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WWF-Australia
Level 1, 17 Burnett Lane
Brisbane QLD 4000
Postal: same as above
Tel: +61 7 3003 1480
Fax: +61 7 3229 4431
enquiries@wwf.org.au
@WWF_Australia
wwf.org.au
ABN 57 001 594 074

Research Director
Infrastructure, Planning and Natural Resources Committee
Parliament House
George Street Brisbane Qld 4000

Email: ipnrc@parliament.qld.gov.au

06 July 2015

Dear Committee Members,

Sustainable Port Development Bill 2015

Thank you for the opportunity to provide this submission regarding the Sustainable Port Development Bill 2015 tabled in Queensland Parliament last month.

We appreciate your understanding in granting an extension for us to submit our comments a few days after the deadline.

WWF-Australia's submission is enclosed, and we also wish to express our support for the comments submitted by the Environment Defenders Office, Queensland and the Australian Marine Conservation Society.

We would be happy to appear before the Committee to answer any questions or provide further information.

Yours Sincerely,

Louise Matthiesson
Great Barrier Reef Coastal Campaign Manager



**WWF-Australia Submission to Queensland Parliament's
Infrastructure, Planning and Natural Resources Committee, July 2015.**

The Sustainable Port Development Bill 2015

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WWF-Australia – working to protect the Great Barrier Reef

WWF-Australia is part of the WWF International Network, the world's leading, independent conservation organisation. Founded in 1961 we are active in over 100 countries and have close to five million supporters internationally. In Australia and throughout the oceanic region, we work with governments, businesses and communities so that people and nature can thrive within their fair share of the planet's natural resources. The Great Barrier Reef is one of just 35 ecosystems WWF has prioritised for investment globally. Through our Queensland office, WWF-Australia has been actively involved in conservation of the Great Barrier Reef for over 20 years. Our activities range from endangered species research, to policy advocacy and industry partnerships. For more information visit our website: <http://bit.ly/1hlgfXS>

1. Introduction

WWF-Australia appreciates the opportunity to provide our comments on the Sustainable Port Development Bill 2015. This is a significant piece of legislation which will improve the protection and management of the Great Barrier Reef World Heritage Area (GBR WHA) and reduce the environmental impacts of port activities in the region, while supporting sustainable economic growth for Queensland.

WWF welcomes the Bill, but this submission points out a number of areas where the legislation can be improved. The Bill fulfils a number of commitments in both the Reef 2050 Long Term Sustainability Plan (Reef 2050 LTSP) and the Government's 'Saving the Reef' election policy, but some important port-related commitments have not been addressed by the legislation.

2. Recent decision by the World Heritage Committee

At their recent meeting in Bonn, Germany the World Heritage Committee adopted a decision regarding the Great Barrier Reef which makes it clear that the Committee will pay close attention to the Sustainable Ports Development Bill. In particular the decision welcomes:

- *"The confirmation of protection of greenfield areas by restricting major new port development in and adjoining the property, thereby limiting capital dredging for the development of new or expansion of existing port facilities to within the regulated port limits of the major ports of Gladstone, Hay Point/Mackay, Abbott Point and Townsville, excluding Fitzroy Delta, North Curtis Island and Keppel Bay from future port development and ensuring consistency with the 2003 Great Barrier Reef Zoning Plan"¹.*
- *"...and the commitment to establish a permanent ban on dumping of dredged material from all capital dredging projects within the property"².*

The preamble to the decision also notes that *"a number of commitments within the 2050 LTSP require translation into legislation including, among others, restrictions on port development and its associated activities such as the disposal of dredged material"³.*

Australia is required to provide a report to UNESCO in December 2016 on progress toward implementing these commitments, which will include an assessment of the SPD Bill.

3. Summary of changes to regulation of ports, dredging and spoil disposal

The Bill introduces a number of changes to the regulation of ports, dredging and spoil disposal. The new restrictions apply in different ways to different parts of the GBR World Heritage Area, depending on legal jurisdictions, environmental values and existing uses. Table 1 summarises where each of the listed activities are allowed with a permit, and where they are prohibited under the proposed legislation. Note that the Commonwealth Great Barrier Marine Park Act regulates these activities in the GBR Marine Park, which makes up the majority of the World Heritage Area.

Appendix 1 provides maps of the Port of Abbot Point and Port Alma (Fitzroy Delta) as examples to illustrate how these management boundaries overlap and relate to one another.

¹ Decision 39 COM 7B.7, clause 4b

² Decision 39 COM 7B.7, clause 5

³ Analysis and Conclusion by World Heritage Centre and the Advisory Bodies in 2015

Table 1. Activities permitted in different parts of the GBR World Heritage Area

Yes = allowed with permit. No = prohibited. Section numbers eg. s32, refer to the Sustainable Port Development Bill 2015

	GBR World Heritage Area					
		Restricted area (s31)				
	C'wealth Great Barrier Reef Marine Park (GBRMP)	Queensland's GBR Coastal Marine Park – outside port limits [#]	Queensland's GBR Coastal Marine Park - inside port limits [#]	Master Planned Area ⁺ of 4 priority ports (Townsville, Abbot Point, Mackay-Hay Pt, Gladstone)	Core port area* of 7 smaller Reef ports	Other state waters - outside port limits and not in any marine park. (eg some estuaries)
New port facilities	Yes	No s32 (1)	No s32 (1)	Yes	Yes	No s32(1)
Expansion or upgrade of existing port facilities	Yes	No s32 (1)	No s32 (1)	Yes	Yes	No s32 (1)
Capital dredging – port related	Yes	No s33	No s33	Yes s33	No s33	No s33
Capital dredging – other purposes (eg. boat ramp, marina)	Yes	Yes	Yes	Yes	Yes	Yes
Dumping of capital dredge spoil – port related	No (under C'wealth laws, over 15,000 m ³)	No s34	No s34	No s34	No s34	No s34
Dumping of capital dredge spoil – other purposes	No (under C'wealth laws, over 15,000 m ³)	Yes	Yes	Yes	Yes	Yes

