Ports. TSHD Tommy Norton underwent commissioning at Lake Entrance in September 2017 and commenced operation on 23rd October, 2017. Previous GLOA maintenance dredging campaigns for the period 2011 to 2016 were undertaken by Van Oord dredging contractors using the TSHD Pelican. TSHD Pelican was also trialled during the Lakes Entrance Sand Management Program (LESMP) in 2008 to 2010.

GLOA maintenance dredging is subject to a variety of statutory approvals and conditions, which are reflected in an approved Environmental Management Plan (EMP) (Vers.4.2.3: Gippsland Ports, 2015) that directs all GLOA dredging operations.

This Independent Audit seeks to establish the extent to which the 2018 Gippsland Lakes Ocean Access Maintenance Dredging Program complies with the requirements of the approved Environmental Management Plan. The Independent Audit is not an assessment of the potential environmental impact of dredging activities on the health of the Gippsland Lakes. The Audit relates only to an assessment of compliance with the approved GLOA Dredging EMP.

All Project Delivery Standards (PDS) within the EMP have been assessed by the Auditor against agreed Compliance Grades (**Table 1**). A summary of the Audit Findings is presented below. Detailed audit findings are listed in **Appendix 1**. Administrative improvements are recommended in **Table 3**.

Based on the evidence made available by Gippsland Ports and an on-board inspection, the Auditor has found no non-conformances and all of the assessed criteria are *Fully Compliant*. A total of 46 Audit Criteria have been assessed, with the following results:

100% of Audit Criteria are Fully Compliant (46 out of 46)

No Audit Criteria are Compliant but Improvements Required

No Audit Criteria are a Minor Non-Compliance

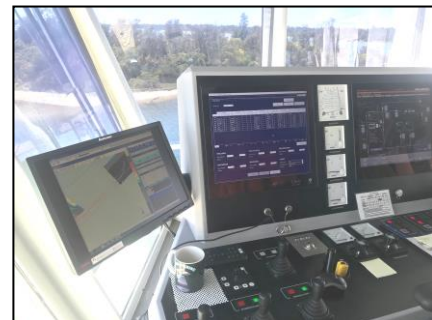
No Audit Criteria are a Major Non-Compliance

No Audit Criteria are a Critical Non-Compliance

No Audit Criteria are Undetermined

An additional two Audit Criteria are considered Not Applicable.

100% *Full Compliance* represents a significant achievement by Gippsland Ports in successfully transitioning operational procedures from the TSHD Pelican to the new TSHD Tommy Norton, and follows a *Full Compliance* rating in 2015 and 2016. It demonstrates that Gippsland Ports' dredge crew and management staff have effectively integrated experiences gained over the past decade into the GLOA dredging program, and that all operational and logistical aspects can be easily measured against the compliance requirements of the GLOA EMP.



Bridge on TSHD Tommy Norton

Summary of 2018 Audit Criteria Compliance Findings

Audit Criteria	Fully Compliant	Compliant but improvements required	Minor Non-Compliance	Major Non-Compliance	Critical Non-Compliance	Undetermined	Not Applicable
1. Hours of operation	x1						
2. Airborne noise	x1						x1
3. Waste management	x5						
4. Equipment maintenance	x1						
5. Fuels, oils, chemicals and hazardous goods	x2						
6. Emergency response preparedness	x2						
7. Marine pests	x3						
8. Vessel anchoring	x1						
9. Vessel bunkering	x1						
10. Cetaceans – vessel manoeuvring	x2						
11. Cetacean sightings and log	x3						
12. Heritage (marine based) – identification of potential relics	x1						
13. Dredging Turbidity Recording	x1 x3 x1						
14. Dredging schedule	x3						
15. Consideration of seasonal sensitivities	x1						
16. Dredged material placement	X6						
17. Disposal site dissipation monitoring	x1						x1
18. Notification and Reporting	x7						
TOTALS	46	0	0	0	0	0	2
% TOTALS	96	0	0	0	0	0	4
% TOTALS excl Not Applicable	100	0	0	0	0	0	

1 INTRODUCTION

Gippsland Ports undertakes maintenance dredging at Lakes Entrance, East Gippsland, Victoria as part of the Gippsland Lakes Ocean Access Maintenance Dredging Program (GLOA).

Ethos NRM Pty Ltd was engaged by Gippsland Ports to undertake an independent compliance audit of the approved Environmental Management Plan applicable to dredging operations for the period October 2017 to October 2018.

1.1 Gippsland Lakes Ocean Access

The Gippsland Lakes Ocean Access Program seeks to maintain a navigable entrance to the Port of Gippsland Lakes at Lakes Entrance. GLOA is being implemented by Gippsland Ports and comprises a number of distinct elements including:

- Dredging with a Trailing Suction Hopper Dredge (TSHD).
- Disposal of dredge material at Dredge Material Grounds (DMG).
- Dredging with a Cutter Suction Dredge (CSD).
- Sand Transfer System (STS) and dredge material disposal points associated with the CSD dredging.

During late 2017 and 2018, maintenance dredging was undertaken at Lakes Entrance on a year-round basis using a new trailing suction hopper dredge – the TSHD Tommy Norton, which is owned and operated by Gippsland Ports. TSHD Tommy Norton underwent commissioning at Lake Entrance in September 2017 and commenced operation on 23rd October, 2017. Previous GLOA maintenance dredging campaigns for the period 2011 to 2016 were undertaken by Van Oord dredging contractors using the TSHD Pelican. TSHD Pelican was also trialled during the Lakes Entrance Sand Management Program (LESMP) in 2008 to 2010.

1.2 GLOA Environmental Management Plan

GLOA maintenance dredging is subject to a variety of statutory approvals. Conditions contained within these approvals are reflected in the approved Environmental Management Plan (Vers.4.2.3: Gippsland Ports, November 2015).

Objectives of the Environmental Management Plan (EMP) are:

- To establish processes and controls that will be implemented to ensure that GLOA activities are delivered with no greater risk or effects than those identified in the Gippsland Ports Environmental Risk Assessment (Gippsland Ports, 2011).
- To communicate environmental management requirements to the dredging contractor, who will be required to meet the requirements of this EMP, which will be adopted as the contract Dredge Environment Management Plan (DEMP).
- To embed environmental management requirements in the GLOA activities of Gippsland Ports.

The EMP, which was updated (v4.2.3) for the 2015 maintenance dredging program, addresses all the environmental requirements of the various approvals and covers all aspects of GLOA, including dredging by TSHD Tommy Norton. Key environmental approvals are:

- Coastal Management Act Consent (Vic DEPI 16L9-5681), Sept 2011
- Environment Protection and Biodiversity Conservation Act decision and conditions (Commonwealth), Ref: 2011/5932, Sept 2011
- 10 year GLOA Sea Dumping Permit No SD2013/2442 (Commonwealth), updated Oct 2013
- GLOA Long-term Monitoring and Management Plan (Commonwealth approved), Sept 2013

Specific requirements of the various environmental approvals are translated into individual Project Delivery Standards (PDS) contained within the approved EMP.

Since 2011, updates to the GLOA EMP have included:

- improved alignment with other approvals,
- removal of duplication and ambiguity in a number of Project Delivery Standards (PDS),
- updated Gippsland Ports Environmental Policy,
- exclusion of North Arm and Hopetoun Channel from the TSHD dredging footprint,
- inclusion of 'sand traps' in the dredge wedge zone,
- improved numbering and deletion of not applicable Project Delivery Standards,
- updated incident Risk Event Report form, and
- inclusion of previous Audit Recommendations.

A history of these revisions is recorded in the current version (Vers.4.2.3) of the GLOA EMP.

Updates to the Commonwealth GLOA Sea Dumping Permit No SD2013/2442 include extension to a ten year lifespan, exclusion of North Arm and Hopetoun Channel, and requirements for preparation (and Commonwealth approval) of a GLOA Long-term Monitoring and Management Plan. Conditions of the Sea Dumping Permit No SD2013/2442 were recently audited by the Commonwealth DoEE.

An environmental risk assessment (Gippsland Ports, 2011) identifies the risks associated with implementing GLOA.

1.3 Auditor's Statement

This independent audit has been completed in accordance with a Project/Audit Brief (Gippsland Ports, 2012, 2018) and is generally consistent with the requirements of AS/NZS ISO19011:2014. The Auditor is suitably qualified, experienced and competent to undertake the audit.

