Coral Bay Boating Facility

Department for Planning and Infrastructure

Report and recommendations
of the Environmental Protection Authority

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Summary and recommendations

The Department for Planning and Infrastructure (DPI) proposes to develop one of two separate proposals for a boating facility at Coral Bay. The facility is proposed to alleviate pressures associated with the launching of trailered vessels from the beach in Southern Bills Bay and to reduce the risk of conflict between boat users and swimmers, snorkellers and divers accessing the coral communities in the vicinity of Southern Bills Bay. Two sites were examined, being North Bills Bay and Monck Head. The boating facilities at the two sites are not like-for-like but they do both provide launching facilities for trailered vessels and some facilities for commercial vessels. The two boating facilities have been considered as separate proposals but are being reported on within this report. This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for the Environment on the environmental factors relevant to the two proposals.

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposals and on the conditions and procedures to which the proposals should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

Relevant environmental factors

In its guidelines, the EPA identified a range of environmental factors relevant to the proposals which required evaluation by the proponent. After reviewing the proponent's public environmental review document (DALSE 2002a) and the public submissions received, the EPA has decided that the relevant environmental issues associated with the two proposals are as follows:

(a) Marine biodiversity;

(b) Terrestrial biodiversity; and

(c) Coastal processes.

A number of other factors were relevant to the two proposals, but the EPA is of the view that the information set out in Appendix 3 (in relation to the North Bills Bay proposal) and Appendix 4 (in relation to the Monck Head proposal) provides sufficient evaluation.

Conclusion

The EPA has considered the proposals by the Department for Planning and Infrastructure to develop a boating facility at either North Bills Bay or Monck Head, at Coral Bay.

The EPA notes that, if implemented, management of the boating facility will be transferred to the Department of Conservation and Land Management upon completion. The EPA is mindful that the long term management of this facility, by the Department of Conservation and Land Management, will require resources commensurate with the location of the facility, being within the Ningaloo Marine Park. It is understood that these resources are currently not available within the Department.

The North Bills Bay proposal impacts on an area of considerable environmental value. This is highlighted by the area exhibiting a number of the features for which the area was designated within the Maud Sanctuary Zone of the Ningaloo Marine Park. The Sanctuary Zone is a replenishment area that provides recruits for other areas of the Park and is a special protection area for wildlife (in relation to nesting or nursery areas, particularly for birds and sharks). The Management Plan for the Ningaloo Marine Park provides that groynes and breakwaters should not be constructed within Sanctuary Zones. As such, for the North Bills Bay proposal to proceed, the area impacted by the boating facility would have to be removed from the Sanctuary Zone. Following consideration of the environmental values of this area, there is sufficient justification for this area to be preserved as a Sanctuary Zone.

The North Bills Bay proposal would increase uncontrolled access in the vicinity of Point Maud, which is recognised as an important bird roosting area. Capital and maintenance dredging is also likely to alter coastal processes and effect the shape and structure of this important area. In addition, the construction of the access road will impact on terrestrial vegetation. The EPA is not satisfied that the management proposed would prevent significant impacts on the marine and terrestrial environment and associated flora and fauna.

Taking this into account, the EPA considers that the proposal to construct and operate a boating facility at North Bills Bay, as proposed, is environmentally unacceptable as it cannot be managed to meet the EPA's objectives in relation to marine biodiversity, terrestrial biodiversity and coastal processes.

In relation to the Monck Head proposal, the EPA notes that the proposed development area is within the Recreation Zone of the Ningaloo Marine Park. The Ningaloo Marine Park Management Plan does not recommend against the development of the infrastructure associated with a boating facility in this Zone. The location of the Monck Head proposal is such that its footprint is unlikely to impact on the values of the Ningaloo Marine Park. While there will be some impact on macroalgal communities, there will be no direct impact on corals. The Monck Head site is within an area of stable hard coast. Considering this, and the design of the facility, incorporating a piled bridge and culvert causeway, impact on the coastal processes of the area is unlikely. However, the construction of the facility will have to be carefully managed to ensure that there is no indirect impact on the adjacent Sanctuary Zone of the Ningaloo Marine Park.

The EPA has recommended a condition which provides for the management of turbidity from construction and maintenance of the facility, particularly in relation to use of a silt curtain and the establishment of criteria to limit the potential for a significant decline in background water quality in the area. In addition, while it is expected that the proponent shall not cause or allow the discharge of hydrocarbons into the Ningaloo Marine Park, the EPA considers it important that the proponent have in place a Pollution Contingency Management Plan. As such, for the Monck Head proposal, the EPA has concluded that it is unlikely that the EPA's objectives would be compromised provided there is satisfactory implementation by the proponent of the proponent's commitments and the recommended conditions set out in Appendix 5 and summarised in Section 4.4.

Recommendations

For the North Bills Bay proposal, the EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister considers the report on the relevant environmental factors of marine biodiversity, terrestrial biodiversity and coastal processes, as set out in Section 3.2.
2. That the Minister notes that the EPA has concluded that the proposal for a boating facility at North Bills Bay cannot meet the EPA's environmental objectives for marine biodiversity, terrestrial biodiversity and coastal processes.
3. That the Minister notes that the EPA has not included in this Bulletin "conditions and procedures to which the proposal should be subject, if implemented" because the EPA holds the view that the proposal should not be implemented.
4. That the Minister not issue a statement that the proposal may be implemented.

For the Monck Head proposal, the EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the proposal being assessed is for a boating facility at Monck Head.
2. That the Minister considers the report on the relevant environmental factors as set out in Section 4.2.
3. That the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 5, and summarised in Section 4.4, including the proponent's commitments.
4. That the Minister imposes the conditions and procedures recommended in Appendix 5 of this report.

Conditions

North Bills Bay

Having considered the North Bills Bay proposal, the EPA has not developed a set of conditions, on the basis that the EPA recommends that it should not be implemented.

Monck Head

Having considered the proponent's commitments and information provided in this report, the EPA has developed a set of conditions, pursuant to Section 44(1)(b) of the *Environmental Protection Act 1986*, that the EPA recommends be imposed if the proposal by DPI to develop the Monck Head boating facility is approved for implementation. These conditions are presented in Appendix 5. Matters addressed in the conditions include the following:

(a) that the proponent shall fulfil the commitments in the Consolidated Commitments statement set out as an attachment to the recommended conditions in Appendix 5;

(b) prevention of discharge of hydrocarbons; and

(c) management of turbidity during construction and maintenance of the facility.

Contents

Page

Tables

Figures

Appendices

1. Introduction and background

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on the environmental factors relevant to two proposals by the Department for Planning and Infrastructure (DPI), to develop a boating facility at North Bills Bay or at Monck Head.

A boating facility in Coral Bay is proposed to alleviate the pressures associated with the increased amount of launching of trailered vessels from the beach in Southern Bills Bay and to reduce the risk of conflict between boat users and swimmers, snorkellers and divers accessing the coral communities in the vicinity of Southern Bills Bay. It is considered that the existing arrangements for boating within Coral Bay are inadequate from an environmental, management and safety perspective.

Two proposals for a boat launching facility were described in the Public Environmental Review (PER) document (DALSE 2002a). It was acknowledged that only one of these facilities would be built. The two proposals are not like-for-like but they do both provide launching facilities for trailered vessels and some facilities for commercial vessels. Figure 1 shows the location of the proposals within Coral Bay.

While DPI is the proponent for the development of the boating facility, the facility will be managed in the long term by the Department of Conservation and Land Management (DCLM). It is understood that, further resources will need to be sought to enable DCLM to effectively undertake this management. Twelve months following completion of the access road to the facility, the management and maintenance of the access road will be transferred to the Shire of Carnarvon. Further consideration of the ongoing management of the facility is provided in Section 4.3.3.

The two proposals are within the Ningaloo Marine Park (NMP), as such there is potential for both proposals to have some impact on the conservation and recreation values of the NMP. The North Bills Bay proposal is within the Maud Sanctuary Zone of the NMP while the Monck Head facility is within the Recreation Zone of the NMP. The management implications of this are described in Section 2.

Following this introduction and an outline of the primary statutory considerations for these two proposals, the report has been broken down into an assessment of the North Bills Bay proposal (Section 3) and an assessment of the Monck Head proposal (Section 4). Details of the proposals are presented in Sections 3.1 and 4.1 of this report. Sections 3.2 and 4.2 discuss the environmental factors relevant to the proposal. The Conditions and Commitments to which the proposal should be subject, if the Minister determines that it may be implemented, are set out in Sections 3.3 and 4.4. Section 4.3 provides advice on matters additional to the Relevant Environmental Factors for the Monck Head proposal. Section 5 presents the EPA's conclusions for the two proposals and Section 6, the EPA's Recommendations for the two proposals.

Appendix 6 provides the proponent's response to submissions (on attached compact disc). It is included as a matter of information only and does not form part of the EPA's report and recommendations. Issues arising from this process and which have been taken into account by the EPA appear in the report itself.

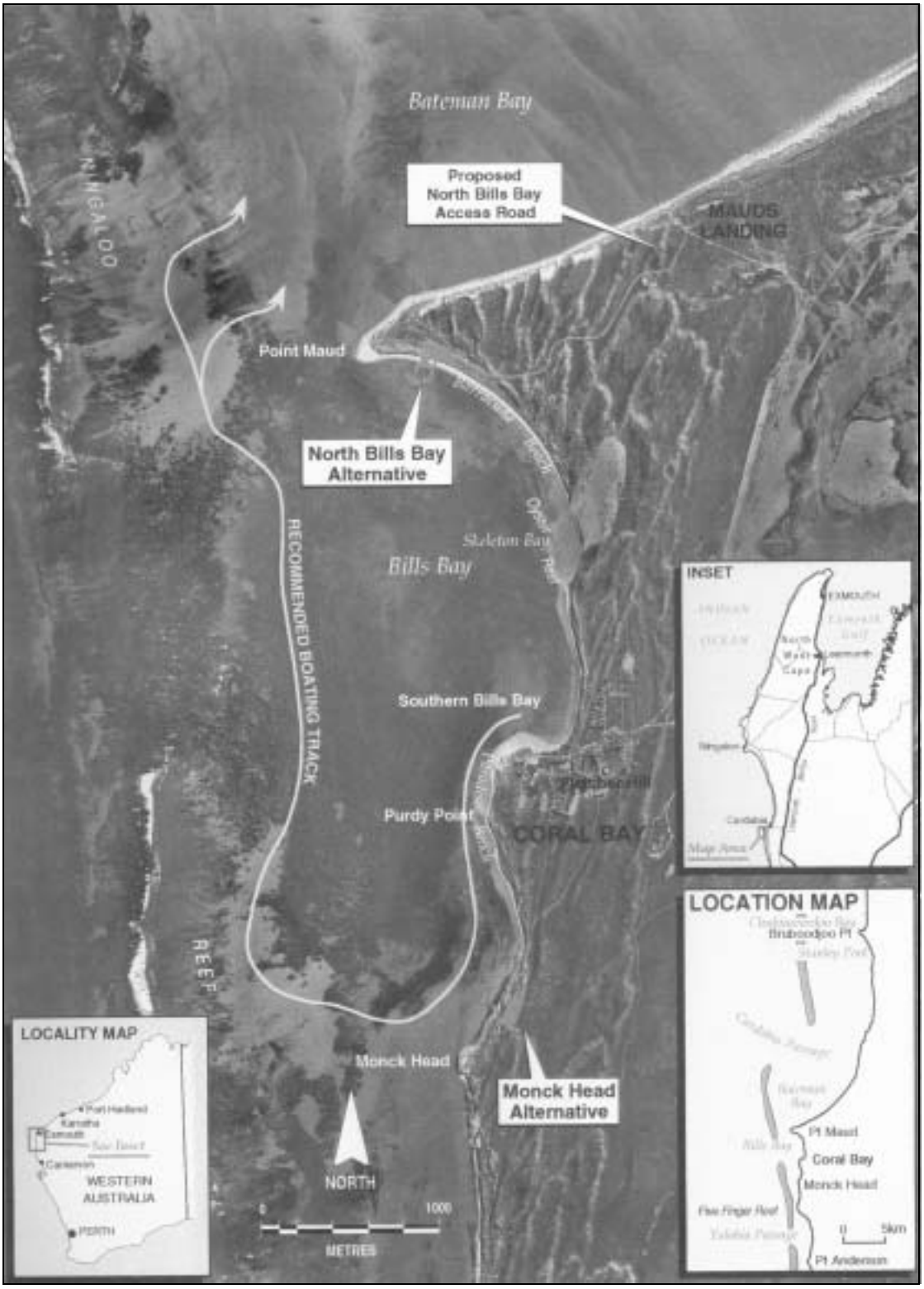

Figure 1: Location map of the two Coral Bay boating facility proposals, indicating the North Bills Bay and Monck Head proposals.

2. Statutory and policy considerations

A summary is provided below of aspects of the statutory and policy framework in which the proposal for the construction of a boating facility within North Bills Bay or Monck Head has been considered.

2.1 Ningaloo Marine Park Management Plan 1989-1999

Both of the proposals fall within the Ningaloo Marine Park, which is currently managed through the prescriptions of the *Ningaloo Marine Park Management Plan 1989-1999* (NMPMP). The NMPMP is currently being updated to reflect the increasing pressures on the Marine Park and to ensure that the management in place is current and appropriate. The NMPMP states that the principal aim of the Park is to provide for conservation of the marine environment with recreational use to the extent that it is compatible with conservation of its natural environment. The conservation values of the Park primarily relate to the diversity of marine and terrestrial flora and fauna and the accessibility of the reef from the shore. In addition, the NMPMP describes recreational, educational, commercial and historical values of the Park The conservation values and the recreational values are most applicable to this assessment.

Sanctuary Zones within the Park provide for recreational uses consistent with the protection of natural resources. The Zones are selected on the representativeness of the reef system for biological diversity and structural variability. Sanctuary Zones serve as:

(a) replenishment areas which may provide recruits to re-populate other areas which are over fished or have become degraded;

(b) special protection areas for wildlife (eg. nesting or nursery areas);

(c) special viewing areas where flora and fauna may be observed free from any form of interference;

(d) reference areas for scientific study.

The Maud Sanctuary Zone functions as an important reference area containing high diversity of habitats important for understanding how the reef communities function. The NMPMP provides that groynes, breakwaters or similar constructions should not be constructed in Sanctuary Zones.

Recreation Zones provide for recreational uses consistent with conservation of natural resources. The Zones are selected on the degree of attractiveness and accessibility of the reef for recreational use. Recreation Zones encompass the remaining portions of the lagoon and reef environment not determined as Sanctuary Zones. The priority for use in these areas is recreation activities free from commercial fishing.

The North Bills Bay proposal is within the Maud Sanctuary Zone. The Monck Head proposal is within the Recreation Zone of the Park. The offshore launching facility associated with the Monck Head site is adjacent to the Maud Sanctuary Zone.

2.2 *Conservation and Land Management (Coral Bay Restricted Area) Notice 2003* and *Conservation and Land Management (Coral Bay Boating Permit) Notice 2003*

In May 2003, the DCLM released the above Notices to implement changes identified through the consideration and public review of the Coral Bay Boating Strategy. In essence, the *Conservation and Land Management (Coral Bay Restricted Area) Notice 2003* provides for the restriction and control of certain activities within a prescribed area of southern Bills Bay. Notably:

"The following activities are prohibited at all times in the restricted area-

(a) the cleaning, scaling, gutting and filleting of fish;
(b) the anchoring of a vessel;
(c) the operation of a vessel with a draft of 1.2 metres or greater;
(d) the anchoring of a vessel by placing the anchor on a beach."

The *Conservation and Land Management (Coral Bay Boating Permit) Notice 2003* then provides for a permit to be issued to appropriate users to enable them to operate within the gazetted restricted area.

2.3 EPA Position Statement Number 1: Environmental Protection of Cape Range Province

Both of the boating facility proposals are within the area covered by the EPA's Position Statement Number 1, *Environmental Protection of Cape Range Province*. The Position Statement highlights some of the significant attributes of the Cape Range Province and provides objectives and principles for environmental protection of the Cape Range Province.

The EPA recommends that development in this region be ecologically sustainable in the long term and be able to demonstrate that the implementation of a development will protect or enhance the multiple environmental values of the area. Further, proposals with potentially threatening processes to the maintenance of ecological integrity, will need to demonstrate avoidance or amelioration of those threatening processes to acceptable levels.

3. North Bills Bay

3.1 The proposal

The North Bills Bay proposal (Figure 2) involves the development of a breakwater to provide shelter from prevailing waves for a boat ramp, service jetty and mooring pens. Effectively this breakwater would provide for the development of a small enclosed boat harbour. The overall facility would involve the development of an access road, car park, public toilets, boat fueling facilities and some public lighting. The proposed development site is located immediately to the south of Point Maud and is within the Maud Sanctuary Zone of the Ningaloo Marine Park.

The main characteristics of the proposal are summarised in Table 1 below. A detailed description of the proposal is provided in Section 6 of the PER (DALSE, 2002a).

Table 1: Summary of key proposal characteristics (North Bills Bay)

Element	Description
Breakwater	0.45 hectare breakwater to create a 0.95 hectare harbour
Components within the breakwater	• Two lane boat launching ramp • Service wharf • Mooring pens • Small finger jetty located between the ramps to facilitate loading
Channel markers	Marking of recommended boating track from Monck Head to Point Maud to assist navigation on the approach to the boating facility
Dredging	Some capital dredging for construction Maintenance dredging required to maintain depth of at least 1.4 metres Chart Datum
Access road	New road: 1.8 kilometres Expansion of existing road: 4.2 kilometres Sealed road surface: 7.4 metres wide Road corridor: 14.4 metres wide
Car park	Approximately 1 hectare for approximately 100 vehicles (accommodating coaches and vehicles with trailers)
Water tanks	2000 litre tank for fresh drinking water 2000 litre tank for groundwater (hand washing/ fish cleaning) Water to be hauled from Coral Bay
Public toilet facility	Dry compost fully sealed system (no water required for flushing)
Fish cleaning facility	Solid waste reception facilities (to be disposed at Coral Bay waste disposal site) Liquid waste to be discharged to groundwater soak
Fuel storage tanks	10,000 to 20,000 litres of diesel fuel to be stored in 2 low profile steel storage tanks, located in lined and bunded storage area
On-site generator	May be required to operate dieseline fuel pumps
Public lighting	To illuminate car park and ramp areas

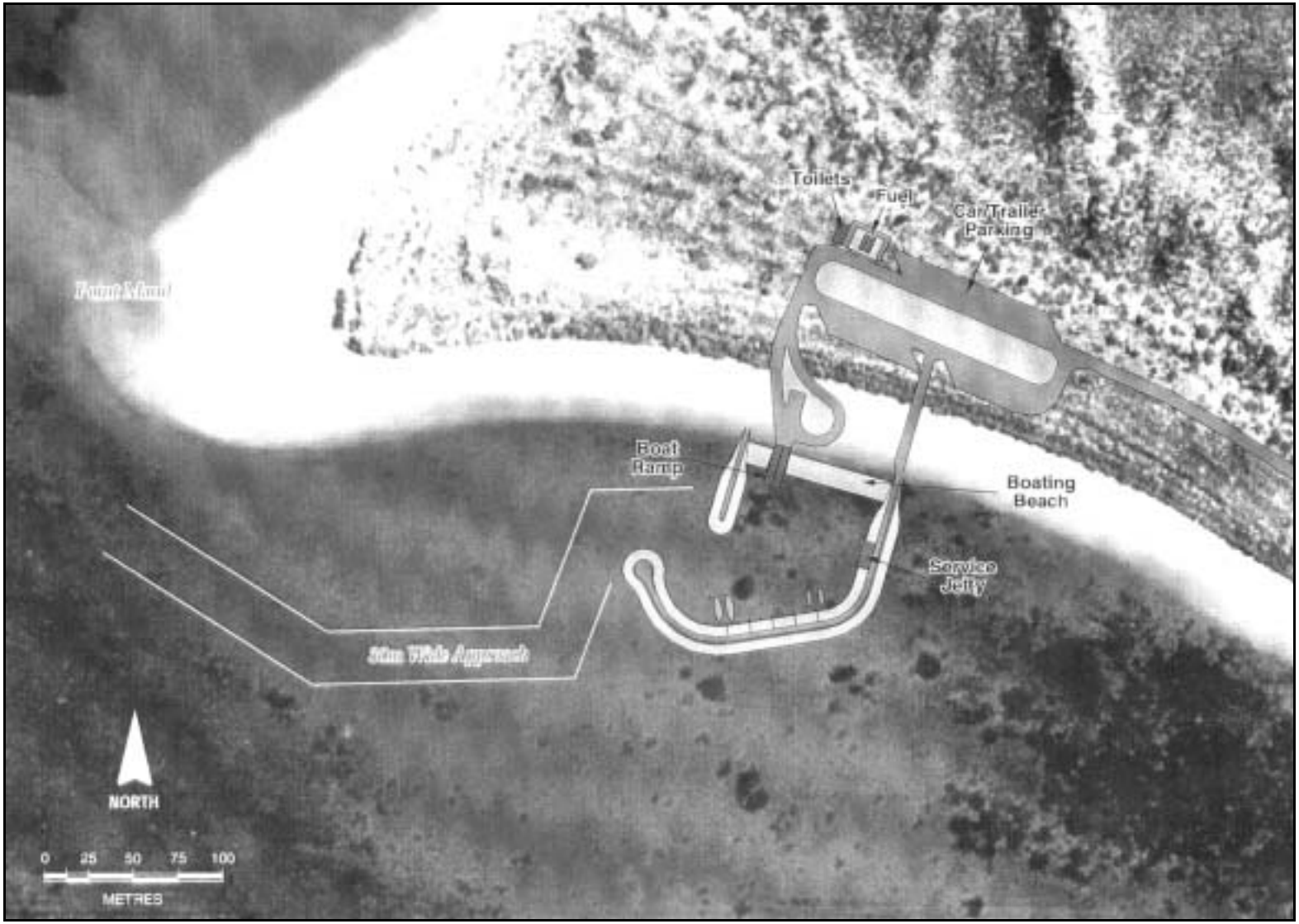

Figure 2: ***Site plan of North Bills Bay proposal.***

3.2 Relevant environmental factors

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and the conditions and procedures, if any, to which the proposal should be subject. In addition, the EPA may make recommendations as it sees fit.

The identification process for the relevant factors selected for detailed evaluation in this report is summarised in Appendix 3. The reader is referred to Appendix 3 for the evaluation of factors not discussed below. A number of these factors are relevant to the proposal, but the EPA is of the view that the information set out in Appendix 3 provides sufficient evaluation.

It is the EPA's opinion that the following environmental factors relevant to the proposal require detailed evaluation in this report:

(a) Marine biodiversity – direct (footprint loss) and indirect (boating activity and maintenance) impact on corals and other sensitive benthic habitat, as well as potential for impact on seasonally schooling reef sharks;

(b) Terrestrial biodiversity – impact on migratory birds which roost at Point Maud, impact on native vegetation and erosion impacts through access road construction; and

(c) Coastal processes – impact of breakwater on longshore drift, sedimentation and turbidity from maintenance dredging causing impacts on benthic habitat and schooling reef sharks.

The above relevant factors were identified from the EPA's consideration and review of all environmental factors generated from the PER document and the submissions received, in conjunction with the proposal characteristics.

Details on the relevant environmental factors and their assessment are contained in Sections 3.2.1 – 3.2.3. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

3.2.1 Marine biodiversity

Description

The issue of marine biodiversity for the North Bills Bay proposal can be considered in terms of direct (through the construction of the facility) and indirect (through operation of the facility and the offsite impacts of construction) impacts.

Construction of the North Bills Bay facility is predicted to result in the direct loss of 0.5 hectares of coral and limestone reef habitat. The facility will require capital dredging and ongoing maintenance dredging which has the potential to impact on the marine biodiversity of the area. Turbidity resulting from dredging activity has the potential to impact a further area of benthic habitat through smothering and reduction

in light attenuation. Increased access to the area and turbidity may result in impacts on reef sharks which are known to congregate to the south of the North Bills Bay site.

Submissions

The majority of submissions focused on the potential for the North Bills Bay facility to directly and indirectly impact on marine biodiversity. Submissions mainly related to:

- impact of the facility on corals through direct loss during construction and indirect loss through turbidity created by maintenance dredging activities;
- potential for increased nutrients to lead to development of macroalgal communities which may impact on conservation values and facilities;
- potential for increased boat, vehicle and pedestrian access to disrupt populations of reef sharks which seasonally congregate in the vicinity of Skeleton Bay, to the south of the North Bills Bay site;
- potential for the frequency and timing of a sand management program to impact on marine fauna, particularly reef sharks; and
- potential for lights from the facility to impact on turtles.

In addition, the Marine Parks and Reserves Authority (MPRA) considered that any development at North Bills Bay will have a significant impact on the marine environment and associated flora and fauna, and on coral communities in the area.

Assessment

The EPA's environmental objectives for this factor are to:

- maintain the ecological function, abundance, species diversity and geographic distribution of marine flora and fauna;
- maintain the ecological function and integrity of shark breeding sites;
- protect turtles, consistent with the provisions of the *Wildlife Conservation Act 1950*.

Through consideration of the information provided in the PER document, including technical appendices (DALSE 2002a, 2002b), and the summary of submissions (DALSE 2003), the conservation values of the Maud Sanctuary Zone are apparent within the potential area of impact of the North Bills Bay proposal. Of particular relevance are two of the prescribed purposes of Sanctuary Zones:

(a) special protection areas for wildlife (eg. nesting or nursery areas); and

(b) replenishment areas which may provide recruits to re-populate other areas which are over fished or have become degraded.

To enable the North Bills Bay proposal to proceed, the potential area of impact would have to be removed from the Maud Sanctuary Zone. The EPA considers that there is sufficient justification for this area to be preserved as a Sanctuary Zone.

Further, the MPRA provides ecological management objectives for the Maud Sanctuary Zone of the Ningaloo Marine Park (MPRA 2001):

- the abundance and diversity of marine flora and fauna are maintained at natural levels;
- the water and sediment quality is maintained at natural 'background' levels;
- marine wildlife (e.g. turtles, seabirds) can exist undisturbed in their natural state;

- the seabed is maintained in a natural state; and
- the beaches of the Maud Sanctuary Zone are maintained in a natural state (any changes from this objective require the approval of the MPRA).

It is unlikely that implementation of the North Bills Bay proposal would enable the ecological management objectives for the Maud Sanctuary Zone to be met.

The following assessment is provided on the primary matters within the issue of marine biodiversity:

Benthic Habitat

The Maud Sanctuary Zone is noted in the NMPMP as being an important reference area containing a "high diversity of habitats important for understanding how the reef communities function". It is also noted in the Technical Appendices that the northern Bills Bay area is an important source of coral recruits for the rest of Bills Bay (DALSE 2002b).

The potential benefits of the North Bills Bay proposal do not appear to justify the direct loss of 0.5 hectares of coral and limestone reef and the likely indirect loss of further coral reef areas.

Sharks

Research into the aggregation of black tip reef sharks and grey reef sharks in the vicinity of North Bills Bay (Norman, in prep) recorded that up to 100 individual sharks were seen displaying a form of 'following behaviour' in water depths as shallow as 0.5 m. Observations suggest that this is a probable nursery area for both species.

Norman (in prep) reported that sharks actively moved away from areas where human intervention was apparent. Where this intervention was removed, sharks were observed returning to the area. Taking this into account, it is likely that the increase in regular pedestrian, vehicular and boating access to the North Bills Bay and Skeleton Bay area is likely to have a significant impact on the behaviour of the reef sharks in this area.

Turbidity created through capital and maintenance dredging for the North Bills Bay proposal is also likely to impact on the reef shark aggregations. Education, to minimise access and interaction, may be the only form of management of the potential for the North Bills Bay proposal to impact on the local reef sharks.

Turtles

The potential for increased boating activity and lighting of the facility (both the breakwater and the parking area) to impact on turtles was raised in submissions. It was reported (DALSE 2002b) that beaches in Bills Bay were monitored in 1997/98 and showed no nesting activity. DPI suggested that turtles do not regularly nest in North Bills Bay and so little impact on turtles would be expected due to development of the North Bills Bay proposal. If the North Bills Bay proposal were to proceed, DPI propose that the use of 'turtle friendly' lighting would be considered. The EPA recommends that management would be required to reduce the potential for impact of this facility on turtles and their nesting behaviour within the Maud Sanctuary Zone.

Summary
Having particular regard to the:

(a) concerns raised by the MPRA and other submitters in relation to the potential for significant impacts on the marine environment and associated flora and fauna;

(b) likelihood of direct loss of approximately 0.5 hectares of coral and limestone reef and potential for further indirect impact on benthic habitat;

(c) potential for impact on behaviour of reef sharks and turtles in the vicinity of North Bills Bay; and

(d) the consideration that all of these potential impacts would occur within the Maud Sanctuary Zone of the Ningaloo Marine Park, which has established values that are apparent as occurring in the area of impact,

it is the EPA's opinion that, as the potential area of impact for the North Bills Bay proposal demonstrates significant values of the Maud Sanctuary Zone, and this area would have to be removed from the Sanctuary Zone to enable the proposal to proceed, the proposal is unlikely to meet the EPA's objectives for marine biodiversity.