Dumping of maintenance dredge spoil	Yes	Yes	Yes	Yes	Yes	Yes
Trans-shipping	Yes	Yes	Yes	Yes	Yes	Yes

As defined under the Qld Transport Infrastructure Act (TIA)

+ A Master Planned Area cannot include any area within a marine park, even if the area is within the port limits (s6)

*Core port area = any part of the port that is within port limits but outside any marine park.

4. Strengths of the legislation

WWF-Australia welcomes the following strengths of the SPD Bill, which in our evaluation is a significant improvement on the previous Ports Bill 2014 which was introduced but not passed late last year.

Table 2. Comparison of Ports Bill 2014 and Sustainable Port Development Bill 2015

Sustainable Port Development Bill <u>2015</u>	Ports Bill <u>2014</u>
Prohibits dumping of capital dredge spoil from new port-related developments in state waters within the WHA.	No ban on sea-dumping.
Requires onshore disposal of dredge material to be done in a way that is consistent with the principles of ecologically sustainable development and gives preference to beneficial reuse of dredge waste.	Did not encourage beneficial reuse or onshore disposal.
Prohibits new port facilities in state waters in the WHA, outside the 12 existing port areas.	Only prohibited port development outside 12 existing port areas <i>until the end of 2022</i> .
Ban on new port facilities outside existing port areas applies to all port projects.	Only applied to 'significant' port development projects. It was up to the Minister for State Development to decide if a project was 'significant' or not.
Prohibits capital dredging for new port facilities in state waters outside the 4 major ports (Townsville, Abbot Pt, Mackay-Hay Pt and Gladstone).	Prohibited capital dredging for new port facilities in state waters outside the 4 major ports <i>until the end of 2024</i> .
Within the four major ports, capital dredging is confined to the Master Planned Area, outside the Qld GBR Coastal Marine Park.	Capital dredging was permitted anywhere within the larger TIA port boundaries of the major ports.
Master Plan Areas for priority ports cannot include state waters outside existing port limits, or any area within a marine park.	Master Plan Areas were able to be much larger, and include land and waters not contiguous with the existing port.
Prohibits new port facilities and capital dredging anywhere in the state GBR Coastal Marine Park.	Only some parts of the state Coastal Marine Park were protected from port development and dredging.
Prohibits capital dredging in the Fitzroy Delta and Keppel Bay.	It was not determined if the Fitzroy Delta would be included in the Gladstone 'Priority Port Development Area', so it was not certain whether the ban on capital dredging would apply to this sensitive area.
Purpose of the Bill is "to provide for the protection of the GBR WHA through managing port related development..."	Purpose was "to provide for the development of ports through long-term planning while protecting and managing environmental assets..."
Retains vital checks and balances on assessing and approving new port developments, because it does not allow for Federal EPBC approval powers to be devolved to the State.	Included provisions to allow the hand-over of Federal environmental approval powers for port development to the Qld Minister for State Development, under the proposed Approval Bilateral Agreement.

5. Weaknesses of the legislation

A. No action to prevent trans-shipping in the GBR Marine Park

Commitments:

'A Labor Government will also prohibit trans-shipping operations within the Great Barrier Reef Marine Park.' – ALP Policy, 'Saving the Great Barrier Reef', page 4.

'WQA21: The Queensland Government will not support trans-shipping operations that adversely affect the Great Barrier Reef Marine Park.' – Reef 2050 LTSP, page 43.

Trans-shipping involves the transfer of bulk commodities such as coal, bauxite, or other minerals from one vessel to another while at sea. There are currently two proposals for trans-shipping in the GBR WHA at Princess Charlotte Bay on Cape York and at Hay Point near Mackay. An earlier proposal for trans-shipping at Port Alma in the Fitzroy Delta near Yeppoon was withdrawn last year. WWF opposes the Wongai trans-shipping project since it is in a sensitive green-field area with extremely high conservation values.

WWF recognises that in some circumstances trans-shipping can remove the need for dredging new shipping channels, since it allows commodities to be taken by barge out to deeper waters and then loaded into ships. However, there are serious environmental impacts and risks from trans-shipping, especially in open waters, that need to be carefully managed and regulated. Some of the potential impacts of trans-shipping include: onshore impacts of stockpiles and loading facilities, increased risk of collision with marine animals such as turtles or dugongs, as barges move back and forth through their habitat; water and air pollution from dust and spillages; and the risk of accidents exacerbated by rough seas and extreme weather events.

Following the "avoid, mitigate, offset" hierarchy, the first preference should always be to optimise the use of existing port infrastructure before considering new development. Queensland's existing coal export facilities are currently operating at well below their full capacity, so ways to make better use of these facilities should be investigated before new development is required. However, if in future there is a genuine need for increased export capacity for bulk commodities trans-shipping should be considered as an alternative to capital dredging inside the core area (or Master Planned Area) of a port, subject to proper environmental assessment and community consultation.