Ethos NRM has previously completed a variety work for Gippsland Ports, including:

- Development of strategies and plans for Ports managed by Gippsland Ports
- Assessment of environmental values with port areas managed by Gippsland Ports
- Assistance in reviewing risks associated with Gippsland Ports' operations
- Assessment of boat refuelling and boat sewage pumpout options

Gippsland Ports and Ethos NRM has each assessed the potential for a conflict of interest in relation to undertaking this Audit. Each party independently concluded that the previous work by Ethos NRM in no way compromises the independence of Ethos NRM in undertaking the current audit, nor does the previous work constitute a Conflict of Interest.

It is noted that Ethos NRM completed the 2011, 2013, 2015 and 2016 independent audits, but did not undertake the 2012 and 2014 audits, which were completed by AECOM. An audit report was not prepared for the 2017 calendar year period.

2 INDEPENDENT AUDIT

2.1 Audit Scope and Objective

This Independent Audit seeks to establish the extent to which operational aspects of the 2018 Gippsland Lakes Ocean Access Maintenance Dredging Program, undertaken with the TSHD Tommy Norton during late 2017 and 2018, complies with the requirements of the approved Environmental Management Plan (Vers.4.2.3: Gippsland Ports, November 2015).

The Objectives of the Independent Audit, as specified in the Audit Brief (Gippsland Ports, 2012, 2018), is identical to previous year's audits:

1. To undertake an independent compliance audit of the approved GLOA Environmental Management Plan (EMP) including:
 - Independently assess the implementation of the EMP; and
 - Independently gather information verifying compliance with the EMP.
2. To advise Gippsland Ports of any non-conformances with the EMP.
3. Provide an audit report to Gippsland Ports, outlining compliance and potential improvements.

The **Audit Period** is the 12 months between October 2017 and October 2018, including other relevant matters in preparation of the dredging campaign.

Importantly, the Independent Audit is not an assessment of the potential environmental impact of dredging activities on the health of the Gippsland Lakes. The Audit relates only to an assessment of compliance with the approved GLOA Dredging EMP.

This Audit, as in previous years, excludes all dredging with a Cutter Suction Dredge (CSD), all dredge material disposal points associated with CSD dredging, and the Gippsland Ports Sand Transfer System (STS).

2.2 Audit Methodology and Standards

Requirements of AS/NZS ISO 19011:2014 Guidelines for Auditing Management Systems have been used to direct this audit. The updated AS/NZS ISO 19011:2014 includes guidelines for auditing of 'environmental management plans' by providing a clear systematic approach for undertaking audits and allows for a consistent approach across multiple or recurrent audits. Definitions used throughout this Audit Report are generally consistent with AS/NZS ISO 19011:2014. Project Delivery Standards (PDS) from the GLOA EMP are reflected as Audit Criteria for the purposes of assessing compliance with the EMP. The methodology for this 2018 audit is consistent with that used for the 2011, 2013, 2015 and 2016 Ethos NRM audits (Ethos NRM, 2012, 2014, 2016 & 2017) and similar to the 2012 and 2014 audits completed by AECOM (AECOM, 2013 & 2015).

An Audit Plan was developed in cooperation with Gippsland Ports to direct specific audit tasks and to ensure the audit objectives and methodology were clear. The audit methodology was identical to previous years and involved:

- Audit Commencement Meeting and confirmation of agreed Audit Plan
- Confirmation of the previously agreed suit of Audit Criteria, based on the Project Deliver Standards from the GLOA EMP
- On-board inspection of TSHD Tommy Norton
- Audit meetings
- Confirmation of compliance rankings
- Exchange of audit evidence
- Audit assessment
- Issuing of Draft Audit Findings
- Issuing of Final Audit Findings
- Audit Closure meeting

2.2.1 Inception / Commencement Meeting

An audit inception / commencement meeting was conducted on 23rd October, 2018 at which a draft Audit Plan was also discussed and finalised, and the Project Deliver Standards (PDS) / Audit Criteria were confirmed.

The audit inception / commencement meeting also confirmed that:

- New Gippsland Ports-owned TSHD Tommy Norton underwent commissioning at Lake Entrance in September 2017
- TSHD Tommy Norton commenced operation on 23rd October, 2017.
- Audit covers the 12 month period from late October 2017 to October 2018
- All dredging was undertaken by TSHD Tommy Norton
- EMP vers. 4.2.3 dated November 2015 remains current
- Audit evidence would be made available in electronic and hardcopy form.

Gippsland Ports at the audit inception / commencement meeting also brought to the attention of the Auditor two operational matters relating to:

- Hull doors on the TSHD Tommy Norton limiting the water depth in which dredged material can be dumped, resulting in shallower DMG cells not being utilised.
- Continued high number of dolphin sightings that impacted dredging activities.

In addition, it was noted that an unannounced audit was undertaken by the Commonwealth Department of Environment in 2017 and that a copy of Audit Report would be provided with Audit Evidence.

Gippsland Ports were unaware of, nor declared any non-conformities in relation to compliance with the GLOA EMP.

2.2.2 On-board Inspection

An on-board inspection of TSHD Tommy Norton was conducted dockside on 12th November, 2018. The on-board inspection, whilst not undertaken during an active dredging operation, afforded the Auditor with first-hand on-board observational evidence, the opportunity to take photographic records of key compliance aspects, and discuss aspects of the dredging operation with the Master and crew members.

2.2.3 Audit Meetings and Reporting

No formal additional audit meetings were held following the audit inception / commencement meeting, the on-board inspection of TSHD Tommy Norton, and the exchange of Audit Evidence. Although a number of telephone and e-mail exchanges subsequently occurred to ensure the Auditor had all the necessary information, discuss audit evidence and convey preliminary compliance rankings.

An Executive Summary of the Draft Audit Findings was issued in January 2019.

A Draft Audit Report was issued in February 2019.

The Final Audit Report was issued to Gippsland Ports on 26th March, 2019, prior to an Audit Closure Meeting by telephone and email on 26th March, 2019.

The Auditor acknowledges that the draft and final Audit Reports were issued later than requested by Gippsland Ports.

2.3 Compliance Rankings

Compliance rankings for this 2018 GLOA Maintenance Dredging audit are consistent with those used in all previous audits between 2011 and 2016 (Ethos NRM, 2012, 2014, 2016 & 2018; AECOM, 2013 & 2015), thereby allowing comparison over time. **Table 1** lists the compliance rankings.

Table 1: Compliance Ranking Definitions

Compliance Grade	Description
Fully Compliant	There is sufficient evidence to confirm that actions have been undertaken, prepared and/or implemented in full compliance with the requirements of the auditable element.
Compliant but with Improvements Required	There is evidence to confirm that actions have been implemented to achieve compliance with the auditable element, but improvements are required to achieve Full Compliance.
Minor Non-Compliance	The evidence shows that actions are not in full compliance with the requirements of the auditable element but it is unlikely that this will cause the environment to be seriously affected.
Major Non-Compliance	The evidence shows that actions are not in full compliance with the requirements of the auditable element and this gives risk to a high potential that the environment will be seriously affected if the non-compliance is not rectified.
Critical Non-Compliance	The evidence shows that actions are not in full compliance with the requirements of the auditable element and this gives rise to a serious or imminent risk to the environment.
Undetermined	There is insufficient evidence to make a judgement on compliance.
Not Applicable	The auditable element falls outside the scope of the audit, eg. work relevant to the PDS has not yet commenced.

3 AUDIT FINDINGS

3.1 Audit Criteria

Tables 5 to 10 in Annexure 3 of the GLOA EMP (Gippsland Ports, 2015) specify the Project Delivery Standards (PDS) that form the basis of the Audit Criteria for this audit, which are grouped as follows:

- Operational management
- Marine-based works
- Dredging and plume
- Dredging schedule
- Dredged material management
- Dredging Summary

Additional Audit Criteria have been incorporated to address requirements of Table 4 of the GLOA EMP:

- Notification and Reporting

3.2 Audit Findings

A detailed assessment of compliance against all Audit Criteria, as identified by the Project Delivery Standards in the GLOA EMP (Gippsland Ports, 2015), is documented in **Appendix 1: Detailed Audit Findings**.

Audit findings are summarised in **Table 2**.

Comparison against findings from previous GLOA Maintenance Dredging audits is discussed in **Section 4**.

