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Great Barrier Reef Marine Park Authority
Assessments Team
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24 March 2015

Re: *Department of State Development, Infrastructure and Planning/Transport - water/Boat Bay, 2km north of Mission Beach/QLD/Mission Beach Safe Boating Infrastructure Project*

Thank you for the opportunity to comment on this Application.

Please find our summary remarks and detailed comments below.

We urge the GBRMPA to exercise the discretion available in the permit assessment process in favour of protecting the longevity of the natural values (scientific and aesthetic), integrity, and Outstanding Universal Value of the GBRWHA.

Yours faithfully

Margaret Moorhouse (ASH)

SUMMARY

The Alliance to Save Hinchinbrook Inc (ASH), a participant in the Cassowary Coast Alliance network, is opposed to the proposed construction of the artificial rock reef/island/breakwall near the end of the Perry Harvey jetty at Mission Beach.

ASH finds the Aurecon documents to be of poor quality; lacking in professional and scientific rigour. They fail to provide pertinent information, there is a paucity of real-time data and investigations, complete omission of any reference to the aesthetic values of the GBRWHA, a superficial approach to building such a large structure in a Habitat Protection Zone of the GBR Coastal Marine Park, a failure to

carry out public consultation appropriate to the protection of a world heritage area, and a lack of integrity in the process.

The Aurecon Public Information Report, Summary and Appendices do not satisfactorily address the potential impacts on the GBRWHA. Further, the documents are prolix, repetitive, vague, speculative and incomplete (eg Sect 6.2.1.2, where tank tests for wave action are used to support the project but without reporting the results of the testing). They read more like a promotional brochure than the technically accurate data and appraisal they should be.

Artificial islands/ reefs/breakwaters offend against both scientific (ecological) and aesthetic values, detracting from the UNESCO evaluation of the GBRWHA as a property achieving Outstanding Universal Value.

There has been no demonstrated need that this proposal would satisfy.

All the consultant documents must be submitted for expert review. Given their obvious poor quality and omissions, the mandate for protection of the GBRWHA, and the current scrutiny of the UNESCO, nothing less than a full, detailed expert review could be considered adequate as a basis for assessment of this project.

We submit the following:

Requirement 88Q (a) the potential impacts of the conduct proposed … on the environment and on the social, cultural and heritage values of the Marine Park or a part of the Marine Park; 88Q (c) if the proposed conduct will take place in an area to which a zoning plan applies—the objectives of the zone as set out in the zoning plan).

The proposed construction will have a number of impacts on the ecological and aesthetic values of the GBRWHA, including cumulative and consequential impacts.
The proponent has not adequately addressed, or has not addressed at all, the ecological impacts and their consequences for the GBRWHA; although other assessment standards may be applicable, those by which the Great Barrier Reef World Heritage Area (its OUV, its values and integrity) are protected are the standards which must be satisfied. Whether the GBRMP Act and this process are capable of protecting the GBRWHA remains to be seen.

Requirement 88R (b) the effect that the grant of the permission will have on public appreciation, understanding and enjoyment of the Marine Park).

A rock island, whatever its name, will function as an artificial reef. If this reef is approved it will only encourage other lovers of artificial reefs to demand further reefs to be built. The effect on

public appreciation will be to downgrade the character of the area and change the way people appreciate it; shifting the focus away from its intrinsic values (Presentation as required under the World Heritage Convention) and towards its utilitarian values *(consideration under*

88Q (f) any other matters relevant to the orderly and proper management of the Marine Park.

(1) The DSDIP itself (*Improved boating infrastructure for Mission Beach) states:*

> ***Safe anchorage (all weather harbour)*** *Not feasible due to cost, approval requirements, environmental impact and stakeholder objections*

The proponent should have ensured that all mention of 'safe harbour' was removed from all project documentation. Despite the above verdict of non-feasibility, the proponent has nevertheless failed to clarify the more important fact that that there can be no safe harbour at Mission Beach because of its location on an open coast unprotected by substantial natural structures from prevailing wind and sea. This has relevance for Requirement (k) *any other matters relevant to achieving the objects of the Act,* because the repeated references to 'safe' and 'safety' keep alive in readers' minds the myth of 'safe harbour' when considering this Application.

(2) The consultation referred to by Aurecon does not satisfy UNESCO's express demand that world heritage protection is a matter on which local and regional communities (not just selected 'stakeholders' such as user groups) must be consulted.

(3) Should this proposal be approved it will set a precedent for further rock reefs within the GBRWHA, an impact affecting the natural geomorphological structure of the coast as a natural value (scientific and aesthetic) of the GBRWHA.

(4) Projects with such important ongoing and consequential impacts should be subjected to a full EIA process, not merely granted by permit.

(5) The proposal has progressed to this point through a corrupted process (see detail below, under heading *Project rationale and history*):

(6) This potential conflict of interest of the consultants must also be taken into account. Consultants get paid for regurgitating stock responses for formulaic promotions and negotiation processes for which there is no expert or peer review, leading to the present prolix style of promotion and persuasion rather than a clinical and detailed analysis of the project (Q88 (f)).

Note: Subsection 7(3) of the Great Barrier Reef Marine Park Act 1975 provides that the Authority must, in managing the Marine Park and performing its other functions, have regard to, and seek to act in a way that is consistent with, the objects of the Act, the principles of ecologically sustainable use and the protection of the world heritage values of the Great Barrier Reef World Heritage Area.

(1) The UNESCO is currently working towards a decision as to whether or not to place the GBRWHA on the world heritage in danger list.

(2) ESD and the PP: at the last Environment Round Table (ERT) before the election in which the Bligh Government lost office, a senior spokesman from Premier's Department advised that ESD was no longer being applied by the Premier's Department. At the next ERT (the first under the Newman Government) another spokesman from Premier's Department made it very clear that ESD and the Precautionary Principle (PP) were no longer in use by the Queensland Government. At the most recent ERT (26 Feb 2015), the Minister replied to a question about the present government's position in relation to ESD, the PP and Whole of Government decision-making, by saying he would get back to us with the government's response.

88R(j) whether the applicant … is a suitable person … having regard to (i) the applicant's history in relation to environmental matters; …

The Queensland Government is the proponent. The Queensland Government has an appalling history in relation to coastal development, having in 2012 abolished the only statutory instruments (the Regional Coastal Management Plans) which protected the GBRWHA coastal strip and coastal waters in ways appropriate to its world heritage significance. The state government is entirely responsible for all the impacts on the GRBWHA emanating from coastal development.