The Labor Government has recognised that trans-shipping is not an appropriate activity in the World Heritage Listed GBRMP or state Coastal Marine Park and thus committed to banning trans-shipping operations that adversely affect the GBRMP. The Sustainable Port Development Bill is the logical mechanism for implementing this commitment, and WWF is disappointed that the Bill is silent on this issue. We support the suggested solutions put forward by the Environmental Defenders Office, Queensland (EDO Qld) in their submission, as follows:

SOLUTIONS:

(a) The Bill should be amended to prohibit any development in Queensland jurisdiction which would facilitate trans-shipping in the GBRMP.

Suggested amendment:

Insert: 32A No approvals for trans-shipping facilities

(1) An approving authority may not grant an approval for development that includes or facilitates trans-shipping in a State or Commonwealth marine park.

(2) Trans-shipping means transferring bulk commodities, for example coal, from vessel to vessel.

(b) The Committee should request that the joint Queensland-Commonwealth Reef Ministerial Council cooperate to align state and federal laws to prevent trans-shipping in the GBRMP.

B. Bill does not regulate port development or dredging in the GBR Marine Park

The Great Barrier Reef Marine Park covers nearly 99% of the Great Barrier Reef World Heritage Area. The primary legal framework for managing the GBR Marine Park is the Commonwealth GBR Marine Park Act. Day to day management is conducted jointly by the state and federal governments.

The remaining 1% of the World Heritage Area covers 3,600 km² and is solely within the state's jurisdiction. This area includes the coastal zone which is extremely important to the ecological functioning of the Reef, as well as most islands, ports and other internal state waters. Over the last five years almost 80% of sea-dumping of dredge spoil in the WHA took place within state waters outside the GBR Marine Park⁴. **Appendix 1** provides maps of two port areas as examples that illustrate the different boundaries.

The Great Barrier Reef World Heritage Area is jointly managed by the Queensland and Commonwealth Governments, and there are complex over-lapping legal arrangements in place. As explained by EDO Qld in their submission:

The Queensland Government has jurisdiction to regulate 3 nautical miles from the low water mark in Queensland. In the GBR Region this jurisdiction overlaps with Commonwealth regulation of the GBRMP. There is some uncertainty as to the capacity of the Queensland Government to regulate waters in the GBRMP, due to section 109 of the Australian Constitution which states that where there is inconsistency between Commonwealth and State laws, the Commonwealth law prevails and the State law is invalid.

Nonetheless, Queensland has the legal power to regulate the onshore component of a development that extends into the GBRMP, or involves or facilitates activities in the GBRMP, so the state is able to influence what happens in the GBR Marine Park. Unfortunately the state government has taken a conservative view of the legal situation and the Sustainable Port Development Bill does not attempt to prevent onshore development where that would lead to new port facilities, capital dredging or trans-shipping in the GBRMP.

This means that the restrictions in the Bill on port facilities and capital dredging do not apply to waters of the GBR Marine Park. Since the GBRMP makes up 99% of the WHA, this is a significant omission. There are two options for addressing this problem, as outlined below.

SOLUTIONS:

(a) The Committee should request that the joint Queensland-Commonwealth Reef Ministerial Council cooperate to align state and federal laws to prevent capital dredging and the development of port facilities within the GBRMP. This will ensure the restrictions being provided by the Queensland Government are coherent with management of the GBR Region.

-OR-

(b) Amend the Bill to prevent Queensland authorities from granting development approval for a project that involves or facilitates port development or capital dredging for port development in the GBRMP.

NB. The same questions around jurisdiction arise in relation to trans-shipping in the GBRMP as discussed above.

⁴ For background see: ABC Fact Check <http://www.abc.net.au/news/2015-05-04/fact-check-great-barrier-reef/6333178>

C. Exemptions to the ban on sea-dumping

Commitments:

'Queensland Labor will ban sea-based dumping of capital dredge spoil within the Great Barrier Reef World Heritage Area' – ALP Policy, 'Saving the Great Barrier Reef', page 4.

The WHC draft decision welcomes the State Party's 'commitment to establish a permanent ban on dumping of dredged material from all capital dredging projects within the property'. Draft decision: 39 COM 7B.7, clause 5.

Earlier this year, the Commonwealth made amendments to regulations under the GBRMP Act to ban sea-dumping of dredge waste in the GBRMP from *all* capital dredging activities, with an exemption for projects less than 15,000 m³. This ban covers 99% of the GBR WHA, but as noted above, in recent years almost 80% of sea-dumping of dredge spoil in the WHA took place in state waters outside the GBR Marine Park. The Commonwealth ban does not apply to maintenance dredge spoil, but it does cover waste from all types of capital dredging. By contrast, the SPD Bill only prohibits sea-dumping of dredge spoil from capital dredging for *port-related* development.

It does not apply to dredge waste from:

- i) non-port developments such as marinas, or
- ii) maintenance dredging of existing channels.

This will allow a significant volume of spoil to be disposed of in state waters of the WHA each year. Capital dredging for non-port developments like marinas can amount to hundreds of thousands of tonnes. This spoil is often able to be used in construction of bund-walls or breakwaters as part of the project, but it may also be dumped at sea.

SOLUTIONS:

The Queensland Government should match the Commonwealth Government's actions by amending the SPD Bill to extend the prohibition on offshore dumping to spoil from all capital dredging projects, with an exemption for tourism and recreation facilities up to 15,000 m³.