3.2.2 Terrestrial biodiversity

Description
Construction and operation of the North Bills Bay proposal has the potential to directly impact on native vegetation (including a Priority 2 species) through the construction of 1.4 km of new road and expansion of 4.2 km of existing road. Further indirect impacts on vegetation may be caused through erosion during and following road construction. There is also potential for increased access to the site (both land and marine based) to impact on a roosting area for migratory birds at Point Maud.

Submissions
Submissions mainly focused on:

- potential for impact on (listed migratory) roosting birds at Point Maud through construction and operation of the facility causing increased boat, vehicle and pedestrian access in vicinity of Point Maud; and
- environmental impacts of road construction into the North Bills Bay site.

In addition, the MPRA considered that development of the North Bills Bay facility would result in significant impacts on the terrestrial environment and associated flora and fauna.

Assessment
The EPA's environmental objectives for this factor are to:

- maintain the ecological function, abundance, species diversity and geographic distribution and productivity of vegetation communities;
- maintain the ecological function, abundance, species diversity and geographic distribution of terrestrial fauna;
- maintain the integrity, ecological function and environmental values of the dune system.

Birds

It is considered that the increased access to the area through pedestrian, vehicle and boat access has the potential to significantly disturb the birds roosting in this area. DALSE (2002b) reported that Point Maud is a refuge area for at least 12 different species of birds, with over 400 birds being sited at one time at Point Maud.

Point Maud is a gazetted Bird Roosting Sanctuary under the *Control of Vehicles (Off-road Areas) Act 1978.* As a result, vehicle access around the Point is prohibited. While access is prohibited, submissions provided anecdotal evidence that there has been some level of vehicular access at Point Maud and it is unlikely that pedestrian access to Point Maud could be prevented.

While it is noted that DCLM has the authority to exclude pets from specific areas, there is concern that owner's lack of control of pets, in particular dogs, has considerable potential to cause further disruption to the birds at Point Maud.

The EPA also notes that the North Bills Bay proposal has been deemed to be a "controlled action" under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* on the basis of the potential for significant impact on "listed migratory species" (a prescribed matter of national environmental significance). The Commonwealth assessment has yet to be concluded.

The management of access in the vicinity of Point Maud will be limited to education and signage at the boat launching facility.

Vegetation

Access to the North Bills Bay site requires the construction of 1.4 km of new road and expansion of 4.2 km of existing road to a corridor width of 14.4 m. As raised in the Technical Appendices of the PER (DALSE 2002b) the major part of the access route from the Mauds Landing area to North Bills Bay is through a largely undisturbed part of the parabolic dune system which covers most of Point Maud. In addition to the direct loss of vegetation through clearing for the access road, there is potential for dune degradation and erosion to cause further impacts. It is noted that the MPRA considered that the North Bills Bay proposal will have significant impacts on the terrestrial environment.

Acacia ryaniana (Priority 2 on the DCLM priority species list) was recorded along the proposed route through the dunes. DPI expect that few individuals would be impacted due to the widespread but scattered distribution of the plants. The construction of the access road is unlikely to deplete local populations of *A. ryaniana*.

Management of impact on vegetation communities would rely on timing of construction to minimise the potential for impacts to be increased through seasonal prevailing winds and rapid revegetation and stabilisation of dunes following any clearing.

Summary
Having particular regard to the:

(a) concerns raised by the MPRA and other submitters in relation to the potential for significant impacts on terrestrial environment and associated flora and fauna; and

(b) the significance of the Point Maud area as a roosting site for migratory birds,

it is the EPA's opinion that implementation of the North Bills Bay proposal will result in unacceptable environmental impacts on terrestrial vegetation and the Point Maud bird roosting area, and thus the proposal would not meet the EPA's objectives for terrestrial biodiversity.

3.2.3 Coastal processes

Description
Implementation of the North Bills Bay proposal will involve the construction of a breakwater which has the potential to directly impact on coastal processes through restriction of longshore sand movement. There is a noticeable level of northward sediment transport in the region. The need for capital and maintenance dredging also has the potential to impact on coastal processes. It is expected that 6000 m^3 of sand will accrete annually and maintenance dredging would be required every 3 – 6 years (DALSE 2003). There is potential for the interruption of longshore sand movement to impact on the shape and stability of Point Maud.

Submissions
Submissions mainly focused on:

- potential for trapping of sediment mainly on the southern side of the groyne/ breakwater and the subsequent requirement for ongoing dredging of trapped sediments to maintain navigable access to the facility to significantly compromise the values of the Sanctuary Zone;
- potential for a groyne-type proposal to cause significant interference with Point Maud and sand movement around the Point; and
- potential for changes to shape and integrity of Point Maud due to interruption of sand supply and erosion.

Assessment
The EPA's environmental objectives for this factor are to:

- maintain stability of beaches;
- ensure that the development would not have a significant impact on existing coastal processes, including off-shore sediment movement;
- ensure that the development would not increase the potential impact on the environment from storm surge.

Both the MPRA and the DCLM have significant concerns in relation to the potential for the development of a breakwater to have impacts on longterm coastal processes. The requirement for ongoing maintenance dredging will also ensure that there are regular periods where impacts associated with dredging activity would occur. In

particular, turbidity from dredging may impact on corals, other benthic habitat in the area and on marine life generally. DPI notes that the presence of the breakwater is likely to cause shoreline accretion and potential loss of corals. As such, loss from this impact has been included in the estimated 0.5 hectares of loss of coral and limestone reef as a result of the North Bills Bay facility.

The potential for the breakwater to reduce northward sand movement has the potential to impact on the shape and structure of Point Maud. There may be long term impacts on an area of recognised importance to migratory birds.

As has been discussed, the Ningaloo Marine Park Management Plan specifically states a prescription that "groynes, breakwaters or similar constructions not be constructed in the Sanctuary Zone". The potential for such a construction to cause direct and long term impacts in an area of such environmental significance needs to be recognised. The potential management proposed for the control of impacts on coastal processes is not of sufficient surety to ensure that significant impacts do not occur.

Summary
Having particular regard to the:

(a) potential for significant direct impact of the proposal on the coastal processes within Northern Bills Bay;

(b) potential for the proposal to cause significant ongoing indirect impacts on coastal processes within Northern Bills Bay; and

(c) potential for significant impact on the sand dynamics in the vicinity of Point Maud,

it is the EPA's opinion that in the implementation of the proposal, DPI is unlikely to be able to ensure that the development would not have a significant impact on existing coastal processes. In addition, there is an unacceptable risk that the stability of beaches, in particular Point Maud, will not be maintained. Thus, the North Bills Bay proposal does not meet the EPA's objective for coastal processes.

3.3 Conditions

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit. The EPA may not recommend conditions in circumstances where the EPA recommends against a proposal being implemented.

Taking into account the issues discussed through the assessment of the relevant environmental factors, the EPA has not recommended conditions for the North Bills Bay proposal on the basis that the EPA recommends that the proposal not be implemented.

4. Monck Head

4.1 The proposal

The Monck Head proposal (Figure 3) involves the development of an offshore boat launching ramp with a piled bridge and culvert causeway connecting the offshore boat ramp to the shoreline. The proposal also provides for offshore moorings, access road, car park and refuelling facilities. As a piled bridge and culvert causeway would be connecting the offshore boat ramp to the shoreline, interruption of longshore drift would be minimised. Dredging would not be required during construction and only a small level of sand bypassing through excavation work would be required during operation. The Monck Head proposal is located within the Recreation Zone of the Ningaloo Marine Park, however, the offshore boat launching ramp is adjacent to the Maud Sanctuary Zone.

The main characteristics of the proposal are summarised in Table 2 below. A detailed description of the proposal is provided in Section 5 of the PER (DALSE, 2002a).

Table 2: Summary of key proposal characteristics (Monck Head)

Element	Description
Boat launching ramp	Offshore rubble mound structure (approximately 0.3 hectares) with two ramps facing approx north east
Piled bridge and culvert causeway	Approximately 75 metres long, connecting the offshore boat launching ramp to shoreline
Jetties	Two jetties: one on either side of the two ramps To provide some wave screening and facilitate boat loading and refueling of non-trailered vessels
Offshore moorings	For use by non-trailered vessels
Channel markers	Marking of recommended boating track from Monck Head to Point Maud (approximately 6 kilometres)
Dredging	No capital dredging required for construction Maintenance limited to use of a long reach excavator to remove sand buildup Water level of at least -1.0 chart datum at the toe of the ramp and at least -1.2 to be maintained at the jetties
Access road	Expansion of existing road: 1.5 kilometres Sealed road surface: 7.4 metres wide Road corridor: 14.4 metres wide
Car parking	Approximately 1 hectare for 100 vehicles (accommodating coaches and vehicles with trailers)
Water tanks	2000 litre tank for fresh drinking water 2000 litre tank for groundwater (hand washing/ fish cleaning) Water to be hauled from Coral Bay
Public toilet facility	Dry compost fully sealed system (no water required for flushing)
Fish cleaning facility	Solid waste reception facilities (to be disposed at Coral Bay waste disposal site) Liquid waste to be discharged to groundwater soak
Fuel storage tanks	10,000 to 20,000 litres of diesel fuel to be stored in 2 low profile steel storage tanks, located in lined and bunded storage area
On-site generator	May be required to operate dieseline fuel pumps
Public lighting	To illuminate car park and ramp areas

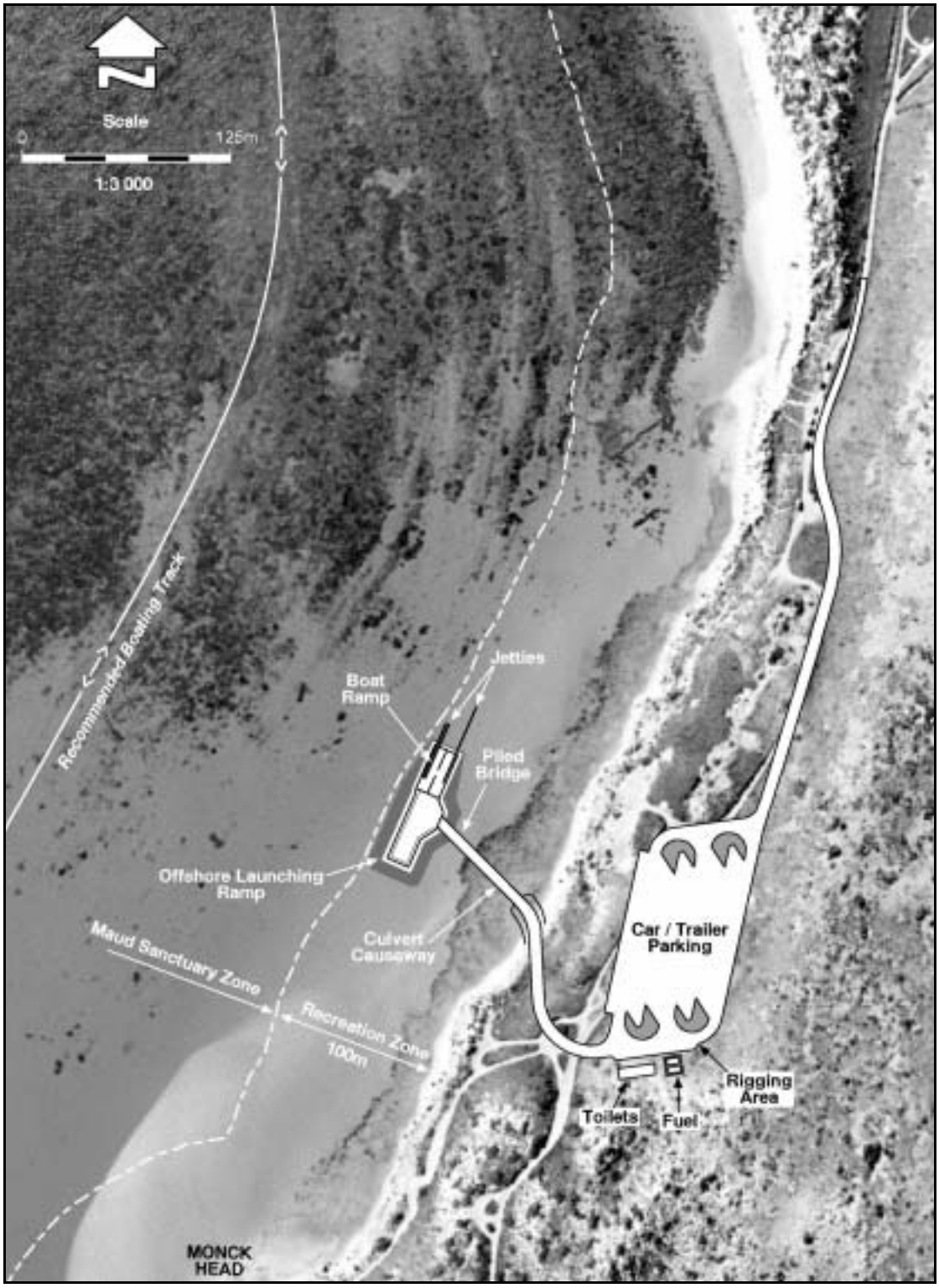

Figure 3: ***Site plan of the Monck Head proposal***

Since release of the PER, the proponent has made modifications to its Commitments for management of the proposal. This includes:

- Amendment of the commitments to include the development of a Dredging Environmental Management Plan, based on the principles in the draft Memorandum of Understanding for Maintenance Dredging currently under development between the EPA, Department of Environmental Protection and DPI, for the purpose of management of maintenance dredging of the facility and approach channel.

4.2 Relevant environmental factors

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and the conditions and procedures, if any, to which the proposal should be subject. In addition, the EPA may make recommendations as it sees fit.

The identification process for the relevant factors selected for detailed evaluation in this report is summarised in Appendix 4. The reader is referred to Appendix 4 for the evaluation of factors not discussed below. A number of these factors, such as public health and safety, are relevant to the proposal, but the EPA is of the view that the information set out in Section 4.3 and Appendix 4 provides sufficient evaluation.

It is the EPA's opinion that the following environmental factors relevant to the proposal require detailed evaluation in this report:

(a) Marine Biodiversity – potential for impact on corals and other sensitive benthic habitat through turbidity created during construction;

(b) Terrestrial Biodiversity – potential for impact on vegetation and fauna through widening of the existing road to the proposed site and potential for erosion during car park construction, and;

(c) Coastal Processes – potential for the design of the facility to impact on or restrict longshore drift.

The above relevant factors were identified from the EPA's consideration and review of all environmental factors generated from the PER and the submissions received, in conjunction with the proposal characteristics.

Details on the relevant environmental factors and their assessment are contained in Section 4.2.1 to 4.2.3. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

4.2.1 Marine biodiversity

Description

The construction and operation of the Mock Head proposal is likely to have some direct and indirect impacts on marine biodiversity. No corals are found in the area directly impacted by the footprint of the proposal, however, there may be indirect impacts through operation and ongoing maintenance of the facility. It is not expected that the Monck Head proposal will have any impact on important areas for marine species.

Submissions

The primary issues raised in submissions include:

- potential for loss of corals through direct impact and indirectly through turbidity during construction and maintenance;
- risk of coral damage by boats traversing the back reef area to reach the North Passage to access waters outside the reef line;
- facility lights may impact on turtles.

Assessment

The EPA's environmental objectives for this factor are:

- maintain the ecological function, abundance, species diversity and geographic distribution of marine flora and fauna;
- protect turtles, consistent with the provisions of the *Wildlife Conservation Act 1950*.

Direct impacts on coral and macroalgae

DPI has stated (DALSE 2003) that there will be no direct loss of corals due to construction of the Monck Head proposal. The rubble mound structure of the boat launching facility will be constructed in an area of sand overlying limestone pavement. However, it is proposed that the construction of the piled bridge and culvert causeway connecting the rubble mound structure to the mainland will result in the loss of approximately 0.04 hectares of macroalgal community. The rubble mound structure itself is likely to provide some opportunity for macroalgal colonisation on the subtidal portions of this structure which may offset the original loss.

Indirect impacts on coral and macroalgae

There is potential for the construction of the facility to result in indirect impacts on corals due to turbidity. DPI has committed to the use of silt curtains to protect nearby corals during construction if plumes reach potentially harmful levels. The EPA notes that DPI has committed to prepare alert and action triggers for the management of turbidity and sedimentation associated with construction of marine structures; and the development of Environmental Values, Environmental Quality Objectives and site-specific criteria for the marine environment as part of the Operation Phase EMP. However, a condition has been drafted to ensure that a silt curtain is in place during construction and maintenance of the Monck Head facility. The condition recommends that turbidity at a set distance from the silt curtain (100 m) should be within 90% of background levels, measured at a reference point outside of the area of impact. The purpose of such a condition is to protect the values of the adjacent Maud Sanctuary Zone. In particular, the closest coral communities, being approximately 200 m from the boat launching facility. These criteria will apply to any turbidity

created through construction and also through maintenance. It is expected that the distance and direction of coral communities from the Monck Head facility will reduce the potential for impact. Turbidity generated would be expected to be minor and of short duration, and current movement would direct it northwards and close to the shore, over areas of limestone pavement and sand.

Some turbidity may be generated by the prop wash of larger boats during operation of the facility, but it is expected that this will be transient. The sediments in the area are predominantly sand which will settle out almost immediately, and any 'fines' suspended in the water (which should be minimal) will rapidly disperse. As the nearest coral bommies are several hundred metres from the Monck Head facility, the DPI does not anticipate prop wash will cause excessive turbidity or affect nearby corals.

It is likely that the majority of boating traffic using the facility would be small boats that travel to the lagoon south of Monck Head to fish, or stay close to Coral Bay to snorkel and dive. As such, the distance that boats travel will be reduced, compared with the current situation of launching in Southern Bills Bay. This will reduce the potential for coral damage due to boat movements. DPI's commitment to marking of the preferred boating channel along the back reef between Monck Head and Point Maud will also reduce the potential for coral damage.

Turtles

Some submissions raised the potential for the proposal to impact on turtle nesting beaches and the potential for light spill from the facility to impact on turtle behaviour. Being a limestone shoreline, the Monck Head site is likely to be unsuitable as a nesting area for turtles. Turtle nesting has not been recorded at Monck Head. However, the larger beaches south of Monck Head have been shown to be active turtle nesting beaches. While DPI has stated that no impact on turtle nesting is expected due to development of the Monck Head site, it would be beneficial for consideration to be given to the installation of turtle friendly lighting at the facility to minimise the potential for impact on the behaviour of nesting adult turtles and hatchlings.

Summary

Having particular regard to the:

(a) lack of a direct impact on corals from the construction of the facility;

(b) proponent's commitment to development of a Construction Environmental Management Plan to address potential impacts from the construction of the facility; and

(c) proponent's commitment to development of an Operations Environmental Management Plan to address potential impacts from the operation of the facility,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor. However, the EPA has recommended that the proponent commitment for a silt curtain form the basis of a condition to protect nearby coral communities during construction and maintenance activities.

4.2.2 Terrestrial biodiversity

Description

The land based component of the Monck Head proposal incorporates the widening of the existing access road and the construction of a carpark. The construction of these facilities will result in the loss of some vegetation and has the potential to cause erosion of the sand dunes in the vicinity of the construction area.

Submissions

There were few submissions relating to potential impacts of the Monck Head proposal on terrestrial biodiversity. The primary issues raised in submissions include:

- limiting access (pedestrian and vehicular) in the vicinity of the facility and on the route from Coral Bay to Monck Head, to the specified access routes to minimise impacts on the dunes;
- concern in relation to management of stabilisation and rehabilitation of dunes and avoiding the potential for sand blowouts.

Assessment

The EPA's environmental objectives for this factor are to:

- maintain the ecological function, abundance, species diversity and geographic distribution and productivity of vegetation communities;
- maintain the ecological function, abundance, species diversity and geographic distribution of terrestrial fauna;
- maintain the integrity, ecological function and environmental values of the dune system.

The land based facilities associated with the Monck Head proposal may impact on three vegetation types. All of which are degraded to some extent, with some signs of erosion from existing tracks. No Declared Rare or priority species were recorded at the Monck Head site. None of the habitats or associated vegetation types to be impacted by the Monck Head facility are restricted, either locally or regionally. As the vegetation along the route and in the proposed carpark area is dominated by buffel grass, the limited vegetation loss proposed is unlikely to be significant. Formalising one access track to the boat launching facility and minimizing access to the other tracks is likely to minimise the potential for further erosion. The access road will require expansion of an existing road rather than development of a new access road, as such the potential for erosion risks are minimised and the amount of vegetation clearing is reduced.

DPI will install signage to explain the fragile nature of the dune system and also to encourage vehicles to remain on the access paths. DPI has stated that minimal clearing, revegetation of exposed dune cuttings as soon as possible after construction, and timing of construction in period of low wind and high rainfall, will help reduce the potential for blowouts due to wind erosion.

The details on stabilisation and rehabilitation will be addressed in the Construction EMP and the Rehabilitation EMP. DPI will develop these EMPs in consultation with the DCLM.

Summary
Having particular regard to the:

(a) proponent's commitment to development of a Construction Environmental Management Plan to address potential impacts from the construction of the facility; and

(b) proponent's commitment to development of an Operations Environmental Management Plan to address potential indirect impacts from the operation of the facility,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

4.2.3 Coastal processes

Description
There is some potential for the construction and operation of the Monck Head facility to impact on coastal processes. However, due to the limestone pavement at the site, there is little longshore sediment transport trapping and only minor amounts of sand are expected to be naturally removed every 2 to 3 years through wind driven currents in the area.

Submissions
The primary issues raised in submissions include:

- the access to the offshore launching ramp should all be a jetty based structure to minimise potential for impact on coastal processes;
- the facility will act as an offshore breakwater and sand will be trapped in its lee, irrespective of the proposed piled approach, requiring sand bypassing;
- trapping sand will impact on downstream processes.

Assessment
The EPA's environmental objectives for this factor are to:

- maintain stability of beaches;
- ensure that the development would not have a significant impact on existing coastal processes, including off-shore sediment movement.

Longshore drift
Small amounts of sand (approximately 3000 m^3) may accumulate every 3 to 5 years. DPI expects this sand would be naturally removed every 2 to 3 years by wind-driven currents in the area. If necessary, excavation of accumulated sand (using a long reach excavator) would be undertaken every 3 to 5 years. The excavated sand would be placed into the breaking wave area zone downstream of the accretion area from which it is removed, to maintain continuity of longshore sediment movement. Because the amounts of sand involved are small, and the majority of longshore sediment transport in the area is unlikely to be affected (due to the open structure jetty and culvert causeway), effects on downstream processes, towards Coral Bay, are expected to be negligible.

Jetty structure
Some submissions, including that of the MPRA raised concern that the entire access to the offshore launching facility should be based on a jetty structure. DPI has advised that it has incorporated the piled bridge section in addition to the culvert causeway to minimise the potential for impacts on longshore drift and on coastal processes in general. DPI has stated that the construction of a jetty structure for the entire access from the shore to the offshore boat launching ramp would be economically prohibitive. It was considered that the partial jetty structure, as proposed, will minimise the potential for impact on coastal processes.

Summary
Having particular regard to the:

(a) construction of a jetty structure along a major portion of the access to the offshore launching ramp; and

(b) proponent's commitment to development of an Operations Environmental Management Plan to address potential indirect impacts from the operation of the facility, including management of maintenance dredging,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

4.3 Other advice

4.3.1 Safety aspects

A number of submissions raised the potential for the development of a boating facility at Monck Head to encourage the use of the South (Yalobia) Passage for access outside of the reef. The local Volunteer Sea Search and Rescue Group has been involved in a number of rescues within the South Passage, which has been demonstrated to be more difficult and dangerous than the North (Cardabia) Passage to open water. Concerns were primarily based on the presumption that recreational boaters launching at Monck Head would be more likely to use the South Passage as it would be closer than the safer North Passage. It was also suggested that recreational boaters would follow the commercial boats or experienced recreational boats that already use the South Passage. This is a maritime safety issues and not an environmental factor, however, the EPA considers it important that the safety initiatives of the proponent, to address these concerns, are properly considered by the relevant decision making authorities in their approvals processes.

DALSE (2002a) reported that fishing from trailered craft is conducted primarily in the lagoon south of Monck Head. The proponent has advised that it is expected that the installation of the boating facility at Monck Head is not going to greatly increase the potential for use of the South Passage.

DPI has committed to the installation of signage at the Monck Head boating facility to warn of the risks associated with the South Passage. For those wishing to access the open water outside the reef, the signage will recommend the use of the recommended boating track inside the reef to the North Passage. The hydrographic charts for the

area and the Coral Bay Boating Guide (a free information leaflet produced by DPI) have warnings on the risks of use of the South Passage, and again recommend the use of the North Passage. Revised versions to be produced following a decision on the implementation of a boating facility will also provide this warning and recommendation.

DPI has committed to marking the recommended boating track paralleling the back reef from Monck Head to Point Maud. As such, all vessels will be encouraged to use the recommended boating track to access open waters via the North Passage.

4.3.2 Fuel spills

Submissions raised the potential for an oil spill from the Monck Head facility to affect large areas of coral from Monck Head to Paradise Beach and Southern Bills Bay, given the typical northerly-flowing currents in the area.

The risk of a large fuel spill is low. If a fuel spill did occur, it would be present as a buoyant surface layer that would quickly evaporate (especially under the warm windy conditions typical of Coral Bay). As such, it is expected that the risk of extreme damage to corals from a fuel spill at the Monck Head facility is low. Exposed corals or those very close to the water surface could potentially be affected, but even at low tide the majority of corals in the region are subtidal. The potential risk of a fuel spill will be reduced through the establishment of a formal boating facility and preparation of a Pollution Contingency Management Plan (PCMP) to prevent the discharge of hydrocarbons. This PCMP will address on-site storage of appropriate oil spill containment equipment and the need for different strategies under different environmental conditions (tide levels, wind speed).

While it is acknowledged that the discharge of very small amounts of fuel and oil to the environment are intrinsic to the operation of boat engines, this chronic, low-level impact already occurs wherever boats go in the Coral Bay area. The density of boats at the Monck Head facility is expected to be no greater than presently at Southern Bills Bay, where coral recruits are re-establishing (DALSE 2002b), indicating that the level of 'operational' fuel loss is not sufficient to prevent coral survival and growth.

It is considered that the provision of formalised refueling facilities in an area outside of southern Bills Bay, is likely to reduce the potential risk of fuel spills in the Coral Bay area.

4.3.3 Ongoing facility management

To EPA recognises the importance of implementing the Coral Bay Boating Strategy to alleviate pressures associated with boating activities within Coral Bay. This already has resource implications for DCLM.

If implemented, DPI propose that management of the boating facility will be transferred to the DCLM upon completion. The EPA is mindful that the long term management of this facility, by DCLM, will require further resources commensurate with the location of the facility, being within the Ningaloo Marine Park. It is understood that these resources are currently not available within DCLM. DCLM has advised that it will not be able to assume management responsibility for the boating facility until such time that a source of funding has been confirmed. It will be

important to ensure that provision of sufficient resources (including funding) associated with the long term management of the facility is addressed before this responsibility is transferred to DCLM.

In addition, twelve months following completion of the access road to the facility, the management and maintenance of the access road will be transferred to the Shire of Carnarvon.

4.4 Conditions and Commitments

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

In developing recommended conditions for each project, the EPA's preferred course of action is to have the proponent provide an array of commitments to ameliorate the impacts of the proposal on the environment. The commitments are considered by the EPA as part of its assessment of the proposal and, following discussion with the proponent, the EPA may seek additional commitments.

The EPA recognises that not all of the commitments are written in a form which makes them readily enforceable, but they do provide a clear statement of the action to be taken as part of the proponent's responsibility for, and commitment to, continuous improvement in environmental performance. The commitments, modified if necessary to ensure enforceability, then form part of the conditions to which the proposal should be subject, if it is to be implemented.

4.4.1 Proponent's commitments

The proponent's commitments as set in the PER and subsequently modified, as shown in Appendix 5, should be made enforceable for the Monck Head proposal.

4.4.2 Recommended conditions

Having considered the proponent's commitments and information provided in this report, the EPA has developed a set of conditions, pursuant to Section 44(1)(b) of the *Environmental Protection Act 1986*, that the EPA recommends be imposed if the proposal by DPI to develop the Monck Head boating facility is approved for implementation. These conditions are presented in Appendix 5.

Matters addressed in the conditions include the following:

(a) that the proponent shall fulfill the commitments in the Consolidated Commitments statement set out as an attachment to the recommended conditions in Appendix 5;

(b) prevention of discharge of hydrocarbons; and

(c) management of turbidity during construction and maintenance of the facility.

5. Conclusions

The EPA has considered the proposals by DPI to develop a boating facility at either North Bills Bay or Monck Head, at Coral Bay.

The EPA notes that, if implemented, management of the boating facility will be transferred to the DCLM upon completion. The EPA is mindful that the long term management of this facility, by the DCLM, will require resources commensurate with the location of the facility, being within the Ningaloo Marine Park. It is understood that these resources are currently not available within DCLM.

The North Bills Bay proposal impacts on an area of considerable environmental value. This is highlighted by the area exhibiting a number of the features for which the area was designated within the Maud Sanctuary Zone of the Ningaloo Marine Park. The Sanctuary Zone is a replenishment area that provides recruits for other areas of the Park and is a special protection area for wildlife (in relation to nesting or nursery areas, particularly for birds and sharks). The Management Plan for the Ningaloo Marine Park provides that groynes and breakwaters should not be constructed within Sanctuary Zones. As such, for the North Bills Bay proposal to proceed, the area impacted by the boating facility would have to be removed from the Sanctuary Zone. Following consideration of the environmental values of this area, there is sufficient justification for this area to be preserved as a Sanctuary Zone.