The Queensland Government has invited private developers to build a marina at Mission Beach as follows:

> Notwithstanding these drawbacks, there is nothing preventing a private proponent from seeking finance and the necessary regulatory approvals to construct a private harbour or marina (*FROM DSDIP: –"Improved boating infrastructure for Mission beach").*

There can be no doubt that a Marina would have enormous environmental and aesthetic impacts. This is a measure of the respect in which the state government holds the GBRWHA.

This history and recently expressed intention should militate against approval. The fact that the proponent is a state government and contributes to the funding of the GBRMPA should not lead to the available discretion being used to ignore this history.

This project was given state Major Project status fairly obviously to get it fast-tracked past appropriate examination (EIS, EIA). No thought of the impacts on the GBRWHA.

(1) The Commonwealth Government relied on a scale argument to deny an EIS to this project, a project that had Major Project status at state level, thus ensuring there would be no appropriate public discussion or assessment of potential adverse impacts on the GBRWHA,

other than through the GBRMP permit assessment process; under an Act whose object and provisions have been shown to be inadequate for the protection of the GBRWHA.

(2) The project was clearly a pre-election bribe to the project promoters; as evidenced by the ambiguity maintained by Bob Katter and Wayne Swan in relation to the role of past minority government negotiations with Julia Gillard and the formal purpose of the Commonwealth grant.

(3) The factual conditions attached to the Commonwealth funding for this proposal have not been honoured. The Commonwealth clearly stated that the money was to be used only for a scoping study, and that only if that study supported such a proposal could any remaining moneys be spent on construction. No scoping study, no other requirement of the funding allocation, and no formal public consultation, have been carried out.

(4) In view of its historical and political context, should this proposal be approved it will undoubtedly prove to be problematical in operation (not fit for purpose) and will create a demand for further and much larger constructions - as has been promoted by a variety of developers and dreamers over many years.

(5) Neither 'safety' nor the stated objectives of the MBSBIP have been quantified.

(6) The title '*Mission Beach Safe Boating Infrastructure Project' (MBSBIP)* is grossly misleading. The MBSBIP cannot reasonably be described as a 'safe boating' project unless the purported gains in convenience and/or safety are quantified.

Project rationale and history

This proposal started as a freestanding underwater rock reef, in the context of developer demands for a free-standing artificial island marina in Boat Bay.

The goal of providing "Safe Boating Infrastructure" may be laudable in itself but the concept has been confounded from the outset by promotion of the "safe harbour" idea. Without construction and dredging as for an industrial port there can be no safe harbour at Mission Beach. Any vessels left in Boat Bay during storm conditions have been abandoned to potential destruction on the shore. No boats should be allowed to be left there during bad weather, because of the risk of damage to the coastal vegetation should the boat be swept ashore.

The original driver for this proposal was the availability of $5.5 million provided by the Commonwealth to the Queensland government. On 26 June 2012, The Hon. Simon Crean, then Minister for Regional Australia, wrote to the Hon. Jeffrey Seeney, Deputy Premier of Queensland and Minister for State Development, Infrastructure and Planning, as follows (in part):

The major milestone of this project is to undertake a scoping study. Terms of Reference for this study would need to be developed by the Queensland Government in consultation with the Australian Government. The recommendations from the scoping study would be reviewed and considered jointly by both governments. Following this, a community consultation process would need to be undertaken and community views considered before any decision by governments to proceed with the construction of a safe anchorage.

Should the project proceed to construction, the remaining funds are to be used for this purpose and, subject to your response, officers of the Australian and Queensland Governments will work to settle project details within the allocated funding. The Australian Government funding is capped at up to $5.5 million and will be paid in advance to the Queensland Government in the 2011-12 financial year. Any funding that is unspent at 30 June 2014 would be returned to the Commonwealth.

Further, we are aware of the **crucially uninformed basis of the funding allocation**. In response to a request for a Statement of Reasons for the funding allocation, the Alliance to Save Hinchinbrook received a letter dated 13 December 2012 and signed by The Hon. Wayne Swan, Deputy Prime Minster and Treasurer (Commonwealth). It stated, in part:

> *The Australian Government received strong representations on the need for an all-weather boating facility in the region to increase maritime safety and to support the continued development of the local community and economy, particularly as they continue to recover from the effects of Cyclone Yasi. The decision to assist the Mission Beach community in undertaking a scoping study for a boating facility, and if supported, the subsequent construction of such a facility, was a matter for the Australian Government. Consistent with this, I authorised a payment of $5.5 million to Queensland under the Federal Financial Relations Act 2009 (FFR Act).*

This position was further confirmed by the present Queensland Government in a media release of 10 July 2012 by The Hon. Andrew Cripps (now Minister for Agriculture and Regional Queensland):

> *"I'm concerned that Mr Katter and Mr Swan have portrayed this as funding for the construction of a safe boat harbour facility at Mission Beach. This is not the case. The Queensland Government has been offered funding to do a scoping study and public consultation on this issue," said Mr Cripps.*
>
> *"The letter from the Commonwealth clearly says the State must do a scoping study and go through yet more public consultation about a safe boat harbour facility with the $5.5 million on offer. If there is any left after that, only then can the remaining amount go towards any infrastructure project," said Mr Cripps.*

The GBRMPA has access to sufficient expertise to be well aware that there can be no 'all-weather boating facility' or 'safe harbour' at Mission Beach. Due to these and other considerations, this proposal has been put forward under many descriptors, in an attempt to convince the public and the GBRMPA that something amounting to 'safe harbour' is attainable in Boat Bay.

Although the stated purpose of this proposal is for shelter for ambient conditions, the project has been promoted in the context of a 'safe harbour' proposal, of which this will inevitably become the first step once users discover that it does very little to provide shelter for jetty landings.

There are several other proposals for artificial islands and marinas within Boat Bay. Regardless of its purpose, an overtopping breakwater comprises a rock reef. Its approval would create a precedent for similar structures within the GBRWHA, for a variety of 'reasons' including for fishing.

This proposal has arisen out of converging realisations that a marina is not *officially* on the current agenda for Mission Beach and that there remains an unrealistic desire for a 'safe' boat landing on an open high-energy coast, coupled with the availability of Commonwealth moneys promised prior to an election, *but only for a scoping study.*

Pile moorings associated with an artificial island or reef (as proposed) in effect constitutes a marina – see Abel Point marina, Airlie Beach, a series of artificial rock islands with boats moored to landward of the structures.