Maintenance dredging generates an average of almost 1 million m³ of dredge spoil per annum in the GBR WHA⁵. WWF has significant concerns about sea-disposal of dredge spoil from maintenance dredging operations, since it is a large concentrated source of sediment and nutrient pollution. Allowing this activity to continue undermines the effectiveness of other state and federal programs to reduce water pollution from land-based run-off. Therefore, we urge the Government to work towards phasing out sea-dumping of maintenance dredge spoil in the WHA by 2020. We believe this can be achieved without inhibiting shipping access to existing port facilities. We note that the Reef 2050 LTSP includes the following commitment on maintenance dredging, and we look forward to working with the government and other stakeholder groups to progress this issue.

Reef 2050 LTSP Action WQA16

Develop a state-wide coordinated maintenance dredging strategy which:

- *identifies each port's historical dredging volumes and likely future requirements and limits*
- *identifies appropriate environmental windows to avoid coral spawning, seagrass recruitment, turtle breeding, weather events*
- *examines opportunities for the beneficial reuse of dredge material or on land disposal from maintenance activities*
- *establishes requirements for risk-based monitoring programs.*

⁵ McCook et al (2014) Synthesis of current knowledge of the biophysical impacts of dredging and disposal on the Great Barrier Reef: Report of an Independent Panel of Experts, GBRMPA. Table B-6 Appendix B p.135

D. Restrictions on capital dredging don't apply to non-port development

Commitments:

'We will optimise the use of existing port infrastructure in four ports within the World Heritage Area, Townsville, Abbot Point, Mackay-Hay Point and Gladstone, and prohibit capital dredging outside these ports.' – ALP Policy, 'Saving the Great Barrier Reef', page 4.

WWF welcomes measures in the Sustainable Port Development Bill to limit port-related capital dredging to the Master Planned Areas of the four major ports. This is an important step in protecting greenfield areas of the Reef coastline and reducing the impacts of port development.

Within the four major ports it remains important to avoid environmental impacts wherever possible by optimising the use of existing port infrastructure before considering new port development or capital dredging. Where a port expansion or capital dredging are essential for sustainable economic development they must meet the highest environmental standards expected for a World Heritage Area. This is reflected in the World Heritage Committee's decision in 2014 which requested Australia to ensure that developments inside the four major port areas "do not impact individually or cumulatively the OUV of the property" (Decision 38 COM 7B.63, clause 8a).

WWF is concerned that there are not adequate controls on capital dredging for other types of coastal development such as harbours or marinas. The limitations on capital dredging in the SPD Bill (s33) only apply to dredging for port facilities, and the definition in Schedule 1 specifically excludes 'small scale port facilities to be used for a tourism or recreation purpose' such as boat ramps, boat harbours or marinas. These types of developments can involve large volumes of new dredging. For example, the [Shute Harbour marina](#) proposed near Airlie Beach would cover 17 hectares and require up to 500,000 m3 of capital dredging.

SOLUTIONS:

Amend the SPD Bill to place appropriate volumetric limits on capital dredging for other types of development. We suggest that a limit of <100,000m3 may be appropriate for capital dredging for non-port development in state waters within the World Heritage Area.