The North Bills Bay proposal would increase uncontrolled access in the vicinity of Point Maud, which is recognised as an important bird roosting area. Capital and maintenance dredging is also likely to alter coastal processes and effect the shape and structure of this important area. In addition, the construction of the access road will impact on terrestrial vegetation. The EPA is not satisfied that the management proposed would prevent significant impacts on the marine and terrestrial environment and associated flora and fauna.

Taking this into account, the EPA considers that the proposal to construct and operate a boating facility at North Bills Bay, as proposed, is environmentally unacceptable as it cannot be managed to meet the EPA's objectives in relation to marine biodiversity, terrestrial biodiversity and coastal processes.

In relation to the Monck Head proposal, the EPA notes that the proposed development area is within the Recreation Zone of the Ningaloo Marine Park. The Ningaloo Marine Park Management Plan does not recommend against the development of the infrastructure associated with a boating facility in this Zone. The location of the Monck Head proposal is such that its footprint is unlikely to impact on the values of the Ningaloo Marine Park. While there will be some impact on macroalgal communities, there will be no direct impact on corals. The Monck Head site is within an area of stable hard coast. Considering this, and the design of the facility, incorporating a piled bridge and culvert causeway, impact on the coastal processes of the area is unlikely. However, the construction of the facility will have to be carefully managed to ensure that there is no indirect impact on the adjacent Sanctuary Zone of the Ningaloo Marine Park.

The EPA has recommended a condition which provides for the management of turbidity from construction and maintenance of the facility, particularly in relation to use of a silt curtain and the establishment of criteria to limit the potential for a significant decline in background water quality in the area. In addition, while it is expected that the proponent shall not cause or allow the discharge of hydrocarbons into the Ningaloo Marine Park, the EPA considers it important that the proponent have in place a Pollution Contingency Management Plan. As such, for the Monck Head proposal, the EPA has concluded that it is unlikely that the EPA's objectives would be compromised provided there is satisfactory implementation by the proponent of the proponent's commitments and the recommended conditions set out in Appendix 5 and summarised in Section 4.4.

6. Recommendations

6.1 North Bills Bay

For the North Bills Bay proposal, the EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister considers the report on the relevant environmental factors of marine biodiversity, terrestrial biodiversity and coastal processes, as set out in Section 3.2.
2. That the Minister notes that the EPA has concluded that the proposal for a boating facility at North Bills Bay cannot meet the EPA's environmental objectives for marine biodiversity, terrestrial biodiversity and coastal processes.
3. That the Minister notes that the EPA has not included in this Bulletin "conditions and procedures to which the proposal should be subject, if implemented" because the EPA holds the view that the proposal should not be implemented.
4. That the Minister not issue a statement that the proposal may be implemented.

6.2 Monck Head

For the Monck Head proposal, the EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the proposal being assessed is for a boating facility at Monck Head.
2. That the Minister considers the report on the relevant environmental factors as set out in Section 4.2.
3. That the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 5, and summarised in Section 4.4, including the proponent's commitments.
4. That the Minister imposes the conditions and procedures recommended in Appendix 5 of this report.

Appendix 1

List of submitters

State and local Government agencies:
Marine Parks and Reserves Authority
Department of Conservation and Land Management
Department of Fisheries
Department of Indigenous Affairs
Shire of Carnarvon

Organisations:
Australian Marine Conservation Society, WA Branch & Conservation Council of WA
Coral Bay Volunteer Sea Search and Rescue (inc)
Western Australian Fishing Industry Council Inc.
Ningaloo Care Group

Companies:
Coral Bay Ocean Game Fishing Charters
Bayview Coral Bay
Coral Bay Adventures
Coral Coast Resort

Individuals:
N Blandford
J McCauley
R de Gunst & A Holder
A Lockwood
R Atkin
P Mack
P Nikellys

Appendix 2

References

DALSE (2002a) *Public Environmental Review for Two Proposals for the Development of a Single Boating Facility at either Monck Head or North Bills Bay, Coral Bay*. Prepared for the Department for Planning and Infrastructure by DAL Science and Engineering Pty Ltd. August 2002.

DALSE (2002b) *Public Environmental Review for Two Proposals for the Development of a Single Boating Facility at either Monck Head or North Bills Bay, Coral Bay: Technical Appendicies*. Prepared for the Department for Planning and Infrastructure by DAL Science and Engineering Pty Ltd. August 2002.

DALSE (2003) *Public Environmental Review for Two Proposals for the Development of a Single Boating Facility at either Monck Head or North Bills Bay, Coral Bay: Responses to Submissions*. Prepared for the Department for Planning and Infrastructure by DAL Science and Engineering Pty Ltd. June 2003.

DCLM (1989) *Ningaloo Marine Park (State Waters) Management Plan 1989-1999*. Management Plan Number 12, Department of Conservation and Land Management.

EPA (1999) *Environmental Protection of Cape Range Province: Position Statement Number 1*. Environmental Protection Authority, December 1999.

MPRA (2001) *Management guidelines for Maud Sanctuary Zone, Ningaloo Marine Park*, Marine Parks and Reserves Authority, June 2001.

Norman, B. (In prep) *Shark Aggregations near Point Maud, Ningaloo Marine Park: Highlighting an Area of Great Conservation Significance*. Prepared by the Australian Marine Conservation Society.

Appendix 3

Summary of identification of relevant environmental factors

North Bills Bay

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
BIOPHYSICAL			
Compatibility with existing management regimes and statutory plans	Proposal is within Maud Sanctuary Zone of Ningaloo Marine Park.	DCLM & MPRA: A boat launching facility at NBB is inconsistent with the Ningaloo Marine Park Management Plan which states that: "groynes, breakwaters or similar constructions not be constructed in Sanctuary Zones". Potential for the boating facility to increase boating activity in the area and cause ongoing management implications.	Sanctuary Zones provide for recreational uses consistent with the protection of natural resources. Commercial concession operations for recreation activities may be provided where there is no conflict with other uses. **Considered to be a relevant environmental factor and is discussed in the context of:** • **marine biodiversity; and** • **terrestrial biodiversity.**
Marine biodiversity	Proposal is likely to impact directly on 0.5 hectares of coral and limestone reef and may cause indirect impacts through turbidity generated through construction and maintenance. Reef sharks seasonally congregate within Skeleton Bay.	MPRA: Development at NBB will have significant impact on the marine environment and associated flora and fauna and on coral communities in the area. DoF: Potential for impact on the macroalgal communities in the vicinity. DoF, DCLM and Public: Potential for impacts from construction and operation, including sand management program, to impact on fauna such as reef sharks. Public: Potential for direct impacts of construction and maintenance on corals . Tolerance of reef sharks to human interference is unknown. It is likely that increased boating will prove disruptive through increased activity, noise levels, and the numbers of visitors in the general vicinity. May be damage to marine life through the use of excavators and/or dredges (in any sand management program).	**Considered to be a relevant environmental factor.**

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
Terrestrial biodiversity	Localised loss of coastal vegetation and dune structure and stability through road expansion and construction: 1.8 km of new road and expansion of 4.2 km. Access road may impact on coastal communities, including DCLM priority 2 species *Acacia ryaniana*. Migratory birds roost at Point Maud.	MPRA: NBB will have significant impacts on terrestrial environment and associated flora and fauna. DCLM: Road construction will result in unacceptable environmental impacts. Public: Potential for impact on (listed migratory) roosting birds at Point Maud – through both construction and operation of the facility due to increased access in vicinity of primary resting area at Point Maud (boats, vehicles and pedestrians).	**Considered to be a relevant environmental factor.**
Coastal processes	Potential for breakwater construction to cause sedimentation and impacts on longshore drift.	MPRA: Any groyne-type proposal will cause significant interference with Point Maud and sand movement around the Point. DCLM: Potential for trapping of sediment mainly on the southern side of the groyne and the subsequent requirement for ongoing dredging of trapped sediments to maintain navigable access to the facility has the potential to significantly compromise the values of the sanctuary zone. Public: Potential for changes to shape and integrity of Point Maud due to interruption of sand supply and erosion.	**Considered to be a relevant environmental factor.**
POLLUTION			
Marine water and sediment quality – turbidity	Dredging will be required for construction and maintenance which is likely	Public: Potential for turbidity from maintenance to cause indirect impacts.	Potential dredging related impacts to be managed through the development and implementation of a Dredging Environmental Management Plan, incorporated into the

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
	to cause turbidity and flow on impacts. .		Operations Environmental Management Program. DPI committed to prepare alert and action triggers for the management of turbidity and sedimentation associated with the construction of marine structures; and the development of Environmental Values, Environmental Quality Objectives and site-specific criteria for the marine environment as part of the Operation Phase EMP. **Considered to be a relevant environmental factor and is discussed in the context of:** • **marine biodiversity and** • **coastal processes.**
Marine water and sediment quality – fuel spills	Refueling facilities to be constructed at the facility.	SoC: Fuel spills could be contained by the breakwater and prevailing currents are away from Southern Bills Bay. Public: The location and semi-enclosed nature of the facility would offer assistance in effective management of fuel spills from within the harbour. Containment booms could be rapidly deployed across the harbour entrance and the harbour beach, efficiently containing the spill for dispersal.	DPI has committed to preparing a Pollution Contingency Management Plan to address fuel spills once the site for the boating facility is selected. The fuel storage will be constructed to Australian Standard AS 1940–1993 and so automatically include a schedule for regular inspection, cleaning and maintenance. **Factor does not require further EPA evaluation.**
Solid waste & sewage	Toilets and waste disposal facilities (including fish cleaning facilities) to be provided at the facility.	DCLM: Boating facilities at North Bills Bay with overnight/extended pen facilities has the potential to increase nutrient build-up due to sullage and other discharge and disturbance. Sullage pump out facilities should be provided. There should be no fish cleaning stations or waste disposal facilities provided to discourage feral and native species foraging. Use of the fish cleaning facility in the Coral Bay settlement should be encouraged	Site drainage to be directed away from the marine environment. No overnight accommodation will be permitted at the facility, and the majority of large non-trailered vessels using the pens will be DCLM licensed operators who are not permitted to discharge refuse, bilge or sullage in the Marine Park. People are likely to clean fish at the boat launching facility, irrespective of whether facilities are provided or not. To

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
			reduce impacts, DPI propose to provide fish cleaning stations. Appropriate design (i.e. strategically placed, vermin-proof receptacles) and management (eg regular emptying of receptacles, signs on the importance of correct management of waste) will minimise foraging by feral and native species. **Factor does not require further EPA evaluation.**
SOCIAL SURROUNDINGS			
Visual amenity	Facility likely to be visible from Coral Bay townsite.	Public: being able to see the facility from Coral Bay settlement would be a benefit.	No submissions related to detrimental visual impact. **Factor does not require further EPA evaluation.**
Aboriginal culture and heritage	Road and carpark construction may disturb archaeological or anthropogenic material or significant sites.	DIA: A management plan is needed to protect those recorded Aboriginal sites that are close to the chosen location. Although a Section 16 under the (State) *Aboriginal Heritage Act 1972* will not be needed if the recorded Aboriginal sites can be avoided and not disturbed by the proposal, it is suggested that a Section 16 be sought to monitor the chosen location, in case an unrecorded Aboriginal site is uncovered during construction.	DPI has committed to education of all site personnel regarding the protection of Aboriginal Heritage Sites and the provisions of the *Aboriginal Heritage Act 1972*. Their objective is to ensure that construction activities comply with the requirements of the *Aboriginal Heritage Act 1972* and any other conditions related to Native Title negotiations. DPI will invite a representative of the Yamatji Land and Sea Council to be present during ground-disturbing work. The maintenance and operation of the facility is not expected to have any further impacts on aboriginal sites. **Factor does not require further EPA evaluation.**

Abbreviations:
DIA: Department of Indigenous Affairs
DCLM: Department of Conservation and Land Management
DoF: Department of Fisheries
DPI: Department for Planning and Infrastructure
EMP: Environmental Management Plan
EPA: Environmental Protection Authority
MPRA: Marine Parks and Reserves Authority
NBB: North Bills Bay
SoC: Shire of Carnarvon

Appendix 4

Summary of identification of relevant environmental factors

Monck Head

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
BIOPHYSICAL			
Compatibility with existing management regimes and statutory plans	Proposal is within a Recreation Zone of Ningaloo Marine Park (NMP).	MPRA: Development of a facility at this site is consistent with the Ningaloo Marine Park Management Plan. DCLM, MPRA and DoF: Preferred site for boat launching facility.	Recreational zone of NMP provides for recreational uses consistent with conservation of natural resources. In Recreational Zone, boat ramps are permitted and jetties require special approval. The Monck Head proposal is consistent with the NMP Management Plan. **Factor does not require further EPA evaluation.**
Marine biodiversity	No direct loss of coral through construction. The rubble mound 'island' will be in an area of sand overlying limestone pavement. Construction of the piled bridge and culvert causeway will result in loss of approx 0.04 hectares of macroalgal community.	Public: Potential for loss of corals through direct impact and indirectly through turbidity from construction and maintenance. Risk of coral damage by boats traversing the Monck Head/Bills Bay area to reach the North Passage to access waters outside the reef line. Facility lights may impact on turtles. Increased boat use may impact on marine mammals and cetaceans and increase fishing pressure.	**Considered to be a relevant environmental factor.**
Terrestrial biodiversity	Localised loss of coastal vegetation through expansion of existing access road. Carpark construction and road expansion may impact on dune structure and stability.	Public: Visitors to the area should be prevented from using vehicle access tracks other than to the facility itself. Access to roads and tracks from the facility access road should be restricted to prevent further damage to the dunal areas.	**Considered to be a relevant environmental factor.**
Coastal processes	Potential for the facility to impact on longshore drift.	MPRA: Access structure to offshore launching ramp should all be through a jetty structure to minimize potential for impact. Public: The facility will act as an offshore breakwater and sand will be trapped in its lee, irrespective of the proposed piled approach,	**Considered to be a relevant environmental factor.**

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		requiring sand bypassing. Trapping sand will impact on downstream processes	
POLLUTION			
Marine water and sediment quality – turbidity	No capital dredging. Maintenance through use of a long reach excavator.	Public: Need to prevent runoff of fine pindan sands into Ningaloo Marine Park, both during construction and operation. Turbidity is likely to be caused through maintenance activities.	Maintenance will be required to remove minor amounts of sand (approx. 100 m^3) expected to accumulate on the lee-side of the offshore breakwater, and every 3 to 5 years to remove sand (approx. 3,000 m^3) that may accumulate as a shoreline salient. DPI expect that salient would be naturally removed by local currents every 2 to 3 years. May be an indirect effect on corals due to turbidity from offshore ramp construction. Management will be documented in the Construction EMP. DPI has committed to prepare alert and action triggers for the management of turbidity and sedimentation associated with construction of marine structures; and the development of Environmental Values, Environmental Quality Objectives and site-specific criteria for the marine environment as part of the Operation Phase EMP. The road and car park will be surfaced, and exposed dune cuttings will be rehabilitated as soon as possible. Stormwater runoff will be directed to stormwater drains to minimise erosion and prevent sedimentation to the marine environment. **Considered to be a relevant environmental factor and is discussed in the context of:** • **marine biodiversity and** • **coastal processes.**
Marine water and sediment quality – fuel spills	Refueling facilities to be constructed at the facility.	Public: If a fuel spill occurred at Monck Head the winds and prevailing current would carry fuels into Southern Bills Bay causing damage to the corals from Monck Head to Paradise Beach and	The risk of a large fuel spill is low, and the fuel spill would be present as a buoyant surface layer that would quickly evaporate. Fuel storage will be constructed to Australian Standard AS 1940–1993 and so include safety mechanisms and a schedule for

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		damage to the corals from Monck Head to Paradise Beach and Southern Bills Bay. A Pollution Contingency Management Plan (PCMP) is only effective if someone is there to witness the spill. An efficient response would be hampered in strong winds at low tide due to inability to deploy containment booms without damaging the coral. On any astronomical tide lower than 0.5 m Chart Datum, there is at least some coral exposed which would increase risk of damage through an oil spill.	1993 and so include safety mechanisms and a schedule for regular inspection, cleaning and maintenance. DPI will develop a PCMP to address on-site storage of appropriate oil spill containment equipment, the need for different strategies under different environmental conditions (tide levels, wind speed) and the provision of safety features in the fuel dispensers (eg. automatic shut-off nozzles, emergency pump stops at point of refueling, a regular maintenance schedule for pipes, hoses, nozzles and tanks). The density of boats at the Monck Head facility will be no greater than presently at Southern Bills Bay, where coral recruits are re-establishing, indicating that the level of 'operational' fuel loss is not sufficient to prevent coral survival and growth. **Factor does not require further EPA evaluation.**
Solid waste and sewage	Toilets and waste disposal facilities (including fish cleaning facilities) to be provided at the facility. Sullage facilities not to be provided.	Public: Sullage pump out facilities should be provided. Waste material debris from the site would wash into the sea and be carried towards Coral Bay on the prevailing northward current flow. Stormwater from the car park, carrying motor oils, clay and other toxins could kill the coral. There should be no fish cleaning stations or waste disposal facilities provided to discourage feral and native species foraging. Use of the fish cleaning facility in the Coral Bay settlement should be encouraged.	The parking area will be designed so that stormwater runoff will be directed to stormwater drains, and a cut-off trap will be located at the head of the boat ramps, to minimise discharge of contaminants to the sea. Sullage facilities are not to be provided but options exist through other approvals for disposal. People are likely to clean fish at the boat launching facility, irrespective of whether facilities are provided or not. To reduce impacts, DPI will provide fish cleaning stations. Appropriate design (i.e. strategically placed, vermin-proof receptacles) and management (eg regular emptying of receptacles, signs on the importance of waste management) will minimise foraging by feral and native species. **Factor does not require further EPA evaluation.**
SOCIAL SURROUNDINGS			
Aboriginal	Road and carpark construction	DIA:	DPI has committed to education of all site personnel regarding

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
culture and heritage	may disturb archaeological or anthropogenic material or significant sites.	A management plan is needed to protect those recorded Aboriginal sites that are close to the chosen location. Although a Section 16 under the (State) *Aboriginal Heritage Act 1972* will not be needed if the recorded Aboriginal sites can be avoided and not disturbed by the proposal, it is suggested that a Section 16 be sought to monitor the chosen location, in case an unrecorded Aboriginal site is uncovered during construction.	the protection of Aboriginal Heritage Sites and the provisions of the *Aboriginal Heritage Act 1972*. DPI will ensure that construction activities comply with the requirements of the *Aboriginal Heritage Act 1972* and any other conditions related to Native Title negotiations. DPI will invite a representative of the Yamatji Land and Sea Council to be present during ground-disturbing work. The maintenance and operation of the facility is not expected to have any further impacts on aboriginal sites. **Factor does not require further EPA evaluation.**
Public health and safety	Monck Head is closer to the South Passage for access outside the reef line.	Public: Concern that recreational boaters may be more likely to use the South Passage due to its proximity to the Monck Head facility. Commercial boats are more likely to use the South Passage (rather than go along the marked boating track along the back of the reef to the North Passage), and recreational boaters may follow them. Little protection from south and south-west wind (and associated waves) which may effect the safety and efficiency of loading, unloading and refueling vessels.	Given the typical type of vessel and pattern of boat use of recreational boaters in Coral Bay, it is not likely that large numbers of additional recreational boaters will be tempted to use the Southern Passage, and these can be minimised by appropriate educational material and signage at the boating facility. All vessels wishing to access open waters will be encouraged to use the recommended boating track inside the reef to the North Passage. Hydrographic charts, the Coral Bay Boating Guide and signage at the facility will advise boaters of the risks of using the South Passage. Under normal conditions Monck Head site is protected from the full impact of swell waves by the fringing reef line, while the headland of Monck Head and the orientation of the island ramp formation would provide shelter from wind waves generated by the prevailing south to south westerly winds. DPI has committed to marking the recommended boat passage from Monck Head to Point Maud. **Factor does not require further EPA evaluation.**

Abbreviations:
DIA: Department of Indigenous Affairs
DCLM: Department of Conservation and Land Management
DoF: Department of Fisheries
DPI: Department for Planning and Infrastructure
EMP: Environmental Management Plan
EPA: Environmental Protection Authority
MPRA: Marine Parks and Reserves Authority
NMP: Ningaloo Marine Park
PCMP: Pollution Contingency Management Plan

Appendix 5

Recommended Environmental Conditions and Proponent's Consolidated Commitments

Monck Head

Statement No.

RECOMMENDED CONDITIONS AND PROCEDURES

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE ENVIRONMENTAL PROTECTION ACT 1986)

CORAL BAY BOATING FACILITY,
MONCK HEAD, CORAL BAY,
SHIRE OF CARNARVON

Proposal: The construction and operation of a boating facility at Monck Head, Coral Bay, incorporating an offshore boat launching ramp connected to the shore through a piled bridge and culverted causeway, as documented in Schedule 1 of this Statement.

Proponent: Department for Planning and Infrastructure

Proponent Address: PO Box 402, Fremantle WA 6160

Assessment Number: 1186

Report of the Environmental Protection Authority: Bulletin 1107

The proposal referred to above may be implemented by the proponent subject to the following conditions and procedures:

Procedural conditions

1 Implementation and Changes

1-1 The proponent shall implement the proposal as documented in Schedule 1 of this Statement subject to the conditions of this Statement.

1-2 Where the proponent seeks to change any aspect of the proposal as documented in Schedule 1 of this Statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.

1-3 Where the proponent seeks to change any aspect of the proposal as documented in Schedule 1 of this Statement in any way that the Minister for the Environment determines on advice of the Environmental Protection Authority, is not substantial, the proponent may implement those changes upon receipt of written advice.

2 Proponent Commitments

2-1 The proponent shall implement the environmental management commitments documented in Schedule 2 of this Statement.

2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of the conditions in this Statement.

3 Proponent Nomination and Contact Details

3-1 The proponent for the time being nominated by the Minister for the Environment under Section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under Section 38(7) of the Act to revoke the nomination of that proponent and nominate another person as the proponent for the proposal.

3-2 If the proponent wishes to relinquish the nomination, the proponent shall apply for the transfer of proponent and provide a letter with a copy of this Statement endorsed by the proposed replacement proponent that the proposal will be carried out in accordance with this Statement. Contact details and appropriate documentation on the capability of the proposed replacement proponent to carry out the proposal shall also be provided.

3-3 The nominated proponent shall notify the Department of Environmental Protection of any change of contact name and address within 60 days of such change.

4 Commencement and Time Limit of Approval

4-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this Statement that the proposal has been substantially commenced or the approval granted in this Statement shall lapse and be void.

Note: The Minister for the Environment will determine any dispute as to whether the proposal has been substantially commenced.

4-2 The proponent shall make application for any extension of approval for the substantial commencement of the proposal beyond five years from the date of

this Statement to the Minister for the Environment, prior to the expiration of the five-year period referred to in Condition 4-1.

The application shall demonstrate that:

1. the environmental factors of the proposal have not changed significantly;

2. new, significant, environmental issues have not arisen; and

3. all relevant government authorities have been consulted.

Note: The Minister for the Environment may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the proposal.

Environmental conditions

5 Compliance Audit

5-1 The proponent shall prepare an audit program and submit compliance reports to, the Department of Environmental Protection which address:

1. the implementation of the proposal as defined in Schedule 1 of this Statement;

2. evidence of compliance with the conditions and commitments; and

3. the performance of the environmental management plans and programs.

Note: Under Sections 48(1) and 47(2) of the *Environmental Protection Act 1986*, the Chief Executive Officer of the Department of Environmental Protection is empowered to audit the compliance of the proponent with the Statement and should directly receive the compliance documentation, including environmental management plans, related to the conditions, procedures and commitments contained in this Statement.

6 Hydrocarbons

6-1 At all times, the proponent shall not cause or allow the discharge of hydrocarbons into the Ningaloo Marine Park.

6-2 In the event that discharge occurs contrary to the requirements of Condition 6-1, the proponent shall immediately control and abate the discharge, take all necessary remedial action, and as soon as practicable inform the Department of Environmental Protection, providing a full report of the incident.

Note: The proponent will have in place a Pollution Contingency Management Plan (Commitment 7) to address the requirements of Condition 6-2.

7 Turbidity

7-1 During the construction and maintenance of the facility, the proponent shall have in place a "silt curtain" to ensure that turbidity, measured 100 metres from the silt curtain, does not increase above 90% of background turbidity at a set reference site, at an equivalent water depth, or impact on the values of the Maud Sanctuary Zone of the Ningaloo Marine Park.

7-2 In the event that turbidity occurs, contrary to the requirements of Condition 7-1, the proponent shall immediately control and abate the turbidity.

Note: The proponent will have in place a Construction Environmental Management Plan (Commitment 1) and an Operations Environmental Management Plan (Commitment 5) to address the requirements of Condition 7-2.

Note: The reference site shall be located outside of any area influenced by the construction and maintenance of the facility.

Procedures

1 Where a condition states "to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority", the Chief Executive Officer of the Department of Environmental Protection will obtain that advice for the preparation of written advice to the proponent.

2 The Environmental Protection Authority may seek advice from other agencies, as required, in order to provide its advice to the Chief Executive Officer of the Department of Environmental Protection.

Notes

1 The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environmental Protection over the fulfilment of the requirements of the conditions.

2 In this statement, to "have in place" is defined as to "prepare, implement and maintain for the duration of the proposal".

Schedule 1

The Proposal (Assessment No. 1186)

The proposal is to construct and operate a boating facility at Monck Head, Coral Bay, Shire of Carnarvon. The facility will include an offshore rubble mound structure (island), with two boat launching ramps and two jetties placed on either side of the ramps. The offshore structure will be connected to the shore by a piled bridge and culvert causeway. Channel markers will be installed to assist navigation on the approach to the boating facility and to mark the recommended boating track from Monck Head to Point Maud.

The terrestrial components of the facility include a sealed surface carpark to accommodate approximately 100 vehicles, with the existing 1.5 kilometre access road to the site being upgraded to accommodate heavy vehicles. Two water tanks will be provided onsite. A fully sealed system public toilet block will be provided which will not require water for flushing.

The location of the facility is shown in Figure 1 (attached). The layout of the facility is shown in Figure 2 (attached).

The key characteristics of the proposal are summarised in Table 1 below.