If this first step (this proposal) is approved, there is no doubt it will become the basis for one of the long-proposed artificial island marinas – a consequential impact of this proposal.

We note also that marinas are a much favoured form of development in Queensland because of the associated privileged access to low lying land for subdivision sales (see Colliers International (Brisbane) research analyst Alison Timchur published 2008 'marina berths have become the new "*clever investment*" …'). Mission Beach area already has 100 years' worth of housing subdivisions approved (and not being built) and has no *need* of further subdivisions. Marinas are pushed by land developers and speculators for the quick returns they hope to get from other people's investments – 'Port Hinchinbrook' a classic case – as well as by the ability to market subdivisions for more than they are worth in the proximity of an about-to-be-built marina. In the case of Mission Beach, such advertising has continued for many years based on one or other of the not-yet-applied-for marinas, leaving purchasers anxious to recoup their perceived losses and lost capital gain opportunities by, in turn, promoting the 'need' for a marina.

'Port Hinchinbrook' was built as a boat harbour at Oyster Point near Cardwell on the basis of 'necessity' and its unevidenced but proponent-claimed cyclone protection, being to the west of Hinchinbrook Island, despite the government's own technical advice that the site was entirely unsuitable, including on the ground of sea surge. Mission Beach is much more exposed than Oyster Point; after the cyclones of recent years there can be no doubt as to its vulnerability to high-energy cyclone wind and wave energy, exacerbated by sea surge and wave set-up.

Boat Bay is wide-open to every passing cyclone. The new insurance company practice of insuring boats left in such exposed marinas (rather than removing them to a safe anchorage, as was the practice only about 10-15 years ago) has created a new hazard for the GBRWHA – multiple vessels blown ashore (as at 'Port Hinchinbrook'). There is no requirement in Queensland for marina and mooring piles to be built with freeboard to be effective at HAT with (say) two or three metres of storm surge and sea set-up. At Breakwater Marina Townsville, for instance, there is no more than 1.2 metres freeboard above HAT on the old piers, and about half that on the new piers.

Anchoring in mangrove creeks is the time-honoured, seamanlike and successful way to protect a small vessel from the high winds and wave action of a cyclone. We note that some thirty vessels anchored within the Hinchinbrook Passage survived Category five Cyclone Yasi with minimal or no damage, while those left in the 'safe harbour' of the 'Port Hinchinbrook' marina and canal estate were almost all lost.

Abandonment in a 'safe harbour', the new trend driven by enforced evacuation of marinas and insurance company policies, has a high risk of causing damage to and pollution of the GBRWHA, and especially so at Mission Beach.

The risk of vessels moored at Mission Beach is not only in the immediate and obvious adverse impacts on the natural values of the GBRWHA (ecological and aesthetic), and the failures in Protection and Presentation (duties under the World Heritage Convention), but in the high risk of significant damage to the highly valued and 'protected' littoral rainforest and other important vegetation along the shore of Boat Bay. Boats blown ashore in high winds will do enormous damage to the shore vegetation, which will take a long time to rehabilitate and require human intervention. The shore vegetation of Mission Beach has survived cyclones but it will not survive battering from storm-driven vessels.

FACT: The current proposal for construction of an artificial rock reef or island near the end of the Perry Harvey jetty has not been subjected to the scoping study required by the Commonwealth Government.

Political bargaining has been allowed to override proper process and has pushed the Commonwealth into a decision on narrow grounds rather than considering all the implications for the GBRWHA. The Commonwealth has participated in a decision-making process for a project which has not met its most basic condition – the implementation of a scoping study.

Strong assurances have been given repeatedly, by State Department officers, to some Mission Beach residents, to the effect that *approval will not be refused by the GBRMPA.* Despite the recent failure of the GBRMPA to protect the GBRWHA from the seadumping of dredge spoil, we hope the state departmental opinions do not reflect a view that the GBRMPA is industry-captured; but instead, indicates an attempt to damp down local opposition to the proposal.

Artificial reefs and the natural values of the GBRWHA

The proposed concept has been billed as a wave-attenuation device, described as an overtopping rock breakwall. The large artificial rock island breakwater will always be visible, even above HAT.

During neaps, it will be exposed all the time; at other times awash, a hazard for vessels heading for the jetty with the wind and wind waves behind them, as is the typical case.

As a hazard to vessels, by law it is required to have navigational marks to be built upon it and to be lit. The only other such constructions within the GBRWHA are associated with marinas and ports. Lit leads and marks comprise new free-standing and unmissable night time impacts on the natural aesthetic of Boat Bay, as well as having adverse ecological impacts.

The risk of a safety 'requirement' for leads, lit leads and other navigational marks and lit navigational marks, comprises a consequential impact.

We are aware of the existing rock walls built in very close proximity to the land, technically freestanding but joined by a bridging section, their nominal isolation most accurately described as a legal fiction to avoid the complications of re-proclaiming marine park boundaries. The proposal for the Perry Harvey jetty cannot be included in this category. It is truly freestanding and not in close proximity to any natural part of the terrestrial land.

We appreciate that there is constant pressure to build structures along the GBRWHA coast. To date these have been built virtually without limit, according to the whim of land developers, who always claim 'need' and whip up apparent loud community support by appealing to greed or promising improbable panaceas to newly perceived problems.

Other artificial reefs have been proposed for the GBRWHA, including most recently at Bowen (*Bowen may get a free artificial reef from North Queensland Bulk Ports Corporation in "corporate goodwill",* Townsville Bulletin, December 23, 2013, attached).

The purpose of an artificial reef is to attract a new fish population, an explicit admission that a predictable outcome of a rock reef is a marked change to the ecology of that part of the GBRWHA. This being the case, it makes no difference how the structure is described: a change in the ecology of that part of the GBRWHA will be the assured outcome.

Aesthetic values: beauty

The first descriptive term used in both the short and long UNESCO descriptions of the GBRWHA is 'beauty' – part of the natural value of the GBRWHA. The great beauty of the GBRWHA is noted by the UNESCO descriptions at every scale – from whole reef patterns visible from space, to tiny underwater organisms and processes.