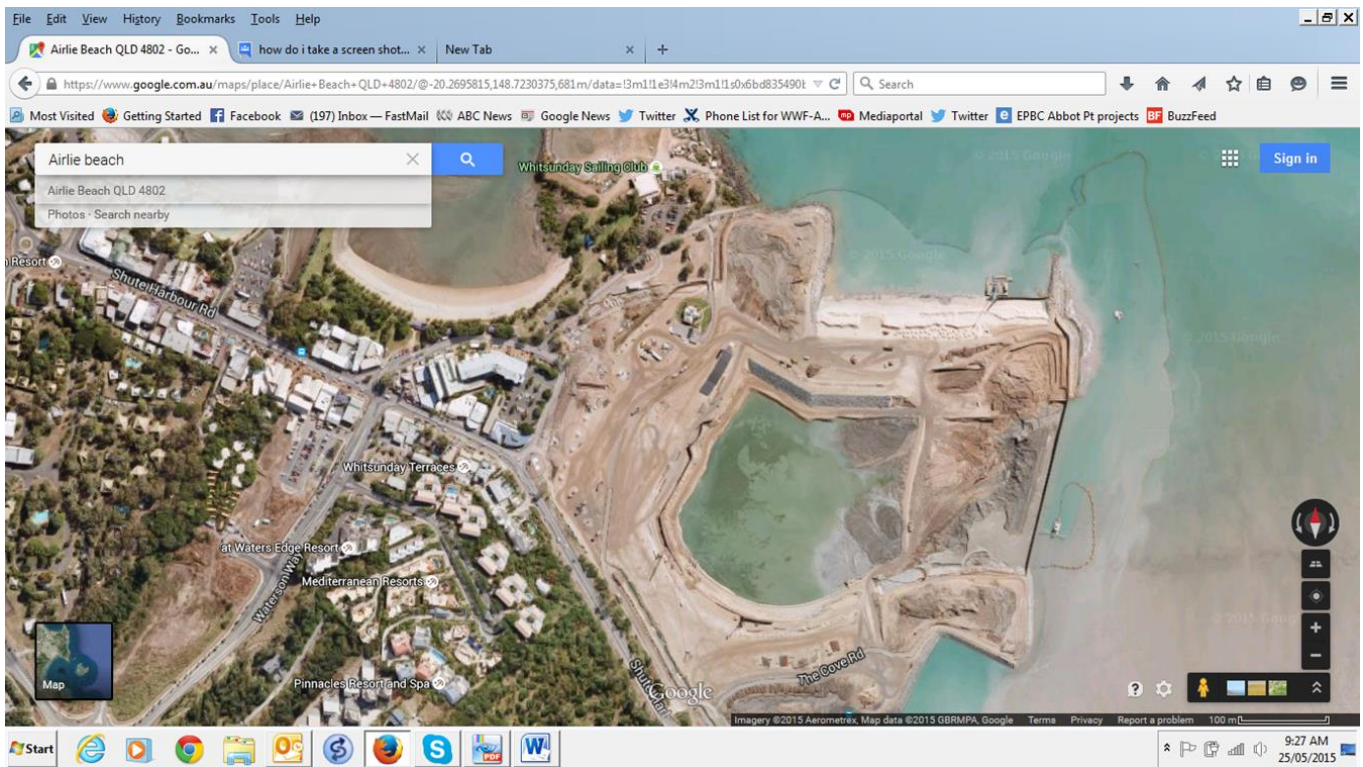
-AND/OR -

If the SPD Bill will not deal with non-port related development, the government should specify the method and time frame for implementing restrictions on non-port related development, dredging and offshore dumping of dredge material. One option would be to address the issue as part of the current review of Queensland's planning legislation, if this can be achieved before the next report to the World Heritage Committee in December 2016.

We note that, in his speech to Parliament when introducing the Bill, The Hon. Minister Anthony Lynham stated:

The Sustainable Ports Development Bill 2015 is only the beginning of the Queensland government's implementation of the Reef 2050 Long-Term Sustainability Plan commitments. It is designed to give effect to our commitments on port development. There are a number of other pieces of legislation and mechanisms that the government will use to meet our other reef promises⁶.

⁶ Hansard 3rd June 2015.



Example: Google-Earth image of Abel Point Marina, Airlie Beach, during construction.

E. Fitzroy Delta

Commitments:

'In Central Queensland a future Labor Government will prohibit any development in the Greater Fitzroy River delta and ensure that any necessary increase in port capacity is confined within the existing Port of Gladstone.' – ALP Policy, 'Saving the Great Barrier Reef', page 5.

Reef 2050 LTSP Action EHA2: *Protect the Fitzroy Delta including North Curtis Island and Keppel Bay by:*

- *extension and strengthened conservation zoning in the Great Barrier Reef Coast Marine Park*
- *extension of the existing Fish Habitat area*
- *establishment of a new net-free zone under fisheries legislation*
- *additional protections in associated intertidal and terrestrial areas.'*

We welcome the provisions in the Bill which will prevent capital dredging for new port facilities in minor ports along the GBR coastline, including Port Alma on the Fitzroy River Delta south of Rockhampton. The Queensland Government has wisely committed to protecting the Greater Fitzroy Delta, one of the largest unspoilt wetlands remaining on the GBR coast. For more information watch this video about the regions natural, social and economic values '[Fitzroy Delta: Guardian of the Reef](#)'.

Currently the small port facilities at Port Alma allow for the import and export of salt from the local salt works, as well as dangerous goods such as explosives and defence equipment. No new port facilities should be allowed for other purposes at Port Alma. As currently written the Bill will not prevent significant expansion of port facilities at Port Alma, using the existing shipping channel. This development could include proposals for trans-shipping operations. This omission is contrary to the commitment made by the Queensland Government to protect the Greater Fitzroy River delta.

SOLUTIONS:

- (a) To ensure that the Greater Fitzroy Delta is protected, specific provisions should be provided to restrict port development in Port Alma to only necessary improvements to the existing facilities, not new facilities for different purposes.**
- (b) The Committee should request the Minister for the Great Barrier Reef to specify when and how improved conservation measures will be put in place for the Delta, to meet the Government's other commitments for the region outlined in the Reef 2050 Plan.**

F. Transitional provisions

The Port of Townsville currently holds a permit for offshore dumping of 1.2 million m³ of capital dredge spoil from the proposed '[Berth 12' development](#), in state waters off Magnetic Island. This should not be allowed to continue as it is in direct conflict with the Queensland Government's commitment to end sea-dumping in the GBRWHA. If the Government is considering providing a Ministerial Directive with respect to this permit, the Directive should be for the surrender of the permit so that it cannot be exercised at any time in the future.

The Wongai Project is a proposal for an underground coking coal mine which will export coal using trans-shipping through the GBRMP from an area bordering Princess Charlotte Bay, 150 kilometres north-west of Cooktown. We are concerned that the [Wongai Project](#) in Cape York (mentioned above under trans-shipping) may be allowed to continue under the transitional provisions (cl 60) provided in the Bill for port facilities. This is because the proponents have current applications under both state and commonwealth legislation. This project should not be allowed to continue as it is in direct conflict with the Queensland Government's commitment to protect greenfield areas and not to allow trans-shipping in the GBRMP.

Ports North recently released an EIS for capital dredging for the Cairns Cruise Ship Terminal at Trinity Inlet. The Coordinator General is yet to make a final decision on the project, but the State Government has made it clear that the project will not receive state funding, and that no offshore dumping will be allowed for the project. We seek assurance that if the current project is not approved by the Coordinator General, no new or amended applications for capital dredging and/or sea-disposal in the Port of Cairns would be allowed to proceed under the transitional provisions of the SPD Bill.