Table 1 – Key Proposal Characteristics

Element	**Quantities/Description**
Major marine components	
Offshore boat launching ramp	Offshore rubble mound structure (approximately 0.3 hectares) with two ramps facing approximately north east
Piled bridge and culvert causeway	To connect offshore boat launching ramp to shoreline (approximately 75 metres long)
Jetties	Two jetties: one on either side of the two ramps to provide some wave screening and facilitate boat loading and refueling of non-trailered vessels
Offshore moorings	Approximately 15, for use by non-trailered vessels
Channel markers	Marking of recommended boating track from Monck Head to Point Maud (approximately 7 kilometres)
Dredging	No capital dredging required for construction Maintenance limited to use of a long reach excavator to remove sand buildup Water level to be maintained at: at least -1.0 chart datum at the toe of the ramp; and at least -1.2 at the jetties
Major terrestrial components	
Access road	Expansion of existing road: 1.5 kilometres Sealed road surface: 7.4 metres wide Road corridor: 14.4 metres wide

Car parking	Approximately 1 hectare for 100 vehicles (accommodating coaches and vehicles with trailers)
Water tanks	2000 litre tank for potable drinking water 2000 litre tank for groundwater (hand washing/ fish cleaning)
Public toilet facility	Dry compost fully sealed system (no water required for flushing)
Fish cleaning facility	Solid waste reception facilities (to be disposed at Coral Bay waste disposal site) Liquid waste to be discharged to groundwater soak
Fuel storage tanks	10,000 to 20,000 litres of diesel fuel to be stored in 2 low profile steel storage tanks, located in lined and bunded storage area Fuel storage constructed at least to Australian Standard AS 1940–1993

Figures **(attached)**

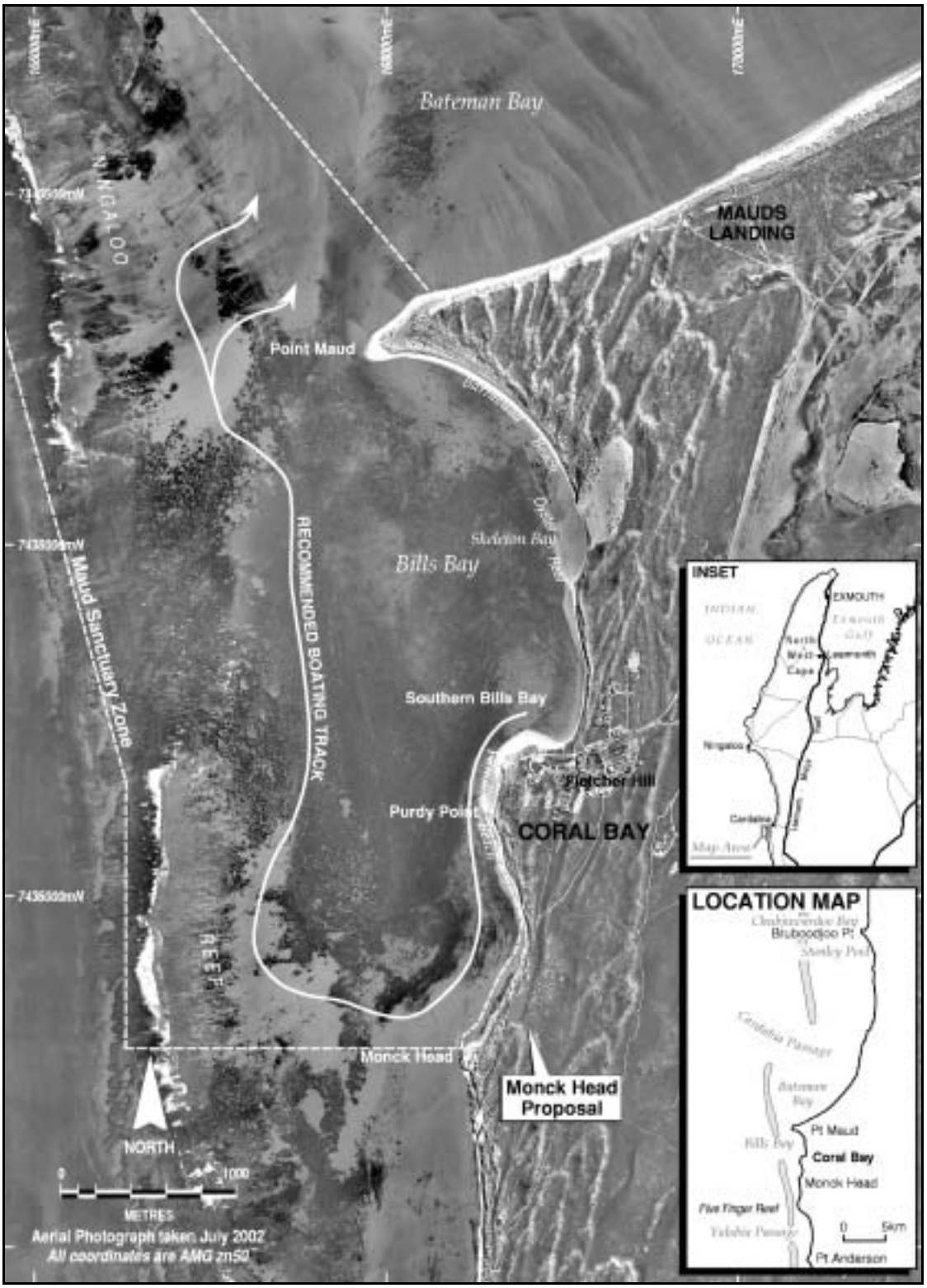

Figure 1: ***Location of Monck Head boating facility***

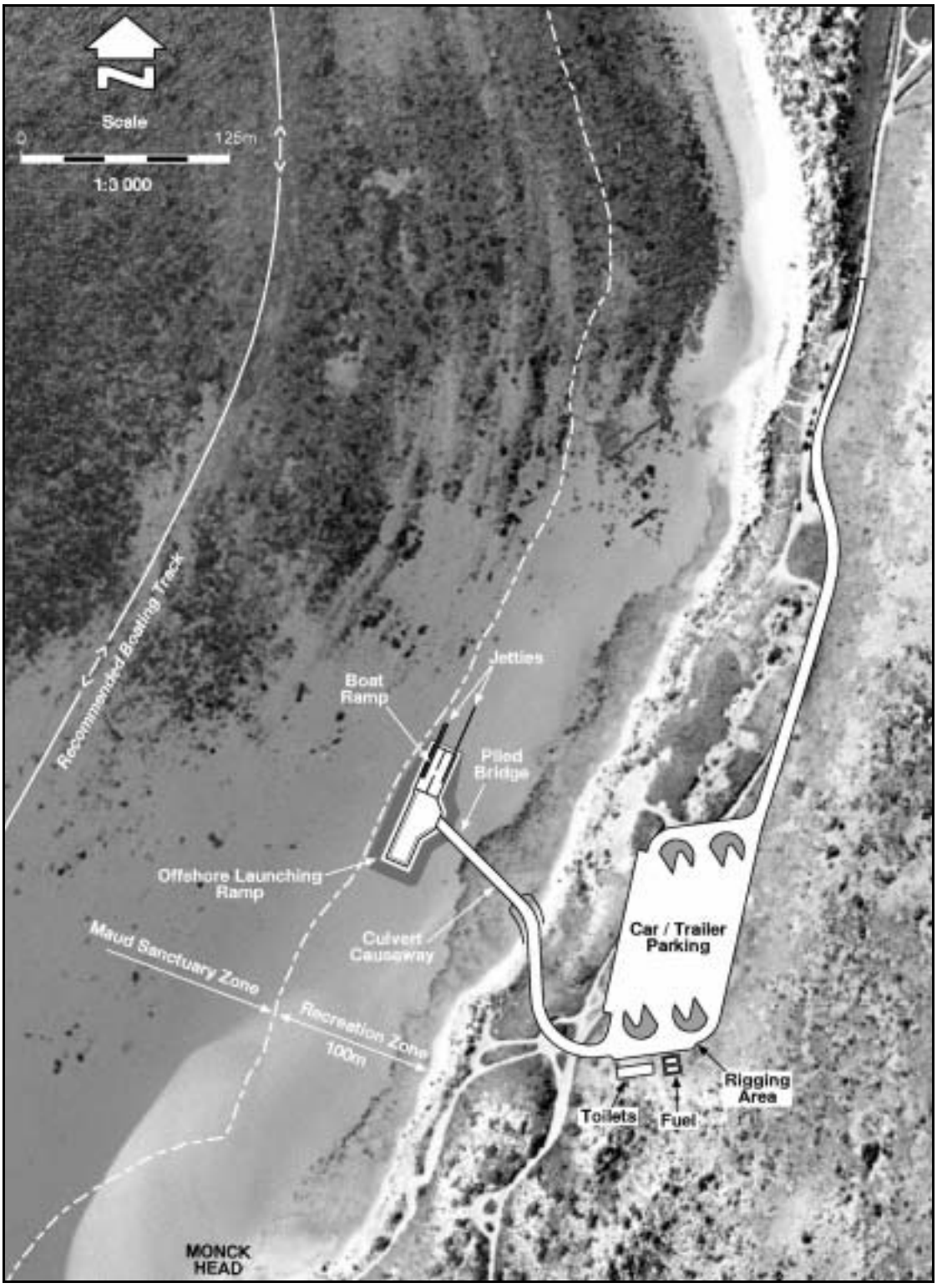

Figure 2: ***Layout of Monck Head boating facility***

Schedule 2

Proponent's Environmental Management Commitments

August 2003

Coral Bay Boating Facility, Monck Head, Coral Bay

(Assessment No. 1186)

Department for Planning and Infrastructure

Proponent's Environmental Management Commitments

Coral Bay Boating Facility, Monck Head (Assessment No. 1186), August 2003

Note: The term "commitment" as used in this schedule includes the entire row of the table and its six separate parts as follows:

- a commitment number;
- a commitment topic;
- the 'action' to be undertaken by the proponent;
- the objective of the commitment;
- the timing requirements of the commitment; and
- the body/agency to provide technical advice to the Department of Environmental Protection.

NO	TOPIC	ACTIONS	OBJECTIVE(S)	TIMING	ADVICE
1	Construction Environmental Management Plan	Prepare a Construction Environmental Management Plan to address: 1. design of roads, carparks and stormwater management systems; 2. timing and duration of construction; 3. management of construction traffic and public access to the site; 4. management of dust and noise; 5. monitoring (including the identification of alert and action triggers) and management of turbidity and sedimentation associated with construction of marine structures; 6. education of all site personnel regarding the protection of Aboriginal Heritage sites and the provisions of the *Aboriginal Heritage Act 1972*; and 7. signage.	The key objectives of the Construction Environmental Management Plan include: • design and construct terrestrial facilities to minimise the impact of construction on dunes and associated vegetation; • control public access to the site and the speed of construction traffic to minimise potential risks to the public and native fauna; • minimise erosion and prevent sedimentation into the marine environment; • ensure that dust and noise levels caused by construction activities do not adversely impact on the welfare and amenity of users of Coral Bay, by meeting statutory requirements and acceptable standards; • manage turbidity levels from construction to	Prior to construction	Shire of Carnarvon DCLM DIA

NO	TOPIC	ACTIONS	OBJECTIVE(S)	TIMING	ADVICE
			meet acceptable criteria in order to protect the values of the Ningaloo Marine Park; and • ensure that construction activities comply with the requirements of the *Aboriginal Heritage Act 1972* and requirements arising from Native Title negotiations		
2	Construction Environmental Management Plan	Implement the Construction Environmental Management Plan referred to in commitment 1.	Achieve the objectives of commitment 1.	During construction	As for commitment 1
3	Rehabilitation Environmental Management Plan	Prepare a Rehabilitation Environmental Management Plan to address: 1. rehabilitation of areas disturbed by construction activities; 2. planting of appropriate local native species for rehabilitation; 3. monitoring and on-going management of rehabilitated areas.	Key objectives of the Rehabilitation EMP include: • stabilise dunes disturbed by construction activities to minimise erosion; and • the use local native species.	Prior to construction	DCLM Shire of Carnarvon
4	Rehabilitation Environmental Management Plan	Implement the Rehabilitation Environmental Management Plan referred to in commitment 3.	Achieve the objectives of commitment 3.	Post construction	As for commitment 3
5	Operations Environmental Management Plan	Prepare an Operations Environmental Management Plan to address: 1. ongoing management responsibilities for terrestrial (e.g. signage, roads, carparks, stormwater, waste management) and marine (e.g. boat ramps, breakwaters, boat fuelling) elements of the boating facility; 2. establishment of environmental values and quality objectives for the facility consistent with the principles of the National Water Quality Management Strategy (NWQMS); 3. collection of baseline (i.e. pre-construction) water and sediment quality data; 4. development of site-specific criteria (guidelines and standards) on the basis of baseline data (where there are	The key objectives of the Operations EMP are to: • identify monitoring and management responsibilities for the ongoing operation of the facility; • monitor and maintain roads and carparks, to protect public safety; • monitor and maintain stormwater management systems to protect marine water quality; • monitor and manage environmental quality consistent with the NWQMS to protect the values of the Ningaloo Marine Park; • minimise pollution and feral animal	Prior to operation.	DCLM MPRA Shire of Carnarvon DPI

NO	TOPIC	ACTIONS	OBJECTIVE(S)	TIMING	ADVICE
		no generic criteria) against which to measure whether environmental values are protected and objectives met; 5. ongoing annual water quality monitoring against criteria; 6. ongoing bi-annual sediment quality monitoring against criteria; 7. development and implementation of adaptive management strategies to protect agreed values if environmental quality standards are exceeded; and 8. management of waste generated at the facility according to best management practice; 9. boating safety at the facility including navigation markers, access channels, warning signs and provision of free boating guide; 10. management of maintenance dredging of the facility according to a Dredging Environmental Management Plan (DEMP), based on the principles in the Memorandum of Understanding for Maintenance Dredging currently being developed between the DPI, DEP and EPA.	proliferation from waste generated at the facility; and • minimise safety risk to users of boating facility and surrounding area. • monitor and manage maintenance dredging activities to protect the values of the Ningaloo Marine Park.		
6	Operations EMP	Implement the Operations EMP.	Achieve the objectives of commitment 5.	During operation	As for commitment 5
7	Pollution Contingency Management Plan	Prepare a Pollution Contingency Management Plan according to best management practice to address : 1. responsibilities of the response team for a spill incident; 2. assessment of an incident; 3. deployment of spill response equipment; 4. post incident audit and debriefing procedures; 5. storage and maintenance of response equipment; and 6. potential environmental impacts of a pollution incident at the facility.	To implement agreed actions in the event of a pollution incident and to mitigate potential environmental impacts of a pollution incident (e.g. fuel spill) at the facility to minimise impacts on the values of the Ningaloo Marine Park.	Prior to operation	DPI DCLM MPRA
8	Pollution Contingency Management Plan	Implement the Pollution Contingency Management Plan.	Achieve the objectives of commitment 7.	During operation, as required	As for commitment 7

Abbreviations:
DCLM: Department of Conservation and Land Management
DEP: Department of Environmental Protection
DIA: Department of Indigenous Affairs
DPI: Department for Planning and Infrastructure
EPA: Environmental Protection Authority
MPRA: Marine Parks and Reserves Authority

Appendix 6

Summary of Submissions and
Proponent's Response to Submissions

PUBLIC ENVIRONMENTAL REVIEW FOR TWO PROPOSALS FOR THE DEVELOPMENT OF A SINGLE BOATING FACILITY AT EITHER MONCK HEAD OR NORTH BILLS BAY, NEAR CORAL BAY

RESPONSES TO SUBMISSIONS

Prepared for:

Department for Planning and Infrastructure

Prepared by:

DAL Science & Engineering Pty Ltd

JUNE 2003

DEVELOPMENT OF A SINGLE BOATING FACILITY AT EITHER MONCK HEAD OR NORTH BILLS BAY, NEAR CORAL BAY

SUMMARY OF SUBMISSIONS, AND RESPONSE TO SUBMISSIONS

Prepared for:

DEPARTMENT FOR PLANNING AND INFRASTRUCTURE

Prepared by:

DAL SCIENCE & ENGINEERING PTY LTD

JUNE 2003

REPORT NO. 97/050/12

CONTENTS

TABLES

1. INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

The Department for Planning and Infrastructure (DPI—formerly Department of Transport) is seeking an environmental assessment for the development of a single boating facility at either North Bills Bay or Monck Head, near Coral Bay. Both facilities essentially provide similar services for the launching of small trailered boats, refuelling facilities and a limited amount of mooring for large non-trailered vessels. However, due to the different conditions at the two sites, the types of marine structures proposed differ. A small boat harbour is proposed for North Bills Bay (NBB) and an offshore boat launching facility is proposed for Monck Head (MH).

There are presently no formal boat launching facilities in Coral Bay, and boat launching of trailered vessels—and refuelling of large non-trailered vessels—is conducted off the beach in the protected waters of Southern Bills Bay, in an area that is also popular for swimming and snorkelling. This close proximity of boating and swimming activities is considerable cause for concern, and the need for formalised boating facilities has long been recognised by government agencies and the local community alike. Both facilities are located in the Ningaloo Marine Park, and once a facility is decided upon and built, the Department of Conservation and Land Management (DCLM) will assume management of the facility.

A proposal for a boating facility in the vicinity of Coral Bay was referred to the Environmental Protection Authority (EPA) by the then Department of Transport in 1998. Environmental assessment was set by the EPA at the level of a Public Environmental Review (PER). The PER was prepared to address the environmental factors which the EPA considered relevant to the proposal as referred in 1998. For the purposes of the Environmental Protection Authority's assessment, the two facilities are being considered as separate proposals. The EPA will report on both proposals in a single report to the Minister for the Environment and Heritage. The EPA's report will assist the Government in deciding which facility should be constructed.

In accordance with the requirements of the Environmental Protection Act 1986, the PER was released for public comment for 8 weeks, on 5th August 2002. The DPI is required to prepare a summary of the issues raised in the submissions on the PER, and also to address the issues raised in the submissions and provide a response: this document has been prepared to fulfil those requirements.

Copies of the correspondence between the DPI and DCLM, in which the DCLM accepts responsibility for the management and maintenance of the facility (once built), have been forwarded to the Department of Environment (DoE) and EPA. The DCLM has reviewed this Responses to Submissions document, and its comments have been incorporated. The DPI will also forward to the DCLM all the information gathered in this environment approval exercise.

1.2 DOCUMENT STRUCTURE

The first part of this document identifies and responds to the main issues raised in the submissions (Section 2.1), as well as presenting a summary of the issues raised in the submissions (Section 2.2). In Part 2 (comprising Section 3 onwards), detailed responses to individual submissions are presented.

The issues raised have, as far as possible, been grouped and addressed under the headings of 'relevant environmental factors' identified in the PER, as follows:

- Marine flora, including corals (Section 2.2 and Section 3);
- Marine fauna, including seabirds (Section 2.3 and Section 4);
- Coast—dunes (Section 2.4 and Section 5);
- Coast—seabed (Section 2.5 and Section 6);
- Marine water quality/sediment quality—contaminants (Section 2.6 and Section 7);
- Marine water quality/sediment quality—turbidity (Section 2.7 and Section 8);
- Marine water quality/sediment quality—fuel spills (Section 2.8 and Section 9);
- Solid waste/sewage (Section 2.9 and Section 10);
- Aboriginal culture and heritage (Section 2.10 and Section 11);
- Recreation (Section 2.11 and Section 12);
- Management (Section 2.12 and Section 13); and
- Public health and safety (Section 2.13 and Section 14).

Also, several submissions, including one from the Marine Parks and Reserves Authority (MPRA), provided considerable feedback on alternative designs or variations to the proposed facilities, so these are discussed separately (Section 2.14 and Section 15). Finally, a number of issues did not fit readily into preceding sections, and are listed under 'Other issues' in Section 2.15 and Section 16.

Where the issues are raised by government agencies such as the Department of Conservation and Land Management (DCLM), Marine Parks and Reserves Authority (MPRA) and Department of Fisheries (DoF), they are clearly identified as such.

2. SUMMARY OF SUBMISSIONS

2.1 MAIN ISSUES

Twenty submissions were received, comprising 16 private individuals/organizations, the MPRA, DCLM, DoF, Department of Indigenous Affairs, and the Shire of Carnarvon. Two private submissions opposed the idea of any facility at either site. In one private submission and the submission from Department of Indigenous Affairs, no preference for, or opposition to, either facility was stated. A summary of the attitudes to the facilities expressed in the submissions is provided in Table 2.1.

Table 2.1 Summary of attitudes to proposed development expressed in submissions

Attitude to facility	Northern Bills Bay site	Monck Head site	Both sites
For	10	6*	0
Against	7	9	2
Not stated	0	2	1

** Two submissions were not in favour of the proposed facility at Monck Head, but were in favour of the Monck Head site for an alternative facility to the one proposed*

A major issue raised by the MPRA, DCLM and a number of private submissions was that the proposed facility at North Bills Bay is in the Maud Sanctuary Zone, and the Ningaloo Marine Park Management Plan (approved by the Minister of Environment in 1989) prohibits the construction of breakwaters or similar structures in this area. The Ningaloo Marine Park Management Plan would have to be amended before the facility could be built at North Bills Bay. Amendment would require lengthy consultation with the community and affected Government organisations, and then preparation of a proposal for submission to the MPRA. Following consideration by the MPRA, the proposal for amendment would be forwarded to the Minister of Environment. The North Bills Bay option is strongly favoured by some members of the local community, and the Ningaloo Marine Park Management Plan is currently undergoing revision, which provides the opportunity for the necessary amendment. However, the DPI acknowledges that both the MPRA and DCLM (the future manager of the facility) have expressed their strong opposition to any facility at North Bills Bay.

A strategic issue raised in a number of public submissions and the MPRA's submission was that the facility should recognise the fragile nature of the ecosystem (and possible World Heritage Listing) and be designed, built and managed in accordance with the principle of sustainable development. The recurrent themes in these submissions were that the facility should:

- Cater for existing demand, not encourage increased boating size or activity, nor an increased level of visitor use and exploitation, especially in the Maud Sanctuary Zone;
- Be a stand-alone development that caters for the needs of the area, not one that depends upon the provision of facilities at the Coral Coast Resort (in particular, refuelling facilities should be permanent); and
- All aspects of management of the construction and operation of the facility should be in accordance with best management practice.

The DPI would like to emphasise that both proposed boating facilities are modest, and have been designed to address existing problems and meet existing boating activities, not to encourage more boats to the area. The refuelling facilities have to

be built as permanent structures, and so the DCLM can choose to retain them permanently or decommission them in the future. Nor is the facility intended to be expanded, although this is possible. The DPI has also committed to preparing Construction and Operational Environmental Management Plans—in consultation with, and to the satisfaction of the DCLM—that incorporate best management practice.

The DPI acknowledges that, with the provision of a formal boating facility, more people who visit Coral Bay may be encouraged to bring their boats. The numbers of people and boats in Coral Bay are, however, likely to be affected more by the amount and type of accommodation available than the presence of a boating facility. The level of visitor pressure that Coral Bay can or should accommodate is a strategic planning and management issue that is best addressed at the higher government level: the DPI is preparing a Carnarvon-Ningaloo Coast Regional Strategy that will address this and other regional management issues. It is also understood that processes for World Heritage listing will commence at the end of the year, and this will be considered in the Strategy.

Other main issues raised specifically about the facility at North Bills Bay were:

a. Proximity of the development to corals;
b. Disturbance to reef sharks;
c. Disturbance to migratory bird species;
d. Disturbance to the dunal environment;
e. Alteration of coastal processes (accretion east of the breakwater and erosion west of the breakwater), and the sand management program needed to deal with it;
f. Incompatibility with the purpose of the Maud sanctuary zone;
g. Reassurance and commercial selling point for locals due to facility being visible from the Coral Bay settlement; and
h. Better boat access to the North Passage.

Other main issues raised specifically about the facility at Monck Head were:

a. Proximity of the development to corals;
b. Impacts of fuel spills;
c. Better boat access to areas favoured by the majority of small trailered boats;
d. Accessibility to/suitability of the facility for large non-trailerable boats; and
e. Safety aspects of potential increase in the use of the South Passage;

The relationship between these main 'site-specific' issues and the relevant environmental factors identified in the PER is shown in Table 2.2. As some of the issues raised were the perceived benefits of the proposed development at a site, adverse effects are denoted with a 'x' and benefits with a '✓'. Responses to these main 'site-specific' issues are provided below in Section 2.2.1 (North Bills Bay) and Section 2.2.2 (Monck Head site).

In responding to the issues raised in the public submissions, the DPI has also modified and expanded its environmental management commitments. The revised environmental management commitments are shown in Table 2.3.

Table 2.2 The main issues identified in public submissions (X = adverse effect, ✓ = benefit) and their relationship to the environmental factors identified in the PER

MAJOR ISSUE	ENVIRONMENTAL FACTOR											
					Marine water quality/ sediment quality							
	Marine flora (incl. corals)	Marine fauna (incl. sea birds	Coast— dunes	Coast— seabed	Contamin-ants	Turbidity	Fuel spills	Solid waste/ sewage	Aboriginal culture & heritage	Recreation	Manage-ment	Public health & safety
North Bills Bay												
Proximity to corals	x					x	x				x	
Disturbance to reef sharks		x									x	
Disturbance to migratory birds		x					x				x	
Alteration to coastal processes	x	x	x	x		x					x	
Disturbance to dunal environment			x						x		x	
Incompatible with purpose of Maud Sanctuary Zone	x	x	x	x		x	x				x	
Visibility from Coral Bay settlement										✓		
Better boat access to North Passage										✓		✓
Monck Head												
Proximity to corals	x						x				x	
Impacts of fuel spills	x	x					x				x	
Better access to areas used by most recreational boaters (i.e. trailerable boats)										✓		
Accessibility /suitability for larger boats										x		x
Safety issues due to potentially more use of South Passage											x	x

Table 2.3 Revised Environmental Management Commitments for Coral Bay Boating Facility

NO	TOPIC	ACTIONS	OBJECTIVE(S)	TIMING	ADVICE
1	Construction EMP	Prepare a Construction EMP to address: 1. Design of roads, carparks and stormwater management systems; 2. Timing and duration of construction; 3. Management of construction traffic and public access to the site; 4. Management of dust and noise; 5. Monitoring (including the identification of alert and action triggers) and management of turbidity and sedimentation associated with construction of marine structures; 6. Education of all site personnel regarding the protection of Aboriginal Heritage sites and the provisions of the *Aboriginal Heritage Act 1972*; and 7. Signage.	The key objectives of the Construction EMP include: • Design and construct terrestrial facilities to minimise the impact of construction on dunes and associated vegetation; • Control public access to the site and the speed of construction traffic to minimise potential risks to the public and native fauna; • Minimise erosion and prevent sedimentation into the marine environment; • Ensure that dust and noise levels caused by construction activities do not adversely impact on the welfare and amenity by meeting statutory requirements and acceptable standards; • Manage turbidity levels from construction to meet acceptable criteria in order to protect the values of the Ningaloo Marine Park; and • Ensure that construction activities comply with the requirements of the *Aboriginal Heritage Act 1972* and any other conditions related to Native Title negotiations	Prior to construction	Shire of Carnarvon DCLM DIA
2	Construction EMP	Implement the approved Construction Phase EMP referred to in commitment 1.	Achieve the objectives of commitment 1.	During construction	As for commitment 1
3	Rehabilitation EMP	Prepare a Rehabilitation EMP to address: 1. The rehabilitation of areas disturbed by construction activities; 2. Appropriate native species for rehabilitation; 3. Monitoring and on-going management of rehabilitated areas.	Key objectives of the Rehabilitation EMP include: • stabilise dunes disturbed by construction activities to minimise erosion; and • the use native species where practical.	Prior to construction	DCLM Shire of Carnarvon
4	Rehabilitation EMP	Implement the approved Rehabilitation EMP referred to in commitment 3.	Achieve the objectives of commitment 3.	Post construction	As for commitment 3
5	Operations EMP	Prepare an Operations EMP to address: 1. Ongoing management responsibilities for terrestrial (e.g. signage, roads, carparks, stormwater, waste management) and marine (e.g. boat ramps, breakwaters, boat fuelling) elements of the boating facility;	The key objectives of the Operations EMP are to: • Identify monitoring and management responsibilities for the ongoing operation of the facility; • Monitor and maintain roads and carparks, to protect public safety;	Prior to operation.	DCLM MPRA Shire of Carnarvon

NO	TOPIC	ACTIONS	OBJECTIVE(S)	TIMING	ADVICE
		2. Establishment of environmental values and quality objectives for the facility consistent with the principles of the National Water Quality Management Strategy (NWQMS) and the EPA's implementation of the NWQMS; 3. Collection of baseline water and sediment quality data; 4. Development of site-specific criteria (guidelines and standards) on the basis of baseline data (where there are no generic criteria) against which to measure whether environmental values are protected and objectives met; 5. Ongoing annual water quality monitoring against criteria; 6. Ongoing bi-annual sediment monitoring against criteria; 7. Development and implementation of adaptive management strategies to protect agreed values if environmental quality standards are exceeded; and 8. Management of waste generated at the facility according to best management practice; 9. Boating safety at the facility including navigation markers, access channels, warning signs and provision of free boating guide; 10. Management of maintenance dredging of the facility and approach channel according to a Dredging Environmental Management Plan (DEMP), based on the principles in the Memorandum of Understanding (MoU) for Maintenance Dredging currently being developed between the DPI, DoE and EPA	• Monitor and maintain stormwater management systems to protect marine water quality; • Monitor and manage environmental quality consistent with the NWQMS to protect the values of the Ningaloo Marine Park; • To minimise pollution and feral animal proliferation from waste generated at the facility; and • Minimise safety risk to users of boating facility and surrounding area. • Monitor and manage maintenance dredging activities to protect the values of the Ningaloo Marine Park		
6	Operations EMP	Implement the approved Operations EMP.	Achieve the objectives of commitment 5.	During operation	As for commitment 5
7	Pollution Contingency Management Plan	Prepare a Pollution Contingency Management Plan according to best management practice to address : 1. Responsibilities of the response team for a spill incident; 2. Assessment of an incident; 3. Deployment of spill response equipment;	To implement agreed actions in the event of a pollution incident and to mitigate potential environmental impacts of a pollution incident (e.g. fuel spill) at the facility to minimise impacts on the values of the Ningaloo Marine Park.	Prior to operation	DPI DCLM MPRA

NO	TOPIC	ACTIONS	OBJECTIVE(S)	TIMING	ADVICE
		4. Post incident audit and debriefing procedures; 5. Storage and maintenance of response equipment; and 6. Potential environmental impacts of a pollution incident at the facility.			
8	Pollution Contingency Management Plan	Implement the approved Pollution Contingency Management Plan.	Achieve the objectives of commitment 7.	During operation, as required	As for commitment 7

Note: DCLM = Department of Conservation and Land Management; DIA = Department of Indigenous Affairs; DPI = Department for Planning & Infrastructure; MPRA = Marine Parks and Reserves Authority.

2.1.1 Response to main issues at North Bills Bay

Proximity of the development to corals

A number of public submissions expressed concerns about direct loss of corals due to the facility itself, and further indirect losses and/or adverse effects on corals due to:

- The turbidity generated during construction activities;
- Turbidity generated during maintenance dredging activities; and
- Potential smothering due sand buildup, due in turn to the interruption of longshore sediment movement by the breakwater.

The DCLM, MPRA and DoF were also concerned that the facility will result in substantially increased boating activity, and this may result in further damage to valuable and sensitive corals in the area. The MPRA also considers that the facility fails to achieve an important aim of reducing boating traffic through the sanctuary zone to reduce the potential for damage to corals.

The DPI acknowledges that the construction of the facility will result in an estimated direct loss of coral and limestone reef of 0.5 hectares: this estimate includes potential loss from shoreline accretion due to the presence of the eastern breakwater. The DPI also acknowledges that any loss is contrary to the purpose of the Sanctuary Zone. The boundary of the Maud Sanctuary Zone would have to be altered to exclude the facility area before construction of the facility could proceed. However, boats will be excluded from Southern Bills Bay, and the access channel will direct boats first to Point Maud and then west to the marked boating track, therefore boating activity should have minimal effects on corals.

