

Ref2009/5183 The Administration of Norfolk Island/Natural resources management/Kingston Norfolk Island/ Seabed dredging adjacent to Kingston Pier.

Public comment by

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Summary

I believe this project has important value for the economic status of the island however it requires more detailed planning and specifically it requires more systematic baseline oceanographic and biological surveys to be carried out by qualified personnel to inform appropriate environmental monitoring and management of the proposal.

My comments are summarized below. A detailed discussion on specific aspects of the referral follows.

General comments on aspects of the referral that are either absent, understated or incorrect

1. The referral fails to adequately address the potential impacts to the listed green turtle, hawksbill turtle and Booths pipefish that occur in or near the project area.
2. The referral fails to address the potential impacts from dredge induced turbidity on the rare and unique coral ecosystems within the Kingston lagoon.
3. There is a lack of systematic regional biological surveys using suitably qualified and experienced marine scientists. Baseline and post construction biological surveys are required.
4. There is no map of the bathymetry of the seabed
5. There is no information on tidal water movements in the Kingston area.
6. A thorough literature review on Norfolk Island flora and fauna has not been conducted
7. There appears to be no plans to carry out dredge plume and dewatering discharge plume modeling
8. There is no indication that a dredging management plan will be produced. This plan should outline monitoring that will be conducted during dredging and management actions that will be taken if preset trigger levels are reached (eg TSS levels exceed a predetermined level with a buffer zone off Slaughter Bay).
9. There is no evidence of Public Consultation with the Norfolk Island Community.
10. There has been no consultation with marine biologists in Australian and New Zealand who have worked on Norfolk Island's marine flora and fauna.
11. There has been no engagement with local personnel who have specific knowledge of the area, e.g. tour operators, dive operators, marine crew and the Norfolk Island Flora and Fauna Society members.

Detailed comments

The following comments are referenced against the appropriate referral section number.

1. Summary Section

1.10 Where is the EIS? It should be made publicly available.

1.11 Suggest the detail from 3.3(I) should be included here. The installation of the landing pontoons for cruise ship passenger offloading is the driving force behind this proposal, the installation of pontoons is therefore the larger action that the dredging is part of.

1.12 Ibid

2. Detailed description of proposed action

2.1 What geotechnical studies have been done to inform the design of the dredging program? It is not possible to adequately plan, monitor and manage the dredging program in the absence of this critical data.

It is not clear from plate 3 exactly what will be dredged, nor the extent of the temporary ramp. Detailed required includes a description of how the ramp will be built, eg will rock be dumped 6m wide along the whole 150m length of the ramp? How will the surface be stabilized to allow access for the excavator? Will fill be required to form a stable road bed for the excavator to work from? How will this be removed at the end of the project so that the fill does not get washed into the ocean?

How will the temporary ramp be stabilized during storms so that it is not washed into the existing navigable deep water adjacent to the jetty? If the rocks from the temporary ramp are scattered across the currently navigable water of the bay by storms what are the contingency plans for removing them? By the proponents own admission (section 3.1(f) their previous experience in Ball Bay with this type of ramp structure has proven how unstable they can be and also how much turbidity can arise from the fine material being washed into the ocean. It should be noted that no pre (baseline) or post project biological surveys were conducted for the Ball Bay project and hence the conclusions regarding a lack of significant impact has absolutely no basis in fact.

Is the 6m ramp width wide enough to provide a stable work platform for an excavator to sit upon? Is it possible this structure will need to be enlarged once the project commences? If so will the proposal require reassessment under the EPBC act?

2.2 Why is there no alternative time frame? The island has lived with the existing jetty structure for over 150 years, another year to plan and execute this project properly would be well spent.

The comments regarding alternative dredging methods are factually incorrect. The statement that a Cutter Suction Dredge cannot cope with 'cemented rocks and small boulders' is not true. This is exactly what the large drill like cutter on this type of dredge is used for. The suggestion that this material would need to be blasted if a cutter suction dredge was used is also not true, the very purpose of a Cutter Suction dredge is to break up rock before suctioning it up, thereby avoiding the need to blast.