Transitional provisions should be amended to ensure current project proposals that are not consistent with the government's policy commitments (eg. the Wongai Project) are not allowed to progress where they could impact the GBRMP.

Suggested amendment:

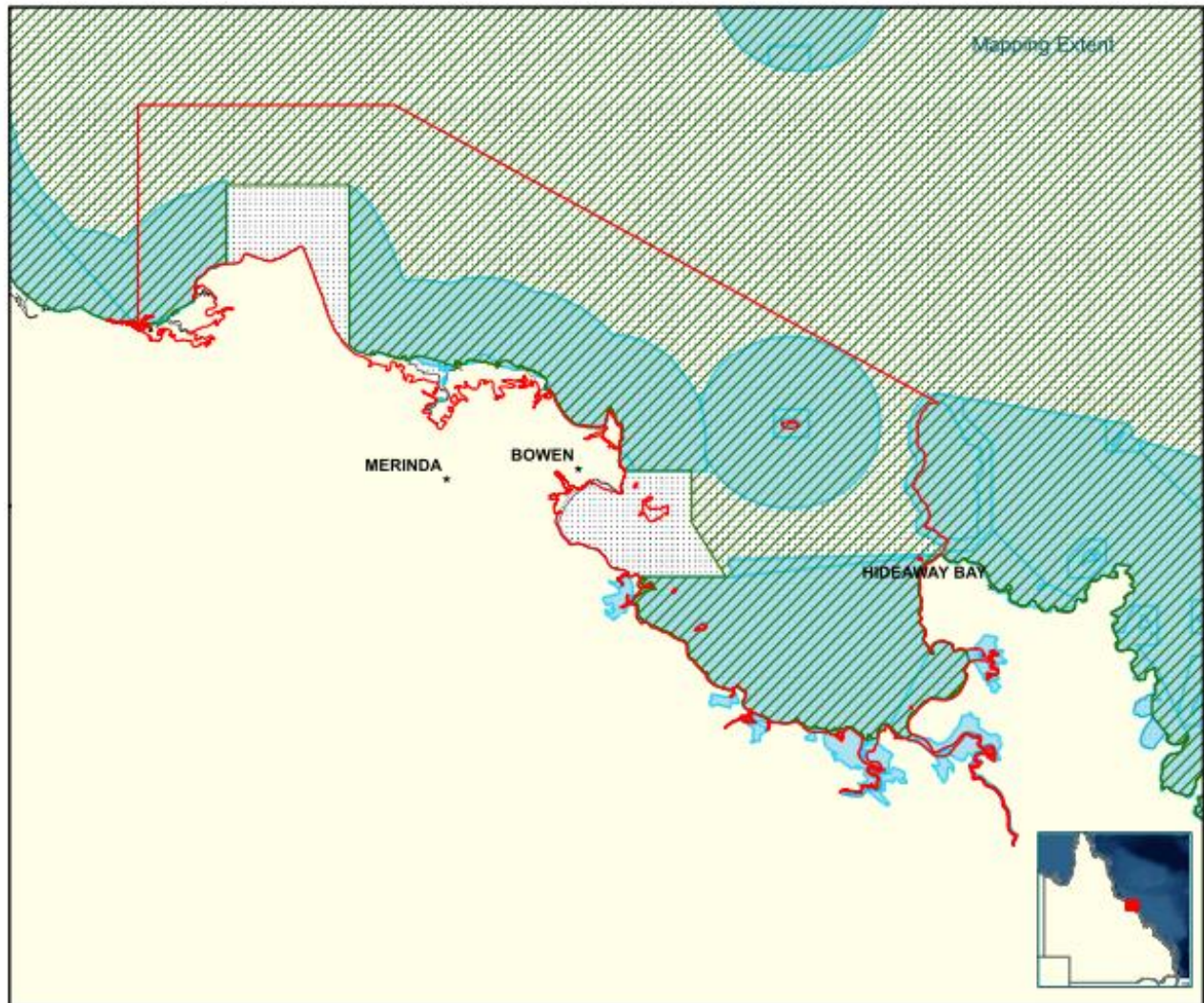
Remove clause 60 OR amend clause 60 to delete (3)(d) and (e).

G. Other issues

In regard to the following issues, WWF-Australia wishes to endorse the comments made by EDOQ in sections 6, 7 and 8 of their submission to this Committee Inquiry:

- Master planning
- Accountability and transparency
- Compensation provisions

Appendix 1: Example maps: Port of Abbot Point and Port Alma (Fitzroy Delta)



ABBOTT POINT PORT

1:340,829

0 1.5 3 6 9 12
Kilometres

NOT FOR PUBLIC RELEASE

Legend

- Port Limits
- Great Barrier Reef Marine Park
- State Marine Parks
- Great Barrier Reef World Heritage Area