During breakwater construction, fine suspended matter may drift over nearby corals. However, the facility does not involve a large amount of breakwater material, the construction period will only extend for several months, and dumping of breakwater material (and therefore associated turbidity) will be intermittent rather than continuous. During dredging some fine suspended matter may also drift over nearby corals, but this is expected to be minimal. The sands at North Bills Bay are medium sands with low 'fines' content, and will generate little turbidity when dredged. Longshore currents will also direct the plume northwards alongshore and around Point Maud, not towards corals. Minimal impacts on corals are expected, and the DPI has committed to employ a silt curtain to protect nearby corals during construction/dredging if plumes reach potentially harmful levels. Appropriate water quality criteria to protect corals from turbidity effects will be derived in consultation with the DoE and the DCLM, and incorporated into the Construction Environmental Management Plan (EMP) that the DPI has committed to. These criteria will be equally applicable during any necessary maintenance dredging that is required when the DCLM take over management of the facility.

A maintenance dredging environmental management plan (DEMP) will address the timing and duration of dredging, the type of equipment to be used, monitoring requirements, and management options for adjusting the dredging and disposal activities according to prevailing conditions, and deployment of silt curtains if needed. The DPI has considerable experience in such matters (note that the DPI, EPA and DoE are currently preparing a Memorandum of Understanding for the environmental management of maintenance dredging activities), and will include the necessary maintenance DEMP in the Operations Phase EMP. The sand management

program will involve taking sand from the accretion area near the eastern breakwater, and placing it in the breaking wave zone west of the facility, thereby allowing normal sediment longshore transport processes to take place. This area is dominated by sandy substrate. No changes in sand distribution patterns are expected that might bury corals or other habitats.

Disturbance to reef sharks

Skeleton Beach, immediately south to the proposed facility, is an area where reef sharks are known to congregate in late-August, and from October to December. It is believed that this area may be used as a breeding/nursery area by reef sharks. Public submissions, the DCLM and DoF, expressed concern that:

- Construction of the facility will adversely affect the reef sharks due to:
  - Turbidity;
  - Noise; and
  - Disturbance.
- Operation of the facility would create ongoing disturbance to the reef sharks due to:
  - Turbidity created by maintenance dredging;
  - Accretion in their preferred habitat area; and
  - Increased visitor level and boating activity in the area.

Construction activities will, where possible, be timed to avoid the months when these species congregate (late-August, October to December), but use of the boating facility has the potential for adverse effects that will have to be managed, with the September school holidays representing the period requiring the most management effort. The appropriate management action will need to be decided by the DCLM, and could include anything from appropriate signage at the facility and the relevant beach, to a ban on all vessels and swimmers entering the area during sensitive period.

Disturbance to migratory bird species

Point Maud is a known area for the congregation of a large number of marine birds, including some protected migratory species, especially the Common Tern. Point Maud is believed to particularly important for terns during the non-breeding season from August to April. Vehicle access to this area has already been stopped to minimise disturbance to the birds, by designating it a Bird Roosting Sanctuary under the Control of Vehicles (off-road areas) Act 1978. A number of public submissions and the DCLM noted that the proposed facility (especially the access channel) will bring large numbers of boats to within close proximity to Point Maud, and also promote pedestrian and 4WD vehicle activities near Point Maud, potentially causing considerable disturbance to the birds. Due to the presence of species of national importance, one public submission said that the proposal should be referred under the Environmental Protection and Biodiversity and Conservation (EPBC) Act.

The DPI acknowledges that concerted management efforts will be needed to minimize effects of boat traffic on birds at Point Maud, particularly terns. As for sharks, the September school holidays represent the period requiring the most management effort. The use of the boating facility as a centralized location for educational material will be essential, and a high profile by DCLM personnel (who will be monitoring boat use patterns anyway) will provide opportunities to warn offenders, and re-assess the need for further management action.

Concerted management efforts will also be needed to minimize effects of 4WD vehicle traffic and pedestrian activities on birds at Point Maud, particularly during the September school holidays. It is likely that existing signage denoting the area as a Bird Roosting Sanctuary off-limits to vehicles under the *Control of Vehicles (off-road Areas) Act 1978* will have to be reinforced, further signage erected at the boating facility, and educational material provided in Coral Bay itself. DCLM personnel monitoring boat use patterns at the facility will be able to re-assess the need for further management action, such as a barrier to restrict vehicle access to the beach. The DCLM also has the authority to exclude pets from specific areas/beaches if it is deemed necessary to meet special conservation requirements.

The DPI has already referred both the North Bills Bay proposal and the Monck Head proposal to Environment Australia for assessment under the EPBC Act. The NBB site has been assessed as 'a controlled action' (due to potential impacts on migratory birds) and the MH site has been assessed as 'not a controlled action'. The DPI does not propose to take further steps in relation to EPBC assessment until a decision on the two sites is made at the State level.

Disturbance to the dunal environment

A number of public submissions were concerned that the access road to the facility would have to pass through unstable sand dunes near Point Maud, and that this could cause dune degradation, especially if account was not taken of the frequent south-westerly winds in the area. The point was made that the Coral Coast Marina Development (CCMD) Pty Ltd has the mandate to develop Mauds Landing, and if the Coral Coast Resort (CCR) goes ahead, access to North Bills Bay through the CCR will have to be discussed and agreed with CCMD. CCMD would also require guarantees and undertakings for the management of drifts, blowouts, and fragile dunes west of Mauds Landing due to increased vehicular and pedestrian traffic.

The DCLM and MPRA's have stated that road construction will result in unacceptable environmental impacts, as road construction will be visually intrusive and have significant impacts on the dunal environmental. The DCLM also said that potential for road construction impact on the Priority 2 species *Acacia ryaniana* was unclear.

The DPI's view is that appropriate route selection will minimize the potential for blowouts, and impacts on the viewshed. Minimal clearing, revegetation of exposed dune cuttings as soon as possible after construction, and timing of construction in periods of low wind and high rainfall (i.e. winter) as far as possible will help reduce the potential for blowouts due to wind erosion. It will also be important to minimize crossings onto the beach (e.g. by providing formalized pathways and tracks, and fencing/barriers along the foreshore), and where the road crosses the dunes the crossing should be oriented perpendicular to the prevailing southerly wind direction, where possible. The access road to the site will be through sensitive dune areas, and it is anticipated that signage will be needed explaining the fragile nature of the area and advising people to stay on the access road. Fencing or barriers may need to be considered, based on advice from the DCLM.

The boating facility will provide a centralized location for signs and educational material for the management of environmental impacts. It will also provide a centralized location for monitoring of the amount and patterns of useage that DCLM personnel presently already undertake. DCLM monitoring will indicate if further management measures are needed, and an adaptive management response will be

implemented. This may include provision of a formal pathway through the dune environment, if warranted.

All aspects of construction and effects on terrestrial vegetation will be covered by a Construction EMP and Rehabilitation EMP, to be developed to the satisfaction of the DCLM, and will include appropriate management guidelines and performance criteria to minimize the likelihood of damage to terrestrial vegetation. If North Bills Bay is chosen as the site for the facility, the DPI will also undertake the appropriate discussions and negotiations with CCMD.

Alteration of coastal processes

A number of public submissions were concerned about the construction of a breakwater at this site, given the appreciable longshore sediment transport northwards in the region. They stated that the breakwater would interrupt sediment transport, resulting in accretion to the south of the breakwater and erosion of the beach northwards of the breakwater—and the stability of Point Maud. The need for maintenance dredging was noted, but it was queried whether such a sand management program would meet the EPA's requirement to 'maintain the stability of beaches', or that it was in tune with the theme of sustainable development for Ningaloo. Scepticism was expressed about the efficacy of the sand management program, given the number of instances along WA's coast where such programs have had problems. The possibility of siltation of the approach channel (due to strong currents in the area) was also raised, and it was queried whether this had been considered in the maintenance dredging program.

The MPRA considers that any groyne-type structure will cause significant interference with Point Maud and sand movement around the Point. The DCLM has stated that the potential for sediment accretion on the southern side of the groyne, and the ongoing requirement for dredging of trapped sediments, has the potential to significantly compromise the values in the Maud Sanctuary Zone.

The DPI successfully undertakes maintenance dredging in an environmentally sound manner at numerous locations around WA. In relative terms (compared to other locations in WA managed by the DPI), the longshore sediment movement and sand bypassing required at Point Maud are neither large nor complex. The amount of longshore sediment movement at the North Bills Bay site has been calculated and the expected beach realignment due to the proposed facility has been empirically modeled. It is estimated that approximately 6,000 m^3 of sand will accrete annually. It is further estimated that maintenance dredging to remove the accreted sand will be needed every 3 to 6 years. Alternatively, smaller amounts of sand could be moved more frequently, but this could be more costly. The dredged sand will be placed into the breaking wave area zone downstream of the accretion area from which it is removed, to maintain continuity of longshore sediment movement.

If sand bypassing is appropriately managed (via well-timed, small-scale operations), erosion between North Bills Bay and Point Maud will be minimal and transient. Inspections of the beach during sand by-passing activities will occur on at least a daily basis: this will be included in the Maintenance Dredging Environmental Management Programme (DEMP), as will surveys of beach profiles on at least an annual basis. At other times, DCLM personnel at the facility will be able to visually check the area on a regular basis during their routine monitoring of the amount and patterns of visitor useage, and re-assess the frequency at which sand by-passing is needed. There will be a contingency in the Maintenance DEMP for re-contouring of the beach during the sand by-passing operation.

Sand feed to the approach channel will be interrupted by the facility breakwater, and sand bypassing will move the accreted sand to the west of the facility—clear of the approach channel. Sand bypassing will take place frequently enough to ensure that there is little siltation of the approach channel, but a small amount of dredging may be needed and this has been considered in the dredging environmental management program

Incompatibility with the purpose of the Maud sanctuary zone

The DCLM, MPRA and some public submissions have strongly stated that a boating facility in North Bills Bay is totally incompatible with the purpose of the Maud Sanctuary Zone, which is to provide special protection for wildlife. Potential effects on flora, fauna, coastal processes, and aesthetics have been identified, as discussed above. As noted earlier, construction of a facility at North Bills Bay is also not permitted under the present Ningaloo Marine Park Management Plan, which would have to be amended before the facility could proceed.

The DPI acknowledges that the DCLM and MPRA have consistently stated their opposition to a boating facility at this site. The DPI also acknowledge that this site, if approved for the boating facility, would require far more management than the Monck Head site, but still considers that appropriate management could ensure protection of the environmental values of the Marine Park.

Reassurance and commercial selling point for locals due to facility being visible from the Coral Bay settlement

Some public submissions said that the ability to view the facility at North Bills Bay from the Coral By settlement would provide commercial boat charters a visual selling point, and offer boat owners greater security.

The DPI acknowledges the lack of a visual contact with the facility from Monck Head, but people are likely to rapidly adjust to the new location: the services offered are attraction enough in their own right. People travel much larger distances for fish charters and whale watching services in Perth. As a visual selling point, it would also be hard to identify individual boats at North Bills Bay from the Coral Bay settlement. It is also arguable that boats moored to a jetty are more vulnerable to theft/damage than boats moored offshore, as they offer easier access.

Better boat access to the north passage

A number of public submissions stated that the North Bills Bay site offered far better access to waters outside the reef line, due to its close proximity to the North (Cardabia) Passage. They strongly emphasised that the North Passage was far safer than the South (Yalobia) Passage, the latter being considered dangerous (especially for small boats and inexperienced operators) under certain conditions, and hence only recommended for experienced mariners. A facility at North Bills Bay would promote the use of the much safer North Passage, and some submissions said that human safety should be considered before environmental issues.

The DPI acknowledges that a number of members of the local community, especially those involved in recreational boating activities, are strongly in favour of the North Bills Bay site. The North Bills Bay option offers advantages for commercial operators and those recreational boaters wishing to access waters outside the reef line. The Monck Head option will provide better immediate access to areas favoured by the majority of trailerable boat users. The choice of either option will advantage one group of boaters and disadvantage the other, and there are both environmental

risks and boating safety risks to manage. The DPI is of the view that boating safety risks due to the use of the Southern Passage can be managed (see Section 2.1.2). It must also be remembered that the main human safety concern that the boating facility is intended to address is that of removing the informal boat launching of trailerable boats from a popular swimming area in Southern Bills Bay. Either facility will achieve this.

2.1.2 Response to main issues at Monck Head

Proximity of the development to corals

As for the North Bills Bay site, concerns were expressed about the direct loss of corals due to the proposed facility, and further indirect losses and/or adverse effects on corals due to: the turbidity generated during construction activities; turbidity generated during maintenance dredging activities; and potential smothering due to the interruption of longshore sediment movement by the breakwater. There was also concern that there was greater risk (compared to the North Bills Bay site) of coral damage by boats (especially large commercial boats) as they traverse the Monck Head/Bills Bay area to reach the North Passage to access waters outside the reef line.

The DPI notes that there will be no direct loss of corals due to facility construction at Monck Head. The rubble mound 'island' will be in an area of sand overlying limestone pavement. The construction of the piled bridge and culvert causeway connecting the island to the mainland will result in the loss of a very small amount (0.04 hectares) of macroalgal community. There may be an indirect effect on corals due to turbidity created during breakwater construction, but this will be managed to minimize effects on corals (as will be documented in the Construction EMP), as for the North Bills Bay site (See Section 2.1.1)

Maintenance will consist of use of a long reach excavator to remove extremely minor amounts of sand (approx. 100 m^3) expected to accumulate on the lee-side of the offshore breakwater (if necessary), and every 3 to 5 years to remove small amounts of sand (approx. 3,000 m^3) that may accumulate as a shoreline salient, although it is expected that the salient would probably be naturally removed by local currents every 2 to 3 years anyway. No impacts on corals are expected due to these minor maintenance activities due to both the distance and direction (i.e. further offshore) of the nearest corals from the facility. Any turbidity generated would be extremely minor and of short duration, and current movement would direct it northwards and close to the shore, over areas of limestone pavement and sand.

The small number of (DCLM licenced) large vessels in Coral Bay already use both the North and South Passage, and are skippered by experienced crew with considerable knowledge of the area. The majority of boating traffic is small boats that head to the lagoon south of Monck Head to fish, or stay close to Coral Bay to snorkel and dive on the corals. A facility at Monck Head (compared to North Bills Bay) will reduce the potential for coral damage due to small boat movements, as these boats will have less distance to travel. Marking of the preferred boating channel along the back reef between Point Maud and Monck Head will also considerably reduce the potential for coral damage irrespective of which location is chosen for the facility.

Impacts of fuel spills

A number of public submissions were concerned about the potential impact for a large oil spill from the boating facility to affect large areas of coral from Monck

Head to Paradise Beach and Southern Bills Bay (given the typical northerly-flowing currents in the area), particularly if released at low tide when at least some of the coral is exposed. The point was made that the worst case fuel spill scenario would involve a vessel full of fuel slipping its mooring whilst unattended at night, and grounding/laying over on its side to release a large fuel spill. It was also pointed out that: (1) a pollution contingency management plan (PCMP) is only effective if someone is there to witness the spill; and (2) an efficient response would be hampered in strong winds at low tide due to inability to deploy containment booms without damaging the coral. Concerns were also expressed about potential impacts on corals due to the small-scale fuel losses that are intrinsic to the use of outboard motors, given that there will be a high density of boats using the facility.

The DPI's view is that the risk of extreme damage to corals at either the North Bills Bay or Monck Head sites is very low: the risk of a large fuel spill is itself extremely low, and the fuel spill would be present as a buoyant surface layer that would quickly evaporate (especially under the warm windy conditions typical of Coral Bay). The amounts of toxic fuel components actually reaching subtidal corals would be about 100 times below levels likely to cause sub-lethal toxicity effects. Exposed corals or those very close to the water surface could potentially be affected, but even at low tide the large majority of corals in the region are subtidal. The risk of a worst case scenario is already present (and has potentially far worst impacts) with boats moored in Southern Bills Bay: there is the added risk of the informal refuelling arrangements that presently occur off the beach, and there is presently no PCMP to deal with any spill. The situation can only improve with the establishment of a formal boating facility and preparation of a PCMP including on-site storage of appropriate oil spill containment equipment. The PCMP will address the need for different strategies under different environmental conditions (tide levels, wind speed).

The discharge of very small amounts of fuel and oil to the environment are intrinsic to the operation of boat engines, but fortunately the spilt fuel rapidly evaporates. This chronic, low-level impact is a function of boat numbers and already occurs all over the Coral Bay area wherever boats go, including the many that traverse the Monck Head area to reach fishing areas further south. The density of boats at the facility Monck Head will be no greater than presently at Southern Bills Bay, where coral recruits are re-establishing, indicating that the level of 'operational' fuel loss is not sufficient to prevent coral survival and growth. Also, with a facility at Monck Head the majority of boats will have less distance to travel, and so their engines will be operating for shorter times, resulting in less overall impact.

Better boat access to areas favoured by the majority of small trailered boats

Some public submissions and the DoF acknowledged that the Monck Head site offered far better access (road travel time and boating travel time) to areas favoured by the majority of small trailered boats, given that they tend to move south to fish in the Recreation Zone. The DPI agrees with this view. The Monck Head site would also be better for small trailered boats whose occupants wish to view corals inside the reef line.

Accessibility to/suitability of the facility for large non-trailerable boats

A number of public submissions pointed out that the Monck Head facility will involve further distance for large non-trailerable boats (i.e. the commercial boats presently moored in Southern Bills Bay) to travel to access the North Passage. Concerns were also expressed about:

- The shallow depth of the site;

- The lack of manoeuvring room for large boats to turn; and
- The potential for congestion at times of loading/unloading of charter vessels as they would have to use the same facility as recreational boats (unlike the North Bills Bay facility, where the jetties are separate from the launching ramps).

The DPI acknowledges that (when compared to the North Bills Bay proposal) large non-trailerable boats will have further to travel to reach the North Passage, but has designed the offshore ramp formation and jetties to extend into waters of a sufficient navigable depth (at least –1.0 m relative to chart datum at the toe of the ramp, and at least 1.2 m at the jetties) for the present commercial operators. Note also that the Coral Bay Boating Strategy (recently approved, and now being implemented by Department of Conservation and Land Management) nominates a draft limit for boats of 1.2 m. There is also sufficient room for manouevring—the nearest coral bommie is several hundred metres away.

Congestion is an issue faced at many boat ramps and jetties. As with any shared facilities, a degree of patience (and courtesy) will be required during periods of heavy use. This is a price to be paid for the greatly improved safety to swimmers caused by removing boat launching and boat activity from Southern Bills Bay. However, there are not many commercial operators in Coral Bay, and discussions could be held to develop some simple time-tables to minimise congestion problems.

Safety aspects of potential increase in the use of the south passage

A large proportion (50%) of public submissions expressed concerns about safety issues due to the potential for more small boats and/or inexperienced operators to use the dangerous South Passage. The concern was that recreational boaters may be more likely to use the South Passage due to its proximity to the Monck Head facility. Commercial boats were also more likely to use the South Passage (rather than go along the marked boating track along the back of the reef to the North Passage), and recreational boaters may follow them. The point was also made that even with markers installed to assist navigation through the back of the reef to the North Passage, it would not be easy to navigate through, especially in poor lighting conditions, raising safety issues if sea rescue vessels are required after dark. Finally, concerns were expressed about the lack of protection from south and south-west wind (and associated waves) that the facility at Monck Head offered to commercial operators, and the effect on the safety and efficiency of loading, unloading and refuelling vessels.

Commercial operators and those recreational boaters who use the Southern Passage at present will almost certainly continue to do so. Use of the South Passage cannot be prevented, but it can be discouraged and minimised. The DPI's view is that given the typical type of vessel and pattern of boat use of recreational boaters in Coral Bay, it is not likely that large numbers of additional recreational boaters will be tempted to use the Southern Passage, and these can be minimised by appropriate educational material and signage at the boating facility. The large majority of boaters will stay within the reef line, and hydrographic charts, the Coral Bay Boating Guide and signage at the facility will advise boaters of the risks of using the South Passage. All vessels wishing to access open waters will be encouraged to use the recommended boating track inside the reef to the North Passage. The boating access channel would be sufficiently marked, particularly for use by members of the Coral Bay Sea Search and Rescue Group, which comprises experienced seaman who are thoroughly familiar with the area.

The DPI also notes that under normal conditions the Monck Head site is protected from the full impact of swell waves by the fringing reef line, while the headland of Monck Head and the orientation of the island ramp formation would provide shelter from wind waves generated by the prevailing south to south westerly winds. Under severe wind and sea conditions, it is unlikely that charter operators or recreational boats would put to sea.

2.2 SUMMARY OF ISSUES ABOUT MARINE FLORA (INCLUDING CORALS)

2.2.1 Issues relevant to both sites

Public submissions

1. What is the potential for coral smothering due to turbidity generated during breakwater construction, and to what extent?
2. What effect will there be on corals in the event of damage to breakwaters?
3. Increased level of boat use will lead to more damage of seagrasses and other marine plants, by boat anchors.

2.2.2 Issues specific to North Bills Bay

Public submissions

1. The construction of the breakwaters and removal of coral habitat is considered a major environmental sacrifice for the boating facility.
2. Under existing criteria, no loss of habitat is acceptable within an 'A' class Reserve. How can loss of corals and other benthic invertebrates be acceptable under existing reservation?
3. Does the establishment of the facility basin and access channel require blasting and dredging, and where is the spoil to be disposed?
4. What are the impacts and extent of impact on corals due to basin and channel construction?
5. What are the impacts and extent of impact on corals due to maintenance dredging (sand bypassing), with respect to the turbidity generated?
6. What impact will accretion of sand (due to interruption of coastal processes) have on corals?

Government agency submissions

1. The DCLM, MPRA and DoF consider that the facility will result in substantially increased boating activity in the NBB area. Sedimentation and other factors associated with boating activity may damage valuable and sensitive corals known to exist close to the NBB site. There will also be more boating activity (compared to the MH option) across the shallow reef areas in the Maud Sanctuary Zone as people are tempted to 'shortcut' across the area to reach the Recreational Zone where fishing is permitted, resulting in more risk of physical damage to corals (especially by larger vessels). The facility also involves more initial excavation and more ongoing maintenance dredging than the MH option. These activities have the potential to compromise the conservation values in the sanctuary zone.
2. The DCLM considers that localised macroalgal growth may occur due to nutrient buildup from sullage and other discharge and disturbance from vessels using pen facilities overnight or for extended periods. This growth could impact on conservation values and facilities.

3. The DoF considers that the North Bills Bay site would result in more risk of oil spills and physical damage to corals in southern Bills Bay than the Monck Head site.
4. The DoF concludes that the North Bills Bay site would represent greater impact on the macroalgal community than the Monck Head site.
5. The MPRA notes that NBB facility fails to achieve a major aim of the boating facility, that is to get boats out of Bills Bay and reduce traffic through the sanctuary zone, to reduce the potential for damage to corals.

2.2.3 Issues specific to Monck Head

Public submissions

1. Does the establishment of the facility basin and access channel require dredging, and where is the spoil to be disposed?
2. What are the impacts and extent of impact on corals due to facility and channel construction?
3. What are the impacts and extent of impact on corals due to maintenance dredging (sand bypassing), with respect to the turbidity generated?
4. What impact will accretion of sand (due to interruption of coastal processes) have on corals?
5. The MH facility will result in greater risk (than the NBB facility) of coral damage by boats (especially large commercial boats) as they traverse the Monck Head/Bills Bay area to use the safer North Passage in preference to the South Passage.

2.3 SUMMARY OF ISSUES ABOUT MARINE FAUNA (INCLUDING MARINE BIRDS)

2.3.1 Issues relevant to both sites

Public submissions

1. Given the species of national importance which may be impacted, both facilities should be referred under the national Environmental Protection and Biodiversity Conservation (EPBC) Act.
2. What will be the impacts on target species of marine fish as a result of increased fishing effort, and what baseline data and research will be carried out by Fisheries WA to assess this?

2.3.2 Issues specific to North Bills Bay

Public submissions

1. The water around Point Maud is shallow, and this combined with greatly increased boating activity will result in greater potential for impacts on turtles and other marine animals. Please quantify effects, and describe how impacts will be managed.
2. Has any assessment been carried out of turtle presence in the NBB area, and what records are there of turtle nesting?
3. What will be the impact of the facility on turtles, including breakwater lights and the lit parking area?
4. Dugongs are shy of boats, and an increase in recreational vessels around the Point Maud and Bateman Bay area may affect local distribution of dugongs.

5. How will the congregations of sharks at Skeleton Beach be impacted by the construction and operation of the facility. Increased boating will also result in increased activity, noise, and numbers of visitors. One public submission indicated that before any increase in boating traffic in this area could be considered, it should be demonstrated that an effective management plan can be applied to mitigate against likely impacts.
6. Reef sharks frequent all areas of Bills Bay, which dispels any concerns of the facility interrupting their navigational route into Skeleton Bay. Considerable pedestrian traffic already traverses the beach adjacent to the shark 'nursery' without appearing to influence or interrupt their activities. Potential problems could be managed by signs advising people of the location and sensitive nature of the nursery, and banning all swimmers and boats from the nursery area during its active period.
7. Large numbers of birds congregate at Point Maud including species protected under national law and international treaties, while some species nest in the adjacent dune areas. Vehicle access to this area was stopped to minimize disturbance to the birds, by designating it a Bird Roosting Sanctuary under the Control of Vehicles (off-road Areas) Act 1978. The proposed facility will bring large numbers of boats to within close proximity to Point Maud, as well as promoting pedestrian and 4WD vehicle activities near Point Maud. This could cause considerable disturbance to the birds. It is difficult to see how these disturbances be managed, including the effects of pets.

Government agency submissions

1. The DCLM and DoF were concerned about the congregations of sharks at Skeleton Beach, and how will they be impacted by the construction and operation of the facility. For example, sediment trapping on the southern side of the facility may smother and impact upon the benthic communities of Skeleton Bay. Ongoing accretion, and maintenance dredging may also have an impact on other sensitive benthic habitats through increased turbidity and smothering.
2. The DCLM noted that large numbers of birds congregate at Point Maud including species protected under national law and international treaties, and that vehicle access to this area was stopped to minimize disturbance to the birds, by designating it a Bird Roosting Sanctuary under the Control of Vehicles (off-road Areas) Act 1978. The DCLM expressed concern about the potential for considerable disturbance to roosting sea birds from boats passing within close proximity of Point Maud, and disturbance to nesting birds from increased pedestrian traffic along the beach from the Coral Bay settlement.

2.3.3 Issues specific to Monck Head

Public submissions

1. Has any assessment been carried out of turtle presence in the MH area, and what records are there of turtle nesting?
2. What will be the impact of the facility on turtles, including breakwater lights and the lit parking area?

2.4 SUMMARY OF ISSUES ABOUT THE COAST—DUNES

2.4.1 Issues relevant to both sites

Public submissions

1. No data is supplied on traffic projections, road design and costs, and proposed earthworks through sand dunes.
2. Is 14.4 m the sealed width of the access road, and will this width be continued through to the main Coral Bay road?
3. No information is provided on the management of the potential for sand drifts and blowouts, and management of increased fire risk in dunes due to increased vehicular and people traffic.
4. Providing a road through this area for either facility opens up sensitive dune areas to potential useage by people and 4WD vehicles, and will encourage more pedestrian movements between the facility and Coral Bay. How will this be managed? Will fencing be provided to prevent uncontrolled access?

2.4.2 Issues specific to North Bills Bay

Public submissions

1. The access road would have to pass through unstable sand dunes, which is considered extremely detrimental to the existing environment. The region experiences frequent south-westerly winds and any disruption to these dunes would be considered unsatisfactory.
3. CCMD has the mandate to develop Mauds Landing, if the Coral Coast Resort (CCR) goes ahead, access to NBB through CCR will need to be discussed and agreed with CCMD.
4. If CCR does not proceed, what all weather road and route is proposed to join the Coral Bay Road (note: Mauds Landing and the saltpan to the main road can remain flooded for extended periods).
5. CCMD will require guarantees and undertakings relating to the management of sand drifts and blowouts, and fragile fire-prone dunes west of Mauds Landing due to increased vehicular and people traffic.
6. What arrangement is proposed to gain access through CCMD's construction/development area?
7. The plans for the facility are misleading because they fail to show that the breakwater will need to be constructed across the beach to stable ground, possibly as far as the vegetation line.
8. What impact will excavators used for maintenance dredging have on coastal vegetation?

Government agency submissions

1. The DCLM and MPRA consider the road construction will result in unacceptable environmental impacts, as road construction will be difficult, costly, visually intrusive and will result in significant impacts on the dunal environment.
2. The DCLM indicated it was unclear whether the construction of the access road will impact on the Priority 2 species *Acacia ryaniana*.

2.5 SUMMARY OF ISSUES ABOUT THE COAST—SEABED

2.5.1 Issues relevant to both sites

Public submissions

1. No structure interrupting a beach should go ahead at Ningaloo without comprehensive coastal processes modeling.
2. A well designed structure in an area of low sand movement, with a hard coast such as the limestone found around Coral Bay, would pose the least risk to the environment. If a structure must go across a beach for some reason, it should be a piled structure. If wave protection is required then floating protection can be incorporated into the piled structure: this would be sufficient for waves of the small size found inside reef.