I recognize the costs of bringing a cutter suction dredge to the island would be substantially higher than using the excavator but if the project is planned and assessed more carefully it may in fact prove to be cheaper and more environmentally responsible in the long run.

2.3 Context, planning framework and state/local government requirements

What evidence is there for the current water depth at the jetty impacting on litterage operations?

Where or how is this project being assessed for general Non EPBC Act environmental impacts and for social impacts?

If the Norfolk Island Administration is the proponent on the project who or what outside agency is assessing the environmental impact assessment for the project? It would appear there is a major conflict of interest if the NI Administration Environmental Minister was the person to assess the environmental acceptability of a project proposed by the Ministers own governing body.

2.4 Environmental impact assessments under Commonwealth, state or territory legislation

What EIA's have been prepared? The referral does not address this suggesting that the island has no legislation to require an EIA for this type of proposal.

3.1(a) World Heritage Properties

The referral failed to address the impacts on World Heritage values.

3.1 (b) National Heritage Places

The referral does not provide any detail on why the area is listed as a National Heritage Place which makes it difficult to comment. The referral states there will be no impact on heritage values then goes on list the impacts on these values!

3.1 (d) Listed threatened species and ecological communities

3.1 (e) Listed migratory species

1. Hawksbill and green turtles have been recorded in the waters off Norfolk Island (Pendoley and Christian, pers obs) . Both are listed species and should be included in this section.
2. This section is not adequately addressed. There has not been any formal systematic scientific studies carried out on the listed threatened species, ecological communities or migratory species that can be used to determine if the proposal will have a significant impact or not.
3. The ecological communities in Slaughter and Emily Bay and in Cresswell Bay have not been mapped or studied . No reliable marine fauna list exists for the island.
4. The relevant reports listed in the description of Section 3.1 (e) need to be made publicly available, e.g. the KAVHA Water Quality Management Plan 1997, Davidson 1997.

The site based biological studies conducted on behalf of the Norfolk Island government need to be made available to the wider scientific community so that the methods and analysis used can be peer reviewed. It is not clear from this referral if suitably qualified marine biologists have conducted sufficiently detailed surveys to be able to state with any confidence if listed threatened species or ecological communities or listed migratory species are present in the area or not. Consequently it is impossible to determine if a 'significant' impact on these values is likely to occur or not.

The referral there for does not provide any supporting information to the statement that "there are no listed threatened species or communities, or listed migratory species that either rely on habitats in the area in the immediate vicinity of the pier, to breed or utilize to a significant extent for any other significant biological or ecological requirement such as shelter or feeding."

Re the Table of listed species (page 11)

- Excludes hawksbill turtle (*Eretmochelys imbricata*). A mature hawksbill was photographed in Cresswell Bay in 2005)
- Incorrectly states there are no modern records of green turtles near the pier. Literage crews regularly see adult green turtles of the jetty. This was confirmed by a turtle biologist who documented a green turtle observation off the Kingston jetty on 16 Jan 2006 during ultralight aerial surveys of the marine turtles around the island (pers obs, Pendoley and Ryan 2006)
- The list excludes the many of the 65 threatened, 20 migratory, 28 cetacean and 13 listed marine species from DEWHA's own lists of threatened species for Norfolk Island, including the ray finned fish, Booths pipefish.
- The referral does not include any data on oceanographic processes in this area. Nor does it provide any indication that dredges plume modeling will be carried out.
- The referral lacks any baseline data on the total suspended solids levels of the Kingston jetty and lagoon areas. This data is critical for monitoring pre and post construction impacts and for modeling purposes.
- It fails to acknowledge that the uniqueness of the reef habitats contained within the Kingston lagoon (east of the project area). This habitat is potentially exposed to elevated turbidity from the dredging project and given that the corals are living close to the limits of their range already and therefore vulnerable to disturbance, any additional stress may result in irreversible impact on the entire ecological community.
- The referral refers to surveys done by personnel who lack the scientific qualifications to support their claims that the species and ecosystems are not unique and will not be impacted by the project, it ignores the Administration's own report that addresses the high conservation value of the Kingston lagoon areas. Detail extracted below

Norfolk Island Natural Resource Management Plan, 2009. Prepared by Parsons Brinkerhoff for the Norfolk Island Administration, June 2009, available online at http://www.info.gov.nf/land&env/NRM_Plan/Final%20NRM%202009-1.pdf .