NOTE: marine parks do not include island e.g. Stone Island and Middle Island

COORDINATE SYSTEM: GCS GDA 1984
HORIZONTAL DATUM: GDA 1984

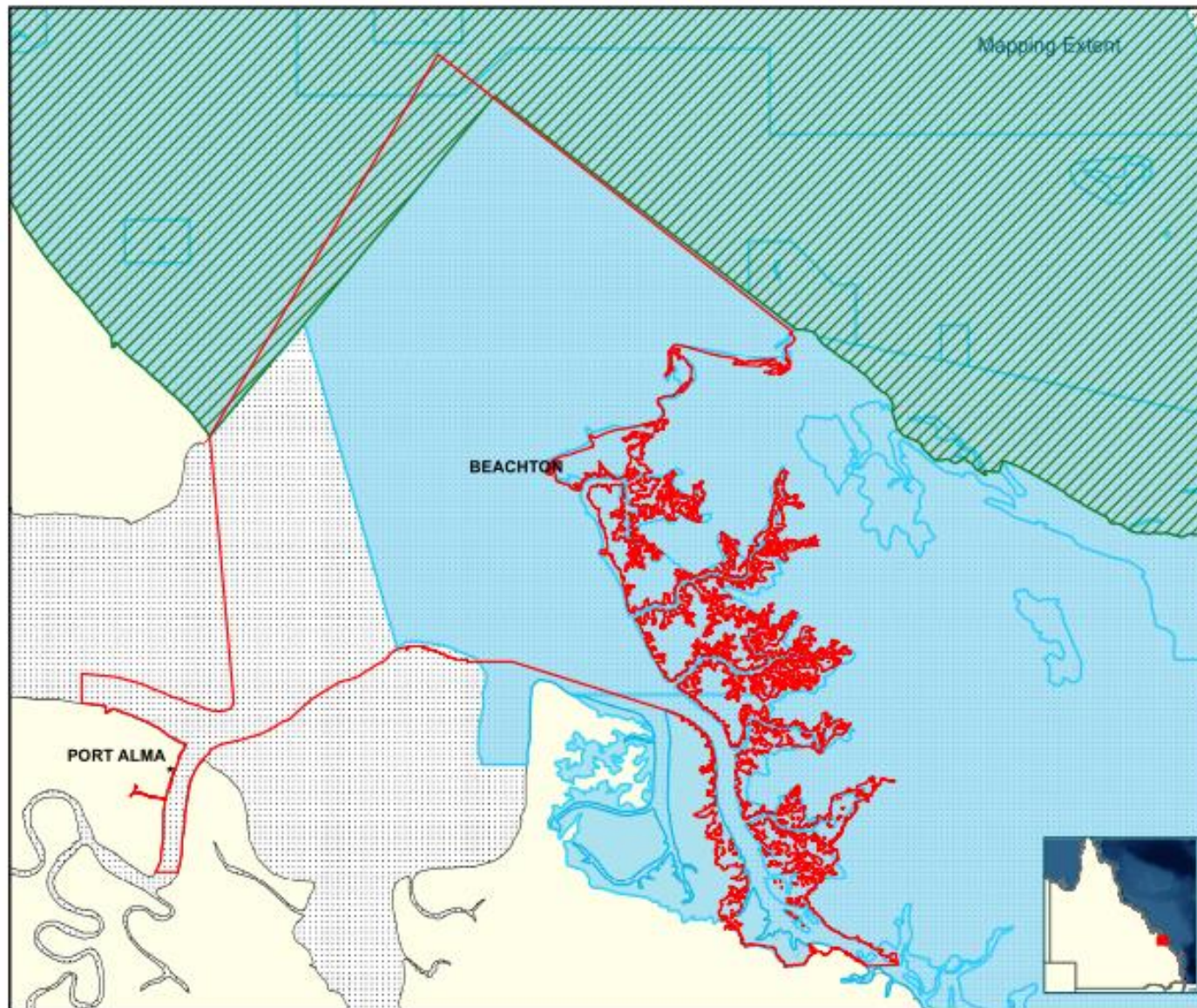
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PO Box 10182, CITY EAST, QLD 4002

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13 May 2015
Source: Recreation Management
Queensland Parks and Wildlife Service,
Department of National Parks, Recreation,
Sport and Racing.

Queensland Government GDA



PORT ALMA

1:161,986

Kilometres

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Legend

- ▬ Rockhampton
- ▨ Great Barrier Reef Marine Park
- ▭ State Marine Parks
- ▭ Great Barrier Reef World Heritage Area

NOTE: Marine parks do not include island e.g. Curtis Island

COORDINATE SYSTEM: GCS GDA 1984
 HORIZONTAL DATUM: GDA 1984

ACCURACY STATEMENT
 Due to varying sources of data, spatial locations may not coincide where overlaid.

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MAP PRODUCTION:
 12 Mar 2015
 Marine Resources Management
 Assessment, Parks and Access Division
 Department of National Parks, Recreation,
 Sport and Racing

Appendix 2: Condition of the Great Barrier Reef and the impacts of port development

The Great Barrier Reef was inscribed on the World Heritage List in 1981 as it meets four natural criteria for Outstanding Universal Value - superlative natural beauty, significant geomorphological features, significant ecological processes and significant natural habitat for the conservation of significant species.

The decline of the Great Barrier Reef

Half of the Great Barrier Reef's coral cover has disappeared in the past 30 years. Between 1986 and 2012, the overall cover of hard coral in the Great Barrier Reef fell from 28 per cent to 13.8 per cent⁷. In the southern third of the reef, the rate of coral degradation has been the most severe. Between 2006 and 2012, coral cover in that area declined from about 35 per cent to just 8 per cent⁸. That's a loss of over three-quarters in just six years. The loss is due to a combination of factors, including tropical cyclones, coral bleaching and water pollution. While coral reefs have a natural ability to recover from periodic disturbances such as cyclones; exposure to chronic pressures such as rising temperatures, poor water quality and elevated nutrient levels in the water, can reduce their resilience.