The incremental loss of natural beauty is of concern to the UNESCO:

> *Apart from loss and fragmentation of habitat coastal development causes, the rapidly expanding development of the area is further threatening considering its cumulative and combined effect and the absence of any strategic vision or target that defines up to which point coastal development jeopardizes the natural beauty and integrity of the property.*
>
> (UNESCO MISSION REPORT Current threats, Coastal development, p27)

Aesthetic value arises entirely from and within the formal properties of the natural features, hence must be protected in perpetuity along with the natural features of the GBRWHA.

Aesthetic value may be observed by all the senses, not just the visual. The formal properties of natural features include sounds, smells, textures, etc.

Being inherent in natural features, the aesthetic value of the GBRWHA is not a matter of personal opinion, or 'taste'; it is not something that can be changed or enhanced; it is something that *is there* and must be protected *as is* for every generation, to be appreciated regardless of cultural background, education, or personal history.

Aesthetic values and visual amenity are entirely different concepts.

(1) 'visual amenity' applies only to the visual.

(2) 'visual amenity' refers to a subjective appraisal or opinion of pleasantness and comfort, and is person-centred. Visual amenity can change from time to time according to cultural and lifestyle norms, because it is based on what people like.

(3) Visual amenity can never be a surrogate for world heritage aesthetic value.

The GBRMPA holds my formal critique of the CONTEXT Report on the *Aesthetic Values of the GBRWHA.* In my critique I have shown the many mistakes the CONTEXT authors have made in trying to make the UNESCO concept fit into a visual amenity framework, one which offers operationalisation in terms already understood by consultants and departmental staff. This is like looking under the street light for your car keys when you have dropped them somewhere else.

We appreciate that the aesthetic values of the GBRWHA have not been enumerated and described in detail (except for the Hinchinbrook Region, Valentine 1994), and that not all the aesthetic values contribute to the OUV, but these are not reasons to incrementally downgrade them. The ports on the GBRWHA coast have extended their destruction of aesthetic values well beyond the boundaries of the port areas (as noted by the UNESCO), and the Hinchinbrook Channel (valued for its extent of untouched coastal vista) has been truncated and diminished visually by the development of 'Port Hinchinbrook'.

The relatively untouched coasts such as Mission Beach must not be allowed to go the same way for the sake of spending Commonwealth moneys on a project of dubious worth and corrupted process. Here is Aurecon's attempt to dismiss the importance of the aesthetic value of Mission Beach:

> *However, 'superlative natural beauty' suggests an aesthetic or natural value which is outstanding or unparalleled. While lightly developed, Boat Bay is not pristine as it contains an existing public boat ramp and jetty. The Bay is also designated as a State Reserve for Boat Harbour purposes, and has historically provided an important point of access to the GBR and offshore islands. The existing tenure of Boat Bay reflects its suitability for accommodating maritime infrastructure (*Public Information Package Mission Beach Safe Boating Infrastructure Project*).*

The above is to entirely misunderstand – or misinterpret – or intend to misinform and persuade the decision-maker – as to the import of the UNESCO wording they quote. For the GBRWHA to retain its WH listing it must have *integrity*. It was not listed as a collection of isolated beauty spots to be defined by consultants who depend on developers for their living.

This potential conflict of interest of the consultants must also be taken into account. Consultants get paid for regurgitating stock responses for promotions for which there is no expert or peer review, leading to the present prolix style of promotion and persuasion rather than a clinical and detailed analysis of the project (Q88 (f)).

The UNESCO is currently working towards a decision as to whether or not to place the GBRWHA on the world heritage in danger list.

Comments in the Proponent's Summary document attempt to down-grade the Mission Beach coast on the basis that it is built-up. Each further degradation thus permitted aids the approval of the next one. Regardless of how much or how little the built-up areas affect the beauty of Mission Beach, a proponent who uses this race-to-the-bottom argument to justify impacts on its natural beauty, ecology and coastal processes is no friend of the GBRWHA. What other activities might such a proponent propose as adjuncts to an original approval?

NOTE: Clump Point's high-value world heritage natural and aesthetic values are right now in the process of being destroyed in this same incremental process, a corruption of the intent of all the relevant legislation, by the construction of an urban car park which has already destroyed the natural vegetation and its spatial distribution, and the proposed reclamation and wide road which will be as much a blot on the natural beauty (eg the vista looking back towards Narragon Bay) as is the proposed rock reef at the jetty.

As part of the GBRWHA, the GBRWHA is to be protected 'to the utmost' under the World Heritage Convention.

The aesthetic values of the GBRWHA arise only from its natural features, including underwater features and coastal features beyond the boundaries. Flow-on aesthetic impacts include unnatural biodiversity congregations (complete loss of benthic life under the artificial reef and marked changes around it), changes in free-swimming species and changed behaviours.

The natural history of the coast, which at Mission Beach includes matters of world heritage interest, is a story told first by its geomorphological structure. In that context, an artificial island/reef/breakwall is an untruth militating against the GBRWHA. Integrity is an essential quality and one of the most important underlying principles of world heritage area protection.

Need and function

The need for this construction has not been demonstrated.

No evidence has been produced to support the claim that an artificial reef or island would provide a 'safe' landing that would enable passengers to embark and disembark with a *substantially* higher frequency than is possible now. What is it worth to damage the world heritage aesthetic value of Boat Bay? At what point is the integrity of the coastal vista of the GBRWHA reduced? Every insult to the GBRWHA is an incremental loss – death by a thousand cuts, as the UNESCO has noted in their 2012 Report.

Mission Beach is in the wet tropics region (not the dry tropics like Townsville) and it rains daily, usually heavily, for six or seven months of the year. The pattern of tourism operation is obviously highly dependent on fine weather and inevitably truncated by this unusually lengthy wet season. A landing that is marginally more convenient on calmer days in the few months of relatively dry weather can hardly be said to be addressing a 'need' and cannot be shown to be worth trading against the ecological and aesthetic values of the Mission Beach locality of the GBRWHA.

The proponent should be required to produce a chart or other precise data showing how many hours on which days and seasons of the year that this costly, intrusive device would provide a more convenient landing (that would not otherwise have been the case) under weather conditions in which tourist services are running and are allowed to take passengers (eg, not after a strong wind warning has been declared). What would the GBRMPA consider a reasonable trade-off for the ecological and aesthetic impacts? The consequential and cumulative impacts? - in a World Heritage Area that is under threat of being placed on the world-heritage-in-danger list?