2.5.2 Issues specific to North Bills Bay

Public submissions

1. There are strong tidal currents at Point Maud, particularly during spring tides. What measurements have been carried out?, and if not, why not?
2. How will maintenance dredging/sand bypassing be carried out, what are the projected recurrent costs, how will it be funded and where will the spoil be disposed?
3. Has maintenance been allowed for possible siltation of the approach channel?
4. The NBB facility represents a high risk to the physical integrity and stability of the beaches of Point Maud, due to the potential of the breakwater and dredged channel to starve the Point of its source of sand. What impact will trapping sand have on downstream processes, and what is the extent of the erosion that will occur between NBB and Point Maud? A public submission further indicated that comprehensive coastal processes modeling should be carried out.
5. A permanent structure should not be built on a dynamic foundation. A superficial sand management program is unlikely to meet the EPA's requirement to 'maintain the stability of beaches', nor is it in tune with the theme of sustainable development for Ningaloo. Sand management is costly, environmentally detrimental and seldom effective: there are numerous examples in WA where poorly situated coastal structures have caused degradation of the coastal environment, despite the best intentions in terms of design and management.
6. Creating a solid structure on this dynamic beach has the potential to impact on the World Heritage values of the Ningaloo reef tract, particularly the "dunefield of parabolic coastal calcareous sand, which includes Point Maud". How will this be managed?
7. What is the likely extent of siltation of the approach channel due to strong longshore currents? If the channel rapidly refills, this would add to maintenance dredging requirements.

Government agency submissions

1. The DCLM indicated that the potential for trapping of sediment mainly on the southern side of the groyne that would need to be built for the protection of boat launching facility at NBB, and the subsequent requirement for ongoing dredging of trapped sediments to maintain navigable access to the facility, have the potential to significantly compromise the values in the sanctuary zone.
2. The MPRA consider that any groyne-type structure will cause significant interference with Point Maud and sand movement around the Point.

2.5.3 Issues specific to Monck Head

Public submissions

1. The facility will act as an offshore breakwater and sand will be trapped, irrespective of the proposed piled approach. There will be a likely build up of sand in front of the boat ramp due to its location in the lee of the breakwater. The amounts of sand will be small and the buildup slow, but regular sand bypassing will still be needed, and should be examined.
2. The island feature of this proposal is a permanent structure and the possible effects of sediment accumulation around it are not documented in the PER. It would appear that an island structure is not appropriate for the boating needs of the area.
3. Will maintenance dredging/sand bypassing be required, how will it be carried out, what are the projected recurrent costs, how will it be funded and where will the spoil be disposed?
4. What impact will trapping sand have on downstream processes, and what is the extent of the erosion that will occur towards Coral Bay?
5. In terms of minimizing impacts on longshore drift, other more conventional approaches to the design of the Monck Head facility would suit the site and provide more flexibility in terms of the guidelines for development proposed and in terms of satisfying the needs and wishes of the local community.

2.6 SUMMARY OF ISSUES ABOUT MARINE WATER QUALITY/SEDIMENT QUALITY—CONTAMINANTS

2.6.1 Issues specific to North Bills Bay

Public submissions

1. Will any vessels over 25 m be moored in the facility, and if so, what controls are proposed over TBT anti-foulant?

2.6.2 Issues specific to Monck Head

Public submissions

1. Contaminants in stormwater runoff will adversely affect nearby coral.

2.7 SUMMARY OF ISSUES ABOUT MARINE WATER QUALITY/SEDIMENT QUALITY—TURBIDITY

2.7.1 Issues specific to North Bills Bay

Public submissions

1. How much turbidity will occur during breakwater construction, and over what area?

2.7.2 Issues specific to Monck Head

Public submissions

1. How much turbidity will occur during breakwater construction, and over what area?
2. Will a silt curtain provide sufficient protection to coral communities north of Monck Head during construction?
3. How will runoff of fine pindan sands into the ocean be prevented, during both construction and operation of the facility?
4. The prevailing current in the region is from south to north. Any turbidity generated at the boating facility in MH will float into southern Bills Bay.
5. It is not easy for large boats to manoeuvre in confined spaces, and in shallow waters the propwash can stir up large amounts of sand and silt. As most tour operators operate at similar times (due to wind factors), vessels will be taking it in turn to use the MH facility, which will create an ongoing turbidity problem.

2.8 SUMMARY OF ISSUES ABOUT MARINE WATER QUALITY/SEDIMENT QUALITY—FUEL SPILLS

2.8.1 Issues relevant to both sites

Public submissions

1. How will re-fuelling be controlled?
2. What emergency response plan is proposed to deal with fuel spills?
3. The facility should have a best practice fuel spill contingency plan.
4. Fuel additives, lube and hydraulic oils, grey and black water and chemicals should be considered in any accident scenario. An onshore facility with adequate containment features, such as curbs, berms, walls or dikes should be considered for liquid material.

2.8.2 Issues specific to North Bills Bay

Public submissions

1. The NBB site is better placed to deal with fuel spills (thereby lessening environmental impacts), because they could be contained by the breakwater. Penning of untrailered vessels within totally protected waters would also greatly reduce the risk of a major spill, particularly from unattended vessels at night.
2. Fuel spill modeling does not appear to have considered worst cases such as the physical conditions which prevailed during the March 1989 coral spawning. What would the impacts be under such conditions?

3. The NBB facility is less preferable than the MH facility as it would result in more risk of oil spills and resultant damage to corals in Southern Bills Bay, as most recreational boaters would be traversing this area.

2.8.3 Issues specific to Monck Head

Public submissions

1. The statement that coral communities in Coral Bay are rarely exposed is inaccurate. On any astronomical tide lower than 0.5 m (relative to Chart Datum), there is at least some coral exposed. The lowest astronomical tides generally occur around October and November (also generally the windiest months), with substantial amounts of coral exposed. The worse case fuel spill scenario would involve a vessel full of fuel slipping its mooring whilst unattended at night, grounding on coral at low tide and laying over on its side initiating a large spill. The spill would be carried straight through the middle of Bills Bay, with potentially devastating effects.
2. A pollution contingency plan is only effective if someone is present to witness the spill. An efficient response would also be hampered in strong winds at low tide by the inability to deploy containment booms without damaging coral.
3. If the fuel spill was at MH the southerly winds, and northerly flowing current would carry the fuel into Paradise Beach and Southern Bills Bay causing extreme damage to coral gardens at both Monck Head and Bills Bay, whereas if a fuel spill occurred at NBB southerly winds would carry fuel out to sea, and damage to corals would be minimal.
4. Small-scale 'operational' fuel losses from outboard motors (i.e. the fuel loss that is intrinsic with the use of outboard motors) have the potential to affect coral near the MH facility due to the high density of boats using the facility.

2.9 SUMMARY OF ISSUES ABOUT SOLID WASTE/SEWAGE

2.9.1 Issues relevant to both sites

Public submissions

1. Sullage pump-out facilities should be provided in such a sensitive area. Also, if suggestions in the draft discussion paper on the Discharge of Sewerage from Vessels becomes legislation, sewerage discharge would be forbidden less than 12 nautical miles from shore, and sullage facilities will be needed anyway.
2. The facility should have a best practice sullage and rubbish removal system and facility.
3. There should be no fish cleaning stations provided at the facility. This will discourage feral and native species foraging. This also applies to waste disposal of any kind. There is a central fish cleaning facility in the Coral Bay settlement, and its use should be encouraged.

2.10 SUMMARY OF ISSUES ABOUT ABORIGINAL CULTURE AND HERITAGE

2.10.1 Issues relevant to both sites

Public submissions

1. The treatment of Native Title issues is inadequate. What discussions have taken place and what undertakings and agreements are in place with the Baiyungu people and the Gnulli Claimants?

Government agency submissions

1. The Department of Indigenous Affairs notes that aboriginal site issues need to be addressed. A management plan is needed to protect those recorded Aboriginal sites that are close to the chosen location. Consideration should be given to seeking a Section 16 under the (State) Aboriginal Heritage Act 1972 to monitor the location, in case an unrecorded Aboriginal site is uncovered during construction.

2.11 SUMMARY OF ISSUES ABOUT RECREATION

2.11.1 Issues relevant to both sites

Public submissions

1. The aesthetic appeal of the area will be spoiled by construction of a man-made facility. The facility will also lead to more commercial exploitation of the area, and further spoil the aesthetic appeal.
2. The provision of the boating facility should not act as an incentive to increase private or commercial boating traffic and/or fishing effort.
3. The provision of formalize boating facilities will not cause a rapid increase in boat traffic in the area. This is more likely to arise from an increase in accommodation available to visitors.
4. There appears to be a lack of good data on boating effort, and an over-reliance on unreferenced estimates. What are the boat data and visitation data, and on what basis has the capacity of parking and the facility been designed? Are they designed for average or peak conditions, and if the former, how and where are overflow requirements to be managed? A public submission has stated that a formal study needs to be conducted to clarify this matter.
5. How many dinghies and small boats will want to use South Bills Bay, and how will they get there? What is the projected boat use which will use open waters and the remainder which will be restricted to using Bills Bay, with and without the presence of the Mauds Landing facility?
6. How will future expansion of recreational boating needs be accommodated? What is the capacity for expansion of the facility, and in what direction?
7. The provision of refueling facilities should be permanent, not an interim solution until another facility is built at Mauds Landing. The DPI and CALM levy substantial fees on licensed CALM tour operators, and have the responsibility to provide adequate facilities to taxpayers. The construction of a private facility at Mauds Landing should have no bearing on this responsibility to provide long-term solutions for the recreational requirements of the region. Nor is the private facility at Mauds Landing guaranteed to go ahead, and as the PER does not include an analysis of the environmental impacts of this private facility it is inappropriate and premature to suggest any future function.

8. Many large recreational craft have twin-powered petrol stern drives. The facility should provide petrol and well as diesel.
9. Fuel storage tanks at the facility should be located underground, to maintain the aesthetic value of the area.
10. Increased travel costs are economic and social costs, not an environmental cost.

2.11.2 Issues specific to North Bills Bay

Public submissions

1. Road construction to the NBB site will result in impacts on the social values of the area, as it will be visually intrusive due to the high sand dunes that have to be traversed.
2. The local community, especially those involved in recreational boating activities, is strongly in favour of the NBB option: community wishes should be taken into account.
3. The guidelines for preparation of the PER included provision for a limited number of shoreline-based moorings outside the breakwater, for trailerable boats. This aspect has not been addressed in the PER, but is strongly recommended. At present, there is nowhere for boats to 'hold station' while the driver parks the car, and at peak times this could cause delays and considerable annoyance. It is also impractical and socially undesirable that people returning after a morning's activities (e.g. to fill SCUBA tanks, or have lunch), should have to retrieve their boat and then re-launch for an afternoon cruise.
4. The proposed facility should include protected mooring pens for trailerable boats 6.5–7 m long, for people to use when their boat is not in the water (e.g. overnight). To date, people have beach-moored such boats, but the caravan parks have very limited areas for parking large trailerable boats in front of caravans/campsites. With increased demand people may not be able to keep their boat next to where they are staying, and there may be security issues if the boat has to be parked in a separate area.
5. If the Coral Coast Resort at Mauds Landing proceeds, there will be no need for pens, re-fuelling or even any facility at NBB. Will NBB still proceeds if the Coral Coast Resort proceeds, and if so, why?
6. The service jetty is only long enough to allow two vessels to berth, creating the risk of user conflict. The jetty should be doubled in length to allow berthing of four vessels, and restrictions should be imposed on berthing duration.
7. Only 10 mooring pens are provided in the present facility, when there are 13 vessels requiring relocation from Southern Bills Bay (eight CALM licensed charter vessels, three authorized licensed fishing vessels and two unauthorized vessels). This creates the potential for considerable conflict over who will be issued a pen, and how to relocate the unallocated vessel. The number of mooring pens should be increased to 14 (allowing one spare pen for emergencies).

Government agency submissions

1. The DCLM consider that road construction to the NBB site will result in impacts on the social values of the area, as it will be visually intrusive due to the high sand dunes that have to be traversed. The DCLM considers that important social values (coastal useage, wilderness and seascape) could be affected, including aesthetic impacts on the viewshed from Coral Bay settlement.

2. The DoF notes that, accepting the representation of the PER that 80% of all recreational fishing pressure is targeted in the lagoon south of Monck Head, development at Monck Head would provide better immediate access than North Bills Bay for trailered craft.

2.11.3 Issues specific to Monck Head

Public submissions

1. Commercial operators would not have a visual selling point if the facility was located at Monck Head.
2. The proposed facility would only be useable for small trailer boats. It will be too shallow for commercial operator vessels, and offers limited manoeuvring space, particularly at times of loading/unloading of charter vessels. The island structure will become congested with boat traffic, particularly at peak times (early morning departures and late afternoon arrivals).
3. The boating ramp at MH comes off a limestone cliff and out over limestone substrate. There is no beach for small boats to use in the process of loading and unloading after launching and before retrieving. This rocky area can be very unforgiving in rough conditions.
4. The limestone environment of MH offers limited anchorage possibilities, and is a much smaller area than available at NBB. Large vessels cruising along the coast currently anchor at NBB: this will not change as the MH facility will not be accessible to these vessels (particularly yachts) because they will be unable to negotiate the passage inside Bills Bay to moor.
5. The efficiency of the MH facility for all boating needs is doubtful. Large vessels moored offshore would require dinghy storage, and there is no provision for this. It is not practical to expect operators to remove dinghies to their homes on a daily basis and this would only increase traffic movement through Coral Bay. Nor are pens provided, so that tourist patrons would be boarding/alighting at the same time as recreational fishers are trying to use the facility, with the potential for user conflict.
6. A timber platform over a portion of the rubble mound is needed, to extend the jetty length sufficiently to provide more berths.
7. At MH there is no facility proposed for use by tour operators or recreational fishers for two or more trips per day. Nor is there anywhere for boats to 'hold station' while the driver parks the car, and at peak times this could cause delays and considerable annoyance. It is also impractical and socially undesirable that people returning after a mornings activities (e.g. to fill SCUBA tanks, or have lunch), should have to retrieve their boat and then re-launch for an afternoon cruise. At MH small vessels cannot be beached (the coastline is rocky), and if they moved further north to sandy areas they would impinge on recreational swimmers.
8. The facility should not be based on the tenuous prospect of another facility being built at Mauds Landing. The MH option locks Coral Bay into a limited and inadequate facility compared to the bigger and better facility at NBB. There will also be less potential for expansion of the MH facility in response to increased needs (e.g. if the Coral Coast Resort does not proceed).
9. For boaters heading north out of Bills Bay, the small efficiency gained by the lesser distance to travel by road to the MH site to launch and retrieve boats is completely outweighed by the additional time required to travel by boat to reach their destination.

2.12 SUMMARY OF ISSUES ABOUT MANAGEMENT

2.12.1 Issues relevant to both sites

Public submissions

1. The PER notes that the area will require a coordinated management response from a number of agencies, including CALM, Fisheries and the DPI. This should happen now; it should not be delayed pending completion of a formalized boating facility.
2. There is no reference to, or apparently the existence of, a regional management plan for the Ningaloo area that is based on the principles of sustainable development. Such a regional management plan is essential; one that supports small-scale sustainable developments in tune with the fragile environment at Ningaloo. Also, Cabinet has recently signaled its intent to put forward the area as the next WA World heritage candidate. Under State and Federal law, policy and guidance, there is an argument for treating the region as though it is a world heritage listed area.
3. Any consideration for a single boating facility should be included within the review of the Ningaloo Marine Park Management Plan, which is currently underway.
4. A Fisheries/CALM office could be incorporated into the facility, to help protect the environment and educate boat users on relevant environmental issues. Issuing of special fishing licenses for fishing from boats in Ningaloo should also be considered, to help education of recreational boat users and assist in the sustainable management of the fisheries/environment. The money raised to go towards research and enforcement to help protect fish stocks.
5. The impact of the facility could be reduced by the establishment of more sanctuary, 'no-take' and potentially 'no-go' zones, to protect breeding areas and/or significant coral structures, and to provide a baseline by which to measure impacts in surrounding waters.
6. The number of charter boats expected to be allowed to operate in the region should be considered. As much as possible, the use of private recreational vessels should be replaced with charter operators, to help control impacts on the region
7. The local community should be encouraged to take some responsibility for the promotion of regulations through volunteer programs such as *Fishcare*. This would also educate the local communities in how to better look after the reef, their major eco-tourism asset.
8. All conservation-based Government departments (CALM—which will have to manage the facility, DoE, NPNCA, MPRA and FWA) supported the development of a large boat facility at Mauds Landing and a small boat launching facility at MH to service south of Coral Bay, and either oppose or have expressed strong concerns about the NBB facility. Why isn't the MH facility the only one being examined, rather than wasting time and money examining the NBB facility as well?
9. Was the potential to withstand cyclones considered in the design of the facilities?
10. What fire management and mitigation methods are proposed?
11. How will management, maintenance and repair of the whole facility be funded, and what are the estimated recurrent costs?
12. What provisions are made for reinstatement of the breakwaters and facility in the event of storm damage?

13. The provision of a facility will promote greater small boat and fishing useage of Ningaloo Marine Park. How will these impacts be managed, what CALM and Fisheries WA presence will be provided, and what resources and funding will be provided to CALM and FWA for the necessary increased management effort?
14. The provision of a facility will promote increased boating useage, and the potential for greater impacts on marine mammals, whale sharks and turtles etc. How will these impacts be monitored/managed/controlled, and what additional resources and funding will be provided to CALM and FWA for the necessary increased management effort?
15 How will vandalism be managed at this remote site, both generally and specifically in relation to fuel storage?
16. What management and facilities will be provided for litter collection?
17. Erect signage at the facility explaining the no litter policy, with other educational material regarding catch size, boating practices and other conservation issues.
18. When CALM take over management of the facility, will fees be charged for access and parking?
19. Best management practices should be adopted for refueling, including: all nozzles to have automatic shut-off nozzles; emergency pump stops at point of refueling; encourage the use of oil-absorbing materials in bilge areas; installation of a spill monitoring system; regular maintenance schedule for pipes, hoses, nozzles and tanks; provision of a floating boom on-site; and avoid running pipelines over water if possible.
20. Any lease/license type arrangement for fuel distribution at the facility should have strict environmental management conditions that will include a prepared best practice contingency plan (BPCP) for oil spills.
21. In the future, it may be viable to introduce a nominal fee for a fishing permit in the area to allow for all visitors to the area to receive bag limits and general education issues.
22. How will pets be managed?
23. The facility should have an ongoing monitoring program for associated impacts and introduced marine and terrestrial pest species, with a prepared best practice contingency plan.

Government agency submissions

1. The local Shire's conditions will need to be met if they are to take over the management of the access road, as follows:

- The access road must be designed, constructed and sealed to local Shire standards (to accommodate heavy traffic),
- Batters must be stabilised through methods agreed to by the local Shire and possibly the EPA;
- The DPI must obtain Native Title, clearing of vegetation and other environmental clearances before proceeding;
- Road construction should be undertaken at the same time as construction of the boat ramp; and
- The access road should be the responsibility of the DPI for 12 months following completion of the access road to Shire standards.

2. The MPRA view is that a best practice contingency plan (BPCP) is required for oil spills.

3. The MPRA consider that the facility should have an ongoing monitoring program for associated impacts and introduced marine and terrestrial pest species, with a prepared best practice contingency plan.

2.12.2 Issues specific to North Bills Bay

Public submissions

1. Construction of breakwaters is not permitted in a Sanctuary Zone in Ningaloo Marine Park. How can a breakwater be constructed in the Maud Sanctuary Zone, when this is inconsistent with approved statutory plans?
2. The major objection by some government departments to the NBB site, is that it is in a sanctuary zone. This is a purely technical objection. At the MH facility the moorings and manoeuvring area will also be in the sanctuary zone: the launching ramp can just be fitted into the narrow strip of beach excised from the sanctuary zone to allow beach fishing. A boating facility at NBB could also be excised from the sanctuary zone, as indeed indicated by CALM. The Ningaloo Marine Park Management Plan is currently under review, providing the opportunity for amendment if the NBB facility is deemed more appropriate.
3. In terms of ongoing management, the NBB facility is better because it is more likely to withstand a cyclone than the MH facility.
4. How are people to be managed to stop them fishing off breakwaters in a Sanctuary Zone?

2.12.3 Issues specific to Monck Head

Public submissions

1. Is there some way in which the issues of the Coral Bay community (such as ease of access to the outer reef, availability of pen facilities and ability to see the facility from Coral Bay) can be incorporated into the design of the Monck Head facility?
2. Given the protected nature of the Monck Head site, it is probable that an extended jetty would survive even a 'direct hit' by a cyclone. At present boats in Coral Bay move to marinas either at Carnarvon or Exmouth in times of an imminent cyclone, and it is envisaged that this strategy will continue.

2.13 SUMMARY OF ISSUES ABOUT PUBLIC HEALTH AND SAFETY

2.13.1 Issues relevant to both sites

Public submissions

1. What transport arrangements and safety considerations are to be provided relative to tourist traffic during construction of the breakwaters and facility?
2. How will boating access channels be marked?
3. Lack of formal demarcation of boating access results in considerable present risk to swimmers in the Maud Sanctuary Zone. Boating access channels along the inside of the fringing reef from Southern Bills Bay to Point Maud should be marked with spar buoys immediately, and adjusted according upon completion of the new facility.
4. Signs on the dangers of using the Southern Passage should be erected at Southern Bills Bay immediately, and re-located to the new facility upon completion.

2.13.2 Issues specific to North Bills Bay

Public submissions

1. The Mauds Landing site is safer to use in bad weather conditions than NBB because it opens in 5 m water depth, whereas at NBB storm waves break in the shallow beach and reef areas. Any boat that can use the Cardabia Passage would use and prefer to use Mauds Landing.
2. What will be the impact of strong tidal currents at Point Maud (particularly during spring tides) on small boat safety and handling?
3. Selection of the NBB site will require a separate consultation process and the concurrence of three ministers to change the sanctuary zone boundary to allow the facility to be built. This will result in a protracted debate, and further delays to addressing the public health and safety risks posed by present boat launching arrangements.

Government agency submissions

1. The Shire of Carnarvon considers that the NBB site offers safer access to the outer Ningaloo Reef, via the North Passage, and a safe 'all weather' mooring facility.
2. The MPRA notes that a major aim of the boating facility is to get boats out of Bills Bay and reduce traffic through the sanctuary zone, to reduce interaction with (and potential risks to) swimmers and snorkellers, and consider that the NBB facility does not achieve this.

2.13.3 Issues specific to Monck Head

Public submissions

1. The MH facility will create an immediate safety issue. Many recreational boaters follow the commercial and/or charter operators out of the Bay, and putting the facility at Monck Head would encourage them to use the dangerous South Passage. There have been many accidents in the South Passage (we believe 13 fatalities in the last 15 years). Small craft and inexperienced operators should stay well clear of the South Passage. Putting the facility at NBB would be much safer because it would promote the use of the much safer North Passage. Safety should be considered before environmental issues: if marine park legislation has to be changed to accommodate this, it should be done.
2. If MH proceeds, because of the dangerous nature of the South Passage that passage should be closed. Is it proposed to do so, and if not, why not?
3. For the MH facility, the PER states that markers would be installed to assist navigation through the back of the reef to the North Passage. This would not be easy to navigate through, especially in poor lighting conditions, which would raise safety issues in the event that sea rescue vessels are required after dark.
4. The water depth at MH is very shallow, is close to coral communities, and there is little room to turn around a large commercial vessel. Strong prevailing south and south west winds will present difficult conditions for any operator of a large vessel. This will lead to an increased risk of vessel damage, and concerns about operator safety and permanency of environmental moorings.
5. A timber platform over a portion of the rubble mound is needed, to extend the jetty length sufficiently to provide an adequate turnaround area..

6. The facility at MH offers little protection from prevailing wind and waves, blowing directly onto the ramp. This would affect the safety and efficiency of commercial operators loading, unloading and refuelling their vessels.
7. The refueling jetty will not provide any shelter for small boat launching/retrieval unless it is a solid structure. What are the impacts on boat launching and retrieval during normal and severe wind and sea conditions?
8. The proposed ramp is located near an area of beautiful corals. With the increasing tourist population more and more people will swim and snorkel in the area, and yet the boating facility will increase boat traffic in the area. The MH facility will completely defeat the (safety) purpose of separating the boats from the swimmers.
9. Most boating through-traffic is focused on the northern area of Coral Bay and the Cardabia passage. Swimmers and snorkellers tend to concentrate in and south of Bills Bay. Swimmers/snorkellers (who invariably don't have a diver's flag) can be very difficult to see, especially when the sun is low. For safety reasons, boats and swimmers/snorkellers should be separated as much as possible. It also makes sense to launch boats closer to where they want to go. The MH facility does the exact opposite.
10. Snorkellers utilize the strong northward-flowing current to drift northward from near Monck Head over coral back towards the Coral Bay town site. The safety of this unique recreational benefit should be preserved by discouraging unnecessary boat movements in the area.

2.14 SUMMARY OF ALTERNATIVE DESIGNS

2.14.1 Issues specific to Monck Head

Public submissions

1. A split facility could be considered, if a location that meets the needs of both the charter boats and the boat ramp cannot be found
2. Alternative designs that result in less environmental impact can and should be considered at MH. For example, a jetty-type structure at the shore, with a small, culverted boat ramp could be considered. The jetty could be extended out into deeper waters, to service commercial boats by way of occasional pens, and working service areas and refueling and sullage facilities. The jetty could also feature multiple fingers at the western end to allow for maintenance work on charter boats and a service area for loading and refueling purposes. The site is generally well protected, but may require a wave screen to enable safe access in times of heaviest swell. The boat ramp would need to extend well into deep waters to account for extreme low tides, but the primary goal should be minimal environmental impact even if this inconveniences boating activities to some degree.
3. Any revised options or alternatives that are explored should be re-circulated to PER respondents for agreement.

Government agency submissions

1. The MPRA prefers the Monck Head site, but suggests the facility should be a jetty-type structure with a culverted small boat retrieval ramp, which has less impact and is more sustainable for this significant area.

2.15 SUMMARY OF OTHER ISSUES

2.15.1 Issues relevant to both sites

Public submissions

1. The provision of a boating facility in Coral Bay should be a 'stand-alone' development, not one that is complementary to the private facility at Mauds Landing. The DPI and CALM have a responsibility to provide long-term solutions for the recreational requirements of the region, and the private facility may not go ahead. Amendments could be required to the Coral Bay facility which could involve further construction, expense and damage to the environment. Clearly, it would be preferable to deal with all potential issues in the initial design phase, rather than have to amend existing structures.
2. The scoping for the PER was undertaken in 1997 and 1998, and may not reflect current opinions, given the considerable debate and increased level of information and understanding that has since taken place. The range of options presented and the rationale seem to have changed significantly.
3. Any planning of facilities needs to be based on accurate estimates of actual need. The problem needs to be defined accurately so that the appropriate solution is found.
4. Urgent action is needed to alleviate environmental damage currently being visited upon the vicinity, but the most thorough examination of options is also needed in this regards, taking relevant guidelines into account.
5. The potential for conflict between the preferred option of local residents and Government agencies should be considered in the decision making process and highlights the need for an overriding management strategy.
6. The construction of the boating facility should be of minimal hard/permanent/irreversible construction.
7. What are the breakwater design criteria (return period, levels, slopes etc), how much breakwater material is needed and from where is this material to be sourced.
8. The PER recommends specific methods of construction, and gives only limited qualitative consideration to management of the impact of each. More detail should be provided on various methods of construction, and the management of their impacts.
9. The long-term effects of any structure should be considered in the design of the facility. A piled structure is much less permanent in its impacts, and—if its removal was required—would be much easier (and less environmentally damaging) to remove than a breakwater. If removal wasn't possible, a piled structure would also more readily break up and eventually disappear once maintenance was stopped.
10. The PER is deficient in detail on best design practice and best management practice to eliminate/minimize pollution impacts (e.g. fuel additives, lube and hydraulic oils as well as greywater and blackwater should be considered in any accident scenario, the necessary containment equipment to manage spills, establishment of designated fish cleaning areas and waste receptacles).
11. Neither NBB or MH should be developed. Install a boat ramp at Southern Bills Bay where boat launching takes place now. Install a ramp similar to one in Drummond Cove.
12. Limit the number of commercial boats in the area, and get them to moor in the sandy area in front of Monck Park. Use tenders to get passengers aboard.
13. Recreational boaters should not be allowed to moor in Coral Bay, or leave their boats on the beach.

14. A small-scale hybrid solar/wind powered plant should be used to provide power for the facility's fuel pumps and lighting, rather than diesel. This would remove another potential source of hydrocarbon pollution, as well as a source of atmospheric and noise pollution.

Government agency submissions

1. The MPRA notes that the information given in the documents is sparse and out of date in places. It appears to include minimal tidal, current and sediment movement detail. There is now more available information to allow better planning for an appropriate boating facility.

2.15.2 Issues specific to North Bills Bay

Public submissions

1. It is recommended that the North Bills Bay area be abandoned as an area suitable for any coastal development, and that the restricted access currently in place be maintained in the future.

PART 2

DETAILED RESPONSES TO SUBMISSIONS

3. MARINE FLORA, INCLUDING CORALS

3.1 PUBLIC SUBMISSIONS

3.1.1 Issues relevant to both sites

3.1.1.1 Seagrasses and other marine algae are primary producers and vital to the web of life in Coral Bay. A boating facility would alter the marine environment because the effect of anchors would rip up and reduce the numbers of seagrass and damage the seaweed.