A total of 46 Audit criteria have been assessed by the Auditor, with the following results:

100% of Audit Criteria are Fully Compliant (46 out of 46)

No Audit Criteria are Compliant but Improvements Required

No Audit Criteria are a Minor Non-Compliance

No Audit Criteria are a Major Non-Compliance

No Audit Criteria are a Critical Non-Compliance

No Audit Criteria are Undetermined

An additional two Audit Criteria are considered Not Applicable.

All of the assessed criteria are *Fully Compliant*. There are no *Minor*, *Major* or *Critical Non-Compliances*, nor any operational *Improvements Required*.

Note that the above results exclude two Audit Criteria that are rated *Not Applicable*. If the *Not Applicable* results are included, the outcome is as shown on the second last row of Table 2.

Table 2: Summary of 2016 Audit Criteria Compliance Findings

Audit Criteria	Fully Compliant	Compliant but improvements required	Minor Non-Compliance	Major Non-Compliance	Critical Non-Compliance	Undetermined	Not Applicable
1. Hours of operation	x1						
2. Airborne noise	x1						x1
3. Waste management	x5						
4. Equipment maintenance	x1						
5. Fuels, oils, chemicals and hazardous goods	x2						
6. Emergency response preparedness	x2						
7. Marine pests	x3						
8. Vessel anchoring	x1						
9. Vessel bunkering	x1						
10. Cetaceans – vessel manoeuvring	x2						
11. Cetacean sightings and log	x3						
12. Heritage (marine based) – identification of potential relics	x1						
13. Dredging Turbidity Recording	x1 x3 x1						
14. Dredging schedule	x3						
15. Consideration of seasonal sensitivities	x1						
16. Dredged material placement	X6						
17. Disposal site dissipation monitoring	x1						x1
18. Notification and Reporting	x7						
# TOTALS	46	0	0	0	0	0	2
% TOTALS	96	0	0	0	0	0	4
% TOTALS excl Not Applicable	100	0	0	0	0	0	

3.3 Positive Outcomes

This audit for the twelve month period 23rd October 2017 to October 2018 has determined that all of the assessed GLOA EMP criteria are *Fully Compliant*.

There are no *Minor, Major or Critical Non-Compliances*.

Total Compliance against all auditable criteria in the GLOA EMP represents an excellent outcome, and is consistent with the 2015 and 2016 results for which there were also no non-compliances.

Total Compliance is particularly notable given that this audit period is the first during which the new TSHD Tommy Norton commenced operation. It therefore highlights that:

- Gippsland Ports has successfully transitioned operational procedures from the TSHD Pelican to the new TSHD Tommy Norton.
- Gippsland Ports' dredge crew and management staff have effectively integrated experiences gained over the past decade into the GLOA dredging program.
- all operational and logistical aspects relating to TSHD Tommy Norton dredging operations can easily be measured against the compliance requirements of the GLOA EMP.
- There is continued very high appreciation by Gippsland Ports of the need to comply with requirements in the GLOA EMP.
- No environmental incidents occurred during the 2018 GLOA Maintenance Dredging Program.
- No 'over-dredging' or 'dredging outside zones' occurred, and all dumping was within the designated Dredge Management Grounds.
- There is continued excellent record keeping by Gippsland Ports.
- No complaints were received from the general public.
- All evidence is methodically collated by Gippsland Ports to assist the Auditor.

3.4 Non-compliances and Areas for Improvement

No *Minor, Major or Critical Non-Compliances* were identified during the 2018 GLOA EMP Compliance Audit. Similarly, no operational *Areas for Improvements* were identified.

Administrative improvements are summarised in **Table 3**.

Table 3: Summary of Recommended Improvements

Recommendations for Administrative Improvements
<ol style="list-style-type: none"> 1. 10b. As in previous years, continue to investigate options for establishing different distance and time response criteria for dolphin sightings as opposed to whale sightings. 2. 17b. Audit Criteria 17b is not relevant and should be removed from the EMP

As recommended in previous GLOA compliance audits, Gippsland Ports should seek (from DELWP and DoEE) a distinction in the EMP for the response to dolphins sightings compared to whales sightings.

Audit Criteria 17b relates to the Sand Transfer System and beach-based discharges, and hence is not relevant to this EMP Audit. As recommended in previous audits, Gippsland Ports should seek removal of this criteria from the GLOA EMP.

4 PAST AUDITS

4.1 Comparison to Past Audit findings

Compliance with the GLOA Environmental Management Plan has now been audited for the period 2011 to 2018, excluding the majority of 2017 when no maintenance dredging occurred.

Results from previous and current audits are tabulated in **Table 4** and illustrated in **Figure 1**.

From 2011 to 2014, there was a trend of continued improvement in the percentage of *Fully Compliant* findings, whilst *Minor Non-Conformances* remained low.

In 2015 there was an improvement in *Fully Compliant* to 100% and a reduction in *Minor Non-Conformances* (to zero) and a reduction in *Compliant but with Improvements Required* to zero. The 100% *Fully Compliant* audit status was maintained in 2016.

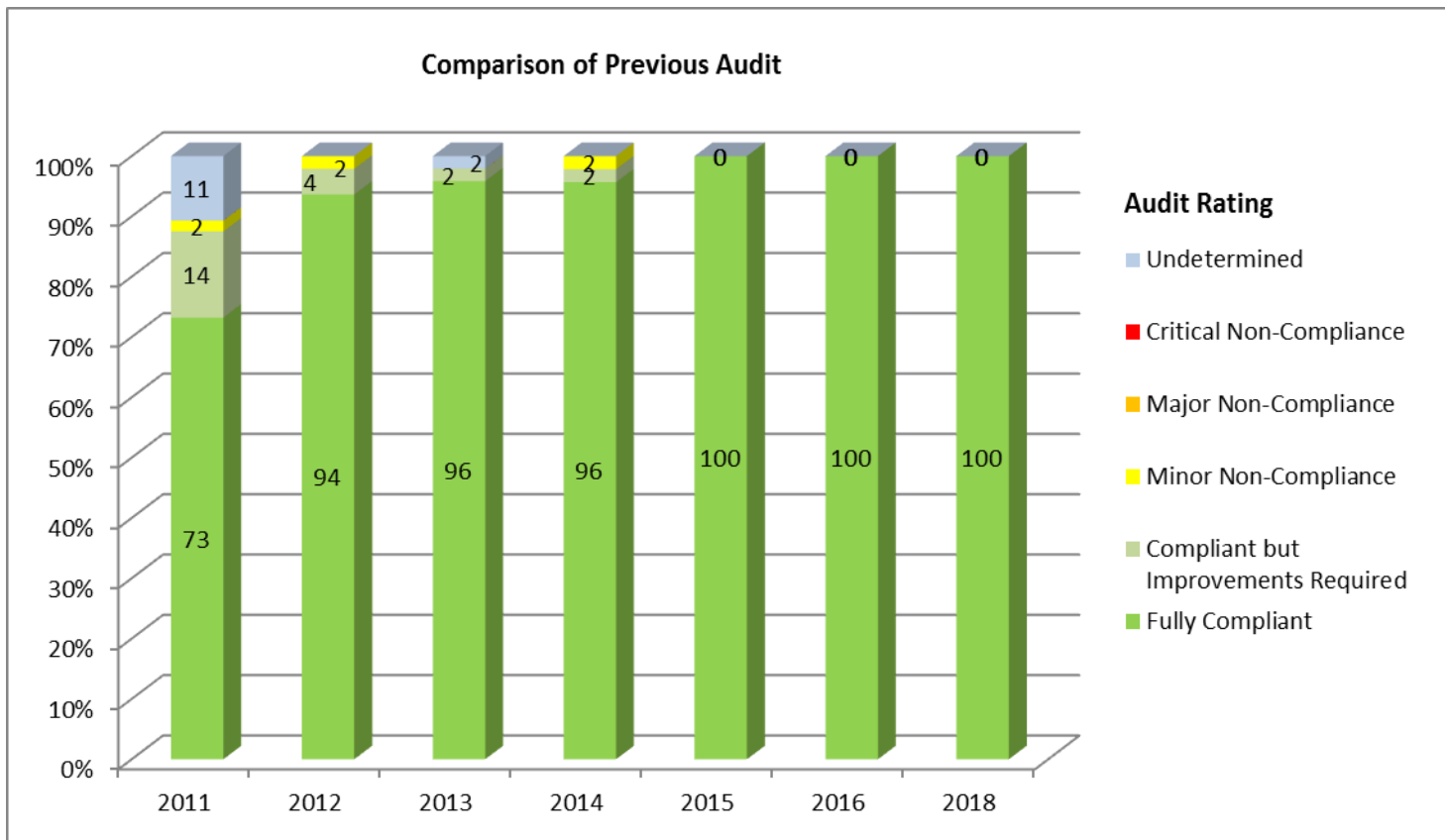
In late 2017 Gippsland Ports' TSHD Tommy Norton commenced operation (after retirement of TSHD Pelican) and has achieved 100% *Fully Compliant* audit status for the period October 2017 to October 2018 (this audit).