The proponent should be required, in particular, to demonstrate the likelihood of the improved boat ramp being inaccessible to passenger vessels at precisely those times when weather conditions have made landing at the jetty difficult, but not including when conditions are too rough to carry passengers at all (bearing in mind tourism boating operation are prohibited from running in specific bad weather conditions). Vessels wishing to land or collect passengers in Boat Bay now have a new and improved facility under way at Clump Point, which will always be more sheltered than the jetty, whether or not the proposed reef/island/breakwater is built.

An always-calm landing on water is an unrealistic expectation.
It's worth noting that cross river ferry landings in the Brisbane River (downstream of the city) can be exceedingly rough, even in fine weather, with the ferry rising and falling at the jetty by 1-2 metres on a swell set up by passing ferries and barges.

Regardless of landing arrangements, operators are prohibited from loading ferry passengers once a strong wind warning has been declared.

Dunk Island resort is not in operation now: a different future planned.
We understand that future plans for resort islands are for high end island tourism – the prospective clients far more likely to prefer air transport:

(1) to avoid the long road trip to Mission Beach.
(2) unlikely to risk boating arrangements upset by heavy rain and strong wind warnings.

GBRWHA and Strategic Planning: Cumulative, combined and consequential impacts

In the Reactive Monitoring Mission to Great Barrier Reef (Australia) 6th to 14th March 2012 (UNESCO MISSION REPORT), the UNESCO expressed its concern about continuing to approve major projects during the Strategic Assessment process and before the World Heritage Committee has considered the resulting sustainability plan:

> *R8: Adopt the highest level of precaution in decision-making regarding development proposals with potential to impact the property, and to Prevent any approval of major projects that may compromise the outcomes of the Strategic Assessment, until the Strategic Assessment is completed and its resulting plan for the long-term sustainable development for the property has been considered by the World Heritage Committee. During this period, the State Party is requested to ensure no developments are permitted which create*

individual, cumulative or combined impacts on the OUV of the Great Barrier Reef World Heritage area and its long-term conservation

(UNESCO MISSION REPORT *Executive Summary*, p8).

While the present proposal for Boat Bay may seem minor compared to major ports, the potential for it to be used as the first step in a marina must be taken into account, in the context of the above advice from the UNESCO.

The UNESCO has declared its serious concerns about the lack of attention to 'cumulative, combined and consequential' impacts (p43) in decision-making affecting the GBRWHA:

The regulatory system is essentially reactive and acts by means of response to individual assessments without a clear idea of the overall bigger picture for the reef. This oversight is further reduced because of insufficient guidance in coastal planning at the State level through which "off-limits" areas should be identified and legally binding to all when they are critical to the health and functioning of the reef's ecosystem … There is insufficient consideration of cumulative, combined and consequential impacts of coastal development within approval processes. Development approaches are leading to progressive loss of values from the impacts of multiple smaller and larger developments, referred to by many as "death by a thousand cuts" and without any idea where the appropriate limits to the development footprint lies;

(UNESCO MISSION REPORT p43)

and

Of considerable concern is the rapid increase of coastal development both within the property and in areas adjacent to it and where development has potential impacts on the OUV of the property.

(UNESCO MISSION REPORT Current threats, Coastal development, p27)

All levels of planning designate Mission Beach as a village in a natural area, and not a development node. Improvements to the boating facilities for Mission Beach have been proposed solely for local recreational and commercial use.

There is already considerable difficulty in protecting the **Wet Tropics World Heritage Area** values of the Mission Beach coast; including the southern cassowary (killed on the roads) and littoral rainforest. It would scarcely be appropriate to increase these risks by inviting more road traffic into the Mission Beach through provision of boating services beyond those relevant to the local community and existing local commercial uses.

Despite these facts, interest has already been expressed in promoting the proposed wave-attenuated jetty/island/marina for use by much larger vessels from outside the area. If the artificial

reef/island/etc is built and essentially fails to work as desired, it is very likely to become the focus of further 'improvements' – exactly the lack of strategic planning complained of by the UNESCO.

In this regard, one of the Cassowary Coast Councillors who has loudly promoted this artificial rock reef/island/marina/break wall proposal turns out to have been privately planning a business venture which would depend on access to a marina-type facility, while he has long been promoting the rock wall proposal within Council. He has acquired a 30ft vessel with a 50 person carrying capacity which is now moored in Boat Bay. To date, inclement weather has kept it on its mooring.

One artificial reef/wave attenuation/breakwater wall would be one too many, because of its individual impacts; and also because it would set a precedent for many more such structures up and down the GBRWHA coast – how many coastal jetties are there that would 'benefit' from some such construction, in view of the attractiveness of artificial reefs, islands and rock walls to both jetty anglers and developers? See attached newsclips *Chinese Investor backs Palm Cove jetty proposal* (Cairns Post April 2013) and *Bowen may get a free artificial reef* (Townsville Bulletin 23 Dec 2013).

Ecological impacts

There is no doubt that an artificial underwater reef or island or rock wall must change the natural coastal processes and the local ecology, as well as permanently damaging the natural aesthetic value of Boat Bay. How far into the future these processes might continue to cause further impacts as a result of this one-time and permanent interference is a matter of especial concern to the UNESCO and an important consideration under the EPBC Act.

Climate change and its likely impacts (such as sea level rise and more intense cyclones) is another matter that must be taken into account when considering and assessing the impacts of this proposal.

Further detailed comments follow in tabulated form.

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Please note: The following table was prepared for the Referral of the Project to the Commonwealth under the EPBC Act

PROPONENT SUMMARY DOCUMENT	ASH COMMENT
1.9 **Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?	NO is the simplest feasible alternative and MUST be considered. -See our detailed comments elsewhere
1.12 **Component of larger action**	There is a high risk that this action is part of a larger action not here declared.
1.13 **Related actions/proposals** Is the proposed action related to other actions or proposals	There is a high risk of consequential impacts from further similar actions should this proposal be approved. -See our detailed comments elsewhere
1.14 **Australian Government funding**	Does not meet the conditions of the funding -See our comments elsewhere
Overview: The Queensland Government, through DSDIP, plans to enhance existing marine infrastructure within Boat Bay, Mission Beach, to improve conditions for boating. The primary objective of the Project is to provide conditions which allow the safe transfer of passengers and goods on and off vessels during ambient conditions.	primary objective … safe transfer -See our detailed comments elsewhere. The central problem is the false belief that a 'safe landing' can be constructed in Boat bay.
Summary p10 … As the rock breakwater at the public boat ramp provides a level of wave attenuation during most tidal conditions, the Clump Point public boat ramp has become the primary point of departure for vessels. Consequently, the lack of protection from coastal elements at the Perry Harvey Jetty has resulted in an over-utilisation of the public boat ramp, and on occasions, conflict between recreational users and larger commercial vessels when they compete for access to the pontoon.	The proponent provides no evidence for this story, part of the promotional material used to drive this project . There has been historical conflict under different usage regimes which are no longer applicable and which do not reflect the general situation at the Clump Point boat ramp.
These events resulted in extensive damage to boating facilities within Boat Bay, particularly to the previous Perry Harvey Jetty, the loss of rock armouring at the Clump Point breakwater, and damage to the seawall on the eastern side of the headland.	Indeed – a warning to all who think you can build safe boating infrastructure on an open cyclone prone coast.