The Outlook Report 2014

The Great Barrier Reef Marine Park Authority is required to prepare an Outlook Report for the Great Barrier Reef Region every five years with the first produced in 2009. Many government scientists and researchers contributed and external experts provided independent advice on critical issues.

According to Outlook 2014⁹, the long term prognosis for the World Heritage Area is extremely concerning. The overall assessment is poor, with a declining trend. The report states:

*The Great Barrier Reef ecosystem is under pressure. Cumulative effects are diminishing the ecosystem's ability to recover from disturbances. Some threats are increasing, driven mainly by climate change, economic growth and population growth. The emerging success of some initiatives (such as improving land-based run-off) means some threats may be reduced in the future. However, there are significant lags from when actions are taken to improvements being evident in the ecosystem. More than ever, a focus on building resilience by reducing all threats is important in protecting the Region's ecosystem and its outstanding universal value into the future.*¹⁰

The impacts of dredging and sea-dumping

Dredging and dumping spoil in the Great Barrier Reef have devastating impacts on the marine ecosystem. Dredging and dumping of dredged material destroys corals, seagrass meadows, and ocean floor habitats. It disturbs the migration of aquatic species between inshore and outer reef areas and can change ocean currents. In addition, both dredging and dumping generate increased levels of sediment, which can fall onto coral and seagrass, interfering with their ability to survive. Sediments also increase cloudiness in the water, known as turbidity, which reduces the light available to algae and seagrass for photosynthesis¹¹. A wide variety of plants and animals in the Great Barrier Reef

⁷ De'ath, G. et al. (2012) The 27-year decline of coral cover on the Great Barrier Reef and its causes. Proceedings of the National Academy of Sciences of the United States of America, 109 (44) 17995-17999.

Available from: www.pnas.org/content/109/44/17995.full

⁸ Great Barrier Reef Marine Park Authority (2014). *Great Barrier Reef Outlook Report 2014*, GBRMPA, Townsville.

<http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report>, page 20

⁹ GBRMPA (2014)

¹⁰ GBRMPA (2014) p.vi

¹¹ Australian Marine Conservation Society. Dredging, dumping and the Great Barrier Reef. [Online] Available from: www.marineconservation.org.au/data/REEF_DREDGE_Doc_Spreads.pdf

rely on seagrass beds for food or shelter, including threatened animals such as dugongs and green turtles¹². Therefore, damage to seagrass from dredging and dumping can have far-reaching consequences for marine life.

Recent evidence has shown that dredging can more than double the level of coral disease in reefs, as the corals affected by sedimentation divert their energy reserves into cleaning the additional sediment from their surface¹³. This can lead to chronic stress, making the corals more susceptible to disease.

Independent science declarations

Two independently authored science declarations have also raised concerns about the impacts of coastal industrialisation. The first, co-authored by Professor Hugh Possingham, an Australian Laureate Fellow and Director of the Australian Research Council Centre of Excellence for Environmental Decisions, was released in June 2013 and was signed by more than 150 scientists from 33 Australian institutions. It said in part:

Recent scientific evidence continues to document a very serious decline in the quality of the Great Barrier Reef's inshore habitats and the abundance of key species ...

*As scientists, we therefore are concerned about the additional pressures that will be exerted by expansion of coastal ports and industrial development accompanied by a projected near-doubling in shipping, major coastal reclamation works, large-scale seabed dredging and dredge spoil disposal – all either immediately adjacent to, or within the Great Barrier Reef World Heritage Area.*ⁱ

The second joint letter, co-authored by Dr Selina Ward, a leading coral reef expert from the University of Queensland, was released in January 2014 and was signed by 240 Australian scientists. It said in part:

*Sediment from dredging can smother corals and seagrasses and expose them to poisons and elevated nutrients ... The Great Barrier Reef is already under stress from climate change and land use practices. In order to increase the resilience of the reef, we need to improve water quality as much as possible, rather than pollute the reef with further industrialisation ... Increasing ship movements through the GBR will increase the probability of ship groundings, oil spills, animal strikes and the introduction of marine pests.*ⁱⁱ

“Coastal reefs have been obliterated by runoff of sediment, dredging, and pollution. Once-thriving corals have been replaced by mud and seaweed... We have affected their survival, growth, and reproduction, which is the real reason why coral cover has been declining for many decades.”

- Terry Hughes, head of the Australian Research Council Centre of Excellence for Coral Reef Studies¹⁴

ⁱ Declaration by concerned scientists on industrial development of the Great Barrier Reef coast; June 2013; http://media2.apnonline.com.au/img/media/pdf/Science_statement_020613.pdf

ⁱⁱ Letter from concerned scientists to Prof Russell Reichelt, chairman of the Great Barrier Reef Marine Park Authority; January 29, 2014; http://awsassets.wwf.org.au/downloads/mc_scientists_statement_reject_dumping_permit_gbr_29jan14.pdf

¹² Great Barrier Reef Marine Park Authority (2005) Environmental Status: Seagrass. [Online] Available from: www.gbrmpa.gov.au/__data/assets/pdf_file/0007/3976/

¹³ Pollock, F.J. et al. (2014) Sediment and turbidity associated with offshore dredging increase coral disease prevalence on nearby reefs. PLoS ONE 9 (7) e102498. [Online] Available from: www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0102498

¹⁴ Hughes, T (2013) “Great Barrier Reef: World Heritage in Danger?” National Geographic. June 2013