Table 4: Summary of previous Audit Findings (excluding Not Applicable)

Audit Criteria (Excluding Not Applicable)	Fully Compliant	Compliant but improvements required	Minor Non-Compliance	Major Non-Compliance	Critical Non-Compliance	Undetermined
2011 % TOTALS	73	14	2	0	0	11
2012 % TOTALS	94	4	2	0	0	0
2013 % TOTALS	96	2	0	0	0	2
2014 % TOTALS	96	2	2	0	0	0
2015 % TOTALS	100	0	0	0	0	4
2016 % TOTALS	100	0	0	0	0	0
2018 % TOTALS	100	0	0	0	0	0

(Note: 2012 results are based on 36x 'project' criteria and 8x 'environment plan' criteria from the AECOM 2013 Audit report
 2018 Audit is for period October 2017 to October 2018)

Figure 1: Comparison of previous Audit Findings (Excluding Not Applicable)



4.2 Previous Recommendations

Gippsland Ports maintains a register of recommended improvements identified in GLOA EMP Compliance Audits.

Recommendations from previous GLOA compliance audit reports have been addressed in subsequent years, including improved data capture and record keeping, procedural changes, improved work practices, and administrative changes to the EMP.

Recommendations from the 2016 Audit (Ethos NRM, 2017) related to administrative improvements to amend distance and time response criteria for dolphin sightings as opposed to whale sightings, and removal of inappropriate Audit Criteria 17b. These remain unaddressed and are repeated for 2018 in **Table 3**.

5 CONCLUSION

Maintenance dredging associated with the Gippsland Lakes Ocean Access Program (GLOA) was undertaken on a year-round basis at Lakes Entrance during late 2017 and 2018 using the TSHD Tommy Norton, which is owned and operated by Gippsland Ports.

GLOA maintenance dredging is subject to a variety of statutory approvals and conditions, which are reflected in an approved Environmental Management Plan (EMP) (Vers.4.2.3: Gippsland Ports, 2015) that directs all GLOA dredging operations.

This Independent Audit has assessed forty six (x46) individual Audit Criteria to determine compliance of dredging activities with the requirements of the GLOA Environmental Management Plan. The audit replicates similar audits undertaken for maintenance dredging campaigns between 2011 and 2016. An audit was not undertaken in 2017.

The 2018 GLOA Compliance Audit, for the twelve month period 23rd October 2017 to October 2018, is the first audit to assess dredging operations using the new Gippsland Ports owned TSHD Tommy Norton. Previous maintenance dredging campaigns were undertaken by Van Oord dredging contractors using the TSHD Pelican.

Based on an on-board inspection and the evidence made available by Gippsland Ports, the Auditor has found no non-conformances and all of the assessed criteria are *Fully Compliant*.

A total of 46 Audit Criteria have been assessed, with the following results:

100% of Audit Criteria are Fully Compliant (46 out of 46)

No Audit Criteria are Compliant but Improvements Required

No Audit Criteria are a Minor Non-Compliance

No Audit Criteria are a Major Non-Compliance

No Audit Criteria are a Critical Non-Compliance

No Audit Criteria are Undetermined

An additional two Audit Criteria are considered Not Applicable.

The 2018 GLOA maintenance dredging program achieved 100% compliance against the approved EMP.

Previous audits demonstrated a steady improvement from 73% Fully Compliant in 2011 to 100% *Fully Compliant* in 2015. A *Fully Compliant* audit has been achieved for all subsequent audits.

100% *Full Compliance* for the 2018 GLOA maintenance dredging program represents a significant achievement by Gippsland Ports in successfully transitioning operational procedures from the TSHD Pelican to the new TSHD Tommy Norton. It demonstrates that Gippsland Ports' dredge crew and management staff have effectively integrated experiences gained over the past decade into the GLOA dredging program, and that all operational and logistical aspects can easily be measured against the compliance requirements of the GLOA EMP.

Across the organisation there continues to be a very high appreciation of the need to comply with requirements in the GLOA EMP.

Importantly, maintenance dredging operations undertaken by Gippsland Ports using the new TSHD Tommy Norton has also been extremely successful in maintaining year-round navigability to the Port of Gippsland Lakes at Lakes Entrance.

It is acknowledged that all relevant information and evidence was made readily available to the Auditor during the course of this audit.



ERIC SJERP
Principal Consultant

26 March, 2019

Date

6 REFERENCES

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7 APPENDIX 1: Detailed Audit Findings