There is wide spread recognition that facilities in Boat Bay need to be improved to meet current and future needs	No evidence exists for wide spread recognition. Where are the studies? The economic and social impact studies? The detailed collation of comments received? current and future needs • Where is the evidence? Studies? • The project was funded to meet present needs for locals, not for future needs.
P 10 No provision for permanent mooring facilities is proposed by the proponent.	That says nothing about the next proponent or how the rock island/break wall will be used. Will the expectation of 'calm' water create conflict from competing users? Or will favoured users get preference?
P10 Operational objectives: The objective of the Project is to improve conditions for safe boating within Boat Bay. This objective will be achieved through a combination of infrastructure solutions proposed at both the Clump Point Boat Ramp and the Perry Harvey Jetty.	Is this proposal part of larger project or not? – can't have it both ways
P10 A range of solutions … To minimise environmental, visual, and social impacts; an offshore 'overtopping breakwater' of approximately 130 m in length was determined to be the preferred solution at the Jetty.	Where are the studies relating to the likely impacts on world heritage values? preferred solution at the Jetty. – WHO prefers it and what are the grounds for this preference?
The proposed 'overtopping breakwater' is of a smaller size and scale when compared with a standard breakwater design, and as a result, will be partially 'overtopped' during high tides.	smaller size and scale when compared with a standard breakwater The 'Port Hinchinbrook' breakwater walls at Oyster Point are overtopped at high water, and so are many others along the coast. Pretending that the less visible they are at HAT the less visually intrusive they are is misleading. The impact of this structure appearing and disappearing except for its proposed peak, and the necessity for it to be topped with navigational marks, makes it an impact on the aesthetic and ecological values of the GBRWHA; regardless of just how offensive it might be, it will be intrusive.

	The assumption that the reef will be invisible at and near the highest tides is wrong. The reef would certainly be harder to see, hence the legal requirement for lit marks, but the wave action over the reef when awash, and its navigational marks, will clearly show its presence. The proponent should have consulted the Tide Book and published precise data to inform the public of the precise times and durations of the above-water appearance of the reef.
P11 At this scale, the 'overtopping breakwater' at the jetty will provide vessels (up to 100 passenger catamarans in size) with safe access to the jetty during approximately 98% of conditions where tides allow.	where tides allow. Where is the evidence for this statement? Just how much a limitation are the tides? And for just how much of the useful day will the jetty be more usable than it is now?
P11 Another important operational objective for the Project is to reduce the occasional conflict which occurs between users of recreational and larger commercial vessels at the boat ramp. It is considered that reducing contention for access to these facilities should also improve boating safety	Really? Anglers and commercial vessels engaged in sea battles? Evidence? It is the failure to maintain the jetty that has been the major problem: the jetty was never fully repaired since cyclones in the 1970s, and the two severe cyclones of the last five years have compromised the jetty for considerable periods of time.
This objective will be achieved through a combination of solutions proposed at the Perry Harvey Jetty and the Clump Point Boat Ramp, which together will act to increase opportunities for berthing and alleviate maritime and vehicular traffic congestion.	Is this proposal part of a larger project or not?
P12 preliminary design stage, and as such the proposed works are subject to further refinement throughout the detailed design process. Specifically, there is the potential that the physical location (separation from the jetty) and geometry of the overtopping breakwater may change slightly.	This proposal is incomplete, indicative. It can only be properly assessed when its design is final.

based on the most conservative option …	
• Navigation – provision for sufficient space between the breakwater and Jetty to ensure safe navigation and berthing of vessels.	At what times? Under what conditions? How will approaching vessel operators know whether or not it is safe to approach the space between the rock island/breakwater and the jetty?
• Wave attenuation - to attenuate waves to reduce the ambient wave climate at the berth. The breakwater has been developed to a height and width to sufficiently attenuate the easterly and northeasterly wind waves.	What about the prevailing southeasterly trade winds? What about the days when the sea is 'up' for days following SE winds and squalls? What strength and duration of NE and E winds will the island/breakwater attenuate to make the jetty more readily usable?
• Environmental impacts - to minimise the scale of the breakwater to mitigate potential environmental impacts. A minimal breakwater length will reduce effects on sediment transport patterns.	Breakwaters are well known to interfere permanently with coastal processes and ecosystems. will reduce effects – No, the breakwater of this length will introduce impacts where there are currently none. 120 metres is of similar length to those at the 'Port Hinchinbrook' entrance (100 m and 120 m), where the impacts (scouring and sedimentation) have been substantial.
• Cost – to limit the scale of the structure to minimise the required capital costs.	Cost-cutting. In any case, the Commonwealth $$ were for a scoping study, not for construction. Has the state really soaked up so much of the funding that there is insufficient left to do the best possible construction job?
P13 However, while an impact may occur following a significant storm event, physical testing demonstrated that the pre-cyclone shoreline position tends to be restored in a matter of months under ambient conditions. Therefore, the long term impact of the overtopping breakwater on the shoreline is anticipated to be negligible.	The impacts of storm events have nothing to do with the impacts of new structures on the seabottom underneath it (permanent death) or on the nearby area (changes in water flow). Impacts on the shore line also will be permanent. How would the changes to the water circulation revert to 'normal' while the breakwater/island remains in place?
DSDIP has been engaged in ongoing consultation with key stakeholders and the community throughout the project lifetime.	This is not the same as public consultation; and there has been no requirement to consider the comments of the wider public about impacts on