Response: Anchor damage occurs when boats anchor in the Marine Park for the purposes of fishing, swimming, snorkeling or SCUBA diving. Such activities will take place whether there is a boating facility or not. There may be an indirect effect, in that the provision of a boating facility may encourage more that come to people Coral Bay to bring their boats. The numbers of people and boats in Coral Bay are, however, likely to be affected more by the amount and type of accommodation available than the presence of a boat launching ramp and a limited number of moorings. The Department of Conservation and Land Management's (DCLM's) Coral Bay Boating Strategy has also recently been approved, and is now being implemented, and is precisely aimed at controlling boat anchoring and mooring in Coral Bay to minimize adverse effects.

3.1.1.2 How much breakwater material is to be placed, and from where will it be sourced?

Response: The exact amount of breakwater material won't be known until the facility design details are finalized. In environmental terms the key issue is the footprint of the facility, not the actual amount of breakwater material used. It is intended to source the material from an existing quarry in the Gascoyne region. If a new quarry is to be developed then the appropriate licences/approvals will be obtained from the relevant agencies, including the Shire of Carnarvon, Department of Environment (DoE) and Department for Minerals and Petroleum Resources prior to commencing operations. Note that there is only an offshore launching ramp proposed for construction at Monck Head, compared to the breakwater at North Bills Bay.

3.1.1.3 What effect will there be on corals in the event of damage to breakwaters?

Response: The assumption here is that the question refers to physical displacement of the breakwater, due to a boating accident or cyclone. The facility is to be designed to withstand major storms conditions. The breakwater is highly unlikely to be displaced by a boating accident, and any storm severe enough to displace breakwater material would have other far-ranging environmental effects well in excess of those due to breakwater displacement. Both facilities are located in areas of sandy substrate and/or limestone reef, and minimal effects on corals are anticipated if minor displacement of breakwater material takes place.

3.1.1.4 Due to the close proximity of corals, what is the potential for smothering (due to turbidity generated during breakwater and facility construction) and to what extent?

Response: During breakwater construction, fine suspended matter may drift over nearby corals. Neither facility involves a large amount of breakwater material, the construction period will only extend for several months, and dumping of breakwater material (and therefore associated turbidity) will be intermittent rather than

continuous. During dredging some fine suspended matter may also drift over nearby corals, although this will be minimal and sediments in the area are predominantly sand (that will rapidly settle out) with little 'fines' content. The DPI has committed to employ a silt curtain to protect nearby corals during construction/dredging if plumes reach potentially harmful levels. Appropriate water quality criteria to protect corals from turbidity effects will be derived in consultation with the DoE and the Department of Conservation and Land Management (DCLM), and incorporated into the Construction Environmental Management Plan (EMP) that the DPI has committed to. These criteria will be equally applicable during any necessary maintenance dredging that is required when the DCLM take over management of the facility.

3.1.1.5 Lack of formal demarcation (of boating access) is partially responsible for a significant amount of coral damage in the Maud Sanctuary Zone. Recommendation: Install spar buoys from South Bills Bay to Point Maud without delay and adjust accordingly on completion of the new facility.

Response: The issue here is one of substantial additional mobilization and adjustment costs that would be incurred if the boat passage were to be marked as a separate and prior exercise to the construction of the new facility. The DPI is committed to marking the recommended boat passage paralleling the back reef from Monck Head to Point Maud (probably with spar buoys) irrespective of which boating facility is chosen. The DPI will re-assess the situation if it looks like there will be substantial additional delays to the project.

3.1.1.6 Channel markers in the boat passage which parallels the back reef from Monck Head to Point Maud are supported. This region is one that we use frequently for diving and snorkelling and channel markers that are clearly visible both in the morning and afternoon are essential to prevent damage to the reef.

Response: As noted in the Response to 3.1.1.5, the DPI is committed to marking the recommended boat passage paralleling the back reef from Monck Head to Point Maud (probably with spar buoys) irrespective of which boating facility is chosen.

3.1.2 Issues specific to North Bills Bay

3.1.2.1 Does the establishment of the basin and access channel require blasting and dredging and where is the spoil to be disposed?

Response: Establishment of the basin and access channel will not require blasting. Removal of coral/limestone reef is likely to require the use of an excavator, and dredging will also be involved. Spoil will most likely be utilized for fill in the car park or will be disposed at an approved landfill site.

3.1.2.2 What are the impacts and extent of impact on corals due to basin and channel construction?

Response: The construction of the facility will result in an estimated direct loss of coral and limestone reef of 0.5 hectares: this estimate includes potential loss from shoreline accretion due to the presence of the eastern breakwater. There may be an indirect effect due to turbidity created during construction, but this will be managed to minimize effects on corals: see Response to 3.1.1.4.

3.1.2.3 What are the impacts and extent of impact on corals due because of maintenance dredging?

Response: The sands at North Bills Bay are medium sands with low fines content, and will generate little turbidity when dredged. Longshore currents will also direct the plume northwards alongshore and around Point Maud, not towards corals. Minimal impacts on corals are expected. A maintenance dredging environmental management plan (DEMP) will be needed, that will address the timing and duration of dredging, the type of equipment to be used, monitoring requirements, and management options for adjusting the dredging and disposal activities according to prevailing conditions, and deployment of silt curtains if needed. The DPI has considerable experience in such matters (note that the DPI, EPA and DoE are currently preparing a Memorandum of Understanding for the environmental management of maintenance dredging activities), and will include the necessary maintenance DEMP in the Operations Phase EMP.

3.1.2.4 The PER acknowledges that south Point Maud is generally an accreting area and that regular sand bypassing will be required. What impact will accretion have on corals?

Response: See Response to 3.1.2.2.

3.1.2.5 What will be the impact and extent of impact on corals because of regular sand bypassing?

Response: See Response to 3.1.2.3.

3.1.2.6 Under existing criteria, no loss of habitat is acceptable within an 'A' Class Reserve. How can loss of corals and other benthic invertebrates be acceptable under existing reservation?

Response: The boundary of the Maud Sanctuary Zone would have to be altered to exclude the facility area before construction of the facility could proceed. The EPA's draft policy for areas of high conservation significance is that no loss of coral habitat should occur. The policy has yet to be finalized, and there is presently a limitations clause that allows the environmental impact assessment of every proposal to be assessed on its merits.

3.1.2.7 A sand management program has the potential to cause changed currents and sand distribution patterns to bury important areas of coral or other habitats in the sanctuary zone.

Response: The sand management program will involve taking sand from the accretion area near the eastern breakwater, and placing it in the breaking wave zone west of the facility, thereby allowing normal sediment longshore transport processes to take place. This area is dominated by sandy substrate. No changes in sand distribution patterns are expected that might bury corals or other habitats.

3.1.2.8 The plan involves the removal of consolidated limestone to allow the navigational depth of 1.4 m. The coral communities at the proposed site are suggested to be an important source of coral recruits for the rest of Bills Bay. The construction of the breakwater in addition to the removal of coral habitat is considered a major environmental sacrifice for the boating facility. This area was once known as the 'Coral Garden' and while currently degraded due to the major coral spawn anoxic events in 1978, '89 and subsequently, is in recovery.

Response: The coral communities at North Bills Bay area are considered likely to be an important source of coral recruits for the rest of Bills Bay, but the habitat lost due to construction of the facility only represents about 0.1% of habitat in Bills Bay (defined as the area from Fletcher Hill to Point Maud and offshore to the edge of the outer reef, see PER Figure 1), nor is it in the main area of coral at North Bills Bay, (see Figure 3 in Technical Appendix 5), and so is unlikely to have a significant effect on recruitment.

3.1.3 Issues specific to Monck Head

3.1.3.1 Does the establishment of the facility require dredging and where is the spoil to be disposed?

Response: No dredging will be required to establish the Monck Head facility.

3.1.3.2 What are the impacts and extent of impact on corals due to facility and channel construction?

Response: There will be no direct loss of corals due to facility construction. The rubble mound 'island' will be in an area of sand overlying limestone pavement. The construction of the piled bridge and culvert causeway connecting the island to the mainland will result in the loss of a very small amount (0.04 hectares) of macroalgal community. There may be an indirect effect on corals due to turbidity created during breakwater construction, but this will be managed to minimize effects on corals (as will be documented in the Construction EMP): see Response to 3.1.1.4.

3.1.3.3 What will be the impacts and extent of impact on corals through maintenance?

Response: Maintenance will consist of use of a long reach excavator to remove extremely minor amounts of sand (approx. 100 m^3) that may accumulate on the lee-side of the offshore breakwater (if necessary), and every 3 to 5 years to remove small amounts of sand (approx. 3,000 m^3) that may accumulate as a shoreline salient, although it is expected that the salient would probably be naturally removed by local currents every 2 to 3 years anyway. No impacts on corals are expected due to these minor maintenance activities due to both the distance and direction (i.e. further offshore) of the nearest corals from the facility. Any turbidity generated would be extremely minor and of short duration, and current movement would direct it northwards and close to the shore, over areas of limestone pavement and sand.

3.1.3.4 The facility will act as an offshore breakwater and sand will be trapped in its lee, irrespective of the proposed piled approach. Regular sand bypassing will be required and needs to be examined. What impact will accretion have on corals?

Response: It is not expected that the offshore launching facility will cause large-scale accretion. See Response to 3.1.3.3.

3.1.3.5 What will be the impacts and extent of impact on corals because of regular sand bypassing?

Response: Response to 3.1.3.3..

3.1.3.6 It is a known fact that the North passage is safer than the South passage and by having the facility at North Bills Bay, this will reduce the traffic between Point Maud to Monck Head (compared to having the facility at Monck Head), with reduced coral damage through boating impacts.

Response: The small number of (DCLM licenced) large vessels in Coral Bay already use both the North and South Passage, and are skippered by experienced crew with considerable knowledge of the area. The majority of boating traffic is small boats who head to the lagoon south of Monck Head to fish, or stay close to Coral Bay to snorkel and dive on the corals. A facility at Monck Head (compared to North Bills Bay) will reduce the potential for coral damage due to small boat movements, as these boats will have less distance to travel. However, marking of the preferred boating track along the back reef between Point Maud and Monck Head will considerably reduce the potential for coral damage irrespective of which location is chosen for the facility.

3.1.3.7 *Access to the North passage (from Monck Head) involves passing through the main body of corals in Bills Bay and there have (already) been frequent accidents involving damage to boats and coral over the years. Dinghy fishermen and divers will still want to access the lagoon south of Bills Bay (from a North Bills Bay facility) but this would be via the marked channel and at least the larger boats whose draft and propwash do the most damage will not be traversing the area.*

Response: See Response to 3.1.3.6.

3.1.3.8 *At no point in either document studied to form the partial basis of the submission that "there is the potential for a sediment plume to drift over coral communities to the north of Monck Head" does the proponent indicate the type of rock rubble to be used in the construction of either proposal. Assuming the rubble to be limestone based, considerable risk may be presented to coral communities in the immediate vicinity of the facility, particularly during construction.*

Response: It is highly likely that the rock rubble will be limestone. This material will conform with the natural rock (and reef) in the area. Construction activities will be managed to minimize harmful effects on coral: see Response to 3.1.1.4. Construction material will be specified in the Construction EMP.

3.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

3.2.1 Issues specific to North Bills Bay

3.2.1.1 *The Department of Conservation and Land Management (DCLM) considers that increased boating activity at the North Bills Bay site has the potential to significantly compromise the conservation values of the sanctuary zone. The facility will result in substantial increases in boating activity at the North Bills Bay site. Sedimentation and other factors associated with boating activity may damage valuable and sensitive corals that are known to exist in the immediate surrounds of the North Bills Bay site. The report states that 80% of recreational fishing occurs within the lagoon, south of Monck Head. Therefore, the location of the facility at the North Bills Bay site has the potential to result in increased boating activity across the shallow reef areas in Southern Bills Bay as people are tempted to 'shortcut' across the area. This has particular implications with respect to larger vessels which may be unaware of shallow reef in the area.*

Response: Provision of a well-marked boating track, plus appropriate signs and education material, will help lessen impacts on the valuable and sensitive corals in the Maud Sanctuary Zone. Most people will prefer to use a well marked track to avoid the risk of hitting reefs (particularly those with larger and more valuable

vessels), but it is acknowledged that there will always be some people who illegally cut across Southern Bills Bay. This activity already occurs at present, with people traveling from Southern Bills Bay to the lagoon south of Monck Head, but should be lessened with provision of a new facility (whether at Monck Head or Northern Bills Bay) and marked boating track. DCLM personnel presently monitor the levels and patterns of boat useage. The new facility will offer a centralized location from which to do such monitoring—and take appropriate action against powered vessels that attempt to cross Southern Bills Bay.

3.2.1.2 The DCLM considers that localised macroalgal growth may have impacts on surrounding environs at the North Bills Bay site. Boating facilities at North Bills Bay with overnight/extended pen facilities has the potential to increase nutrient buildup due to sullage and other discharge and disturbance. This could potentially lead to the development of macroalgal communities which may impact on conservation values and facilities.

Response: No overnight accommodation will be permitted at the facility, and the majority of large non-trailered vessels using the pens will be DCLM licensed operators who are not permitted to discharge refuse, bilge or sullage in the Marine Park. There may be intermittent nutrient discharge from occasional illegal discharges, but no ongoing nutrient enrichment is expected. It is anticipated that DCLM personnel will regularly inspect the facility to ensure no illegal overnight accommodation, or illegal discharges, are occurring. If major development of macroalgal communities occurs—and a cause-effect relationship to illegal discharges is established, the DCLM has recourse to a number of management options, including restricting access to the facility, reviewing licences of existing operators, or provision of sullage pump-out facilities.

3.2.1.3 The Department of Fisheries (DoF) notes that the North Bills Bay site, in contrast to development at the Monck Head facility, as proposed by the report, involves more initial excavation and more ongoing maintenance.

Response: It is acknowledged that the North Bills Bay site involves more initial excavation. It is believed that turbidity associated with construction activities and maintenance dredging can be managed in an environmentally acceptable manner by use of appropriate monitoring and—when necessary—remedial actions such as the deployment of silt curtains. See also Response to 3.1.2.3.

3.2.1.4 The DoF notes that the North Bills Bay site will involve additional impact on the Maud Sanctuary Zone. Development of the Monck Head facility lies outside the protected Maud Sanctuary Zone. While 80% of recreational fishers access the lagoon south of Monck head, the alternative development at Monck Head would reduce additional passage of recreation vessels across the Maud Sanctuary Zone south from North Bills Bay to access this recreational fishing area.

Response: See Response to 3.2.1.1.

3.2.1.5 The DoF considers that, compared to the North Bills Bay site, the development of the Monck Head facility would reduce the risk of oil spills and physical damage to corals in the Southern Bills Bay.

Response: The risk of oils spills is minor in either case, but the risk of potential impacts on corals is probably lesser at the North Bills Bay site due to prevailing current movement and the opportunity to contain spills within the breakwater. However, the North Bills Bay site does involve the additional risk of oil spill impacts

on the bird sanctuary at Point Maud. The greatest risk of a large fuel spill is from refueling activities, and this can be minimised by the provision of safety features in the fuel dispensers (eg. automatic shut-off nozzles, emergency pump stops at point of refueling, a regular maintenance schedule for pipes, hoses, nozzles and tanks). These and other matters will be addressed in Pollution Contingency Management Plan that the DPI have committed to preparing. DCLM officer presence in Coral Bay has also recently been doubled, which will help minimize risks due to vandalism of the refueling facilities.

3.2.1.6 *The DoF concludes that, from the information provided within the Technical Appendix 5 (page 5) the proposed development at North Bills Bay would represent a greater impact on the macroalgae community in contrast to the Monck Head development.*

Response: This is correct, but the loss of macroalgal communities in the North Bills Bay is still both proportionately small, and likely to be offset by the provision of the hard substrate of the breakwater for macroalgal attachment. Macroalgal communities are also considered of lesser environmental protection priority than corals and seagrasses.

3.2.1.7 *The DoF notes that coral communities at North Bills Bay occur immediately oceanwards of the beach rock on the old reef structure running parallel to the beach, This has been identified in the report Technical appendix 5 (page 7) as important in coral recruitment and attachment. Its close proximity and significant nature would make it susceptible to adverse impacts should the development proceed at North Bills Bay. In contrast, at Monck Head coral communities occur 350 m oceanwards of the beach. Immediately oceanwards across the sandy bay there is less representation of coral species with less well represented mid-lagoon reef. Species at Monck Head are predominantly represented by staghorn* Acropora *species, in contrast with the unusual domination of the coral species from the family Faviidae at North Bills Bay. The development extending 100 m oceanwards at Monck Head is likely to have a lesser impact.*

Response: It is acknowledged that, in relative terms, the construction of the facility at the Monck Head site would have lesser direct impact on coral communities than at the North Bills Bay site. However, it is believed that environmental impacts on corals due to turbidity created by construction and maintenance activities can be appropriately managed at either site by means of monitoring and—when necessary—remedial actions such as the deployment of silt curtains. See also the Responses to 3.1.1.4, 3.2.1.1 and 3.2.1.5.

3.2.1.8 *The MPRA's strong view is that North Bills Bay is not an appropriate site for a boating facility as any development in this area will have a significant impact on the marine environment and associated flora and fauna and on coral communities in the area.*

Response: See Responses to 3.1.1.4, 3.2.1.1, 3.2.1.5 and 3.2.1.7.

3.2.1.9 *The MPRA's strong view is that North Bills Bay is not an appropriate site for a boating facility as the aim is to get boats out of the area and reduce boat traffic through the sanctuary zone, both reducing coral damage and interaction with swimmers and snorkellers.*

Response: See Responses to 3.1.1.4, 3.2.1.1, 3.2.1.5, 3.2.1.7. and 3.2.1.8.

4. MARINE FAUNA, INCLUDING MARINE BIRDS

4.1 PUBLIC SUBMISSIONS

4.1.1 Issues relevant to both sites

4.1.1.1 Given the number of species of national environmental importance which will be impacted, please confirm that both the NBB and MH proposals will be referred under the Environmental Protection and Biodiversity Conservation (EPBC) Act.

Response: Both facilities have been referred to Environment Australia. The NBB site has been assessed as 'a controlled action', and the MH site has been assessed as 'not a controlled action'. No further steps are proposed in relation to national (i.e. Environment Australia) assessment until a decision on the two sites is made at the State level.

4.1.1.2 What is the impact of breakwater lights and lit parking area on turtles?

Response: The impact of breakwater lights and lit parking area on turtles will be minimal at either facility: turtles do not regularly nest in North Bills Bay, while Monck Head area is completely unsuitable as a nesting area, being a limestone shoreline. If the North Bills Bay site is chosen, use of 'turtle friendly' lighting will be considered, based on advice from DCLM.

4.1.1.3 What will be the impacts on marine fishes as a result of increased fishing effort promoted by NBB or MH? What baseline data and research will be carried out by FWA and how will it be funded? How will impacts be monitored managed and controlled?

Response: It is acknowledged that, with the provision of a formal boating facility, more people who visit Coral Bay may be encouraged to bring their boats, and this may result in more fishing effort. The fishing pressure (shore-based and boat-based) on the region will, however, largely be a function of the number of visitors to Coral Bay, in turn largely determined by the amount and type of accommodation available rather than the provision of a boating facility. Both boating facility options are modest, and intended to manage existing boating activities rather than encouraging more boats to the area. It is noted in passing that trends in recreational use are changing too, with appreciation of scenic attractions taking precedence over fishing.

Once the facility is constructed, DCLM will take over its management. The provision of a formal boating facility will provide a centralized location for signs and educational material about size limits and bag limits for fishing, and protected species, and for monitoring. The DCLM presently monitor the levels and patterns of use in the area, and—in consultation with Fisheries WA—can seek to amend bag limits if this is deemed necessary. It is understood that the issue of fishing pressure is being considered in the current revision of the Ningaloo Marine Park Management Plan.

4.1.1.4 The increased boating useage promoted by NBB or MH will result in the potential for greater impacts on marine mammals, whale sharks, turtles etc. How will these impacts be monitored, managed and controlled? What additional resources will be provided to CALM and FWA for the additional management effort by them?

Response: The comments about boats and visitor pressure provided in the Response to 4.1.1.3 apply equally to potential impacts on marine mammals, whale sharks, turtles etc. The provision of a formal boating facility will prove equally useful as centralized location for signs and educational material, and monitoring, for effects on marine mammals and whale sharks. As noted earlier, the DCLM present monitor levels and patterns boat useage, and can develop management responses as and when needed. However, most recreational boat useage will not be areas frequented by whales and whale sharks, and there will be no increase in the number of commercial operators (in Coral Bay) who offer tours involving whales and/or whale sharks.

4.1.1.5 Bottle-nose Dolphin, Dugong and Minke Whales are observed regularly throughout the year as well as almost daily sightings of Humpback Whales in season. However, it should be noted that Fin Whale, Blue Whale, Killer Whale, Southern Right Whale and Australian Sea Lion sightings are rare and in some cases, unconfirmed.

Response: The comments were intended as regional context, rather than a listing of species regularly seen in the vicinity of Coral Bay. The point is noted that sightings of some species would be rare.

4.1.1.6 It is agreed there is likely to be an increase in fishing, boating noise and potential boat strikes on marine fauna, but education and compliance programs such as revised fishing bag limits, speed limits and restricted access to the Maud Sanctuary Zone should adequately compensate for an increase in boating traffic and minimise the risk of strikes on marine fauna to an acceptable level.

Response: Agreed. If the DCLM's monitoring indicates it is warranted, it is within Fisheries WA powers to revise fishing bag limits, and within DPI's (and DCLM's) powers to place boating speed restrictions. Also, once the boating facility is built Southern Bills Bay will be closed to all vessels except glass-bottomed tour vessels and non-powered craft, while powered vessels will be directed to marked boating track within the Maud Sanctuary Zone. See also Responses to 4.1.1.3 and 4.1.1.4.

4.1.1.7 The boating facility will encourage more trailerable vessels. This will increase the impacts on the reef environment associated with the use of these craft, the most apparent being fishing, boat strike of marine creatures and anchor damage to corals and reef structure. This will inarguably have a negative effect on the abundance and species diversity of local fauna and flora. Increased fishing will have a particularly large effect on target species.

Response: See Responses to 4.1.1.3 and 4.1.1.4.

4.1.1.8 An increase in recreational vessels around Point Maud and in Bateman Bay may also affect the local distribution off dugongs. We are advised that dugongs use these areas for a purpose that is not yet understood, but are shy of boats and that an increase in vessel traffic will have an unpredictable negative effect on their visiting patterns.

Response: It is expected that there will be some increase in the number of boats that head around Point Maud, but it is considered that most will do so to use Cardabia Passage, rather than heading further up Bateman Bay to the dugong feeding area 15 km north Mauds Landing. See also Responses to 4.1.1.3 and 4.1.1.4.

4.1.2 Issues specific to North Bills Bay

4.1.2.1 Has any assessment been carried out of turtles presence in the NBB area? What records are there of turtle nesting? What will be the impact on turtles?

Response: Beaches in Bills Bay were monitored in 1997/98 (Technical Appendix 5, page 9), and showed no nesting activity. Unlike Mauds Landing, North Bills Bay does not appear to be a significant turtle rookery, and so little impact on turtles is expected due to development of a facility at this site. The Mauds Landing beaches have a far broader beach—including a broader area above the high water mark—which may explain why it is a preferred area.

4.1.2.2 What is the reason for major aggregations of black and grey tipped reef sharks in the NBB area? How will all construction and operational activities impact on the reef sharks and the reasons for them being there?

Response: It is thought that this area may be a breeding/nursery area for the species in question. Construction activities will, where possible, be timed to avoid the months when these species congregate (late-August, October to December), but use of the boating facility has the potential for adverse effects that will have to be managed, with the September school holidays representing the period requiring the most management effort. The appropriate management action will need to be decided by the DCLM, and could include anything from appropriate signage at the facility and the relevant beach, to a ban on all vessels entering the area during its active period. See also Response to 4.1.1.4.

4.1.2.3 Implementation of NBB will bring large numbers of boats to within close proximity of Point Maud, where most of the protected land birds and sea birds in the area congregate. How will this disturbance be managed?

Response: It is acknowledged that concerted management efforts will be needed to minimize effects of boat traffic on birds at Point Maud, particularly terns. As for sharks, the September school holidays represent the period requiring the most management effort (terns use the area during the non-breeding season from August to April). The use of the boating facility as a centralized location for educational material will be essential, and a high profile by DCLM personnel (who will be monitoring boat use patterns anyway) will provide opportunities to warn offenders, and re-assess the need for further management action.

4.1.2.4 NBB will promote 4WD vehicle and pedestrian activities near Point Maud, all of which will further impact on the birds. How will these disturbances be managed?

Response: Concerted management efforts will also be needed to minimize effects of 4WD vehicle traffic and pedestrian activities on birds at Point Maud, particularly during the September school holidays. It is likely that existing signage denoting the area as a Bird Roosting Sanctuary off-limits to vehicles under the *Control of Vehicles (off-road Areas) Act 1978* will have to be reinforced, further signage erected at the boating facility, and educational material provided in Coral Bay itself. DCLM personnel monitoring boat use patterns at the facility will be able to re-assess the need for further management action, such as a barrier to restrict vehicle access to the beach.

4.1.2.5 How will pets be managed (with respect to impacts on birds)?

Response: DCLM has the authority to exclude pets from specific areas/beaches if it is deemed necessary to meet special conservation requirements.

4.1.2.6 Because of the shallow water around Point Maud and the greatly increased boating numbers, there will be a much greater potential for impacts on turtles and other marine animals. Please quantify? How will these be managed?

Response: See Response to 4.1.1.4.

4.1.2.7 The number of birds roosting at Point Maud throughout the course of the calendar year varies considerably and appears to be directly related to the volume of food in the vicinity of the Cardabia Passage. It should be noted that Point Maud and Skeleton Bay are roosting areas only.

Response: The points are duly noted. Point Maud is believed to particularly important for terns during the non-breeding season from August to April.

4.1.2.8 Reef sharks frequent all areas of Bills Bay dispelling any concerns of the facility interrupting their navigational route into Skeleton Bay. Considerable pedestrian traffic already traverses the beach adjacent to the nursery without appearing to influence or interrupt their activities. Recommendation: Install signage at both the facility and the beach at South Bills Bay to advise pedestrians and mariners of the location and sensitive nature of the nursery. Effect a ban on swimming in the nursery area during its active period. Effect a ban on all craft entering the nursery area during its active period.

Response: Recommendations are duly reproduced here for consideration by the DCLM when it takes over management of the facility. There is also the opportunity to include these suggestions in the proposed management plans for the facility, based upon advice from the DCLM.

4.1.2.9 The potential impact of the frequency and timing of intervention (due to a sand management program) on fauna, such as reef sharks, needs to be considered. We are advised that reef sharks swim along the beach to reach their breeding grounds in Skeleton Bay.

Response: The sand management program will be neither large nor of long duration, and can be timed to avoid those months that are important for shark mating/breeding. This will be considered in the maintenance DEMP for the facility.

4.1.2.10 There may be damage to marine life through the use of excavators and/or dredges (in any sand management program).

Response: As noted in the Response to 4.1.2.9, the sand management program will be neither large nor of long duration. Mobile animals will avoid the area while dredging is underway, and effects on coral communities are manageable: see also Response to 3.1.2.3 and 3.1.2.7.

4.1.2.11 We feel there is a high potential for Point Maud to be severely damaged (i.e. changes to its shape and integrity due to interruption of sand supply, and erosion). There should be an assessment through computer modelling of any impact on Point Maud and the important migratory birds who rest there.

Response: The sand management program will generally rectify any erosion that may otherwise lead to changes in the shape and integrity of Point Maud. Another management option to consider if there are concerns about this issue may be more frequent bypassing of smaller amounts of sand. If the North Bill Bay site is approved, computer modelling of potential impacts will be undertaken.

4.1.2.12 *It is now documented that Point Maud is an important nesting area for marine birds and the migratory flocks also use northern Bills Bay under some conditions. The increased boating traffic and associated disturbance in Bills Bay and at Point Maud could impact upon the survival of migratory species such as the Asian Common Tern and Asian Little Tern. It is difficult to see how these impacts, which would involve a large number of recreational boaters, could be effectively mitigated. The migratory bird issues do not exist at Monck Head.*

Response: See Responses to 4.1.2.3, 4.1.2.4 and 4.1.2.5. It is acknowledged that the risk of adverse effects on seabirds would be less at the Monck Head site.

4.1.2.13 *Aggregations of black tip reef sharks use the area of Skeleton Beach, stretching south of the proposed boating facility, between September and January each year. There is evidence of mating and pupping at this site. This is a relatively rare phenomenon and little is known of the behaviour of these sharks or their tolerance to human interference. It is likely that increased boating will prove disruptive through increased activity, noise levels, and the numbers of visitors in the general vicinity. Before any increase in boating traffic in this area could be considered, it should be demonstrated that an effective management plan can be applied to mitigate against likely impacts.*

Response: If a facility at this site is considered the best option, there will be protracted period while the necessary statutory processes to amend the Ningaloo Park Marine Management Plan are completed. During this time, the DCLM will be able to consider the need for further research on the sharks, and management options for the area. See also Responses to 4.1.1.4, 4.1.2.2 and 4.1.2.8.

4.1.3 Issues specific to Monck Head

4.1.3.1 *Has any assessment been carried out of turtle presence in the MH area? What records are there of turtle nesting? What will be the impact on turtles?*

Response: Turtle nesting does not occur at Monck Head, but is known to occur on the larger beaches south of Monck Head. No assessment of turtle presence at the Monck Head area has been carried out as it is completely unsuitable as a nesting area, being a limestone shoreline. No impact on turtle nesting is expected due to development of the Monck Head site.