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
OPERATIONAL MANAGEMENT Objective: <ul style="list-style-type: none"> To plan and implement operational aspects of GLOA. To ensure materials are appropriately stored, handled and disposed of. Application: <ul style="list-style-type: none"> Throughout all GLOA operational activities and areas Target: <ul style="list-style-type: none"> Conformance with all environmental limits and controls. 			
1. Hours of operation	Evidence	Audit Findings and Comments	Compliance
a. All activities may be conducted on a 24 hour, 7 days a week basis, except where explicitly restricted within this EMP, or by legislation.	TSHD Tommy Norton: <ul style="list-style-type: none"> Daily Reports Track Logs, Electronic and hard copies provided to Auditor by GP	Copies of Daily Reports and Track Logs from the TSHD Tommy Norton document all hours of operation. Operations occurred on a 76 hour, 9 day fortnight basis except where constrained by operational issues (maintenance), weather, or restrictions imposed by the EMP and approvals/legislation. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
2. Airborne noise	Evidence	Audit Findings and Comments	Compliance
a. Airborne noise monitoring will be conducted if and when stakeholder feedback and/or complaints received indicate equipment used in facilitating	Audit meetings with Gippsland Ports staff Auditor inspection of Gippsland Ports Daily Reports	Gippsland Ports did not advise of any complaints during or immediately after the 2017-18 maintenance dredging operations. Inspection of the Gippsland Ports Daily Reports and recorded issues documented no complaints and confirm that no noise-related issues arose. The Auditor concludes the available evidence adequately demonstrates Full	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
GLOA is resulting in non-compliance.		Compliance with the Audit Criteria.	
b. Noise monitoring will be conducted in accordance with the procedure outlined in Annexure 4 which references 'Noise from Industry in Regional Victoria' (EPA Pub. No.1411 and 'Control of Noise from Commerce, Industry and Trade' (SEPP N-1).	Auditor inspection of Gippsland Ports Daily Reports and recorded issues Gippsland Ports specified that operation of the new THSD Tommy Norton be as quiet as possible. Noise and vibration testing to ensure compliance was completed in China as part of pre-delivery sea trials.	No complaints received or recorded in relation to noise (refer Audit Criteria 2a above). Hence noise monitoring specified in Audit Criteria 2a was not triggered. The Auditor concludes the Audit Criteria are, in this instance, not applicable.	Not Applicable
3. Waste management	Evidence	Audit Findings and Comments	Compliance
a. All marine vessels to have sewage containment facilities.	Auditor's visual observations on-board TSHD Tommy Norton and at wharf facility. Auditor's photographic record	Master of TSHD Tommy Norton confirmed to Auditor that vessel had on-board sewage containment facilities. Auditor observed pump out port for on-board sewage containment tank. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
b. No disposal of untreated sewage or other waste to waterway.	EPA Waste Transport Certificates Audit meetings with Gippsland Ports staff	Oily bilge and sewage waste from TSHD Tommy Norton is disposed to purpose made facility on wharf at Gippsland Ports Depot. . The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
c. Contractor waste management arrangements to include waste minimization, containment, segregation and appropriate	Auditor's visual observations on-board TSHD Tommy Norton Auditor's photographic record	Auditor observed individual on-board waste containers for separation of different waste types, including general domestic waste, solid waste, oil/grease waste and recyclables. Containers were colour coded and/or labelled accordingly. Waste Management Plan (WMP) TSHD Tommy Norton stipulates waste	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
reuse, recycling, treatment and disposal.	TSHD Tommy Norton Waste Management Plan	management procedures. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	
d. The handling and disposal of unexpected materials identified during dredging (eg. Inert debris such as steel sections and timber) to be included in waste management arrangements.	TSHD Tommy Norton Daily Reports Audit meetings with Gippsland Ports staff	Interception by dredge head of unexpected materials is recorded on TSHD Tommy Norton Daily Reports. Assessment by Auditor confirmed advice by Gippsland Ports that no unexpected materials were encountered. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
e. All waste to be managed in accordance with: ➤ <i>Environment Protection Act 1970 (Vic)</i> ➤ <i>Quarantine Act 1908 (Commonwealth)</i> for applicable vessels) ➤ <i>Pollution of Waters by Oil and Noxious Substances Act 1986 (Vic)</i>	TSHD Tommy Norton Waste Management Plan TSHD Tommy Norton Delivery and Pre-arrival documentation and certification, including Ballast Water and Asbestos TSHD Tommy Norton Ballast Water Management Plan TSHD Tommy Norton Asbestos Free Certificate EPA Waste Transport Certificates	TSHD Tommy Norton Delivery and Pre-arrival documentation and certification, including Ballast Water and Asbestos record all necessary approvals. TSHD Tommy Norton Ballast Water Management Plan TSHD Tommy Norton was built 'asbestos free', and has been audited and certified as such with an Asbestos Free Certificate. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
4. Equipment maintenance	Evidence	Audit Findings and Comments	Compliance
a. Maintenance programs will be implemented for all plant	TSHD Tommy Norton Maintenance Logs - noted on-	Gippsland Ports advised the Auditor that there are no Licenced Plant on-board TSHD Tommy Norton during dredging operations.	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
and equipment as defined in GP's procedures and the <i>Occupational Health and Safety Regulations 2007 (Vic)</i> .	board, 12th November, 2018 TSHD Tommy Norton SMS TSHD Tommy Norton Day Reports Auditor's visual observations on-board TSHD Tommy Norton	Assessment of all available evidence, including whilst on-board, indicates that regular maintenance was conducted and in accordance with the TSHD Tommy Norton Safety Management System (SMS). All activities recorded in TSHD Tommy Norton Day Reports. No oil spill or environmental impact. No incident occurred or required reporting. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	
5. Fuels, oils, chemicals and hazardous goods	Evidence	Audit Findings and Comments	Compliance
a. Storage and handling of chemicals in accordance with: ➤ <i>Dangerous Goods Act 1985 (Vic)</i> ➤ <i>International Ship Management (ISM) Code</i> for applicable vessels ➤ <i>Pollution of Waters by Oil and Noxious Substances Act 1986 (Vic)</i>	TSHD Tommy Norton SMS TSHD Tommy Norton Shipboard Oil Pollution Emergency Plan – noted on-board, 12th November, 2018 TSHD Tommy Norton Hazardous Substances Register Auditor's visual observations on-board TSHD Tommy Norton Auditor's photographic record	Storage of fuels, oils, chemicals and other hazardous chemicals is addressed in the TSHD Tommy Norton Safety Management System (SMS). The Hazardous Substances Register maintained on-board was sighted by the Auditor. Clearly marked containers, placed within banded enclosures were observed by Auditor whilst on-board. Spill kits were observed both on-board the TSHD Tommy Norton and at the Lakes Entrance Bullock Island Wharf. Refer to Audit Criteria 3e above regarding Pollution of Waters by Oil and Noxious Substances, disposal of untreated sewage or other waste to waterways The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
b. Asbestos audits indicate that no asbestos is present in any GLOA infrastructure, however, should asbestos be	TSHD Tommy Norton Asbestos Free certificate TSHD Tommy Norton Hazardous Substances	TSHD Tommy Norton was constructed and delivered free of asbestos. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
found, it will be managed in accordance with the Occupational Health and Safety Regulations 2007 (Vic)	Register Auditor's visual observations on-board TSHD Tommy Norton		
6. Emergency response preparedness	Evidence	Audit Findings and Comments	Compliance
a. Development and testing of emergency response procedures, integrated with the GP EMP, including provision for fuel, oil and chemical spills.	TSHD Tommy Norton SMS TSHD Tommy Norton Shipboard Oil Pollution Emergency Plan TSHD Tommy Norton Emergency Response Plan Gippsland Ports Crew Induction and Training Register TSHD Tommy Norton Daily Records	Emergency Preparedness and Response requirements/procedures are adequately incorporated into a variety of documents. GP staff and TSHD Tommy Norton crew completed Site Induction, including EMP, SMS and emergency response procedures. Emergency drill procedures are well documented. Emergency drills are recorded and were observed on-board. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
b. All dredging vessels to have oil spill response kits on board. Relevant personnel to be trained in its use.	TSHD Tommy Norton SMS Auditor's visual observations on-board TSHD Tommy Norton Auditor's photographic record	TSHD Tommy Norton Shipboard Oil Pollution Emergency Plan incorporates requirements for oil spill response. The Auditor observed oil & fuel spill response kits on-board the TSHD Tommy Norton. Oil spill response training is addressed under Audit Criteria 6a. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
MARINE-BASED WORKS			

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
<p>Objective:</p> <ul style="list-style-type: none"> To appropriately manage marine-based works. To minimise disturbance to and appropriately manage non-Aboriginal heritage. To minimise impacts on cetaceans due to vessel manoeuvring. <p>Application:</p> <ul style="list-style-type: none"> All marine-based GLOA activities. <p>Target:</p> <ul style="list-style-type: none"> Conformance with all environmental limits and controls. 			
7. Marine pests	Evidence	Audit Findings and Comments	Compliance
<p>a. Marine pest inspection and certification of contract dredge and support vessel is required before Mobilization to Gippsland Lakes, where these are sourced from outside Gippsland Lakes. Certification must be received from the final port of call, before entry to the Gippsland Lakes</p>	<p>TSHD Tommy Norton Delivery and Pre-arrival documentation and certification, including Ballast Water and Asbestos</p>	<p>Refer also to Audit Criteria 3e regarding marine pest inspections and cleaning, EPA ballast water advice, and quarantine and biosecurity releases.</p> <p>Gippsland Ports TSHD Tommy Norton Delivery and Pre-arrival documentation and certification records all necessary documentation and approvals</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	<p>Fully Compliant</p>
<p>b. All vessels to comply with <i>Protocol for Environmental Management – Domestic Ballast Water Management in Victorian State Waters</i>, EPA Publication 949.3 (July 2010)</p>	<p>TSHD Tommy Norton Delivery and Pre-arrival documentation and certification, including Ballast Water and Asbestos</p>	<p>Refer also to Audit Criteria 3e regarding marine pest inspections and cleaning, EPA ballast water advice, and quarantine and biosecurity releases.</p> <p>Gippsland Ports TSHD Tommy Norton Delivery and Pre-arrival documentation and certification records all necessary documentation and approvals</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	<p>Fully Compliant</p>
<p>c. All vessels to comply with</p>	<p>TSHD Tommy Norton</p>	<p>Refer also to Audit Criteria 3e regarding marine pest inspections and cleaning,</p>	<p>Fully</p>

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
<i>Australian Ballast Water Management Requirements, DAFF (November 2011).</i>	Delivery and Pre-arrival documentation and certification, including Ballast Water and Asbestos	EPA ballast water advice, and quarantine and biosecurity releases. Gippsland Ports TSHD Tommy Norton Delivery and Pre-arrival documentation and certification records all necessary documentation and approvals. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Compliant
8. Vessel anchoring	Evidence	Audit Findings and Comments	Compliance
a. Vessels to anchor in accordance with TSHD Contract or Harbour Master's instructions.	TSHD Tommy Norton Dredging Programs for 2017 and 2018 - Pre-arrival checklist TSHD Tommy Norton Delivery and Pre-arrival documentation and certification	Gippsland Ports permitted vessel to enter port in September 2017 upon confirmation that all pre-arrival requirements were fulfilled.	Fully Compliant
9. Vessel bunkering	Evidence	Audit Findings and Comments	Compliance
a. All bunkering to take place in accordance with Gippsland Ports' issued Fuelling Permit	TSHD Tommy Norton Bunkering JSA and Standing Instructions - noted on-board, 12th November, 2018 TSHD Tommy Norton Day Records Auditor's visual observations on-board TSHD Tommy Norton	Bunkering events are recorded in TSHD Tommy Norton Day Records Evans Petroleum, bulk fuel supplier, is registered on the AMSA Register of Local Fuel and Oil Suppliers. The Auditor is satisfied that TSHD Tommy Norton bunkering was undertaken in accordance with GP-issued instructions. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
10. Cetaceans – vessel activities	Evidence	Audit Findings and Comments	Compliance