	the public good. All Australians have the right to be involved in any structures proposed to be built in the GBRWHA.
P13 It is acknowledged that the proposed location of moorings is inconsistent with the existing Clump Point Site Management Arrangements (2005) administered by GBRMPA, due to their location within a designated 'transit area'. However, it is likely that this transit area would require amendment to accommodate the proposed overtopping breakwater, and subsequent maritime safety requirements	No doubt the GBRMPA selected the transit area for Clump Point Site Management Arrangements with great care, with a view to protecting the area's various GBRWHA values. Has the GBRMPA assented to these plans being overridden? maritime safety requirements – it seems that this proposal is creating a navigational hazard, creating more problems to be solved, perhaps by further structures. The 'great for fishing' expectation of the proposed structure is another indicator of the changes to the ecosystem that are well known when artificial reefs/walls/islands are built. To build a structure to attract anglers is clearly anathema to the world heritage concept.
2.2 Alternatives to taking the proposed action **Option 1 - Take no action:** The safe and efficient use of existing facilities within Boat Bay by both recreational and commercial vessels is currently significantly influenced by the wave climate and weather conditions. It is widely acknowledged by the local community, boating users, and asset managers (DTMR and CCRC) that current facilities pose a risk to public safety, and a number of near accidents have occurred with the use of these facilities as a result of the lack of protection. 2.3 There are no current alternative actions for the Project. As outlined in Section 2.2, a total of 19 options were considered during the MCA workshop, and the preferred option ranked most favourably with regard to the five themes considered.	It is true that using the jetty is significantly influenced by weather conditions. That is because the weather is significantly strong and the jetty was not rebuilt to accommodate the real conditions and requirements. Even so, there would still remain wave-related restrictions on its use. From local commercial and other operators it does appear that on the rare occasions that the jetty is not available, they can use the boat ramp landing, with a minor inconvenience of adjusting terrestrial transport arrangements (not so very difficult, with mobile phones!). This is where the scoping study comes in – where is the study to find out objectively how much is 'need' and how much is pie-in-the-sky?
2.5 Not applicable. The proposed works will be assessed by the Queensland State government under the legislative framework identified above.	By what process will the Qld Govt approve these works under the *Coastal Protection and Management Act 1995?*

No state environmental impact assessment (EIS) process is required.	While true that the project has been fast tracked past the requirement for an EIS, this fact says nothing about the project's environmental impacts.
2.6 Public consultation (including with Indigenous stakeholders) As noted previously, infrastructure solutions for marine facilities within Boat Bay have been subject to extensive consultation in recent years.	extensive consultation No. World Heritage values, MNES, have not been canvassed in any public consultation process. Meetings with stakeholders might 'test the water' from the consultants' point of view, but it is not public consultation.
2.7 A staged development or component of a larger project Collectively, proposed works at the Perry Harvey Jetty and Clump Point Boat Ramp are being undertaken as part of a wider Project managed by DSDIP (on behalf of the State of Queensland), with the objective to improve the safety of boating facilities within Boat Bay. The design and analysis of the proposed 'overtopping breakwater' … are preliminary only. For the purpose of this referral … It is expected that only minor changes may be made to the grading and placement of rock armouring, and the development footprint is expected to remain as currently illustrated.	Either the rock island breakwater/marina proposal is part of a larger project and therefore not dependent on what happens elsewhere, or it is not.
The physical location of works is geographically separate to the boat ramp, with site specific differences in marine ecology, geomorphology and wave conditions;	In the sea, nothing is ' geographically separate' Any works at the jetty are likely to have notable and possibly significant impacts at the Clump Point Boat ramp area and at quite distant locations. The aesthetic impact will be evident at considerable distances, especially with lit leads.
• The design of the overtopping breakwater is technically more complex than works at the boat ramp, and is subject to refinement through physical testing (further outlined in Section 2.1);	refinement through physical testing – surely not real time experiments in the GBRWHA?? In a Habitat Conservation Zone of the GBRMP and within the GBRWHA?
For these reasons, separate assessment processes are considered to be appropriate for the Project	the Project – WHICH project?

p.19. "limited complexity in reef or marine habitat structure" (Table 6) –.	Unsupportable conclusion. Only two 1990s surveys and Aurecon's very limited observations (two short transects near the jetty and two short transects near the boat ramp) not including reef structure further south in the bay – 'isolated bommies'?
P 19 Table 6 - Assessment of natural heritage attributes of the GBRWHA and within the Project area ***vii.*** *Contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance* The Project area is located on a developed coastline within the North Queensland region, and contains a limited occurrence of the listed attributes for criteria ***vii***.	**Aesthetic importance not considered at all** limited occurrence of the listed attributes for criteria ***vii***. The proposed underwater rocky reef is an obviously built intrusion in a world heritage area and national heritage area. It will change the local coastal dynamics, change the local ecosystem, and change the appearance of an otherwise little-altered natural area. Where it may be acceptable to build a jetty (preferably 'low-key' and visually sympathetic to its surroundings) in the spirit of Presentation of a world heritage area, building rock reefs and stand-alone breakwaters is highly offensive visually and ecologically. If approved, this precedent could well be followed by hundreds more, given the many other jetties along the cyclone-prone GBRWHA coast. Clump Point boat ramp already has a rock wall, but (so far) this rock wall has been no more than a short extension of a natural rock structure. It does not intrude as would the large stand-alone structure proposed for the jetty area. 'The Project area is located on a developed coastline … and

	contains a limited occurrence of the listed attributes for criteria ***vii***..' These two factors are no justification for making adverse impacts. If this thinking were to prevail, the GBRWHA would be broken up into patches of densely distributed 'listed attributes' and degraded areas, an offence against the integrity of the GBRWHA. The OUV of the GBRWHA, and its continued inscription on the world heritage list, depends on its integrity. The fact that the world heritage characteristics of Boat Bay have suffered from being on a developed coastline is not a reason to further degrade it but a reason for decision-makers to avoid approvals that would lead to cumulative impacts on Boat Bay.
viii. *Be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features* Boat Bay and its wider environs contains a number of the attributes listed for criteria **vii**, including outer reefs, green vegetated islands, mangrove species, occurrences of marine turtles, and potentially habitat for other migratory species including whales and bird species. The baseline marine ecology survey undertaken for this project indicates that while marine species in Boat Bay are diverse; the occurrence of coral, algae, and	…coral, algae, and macro-invertebrates is typically confined to isolated bommies.. limited complexity location on a developed coastline As above: To suggest that a particular patterning of natural forms and ecosystem elements can be used to justify degradation, would be to offend against the integrity of the GBRWHA. The OUV of the GBRWHA, and its continued inscription on the world heritage list, depends on its integrity.