The pertinent sections from the plan on marine biodiversity are extracted below.

"The inshore waters of Norfolk, Phillip and Nepean Islands support one of the southern-most coral assemblages in the world. The coral reef ecosystem at Norfolk is one of the few known examples of

a transitional algae and coral assemblage (an unusual mix of tropical and temperate marine fauna and flora due to the alternating influence of warm and cool currents at the Islands) (Kuster, 2001). The reefs are not actively accreting and are, therefore, not true coral reefs. The reefs occur as a thin veneer over the rock substrate and their rates of growth are slow in subtropical waters, therefore they are growing at around the same pace as their erosion and physical destruction (Kuster, 2001 and Zann et al, 2001)", and

"A survey on the reefs in 1999 found that the inshore benthic communities are dominated by relatively few species of subtropical hard corals co-existing with a high diversity of algae. The 57 species of scleractinian corals, in 27 genera in 11 families, comprises a unique association of tropical and temperate species of global biodiversity value. While species diversity on Norfolk was moderately high, six species accounted for almost half the coral coverage. These are mainly specialised subtropical species. The majority of the other species are uncommon to rare (Zann et al, 2001). These coral communities form part of a chain of reefs that may be essential in maintaining a supply of larvae dispersed from source reefs to the west, probably Lord Howe Island, Elizabeth and Middleton Reefs. The low diversity of coral species combined with marginal temperatures for coral growth at high latitudes indicates that the coral communities are vulnerable to disturbance (Kuster, 2001)."

The referral states that high TSS levels in Ball Bay resulted in no significant impact on the inshore marine environment of Ball Bay. As far as I am aware no baseline studies were carried out in Ball Bay (none are publicly available) nor were any post construction studies done. It is therefore not clear where the evidence to support the statement of no impact comes from and it is inappropriate to use this information to support the current proposal.

Attachment 1 is missing.

4 Measures to avoid or reduce impacts

Vibration; what trigger limits will be set for vibration management?

Damage to Heritage buildings and ruins; the Heritage archaeological survey should be carried out first so that the final project plans can be assessed fully

Turbidity; This section understates the potential impact and does not adequately address the management of turbidity. The suggestion that silt curtains will be used to reduce the spread of turbid waters is highly questionable given the high wave energy typically found in the area. The proponent should provide more detail on the type of curtain to be used and when and how it will be deployed.

Drainage and runoff; how will turbid drainage water from the dewatering pond be monitored and managed.

7.1 References and 7.2 Reliability and date of Information

All the references should be made publicly available. The referral relies heavily on unpublished gray literature or reports by local personnel with inappropriate qualifications for the work.

The information sources are either unavailable, old or unreliable since the authors of the information are not appropriately qualified in the subject area (eg Davidson and Marges). There was no consultation with the Norfolk Island Flora and Fauna Society.

A quick search of the internet found a number of online reports that should have been consulted. A brief list includes

Millar, ADK, 1999, Marine Benthic Algae of Norfolk Island, Australian Systematic Botany.

Iredale, T, 1940 Marine mollusks from Lord Howe, Norfolk Island, Australia and New Caledonia.

Randall, e and T Gueze, 1992. A new goatfish (Perciformes:Mullidae) from Norfolk Island and New Zealand, Cymbium.

Francis, MP, 1996. Geographic distribution of marine fishes in the New Zealand region.

Randall JE and M Francis. 1993. *Parapercis colemani*, a new pinguipedid fish from Norfolk Island south-west Pacific Ocean.

Etc...