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
a. Before beginning dredging and dumping activities, check using binoculars, from a high observation platform on the vessel, for cetaceans within the monitoring zone.	<p>TSHD Tommy Norton Day Reports for dredging each day from 23rd October 2017 to 22nd October 2018</p> <p>TSHD Tommy Norton Ocean Mammal Sighting Records - noted on-board, 12th November, 2018</p> <p>Auditor's visual observations on-board TSHD Tommy Norton</p>	<p>Auditor observed Binoculars on ship's bridge.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	Fully Compliant
b. Dredging can only commence if no cetaceans have been observed within 300m of the vessel. If any cetaceans are sighted in the monitoring zone, dredging/dumping activities must not commence in the monitoring zone until 20 minutes after the last cetacean is observed to leave the monitoring zone or the vessel is to move to another area of the dredge/disposal site to maintain a minimum distance of 300 metres between the vessel and any cetacean identified above.	<p>TSHD Tommy Norton Day Reports - 23rd October 2017 to 22nd October 2018</p> <p>TSHD Tommy Norton Ocean Mammal Sighting Records - noted on-board, 12th November, 2018</p> <p>Auditor's visual observations on-board TSHD Tommy Norton</p>	<p>Observations of cetaceans and action(s) taken were recorded in TSHD Tommy Norton Day Report.</p> <p>Assessment by Auditor confirmed accurate recording of cetacean observations (both dolphin and whales), and confirmed documented delay in dredging operations or relocation of dredging/dumping operations.</p> <p>Auditor has personally and in previous audits visually noted dolphins in the Entrance and on the Bar, unperturbed by proximity of boats.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p> <p>Observation:</p> <p>As recommended in all previous Audits by Ethos NRM, continue to investigate options for establishing different distance and time response criteria for dolphin sightings as opposed to whale sightings.</p>	Fully Compliant
11. Cetacean sightings and	Evidence	Audit Findings and Comments	Compliance

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
log			
a. Personnel on board vessels are to report all sightings of cetaceans.	TSHD Tommy Norton Day Reports - 23rd October 2017 to 22nd October 2018 TSHD Tommy Norton Ocean Mammal Sighting Records - noted on-board, 12th November, 2018	Refer Audit Criteria 10b. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
b. A log of cetacean sightings and action taken to be kept for all vessels and operational work areas, and recorded on dredge daily log sheets.	TSHD Tommy Norton Day Reports - 23rd October 2017 to 22nd October 2018 TSHD Tommy Norton Ocean Mammal Sighting Records - noted on-board, 12th November, 2018	Refer Audit Criteria 10b. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
c. This information to be summarised in annual GLOA performance report	2016 and 2017 Annual GLOA Performance Report	2017 GLOA Annual Performance Report summarises all cetacean sightings (both dolphins and whales) for previous year's dredging operations. 2018 Draft GLOA Annual Performance Report was not yet prepared at time of Audit. Previous Audits by Ethos NRM have highlighted GLOA Annual Performance Report is completed after completion of EMP Compliance Audit. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
12. Heritage (marine based) – identification of potential relics	Evidence	Audit Findings and Comments	Compliance
a. If potential relics are identified during operational	TSHD Tommy Norton Day	Potential relic material is recorded on TSHD Tommy Norton Day REcord.	Fully

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
activities, the process described in Annexure 5 will be followed.	Record Auditor's visual observations on-board TSHD Tommy Norton	TSHD Tommy Norton crew and Gippsland Ports staff advised no relic (heritage) material was intercepted. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Compliant
<p>DREDGING and PLUME MANAGEMENT</p> <p>Objective:</p> <ul style="list-style-type: none"> To appropriately manage dredging activities and sediments. To minimize the area of channel and seabed disturbed and appropriately manage the material removed. To protect assets, beneficial uses and values from long-term adverse effects to dredging-related water quality effects. <p>Application:</p> <ul style="list-style-type: none"> All dredging activities. The disposal of dredged material at the DMGs and breaker-zone points. Use of dredges and associated equipment. <p>Target:</p> <ul style="list-style-type: none"> Conformance with all environmental limits and controls. 			
13. Dredging	Evidence	Audit Findings and Comments	Compliance
a. Dredging must remain within the identified dredging zones, and will be confirmed by recorded GPS data.	Gippsland Ports Long Term Monitoring and Management Plan TSHD Tommy Norton Day Record TSHD Tommy Norton Track Plots Auditor's visual observations on-board TSHD Tommy	Dredging Zones are defined and illustrated in the Gippsland Ports Long Term Monitoring and Management Plan. All dredging zone coordinates were uploaded to the ship's navigational instruments Assessment of TSHD Tommy Norton Day Reports confirm that Dredge Zone (Area) is recorded. TSHD Tommy Norton Track Plots record GPS position of TSHD Tommy Norton during all shipping movements. Track plots illustrate dump point location The Auditor concludes the available evidence adequately demonstrates Full	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
	Norton Gippsland Ports Hydrographic Surveys	Compliance with the Audit Criteria.	
<u>Turbidity</u>			
b. The overflow valve of the TSHD must be closed when the vessel is not engaged in dredging.	Auditor's visual observations on-board TSHD Tommy Norton, including specific discussions with TSHD Tommy Norton Master and Gippsland Ports staff	Gippsland Ports Project Manager and TSHD Tommy Norton Crew confirmed that except when dredging, the vessel is operated to prevent all turbid water discharge incidents. However, the Auditor was unable to witness the overflow valve in operation to confirm it remained closed when vessel not engaged in dredging. The Auditor has no reason to question operational procedure for turbidity as compliance also maximises dredging efficiency. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
c. During the period of September to January (grayling migration period) plume caused by dredging activities must not exceed 25NTU, at a distance of 50m from the vessel, across the channel in accordance with the TSHD Turbidity Monitoring Protocol.	Turbidity Monitoring Protocol SEAMEC Turbidity Monitoring Results Mail and email correspondence between GP and SEAMEC	Turbidity Monitoring Protocol stipulates the method for determining turbidity. Assessment by Auditor of SEAMEC monitoring data/results confirms sampling methods, locations and frequency. All results are compliant (<25NTU Dredge Effect) The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
d. During the grayling migration period (Sept to Jan), the dredge will not operate in overflow mode between the	Auditor's visual observations on-board TSHD Tommy Norton TSHD Tommy Norton Day	Refer also to comments at Audit Criteria 13b. On-board observations and discussions with the Master confirmed that TSHD Tommy Norton did not discharge turbid water between the training walls on a flood tide	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
training walls on a flood tide	Report TSHD Tommy Norton Track Plots	The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	
Recording (Heading added by Auditor)			
e. Recording of equipment activity on dredge log sheets will include the following information as a minimum: <ul style="list-style-type: none"> • Date, Time & Weather • TSHD Location Coordinates for “sand from” and “sand placement to” • TSHD Status: Dredging / sailing / placement at DMG / maintenance • DMG Status: East or West 	TSHD Tommy Norton Day Reports TSHD Tommy Norton Track Plots	Auditor’s assessment of TSHD Tommy Norton Day Reports and Trip Reports confirms that all stipulated information is adequately and clearly recorded. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
DREDGING SCHEDULE Objective: <ul style="list-style-type: none"> • To develop an appropriate dredging schedule, taking into account the seasonal sensitivities of the Gippsland Lakes assets, beneficial uses and values. Application: <ul style="list-style-type: none"> • All dredging activities. Target: <ul style="list-style-type: none"> • Conformance with all environmental limits and controls. 			
14. Dredging schedule	Evidence	Audit Findings and Comments	Compliance