macro-invertebrates is typically confined to isolated bommies.. -In comparison to outer regions of the GBR, Boat Bay generally contains limited complexity in reef or marine habitat structure, owing to its location on a developed coastline and the history of cyclone activity. Evidence of sedimentation was noted in some areas and may affect the health of the species by reducing productivity. The area is not known to provide breeding habitat for turtle species. However it is recognised that turtle species are often cited within the bay.	history of cyclone activity ALL of the GBRWHA coast is cyclone prone. Much of the sedimentation is a problem caused by human activities on land, and is one of the important problems of which the UNESCO complains. This is not a reason for adding further disturbance of coastal processes. cited ? or **sighted?** Turtles and other marine animals (migratory species) use this bay. How often they are sighted is irrelevant. Turtles and dugongs need every bit of healthy seagrass they can find. As above -
ix. *Be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals* The Project area is located on a developed coastline within the North Queensland region and contains a limited occurrence of the listed attributes for criteria ***ix***. Marine surveys identified a limited diversity of marine life. Within the Project area, hard and soft corals were noted and were typically confined to isolated rocks which provide a suitable colonising structure.	As above. The apparently lower diversity and number of species compared to the Clump Point oat Ramp is irrelevant. Protection of the GBRWHA is not restricted to the more diverse sites.

Generally, the area within the transect footprints near the Perry Harvey Jetty appeared to have a lower diversity and number of species (compared to the area within the transect footprints near the Clump Point Boat Ramp) (Refer Appendix D). This may be a result of the increased exposure to wind and wave energy at this location.	As above
x. *Contain the most important and significant natural habitats for insitu conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation* The Project area contains a limited occurrence of the listed attributes for criteria **x**. Marine surveys undertaken within the area of the jetty identified only isolated patches of seagrass, and therefore food sources for the Dugong are considered limited (Refer Attachment E). No breeding habitat for seabird species was identified within the areas surveyed, and the area is not known to provide breeding habitat for Green turtle species. However, it is understood that turtles are often cited in the bay (likely Loggerhead, Green and Olive ridley).	Limited occurrence As above. isolated patches of seagrass: Hungry dugongs don't mind a bit if the seagrass is in isolated patches. They actually prefer sparsely growing seagrass. They just need a lot more of it than is presently available. and therefore food sources for the Dugong are considered limited: - All the more reason to ensure that no further activities are permitted that might reduce the amount or quality of the existing seagrass. Dugongs need it and will visit to eat it at times most appropriate to them. Seagrass is extremely sensitive to water quality. Chronic land based pollution is one important cause of permanent seagrass loss. In the 1960s there were around 60,000 dugongs left. The available seagrass today would not support that population.

	○ Dugongs (*Dugong dugon*) are very long-lived marine mammals with a low maximum rate of increase: 5% *or less* per annum. ○ Dugongs depend on feed from sparsely growing seagrass species (genera *Halodule* and *Halophila*) in tropical and subtropical meadows of seagrasses. ○ Dugongs consume an estimated 28 to 40 kgs of seagrass (wet weight) per day . ○ Queensland east coast dugongs spend most of their time in depths of 15 metres or less. (Prof Helene Marsh et al published in *Ecological Applications* 15 (2): HISTORICAL MARINE POPULATION ESTIMATES: TRIGGERS OR TARGETS FOR CONSERVATION? THE DUGONG CASE STUDY) The cyclone activity along the GBRWHA coast and the probability of increased cyclone intensity makes it all the more important to protect every patch of seagrass (and to improve water quality so that former seagrass areas can regenerate). turtles are often cited - **sighted?** As above: the frequency of sightings is irrelevant.
3.1 (b) National Heritage Places The Great Barrier Reef is inscribed on the National Heritage List in accordance with Item 1A(3) of Schedule 3 of the *Environment and Heritage Legislation Amendment Act (No.1) 2003* for meeting the following National Heritage criterion: • Criterion A Events, Processes; • Criterion B Rarity; • Criterion C Research; • Criterion D Principal characteristics of a class of places; and	These criteria have not been addressed.

• Criterion E Aesthetic characteristics "*an action is likely to have an impact on the National Heritage Values of a World Heritageproperty if there is a real chance or possibility that it will cause:* • *One or more of the National Heritage values to be lost;* • *One or more of the National Heritage values to be degraded or damaged; or* • *One or more of the National Heritage values to be notably altered, modified, obscured or diminished".*	
Listed threatened Species The threatened species	Dugong not included. Vulnerable in Queensland; an EPBC Migratory Species; included in the appendices to the Bonn Convention; IUCN Red-listed as Vulnerable.
Listed threatened Species	Conclusions and discussion has no basis because of the poor quality of the marine studies done, old reports, lack of current inquiry/ground-truthing, the limited underwater transects and what looks like a lack of expertise; no real life follow up on reports about crocodile and dolphin presence. An open bay like this is likely to be 'used' by passing large marine fauna, on occasion, but that does not make it any the less valuable as habitat.
P.24. Table 8 lists migratory fauna 3.1 (e) Listed migratory species Description	No evidence for cited occurrence of migratory fauna. How was 'Unlikely' determined?
Nature and extent of likely impact Marine fauna	This section on marine fauna is unacceptable. It is inadequate in relevant and required information.
P.30. Section 3.3(g)	Modelling instead of real life marine current flow studies and sediment studies! Did the University of Sydney Water Research Laboratory think this is OK for a WHA, or just the consultants?

	And where are the base data used for the modelling and evidence that it is acceptable? The proposal is for a LARGE artificial underwater structure in an ecologically and aesthetically rich part of the GBRWHA. It cannot be considered without It cannot be considered without relevant current and sediment studies done within Boat Bay.
P.35. The CEMP The CEMP will detail the following requirements (at a minimum) to be employed during construction: Testing, treatment and containment methods for excavated sediments (eg acid sulfate soils); Protocols for the monitoring and reporting of marine fauna within the works area and stop work procedures where a significant species is encountered;	Workers to detect and identify a 'significant species' - HOW? - WHAT KIND? In the absence of proper surveys there is no way of knowing what other SMALL 'significant species' use Boat Bay.
P.36. In addition to noise and vibration impacts, pile driving works …	Pile driving 'noise' can kill fish and damage other species too. Where are the references to recent scientific studies?
P.40/41. The list of references	For such a large and significant project the short list of references suggests very little interest in ascertaining baseline information and likely impacts. Where are the 'technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)' ?