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
<p>a. Dredging to take place in accordance with Table 10: Dredging Summary in the approved GLOA 2015 EMP (Vers.4.2.)</p> <p>NOTE: EMP version updated by Auditor</p>	<p>Gippsland Ports Long Term Monitoring and Management Plan</p> <p>TSHD Tommy Norton During Dredging Checklist</p> <p>Gippsland Ports Crew Induction and Training Register</p> <p>TSHD Tommy Norton Track Plots</p> <p>Gippsland Ports Hydrographic Surveys</p>	<p>Gippsland Ports Long Term Monitoring and Management Plan defines dredge requirements.</p> <p>TSHD Tommy Norton During Dredging Checklist and Crew Induction and Training Register highlight need to comply with dredge requirements.</p> <p>All Dredge Zone parameters (dimensions, depths and widths) were entered into the TSHD Tommy Norton's GPS navigational system for reference during dredging operations.</p> <p>Bathymetric surveying by Gippsland Ports confirm dredge depths and deposition characteristics.</p> <p>Assessment by Auditor confirms that dredging activities comply with all approval requirements.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	Fully Compliant
<p>b. No dredging is allowed within the Rigby Island Buffer zone (as shown in Figure 5) between October and March inclusive</p>	<p>TSHD Tommy Norton Day Reports</p> <p>TSHD Tommy Norton Track Plots</p>	<p>Assessment by the Auditor of TSHD Tommy Norton Day Reports and Track Plots confirm that no dredging activity occurred within the Rigby Island Buffer.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	Fully Compliant
<p>c. Dredging schedule to include:</p> <ul style="list-style-type: none"> - Dredging technology. - Timing, duration and sequence of dredging. 	<p>Gippsland Ports Long Term Monitoring and Management Plan</p>	<p>Assessment by the Auditor of available evidence confirmed all aspects of the dredge program design, technological requirements, scheduling / sequencing, timing and duration are adequately included.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	Fully Compliant
<p>15. Consideration of seasonal sensitivities</p>	<p>Evidence</p>	<p>Audit Findings and Comments</p>	<p>Compliance</p>
<p>a. Dredging activities planned with a particular awareness</p>	<p>TSHD Tommy Norton Day Reports</p>	<p>TSHD Tommy Norton GLOA 2017 and 2018 Maintenance Dredging activities did not occur during official summer school holidays and peak recreational boating</p>	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
and regard for high recreational use periods (Easter, Summer holidays, long weekends) as set out in Table 11 – Key seasonal sensitivities and preferred seasons.	Notice to Mariners Monthly progress updates GLOA Public Information Audit meeting with Gippsland Ports staff	periods at Lakes Entrance. Onboard crew meetings provided opportunity to discuss potential conflict between recreational users/boating and dredging operations. TSHD Tommy Norton Day Reports allow recording of any boating incidents. The Auditor's discussions with the TSHD Tommy Norton Master indicated that there were no incidents with recreational boats or commercial fishing vessels. Information made available by GP to inform the public of potential hazard associated with TSHD Tommy Norton included; Notice to Mariners, dredging progress updates on GP website, GLOA Public Information, and media releases. The Auditor concludes that dredging did not impact recreational boating and found no records of any adverse boating incidents. Seasonal constraints regarding Little Tern within the Rigby Island Buffer and Turbidity for Australian Grayling are addressed in Audit Criteria 14b and 13c respectively. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	
<p>DREDGED MATERIAL MANAGEMENT</p> <p>Objective:</p> <ul style="list-style-type: none"> To manage and track the placement of dredged material. To relocate dredged material and manage dredged material appropriately within the DMGs and near-shore points. <p>Application:</p> <ul style="list-style-type: none"> All dredged material placement and DMG management. <p>Target:</p> <ul style="list-style-type: none"> Conformance with all environmental limits and controls. 			
16. Dredged material placement	Evidence	Audit Findings and Comments	Compliance
a. Dredged material must only	Gippsland Ports Long Term	Gippsland Ports Long Term Monitoring and Management Plan contains details of	Fully

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
be dumped within the Western and Eastern disposal sites defined by the MGA 94 coordinates in Table 1: Coordinates for Dredged Material Grounds for TSHD.	Monitoring and Management Plan TSHD Tommy Norton Day Reports TSHD Tommy Norton Track Plots Gippsland Ports Hydrographic Surveys	Western and Eastern Dredging Material Grounds (DMG) coordinates. DMG coordinates were uploaded to the ship's navigational instruments for display on navigational consoles on the ship's bridge. Assessment by the Auditor of TSHD Tommy Norton Day Reports and Track Plots confirm that all dredge material was dumped within a designated DMG Assessment by Auditor of GP's DMG Hydrographic Seafloor Bathymetry Change Analysis indicates that there was no material change in seabed bathymetry outside the DMG coordinates, confirming all dredged material was placed within the DMG's. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Compliant
b. Each load of dredged material is dumped so that the dredged material is placed in the inshore areas of the defined disposal sites, consistent with safety, navigation and vessel handling requirements.	TSHD Tommy Norton Day Reports TSHD Tommy Norton Track Plots Gippsland Ports Hydrographic Surveys	TSHD Tommy Norton Track Plots illustrate the vessel passage through the DMG and discharge point. Gippsland Ports staff and TSHD Tommy Norton crew indicated that vessel hull doors on TSHD Tommy Norton cannot be opened in shallow water, thereby limiting the water depth in which dredged material can be dumped, resulting in shallower DMG cells not being utilised. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
c. Dredged material must be placed along a different alignment for each disposal cycle.	TSHD Tommy Norton Day Reports TSHD Tommy Norton Track Plots Gippsland Ports Hydrographic Surveys	TSHD Tommy Norton Track Plots illustrate the vessel passage through the DMG and discharge point. Track Plots and Day Reports confirm successive dredge material placement was along a different alignment and generally deposited in different cells The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
d. Prior to dumping, establish by GPS that the vessel is within one of the defined	TSHD Tommy Norton Track Plots Auditor's visual observations on-board TSHD Tommy	DMG coordinates were uploaded to the ship's GPS-based navigational instruments. Hence precise GPS-based location information, relative to the DMG, is constantly available on the ship's bridge. TSHD Tommy Norton Track Plots are generated by the ship's GPS-based	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
disposal sites.	Norton	<p>navigational instrumentation and associated mapping software, ensuring locational information for both ships passage and discharge point is accurately recorded.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	
e. Dredging disposal locations to be recorded as per recording of equipment (refer to Table 7 – Dredging and Plume PDS).	<p>TSHD Tommy Norton Day Reports</p> <p>TSHD Tommy Norton Track Plots</p> <p>Gippsland Ports Hydrographic Surveys</p>	<p>Audit Criteria is addressed in 13e and 14a-d.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	Fully Compliant
f. Volumes are to be calculated from hydrographic survey data.	Gippsland Ports Hydrographic Surveys	<p>DMG Seafloor Hydrographic / Bathometry surveys allow calculation of dredge material deposition volumes.</p> <p>Average change in seafloor bathymetry is illustrated on the analysis plot and summarised in correspondence from GP Hydrographic Services Manager.</p> <p>The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.</p>	Fully Compliant
17. Disposal site dissipation monitoring	Evidence	Audit Findings and Comments	Compliance
<p>a. DMGs - Hydrographic surveys will be required as follows:</p> <ul style="list-style-type: none"> ➤ Before each (typically annual) TSHD program – within one month of commencement of dredging. ➤ After each (typically annual) TSHD program – within one month of the completion of 	<p>Gippsland Ports Hydrographic Surveys</p> <p>TSHD Tommy Norton Day Reports</p> <p>Email from GP Hydrographic Services Manager</p>	<p>Hydrographic surveys of both western and eastern DMGs were undertaken before and During TSHD Tommy Norton dredging program.</p> <p>DMG Seafloor Hydrographic / Bathometry surveys allow calculation of dredge material deposition volumes. Average change in seafloor bathymetry is illustrated on the analysis plot and summarised in correspondence from GP Hydrographic Services Manager.</p> <p>The Annual GLOA Performance Report is currently being prepared by Gippsland Ports. Previous year's reports have described and documented the DMG volume calculation results.</p>	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
<p>all dumping activities authorised under the sea dumping permit.</p> <p>➤ The results of hydrographic surveys will be included in the annual GLOA performance report.</p>		The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	
<p>b. Near-shore discharge:</p> <p>➤ Every 3 weeks - photographic records taken at low and high tides</p> <p>➤ Annual – geo-referenced aerial photographs.</p>		<p>Refers to Sand Transfer System and beach-based discharge.</p> <p>Not applicable to GLOA TSHD Tommy Norton operations.</p> <p>Improvement:</p> <p>Audit Criteria 17b is not relevant and should be removed from the EMP</p>	Not Applicable
<p>EXTERNAL NOTIFICATION and REPORTING REQUIREMENTS</p> <p>Objective:</p> <ul style="list-style-type: none"> To report performance against EMP to Government agencies and stakeholder groups <p>Application:</p> <ul style="list-style-type: none"> None listed <p>Target:</p> <ul style="list-style-type: none"> None identified 			
18. Reporting Requirement	Evidence	Audit Findings and Comments	Compliance
<p>a. Pollution event or imminent environmental hazard (as defined in Environmental Auditor Guidelines for Conducting Environmental Audits, Publication 953.2, October 2007, EPA, Victoria)</p>	<p>Copy of relevant report</p>		

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
EPA, DEPI, DoE Immediate notification Incident report required.	None	No incidents required reporting. The Auditor concludes Full Compliance with the Audit Criteria.	Fully Compliant
b. Project Delivery Standard	Evidence	Audit Findings and Comments	Compliance
DELWP, DoE Notification within one (1) business day of verifying non-conformance with a PDS.	No incidents No self-reported Non-conformances	The Auditor concludes Full Compliance with the Audit Criteria.	Fully Compliant
c. TSHD and / or SCD campaign	Evidence	Audit Findings and Comments	Compliance
DELWP, DoE Notification within 14 days of commencement and completion of a TSHD campaign.	GP email correspondence	The Auditor sighted Gippsland Ports' email correspondence which was issued within 14 days of commencement / completion as required. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
d. Annual GLOA performance report	Evidence	Audit Findings and Comments	Compliance
DELWP Within 90 days of completion of all dumping activities associated with a TSHD campaign.	2017 Annual GLOA Performance Report. Gippsland Ports, March 2018 2018 Annual GLOA Performance Report is currently being prepared by Gippsland Ports	The 2017 Annual GLOA Performance Report has been prepared by Gippsland Ports (March 2018) upon completion of all compliance reporting and auditing, including this EMP Compliance Audit report. The report was issued to DELWP within the prescribed 90 day period. The 2018 Annual GLOA Performance Report is currently being prepared by Gippsland Ports and will be submitted to DELWP upon completion of this Audit and other reporting requirements, as per in previous years On the basis of past experience, the Auditor has no reason to believe submittal of the 2016 Annual GLOA Performance Report will not occur. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
e. SDP annual compliance report	Evidence	Audit Findings and Comments	Compliance
DoE By 31 January annually, including on the day of the expiry of the permit or completion of all dredging under the permit, in required IMO format (or as approved by DoE) to facilitate annual reporting to IMO.	Sea Dumping Permit International Reporting Requirement	Gippsland Ports completed a Sea Dumping Permit SD2013/2442 Monitoring Report and associated IMO Reporting forms in October, 2017. The Auditor sighted the report and e-mail correspondence to Department of the Environment and Energy. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
f. SDP hydrographic survey	Evidence	Audit Findings and Comments	Compliance
RAN Hydrographer For the bathymetric survey completed within one (1) month of completion of all dumping activities authorised under the SDP, provide a digital copy of the bathymetric surveys within two (2) months.	Mail receipt and email correspondence from GP Hydrographic Services Manager	Post dredging DMG bathymetric survey data was issued by Gippsland Ports on to the RAN Australian Hydrographic Office via Australia Post. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant
g. SDP hydrographic survey report	Evidence	Audit Findings and Comments	Compliance
DoE For the bathymetric survey completed within one (1) month of completion of all dumping activities authorised under the SDP, provide a report within two (2) months including a chart showing the change in sea floor bathymetry as a result of	Gippsland Ports Hydrographic Surveys GP internal email regarding DMG volumes DMG volume correspondence to DoE	DMG hydrographic survey details are discussed in Audit Criteria 17. All required information was sent to Department of the Environment and Energy in accordance with the Audit Criteria. The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant

Project Delivery Standard / Audit Criteria	Evidence	Audit Findings and Comments	Compliance
dumping and include written commentary on the volumes of dumped material that appear to have been retained within the disposal site.			
h. Annual reporting and continuous improvement planning	Evidence	Audit Findings and Comments	Compliance
TACC, DoE, DELWP Stakeholder awareness annually as a minimum, with outcome summary to DoE TACC agenda prior to meetings and minutes following meetings detailing issues together with proposed actions, accountability, timelines and outcomes.	Technical Advisory and Consultative Committee (TACC) Agenda and Minutes Gippsland Ports web page updates GLOA Public Information	Stakeholder involvement is facilitated by Gippsland Ports through the Technical Advisory and Consultative Committee. The Auditor sighted previous Technical Advisory and Consultative Committee (TACC) Agendas and Minutes but did not attend a meeting The Auditor concludes the available evidence adequately demonstrates Full Compliance with the Audit Criteria.	Fully Compliant

8 Appendix 2: AUDIT EVIDENCE REFERENCES

The following evidence was sighted and cross-referenced by the Auditor to determine compliance with the Gippsland Lakes Ocean Access Maintenance Dredging Program, Environmental Management Plan (Vers.4.2.3).

Evidence was provided in electronic and hardcopy form for the periods:

- 23rd October 2017 to 31st December 2017
- 1st January 2018 to 22nd October 2018.

Auditor's visual observations on-board TSHD Tommy Norton during dredge inspection on 12th November, 2018

Auditor's photographic record from on-board inspection, 12th November, 2018

TSHD Tommy Norton Dredging Programs for 2017 and 2018

Pre-arrival checklist

Dredging checklist

Post – completion checklist

Audit meetings with Gippsland Ports staff:

Audit Inception Meeting – 23rd October, 2018

TSHD Tommy Norton on-board inspection at Bullock Island 12th November, 2018

Audit Closure Meeting (via telephone and email) on 26th March, 2019

Gippsland Ports GLOA and TSHD Tommy Norton Incidents Register

Gippsland Ports Crew Induction and Training Registers noted on-board, 12th November, 2018

EPA Waste Transport Certificates – not sighted

TSHD Tommy Norton Waste Management Plan (WMP), – noted on-board, 12th November, 2018

TSHD Tommy Norton record / register of Garbage Discharge – noted on-board, 12th November, 2018

TSHD Tommy Norton Delivery and Pre-arrival documentation and certification, including;

Ballast water

Asbestos

TSHD Tommy Norton Ballast Water Management Plan

TSHD Tommy Norton Asbestos Free Certificate

TSHD Tommy Norton Safety Management System – noted on-board, 12th November, 2018

TSHD Tommy Norton Shipboard Oil Pollution Emergency Plan – noted on-board, 12th November, 2018

TSHD Tommy Norton Maintenance Logs - noted on-board, 12th November, 2018

TSHD Tommy Norton Hazardous Substances Register - noted on-board, 12th November, 2018

Bunkering JSA and Standing Instructions - noted on-board, 12th November, 2018

TSHD Tommy Norton Layup Procedure, Lakes Entrance - noted on-board, 12th November, 2018

2016 Annual GLOA Performance Report. Gippsland Ports, February 2017

GLOA Long Term Monitoring and Management Plan - Maintenance Dredging with Ocean Disposal, 2013-2023 – Gippsland Ports, Sept 2013

TSHD Tommy Norton Day Reports for dredging each day from 23rd October 2017 to 22nd October 2018

TSHD Tommy Norton Track Plots, from 23rd October 2017 to 22nd October 2018

TSHD Tommy Norton Ocean Mammal Sighting Records - - noted on-board, 12th November, 2018

Gippsland Ports Hydrographic Surveys for:

Vicinity of Entrance

Dredge Material Ground East

Dredge Material Ground West

Seafloor Bathymetry Change Analysis 4th November, 2016

Turbidity Monitoring Protocol, Revision 2, November 2014

SEAMEC Turbidity Monitoring Results report and emails:

Notice to Mariners publication

GLOA Public Information - 2018 TSHD Lakes Entrance Dredging Update

<https://www.gippslandports.vic.gov.au/reports/2018-tshd-lakes-entrance-dredging/>

2017-18 Annual GLOA Performance Report, currently being prepared by Gippsland Ports

Gippsland Ports mail and email correspondence to Department of the Environment and Gippsland Ports

GP email correspondence to DELWP, dated 10th September, 2016

Gippsland Ports mail and email to RAN Hydrographer

Technical Advisory and Consultative Committee (TACC) – pending meeting