4.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

4.2.1 Issues specific to North Bills Bay

4.2.2.1 *The proximity to roosting sea birds and potential for regular disturbance to roosting sea birds at Point Maud is of concern to the DCLM. Access to this area was stopped several years ago to minimize disturbance to roosting sea birds and the area has been designated as a Bird Roosting Sanctuary under the Control of Vehicles (off-road Areas) Act 1978. It will be difficult to prevent vessels from passing close to the point and disturbance to the birds would therefore be likely. Apart from normal concerns about disturbances to wildlife in a declared marine protected area,*

Australia has international obligations associated with the protection and conservation of migratory sea birds. Development of a facility at North Bills Bay also has the potential to increase pedestrian traffic along the beach from the Coral Bay settlement resulting in further disturbance to the nesting sea birds.

Response: As noted earlier, it is acknowledged that concerted management efforts will be needed to minimize effects of 4WD vehicle traffic and pedestrian activities on birds at Point Maud, particularly during the September school holidays. It is likely that existing signage denoting the area as a Bird Roosting Sanctuary off-limits to vehicles under the *Control of Vehicles (off-road Areas) Act 1978* will have to be reinforced, further signage erected at the boating facility, and educational material provided in Coral Bay itself. DCLM personnel monitoring boat use patterns at the facility will be able to re-assess the need for further management action, such as a barrier to restrict vehicle access to the beach: the DCLM may also nominate the latter as a condition if North Bills Bay is chosen as the preferred site.

4.2.2.2 *The DCLM considers that the potential for trapping of sediment mainly on the southern side of the groyne that would need to be built for the protection of the boat launching facility at the North Bills Bay site and the subsequent requirement for ongoing dredging of trapped sediments to maintain navigeable access to the facility has the potential to significantly compromise the values of the sanctuary zone. Substantial trapping of sand may smother and impact upon the benthic communities of Skeleton Bay nearby, which is an area where juvenile reef sharks are known to congregate at certain times of the year. Ongoing dredging may also have an impact on sensitive habitats through increased water turbidity and smothering.*

Response: The frequency of sand bypassing operations can be adjusted to minimise smothering of important habitats (see also Response to 4.1.2.11), and carried out at a time of year that doesn't adversely affect sharks. These matters will be addressed in maintenance DEMP (see Response to 3.1.2.3). The dredging/excavation required for bypassing is not considered likely to adversely affect sensitive habitats. See also Response to 3.1.2.7.

4.2.2.3 *The DoF notes that, as suggested on page xii, the schooling behaviour (of sharks) as observed in Skeleton Bay would not appear to occur at Monck Head. As this behaviour is thought to relate to breeding activities of a number of shark species, this would suggest the development at Monck Head to be the more desirable alternative, avoiding further impacts on this known behavioural phenomenon.*

Response: In terms of lessening the potential risks to sharks Monck Head is the better option, but it is believed that effects on sharks due to the North Bills Bay facility can be adequately managed, as explained in Responses to 4.1.2.2, 4.1.2.8 and 4.1.2.13.

5. COAST—DUNES

5.1 PUBLIC SUBMISSIONS

5.1.1 Issues relevant to both sites

5.1.1.1 Please provide road design details.

Response: Road design details will be finalized once the site for the boating facility is chosen, and will depend on the most appropriate route taking into consideration the relevant environmental factors.

5.1.1.2 Please provide details of stabilization and rehabilitation (with respect to access road construction).

Response: See Response to 5.1.1.1. Stabilisation and rehabilitation will be addressed in the Construction EMP and Rehabilitation EMP, and will be developed in consultation with, and undertaken to the satisfaction of, the DCLM.

5.1.1.3 How is the potential for blowouts (due to access road construction) to be managed?

Response: See Response to 5.1.1.2. Appropriate route selection will minimize the potential for blowouts. Minimal clearing, revegetation of exposed dune cuttings as soon as possible after construction, and timing of construction in periods of low wind and high rainfall (i.e. winter) as far as possible will help reduce the potential for blowouts due to wind erosion. It will also be important to minimize crossings onto the beach (e.g. by providing formalized pathways and tracks, and fencing/barriers along the foreshore), and where the road crosses the dunes the crossing should be oriented perpendicular to the prevailing southerly wind direction, where possible.

5.1.1.4 Providing a road through this area (for either facility) opens up its useage by 4WD vehicles and pedestrians. How will 4WD vehicles be managed through the sensitive dune areas? How will people be controlled and managed? Will fencing be provided to prevent uncontrolled access?

Response: Mauds Landing and Monck Head can already be accessed through existing roads. The access road to the NBB site will be through sensitive dune areas, and it is anticipated that signage will be needed explaining the fragile nature of the area and advising people to stay on the access road. As noted above, it will be vital to minimize informal crossings across the dunes to the beach. Fencing or barriers may need to be considered, based on advice from the DCLM.

5.1.1.5 Is 14.4 m the sealed width of the access road, and will this width be continued through to the main Coral Bay road?

Response: The average width of the access road formation is 14.4 m with the running surface (sealed) width being 7.4 m. The access road to the NBB site will link up to the unsealed but well-established road from Coral Bay to Mauds Landing. The access road to the MH site will involve an upgrade of the existing road that extends from Coral Bay to Monck Head.

5.1.2 Issues specific to North Bills Bay

5.1.2.1 CCMD has the mandate to develop Mauds Landing. If the Coral Coast Resort (CCR) goes ahead, what arrangements are proposed to access NBB through CCR? Any proposal will need to be agreed with CCMD and road designs will need to conform to CCMD standards.

Response: If NBB is chosen as the site for the facility, the appropriate discussions and negotiations will be undertaken with CCMD.

5.1.2.2 Further to 5.1.2.1, what traffic projections have been carried out, and what contribution is proposed to the cost of CCR roads (internal and the main access road) which will be used by NBB users?

Response: See Response to 5.1.2.1. Fisheries WA data indicated 2,600 recreational boat launchings in Coral Bay in 1998, and will provide an indication of potential traffic when adjusted for projected increases.

5.1.2.3 Mauds Landing and the saltpan to the main road can remain flooded for extended periods. If CCR does not proceed, what all weather road and route is proposed to join the Coral Bay Road/

Response: If the North Bills Bay site is chosen, and the private marina at Mauds Landing does not proceed, an upgrade to the existing Mauds Landing road will be sought as a separate referral to the EPA.

5.1.2.4 Further to 5.1.2.3, what is the road design and estimated cost?

Response: Design details will be finalised if and when North Bills Bay is chosen as the site for the boating facility.

5.1.2.5 The access road from Mauds to NBB is through high sand dunes and major earthworks appear necessary. What is the extent of these earthworks?

Response: See Responses to 5.1.1.1, 5.1.1.2. and 5.1.2.4.

5.1.2.6 The dunes west of Mauds Landing are extremely fragile and fire prone. There is a substantial increased risk of fires with vehicles and people traffic in this area. What fire management and mitigation methods are proposed?

Response: The principle risk of fires in the dunes is due to the presence of vehicles and people, and so the main fire management method proposed is to keep vehicles and people out of the dunes (see Response to 5.1.1.4). Signage at the facility emphasising the fragility of the dune environment, and appropriate receptacles for litter, will also help reduce the fire risk. The clearing of firebreaks is not considered feasible, as it carries the risk of blowouts. It is also more appropriate for fire management and mitigation to be addressed by the DCLM at the regional level, rather than singling out the boating facility.

5.1.2.7 CCMD requires guarantees and undertakings relating to the management of fire, sand drifts and blowouts through use of this area.

Response: See Responses to 5.1.1.2, 5.1.1.3, 5.1.2.1 and 5.1.2.6.

5.1.2.8 The plans are misleading because they fail to show that the breakwater will need to be constructed across the beach to stable ground, possibly as far as the vegetation line.

Response: There will be a breakwater-type structure up to the vegetation line, as the material used for the breakwater will also be needed to provide a stable road surface connecting the boat ramp and jetty to the car park. This is implicit in the design, although it is conceded that this is not clear in the plan. Pedestrians will have to walk around the structure, and the DPI will need to make provision for them (paths around the breakwater).

5.1.2.9 Development of NBB will encourage more pedestrian movement between Coral Bay and Point Maud. What management measures are to be put in place to manage the dunal environment?

Response: As noted in Responses to 4.1.2.2 and 4.1.2.3, the boating facility will provide a centralized location for signs and educational material for the management of environmental impacts. It will also provide a centralized location for monitoring of the amount and patterns of useage that DCLM personnel presently already undertake. DCLM monitoring will indicate if further management measures are needed, and an adaptive management response will be implemented. This may include provision of a formal pathway through the dune environment, if warranted.

5.1.2.10 There may be damage to coastal vegetation through the use of excavators and/or dredges (in any sand management program).

Response: It is not anticipated that the use of excavators will impact coastal vegetation: there will be a good access road, and the beach is generally broad at this site. Dredges should have no impact at all. All aspects of construction and effects on terrestrial vegetation will be covered by a Construction EMP and Rehabilitation EMP, to be developed to the satisfaction of the DCLM, and will include appropriate management guidelines and performance criteria to minimize the likelihood of damage to terrestrial vegetation.

5.1.2.11 The structural need of creating a road to service the proposed facility, through unstable sand dunes, is also seen as extremely detrimental to the existing environment. The region experiences frequent south-westerly winds and any disruption to these dunes would be considered unsatisfactory.

Response: It is considered that the appropriate design and orientation of the access road, in combination with appropriate stabilisation and rehabilitation measures during and after construction, will minimize adverse environmental impacts on the dunes (See Responses to 5.1.1.3 and 5.1.1.4). Management measures will also be needed to minimize crossings onto the beach (see Responses to 5.1.1.2 and 5.1.1.3).

5.1.3 Issues specific to Monck Head

5.1.3.1 What fire management and mitigation methods are proposed?

Response: It is anticipated that signage will be needed explaining the fragile nature of the area and advising people to stay on the access road. As noted in the Response to 5.1.2.6, fire management and mitigation is best addressed at the regional level, rather than singling out the boating facility.

5.1.3.2 Development of MH will encourage more pedestrian movement between Coral Bay and MH. What management measures are to be put in place to manage the dunal environment?

Response: It is anticipated that signage will be needed explaining the fragile nature of the dunes. It will be important to minimize informal crossings across the dunes from the beach. Fencing or barriers may need to be considered, based on advice from the DCLM. The boating facility will provide a centralized location for signs and educational material for the management of environmental impacts. It will also provide a centralized location for monitoring of the amount and patterns of useage that DCLM personnel presently already undertake. DCLM monitoring will indicate if further management measures are needed for the dunal environment, and an adaptive management response will be implemented. This may include provision of a formal pathway through the dune environment, if warranted. See also Response to 5.1.3.1.

5.1.3.3 Visitors to the area should be prevented from gaining access or being encouraged to use any vehicle access tracks other than to the facility itself. All roads and tracks should be restricted (possibly by barrier) from the main facility access road to prevent further damage to the dunal areas.

Response: Recommendations are duly reproduced here for consideration by the DCLM for inclusion in the Construction and/or Operations EMPs.

5.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

5.2.1 Issues specific to North Bills Bay

5.2.2.1 The DCLM considers that road construction into the North Bills Bay site will result in unacceptable environmental impacts. The facility will require the construction of a new 1.8 km access road. Road construction would be difficult, costly and visually intrusive due to the configuration of the high sand dunes. Furthermore, it is unclear if road construction could potentially have an impact on the Priority 2 species Acacia ryaniana.

Response: The proposed route for the access road will follow dune valleys as far as possible, with minimal crossing of dune ridges. This will reduce both construction costs and visual impairment. *Acacia ryaniana* has a widespread and scattered distribution: surveys undertaken for this PER, and for the Coral Coast Resort PER indicate that it is well represented in the foredunes from North Bills Bay to Mauds Landing. A few individual plants may occur along the proposed route chosen for the access road, but this is not expected to significantly deplete the local population. If North Bills Bay is the preferred site for the facility, the DPI have committed to road design and construction (and site rehabilitation) to be carried out to the satisfaction of the DCLM, to ensure impacts on any declared rare flora or priority species are avoided or all steps are taken to minimise them.

5.2.2.2 The MPRA's strong view is that North Bills Bay is not an appropriate site for a boating facility as it will have a significant impacts on the terrestrial environment and associated flora and fauna.

Response: The potential for significant impacts is acknowledged, but it is believed that impacts can be adequately managed, as described in Responses to 5.1.1.3, 5.1.1.4, 5.1.2.6, 5.1.2.9, 5.1.2.10 and 5.2.2.1.

6. COAST—SEABED

6.1 PUBLIC SUBMISSIONS

6.1.1 Issues relevant to both sites

6.1.1.1 Will maintenance dredging be required, how will it be carried out, what are the projected recurrent costs, how will it be funded and where will the spoil be disposed?

Response: Maintenance dredging will be required at both sites. It is anticipated that dredging will be required at the NBB site every 3 to 6 years. At the MH site minor amounts of sand will require excavation (using a long reach excavator) every 3 to 5 years. The dredging will be for sand management programs, and so the sand will be placed into the breaking wave area zone downstream of the accretion area from which it is removed, to maintain continuity of longshore sediment movement. As manager of the facility the DCLM will be responsible for ongoing management costs, including any maintenance dredging.

6.1.1.2 Building a structure near "hard" coastal features where a new littoral transport equilibrium will be established with minimal environmental damage is recommended. If it is decided that the facility must be built across a littoral transport zone, then it should be a piled jetty structure that has minimal impact on beach building processes. No structure interrupting littoral transport along a beach should go ahead at Ningaloo.

Response: It is acknowledged that building a structure near a hard coastal feature generally requires less ongoing management of longshore sediment movement. Sediment movement does, however, not preclude environmentally acceptable development. The DPI undertakes maintenance dredging in an environmentally sound manner at numerous locations around WA, including sites that involve a greater degree of sediment movement than anticipated at either NBB or MH. The amount of longshore sediment movement at the NBB site has been calculated and the expected beach realignment due to the proposed facility has been empirically modelled (CMPS&F, 1997). No modeling of the MH site has been undertaken as the facility is located in area underlain by limestone pavement where there is little longshore sediment transport trapping.

Reference: CMPS&F, 1997. *Coral Bay Boat Harbour Coastal Process Study*. CMPS&F Pty Ltd, Perth, WA. Report No. RW0988-RP-00-001.

6.1.2 Issues specific to North Bills Bay

6.1.2.1 There are strong tidal currents at Point Maud, particularly during spring tides. What measurements have been carried out?, and if not, why not?

Response: The general magnitude of currents in this area is known, and is determined by a combination of wind, waves and tides—modified by coastal morphology (especially the presence and size of passages or channels through the reef). Currents in Coral Bay are largely driven by wind and waves, modulated by tide (PER Appendix 1). The fact that there is a localized increase in currents off Point Maud is noted in the PER (page 12). These currents do not preclude present boat use, and the facility at North Bills Bay will have a negligible effect on currents at Point Maud. For the purposes of this PER, no need was perceived for further documentation of the variation in tidal currents.

6.1.2.2 What is the extent of siltation that will occur in the approach channel because of tidal currents and has maintenance been allowed for?

Response: Sand feed to the approach channel will be interrupted by the facility breakwater, and sand bypassing will move the accreted sand to the west of the facility—clear of the approach channel. Sand bypassing will take place frequently enough to ensure that there is little siltation of the approach channel, but a small amount of dredging may be needed and this has been considered in the maintenance dredging program: this will be noted in the Operations EMP.

6.1.2.3 The PER acknowledges that south Point Maud is generally an accreting area and that regular sand bypassing will be required. What are the quantities and recurrent cost estimates and how will it be funded? Where will the recovered sand be deposited?

Response: See Response to 6.1.1.1. It is estimated that approximately 6,000 m^3 of sand will accrete annually. It is further estimated that maintenance dredging to remove the accreted sand will be needed every 3 to 6 years. Alternatively, smaller amounts of sand could be moved more frequently, but this could be more costly. The cost of the maintenance will depend on its frequency and how it is undertaken (e.g. sand dredged and then dredged material piped about 100 m west of the facility, or sand excavated with a long reach excavator and then piped (or possibly trucked) 100 m west of the facility.

6.1.2.4 What impact will trapping sand have on downstream processes?

Response: See Response to 6.1.1.1.

6.1.2.5 What is the extent of erosion which will occur between NBB and Point Maud?

Response: Response to 6.1.1.1. If sand bypassing is appropriately managed, erosion between NBB and Point Maud will be minimal and transient. Inspections of the beach during sand by-passing activities will occur on at least a daily basis: this will be included in the Maintenance Dredging Environmental Management Programme (DEMP), as will surveys of beach profiles on at least an annual basis. At other times, DCLM personnel at the facility will be able to visually check the area on a regular basis during their routine monitoring of the amount and patterns of visitor useage, and re-assess the frequency at which sand by-passing is needed. There will be a contingency in the Maintenance DEMP for re-contouring of the beach during the sand by-passing operation.

6.1.2.6 The North Bills Bay development represents a high risk to the physical integrity and stability of the beaches at Point Maud due to the potential of the dredged channel and breakwater to starve the Point of its source of sand. The PER recognises increased currents past Point Maud and a northerly drift of sand into Bateman Bay. The blockage of sand combined with continuation of this erosion process has the potential to erode the end of Point Maud. Comprehensive sediment modeling by a competent consultant should be carried out.

Response: See Responses to 6.1.1.1, 6.1.1.2 and 6.1.2.5. In relative terms (compared to other locations in WA managed by the DPI) the longshore sediment movement and sand bypassing required at Point Maud are neither large nor complex. Further sediment modelling to that already undertaken is not considered necessary.

6.1.2.6 With the relatively strong long-shore currents that concentrate around Point Maud the proposed access channel would rapidly refill. We are assuming that the nearest available dredge is kept in Exmouth, so regular dredging operations would be expensive as well as damaging to the environment.

Response: See Response to 6.1.2.2.

6.1.2.7 A requirement for ongoing environmental intervention through anything more than a superficial sand management program is unlikely to be in compliance with the EPA's specific guidelines (PER Appendix A, page 3) requiring the proponent to maintain the stability of beaches, nor is it in tune with the theme of sustainable development for Ningaloo. A permanent structure should not be built on a dynamic foundation. Sand management is costly, environmentally detrimental and seldom effective, and would be a negative step in terms of securing a sustainable future for Coral Bay. There are numerous examples in WA of where poorly situated coastal structures have caused degradation of the coastal environment, despite the best intentions in terms of design and management.

Response: See Responses to 6.1.1.1, 6.1.1.2., 6.1.2.4 and 6.1.2.5. There are also numerous examples in WA where sand management is undertaken effectively (e.g. Carnarvon Boat Harbour, Bandy Creek Boat Harbour). It is acknowledged that, in relative terms, a greater degree of intervention with the environment will be required at the North Bills Bay site for sand management than at the Monck Head site, but it is still considered that it can be managed in an environmentally sustainable fashion via well-timed, small-scale sand by-passing operations.

6.1.2.8 Point Maud is a dynamic stretch of dunal coastline that is stated to be accreting at a rate of 0.4 m per annum. With such large amounts of sediment moving in this area a proposed breakwater is highly likely to disrupt the sand processes and ultimately disturb existing habitats in the area. We do not believe the PER adequately examines the potential for problems in this area. Creating a solid structure on this dynamic beach has the potential to impact World Heritage values of the Ningaloo Reef tract. It is understood that the dunefield of parabolic coastal calcareous sand which includes Point Maud is a phenomenon that can only occur where there is a bend in the coastline and the prevailing wind closely parallels the overall orientation of the coastline. It is further understood the offshore movement of sand on this beachfront is likely to be responsible for the sandy sea bottom , and may even contribute to creation of the break in the reef. How will this be managed?

Response: Point Maud is a cuspate foreland which has developed in the lee of the Ningaloo Reef. This foreland is characterised by the development of parabolic and beach ridge dune sequences which has been stabilised with vegetation. These type of foredune plain sequences are commonly found along the southwest coast of Western Australia (Sanderson *et al*., 2000). Adjacent to the Ningaloo Reef region, cuspate forelands are also observed at several locations including Bruboodjoo Point, Point Cloates, Point Edgar, Winderabandi Point and Turqouise Bay.

The shoreline on the southern flank of Point Maud is accreting at a rate of 0.4m/yr and on the northern flank Point Maud is accreting at a rate of 0.9m/yr. This accretion is a result of both longshore and onshore sediment transport. Offshore sediment transport from Point Maud is likely to be very limited and it is highly unlikely that sediment sourced from Point Maud has resulted in the Cardabia Passage, which is located at least 5km north of the Point and is itself approximately 6km wide. It is

more likely that the Cardabia Passage was formed as a result of flow from the paleolagoon which lies behind Point Maud (evident now as a saline flat area).

Reference: Sanderson, P.G., Eliot, I., Hegge, B. and Maxwell, S., 2000. Regional variation of coastal morphology in southwestern Australia: A synthesis. *Geomorphology*, 34: 73-88.

6.1.3 Issues specific to Monck Head

6.1.3.1 The facility will act as an offshore breakwater and sand will be trapped in its lee, irrespective of the proposed piled approach. Regular sand bypassing will be required and needs to be examined. What are the quantities and recurrent cost estimates and how will it be funded? Where will the recovered sand be deposited?

Response: See Response to 6.1.1.1. As noted in the Response to 3.1.3.3, extremely minor amounts of sand (approx. 100 m^3) may accumulate on the lee-side of the offshore ramp formation every 3 to 5 years, and can be removed with a long reach excavator if necessary. Small amounts of sand (approx. 3,000 m^3) may also accumulate as a shoreline salient every 3 to 5 years, and are planned to be removed with a long reach excavator every 3 to 5 years, although it is expected that the salient would probably be naturally removed by local currents every 2 to 3 years anyway.

6.1.3.2 What impact will trapping sand have on downstream processes?

Response: At the MH site only minor amounts of sand are expected to accumulate around the facility, and these are expected to be naturally removed every 2 to 3 years by wind-driven currents in the area. There is provision for excavation of accumulated sand (using a long reach excavator) every 3 to 5 years, if needed. The sand will be placed into the breaking wave area zone downstream of the accretion area from which it is removed, to maintain continuity of longshore sediment movement. Because the amounts of sand involved are very small, and the majority of longshore sediment transport in the area is not affected (due to the open structure jetty and culvert causeway), effects on downstream processes (i.e. towards Coral Bay) are expected to be negligible.

6.1.3.3 What is the extent of erosion which will occur towards Coral Bay?

Response: Effects on downstream processes are expected to be negligible (see Response to 6.1.3.2), and so no erosion is expected towards Coral Bay.

6.1.3.4 Will (deployment of) a silt curtain (to protect coral communities from turbidity effects during construction) affect longshore sediment drift?

Response: A silt curtain, if required, would be deployed between the construction site and nearby corals, not in the breaking wave zone where longshore sediment transport takes place. Silt curtains are rendered ineffective in areas of active longshore sediment transport.

6.1.3.5 *There will be a likely build up of sand in front of the boat ramp due to its location in the lee of the breakwater, that may have to be removed periodically. This will most likely be slow and involve only small amounts of sand although this should be investigated.*

Response: This has been considered: see Response to 6.1.3.1.

6.1.3.6 *The 'island' feature of this proposal is a permanent structure and the possible effects of sediment accumulation around it are not documented in the PER.*

Response: See Response to 6.1.3.1.

6.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

6.2.1 Issues specific to North Bills Bay

6.2.2.1 The MPRA's strong view is that North Bills Bay is not an appropriate site for a boating facility as any groyne-type proposal will cause significant interference with Point Maud and sand movement around the Point.

Response: See Responses to 6.1.1.1, 6.1.2.4, 6.1.2.5 and 6.1.2.7.

7. MARINE WATER QUALITY/SEDIMENT QUALITY—CONTAMINANTS

7.1 PUBLIC SUBMISSIONS

7.1.1 Issues specific to North Bills Bay

7.1.1.1 Will any vessels over 25 m be moored in the facility and what controls are proposed over TBTO anti-fouling?

Response: It is not intended that vessels sufficiently large to legally use TBT will be permitted to moor in the facility. The facility will cater for existing licensed operators only, and access to fuel will also be controlled.

7.1.2 Issues specific to Monck Head

7.1.2.1 In times of heavy rain, there will be a wave of stormwater off the car park, carrying motor oils, clay and other toxins into the reef and coral. This has never happened before. It could kill all the coral just as it has in Coral Bay

Response: The coral in Coral Bay died due to well-documented and understood natural causes, when a coral spawning event coincided with unusually calm conditions leading to widespread oxygen depletion and massive mortality. It was not caused by stormwater runoff from Southern Bills Bay. Irrespective, the parking area at Monck Head (and for that matter in North Bills Bay) will be designed so that all stormwater runoff will be directed to stormwater drains, and a cut-off trap will be located at the head of the boat ramps, to minimise discharge of contaminants to the sea. The majority of stormwater runoff will soak into the ground. Stormwater runoff will be far better managed than at present in Southern Bills Bay, where there are no controls in place and untreated stormwater can run straight into the sea.

7.1.2.2 The prevailing current in the Bills Bay region is from south to north. <u>Any</u> turbidity, spillage, etc will float on the current into southern Bills Bay and the corals in this beautiful area. The reef fish and corals do not move and would be subject to infiltration no matter how minimal.

Response: Turbidity and spillage from boat launching and refuelling activities are presently occurring right in southern Bills Bay, and the relocation of boat launching and refuelling to Monck Head could only lessen any impacts on Southern Bills Bay. See also Response to 7.1.2.1.

8. MARINE WATER QUALITY/SEDIMENT QUALITY— TURBIDITY

8.1 PUBLIC SUBMISSIONS

8.1.1 Issues relevant to both sites

8.1.1.1 How much turbidity will occur during breakwater construction and over what area?

Response: See Response to 3.1.1.4.

8.1.2 Issues specific to North Bills Bay

8.1.2.1 How will sand bypassing be carried out and what turbidity impacts will result from it?

Response: See Responses to 3.1.1.4, 3.1.2.3, 6.1.1.1 and 6.1.2.3.

8.1.3 Issues specific to Monck Head

8.1.3.1 How will runoff of fine pindan sands into Ningaloo Marine Park be prevented, both during construction and operation (of the facility)?

Response: The road and car park where these soils are present will be surfaced, and exposed dune cuttings will be rehabilitated (in consultation with DCLM) as soon as possible. Stormwater runoff will be directed to stormwater drains to minimise erosion and prevent sedimentation to the marine environment. Dust management is addressed in the Construction EMP.

8.1.3.2 The facility will act as an offshore breakwater and sand will be trapped in its lee, irrespective of the proposed piled approach. Regular sand bypassing will be required and needs to be examined. How will sand bypassing be carried out and what turbidity impacts will result from it?

Response: See Responses to 3.1.1.4, 3.1.3.3, 6.1.1.1 and 6.1.3.1.

8.1.3.3 Large boats manoeuvring in confined spaces can be tricky. In shallow waters the propwash can move large amounts of sand and silt. Because most tour operators operate at similar times due to the wind factors, vessels will be taking it in turn to use the facility at Monck Head which will create an ongoing problem for silt and sand stirred up by these vessels.

Response: Some turbidity may be generated by the prop wash of larger boats, but this will be transient. The sediments in the area are predominantly sand which will settle out almost immediately, and any 'fines' suspended in the water (which should be minimal) will rapidly disperse. There is already a boating track in the area, but it will be marked better and therefore the situation should improve. The DPI does not anticipate prop wash will cause excessive turbidity or affect nearby corals (the nearest coral bommies are several hundred metres from the proposed facility). Routine monitoring of the facility by DCLM personnel should also identify if there is a potential problem, and monitoring of corals can be initiated if required.

8.1.3.4 No mention is made regarding to the containment of residual soil run-off from the offshore facility. This is of considerable concern due to the reddish colour of the soil

contributing to water turbidity and the potential for nearby coral communities to be blanketed by settling sediment.

Response: A cutoff trap will be located at the head of the boat ramps to minimise discharge to the sea. Nor will the reddish soils be used in construction of the facility.

9. MARINE WATER QUALITY/SEDIMENT QUALITY—FUEL SPILLS

9.1 PUBLIC SUBMISSIONS

9.1.1 Issues relevant to both sites

9.1.1.1 How will refuelling be controlled?

Response: The exact method of controlling refuelling has yet to be determined: as manager of the facility, this decision will be made by DCLM. However, the DPI operates a number of marine fuelling facilities around the State and it is likely that one of the control systems used at these facilities will serve as an appropriate model. For example, a 'swipe card' system could be utilised that allows only registered users to dispense fuel. Ministerial Conditions will be set for refueling as part of Operations EMP, and development can't proceed until the Audit Branch of the DEP and the CEO of the DEP have approved the management plans.

9.1.1.2 As there is potential for fuel spillage, what emergency response plan is proposed?

Response: The DPI has committed to preparing a Pollution Contingency Management Plan to address fuel spills once the site for the boating facility is chosen and environmental approval is obtained. See comment re Ministerial approval above.

9.1.2 Issues specific to North Bills Bay

9.1.2.1 Fuel spill modeling does not appear to have considered worst cases such as the physical conditions which prevailed during the March 1989 coral spawning. It should have and what would the impacts be under those conditions?

Response: Modelling runs 1, 2, 11, 12, 21 and 22 (zero current speed and a light southerly breeze) offer the closest approximation of conditions in March 1989, and runs 1, 11 and 21 address diesel spills. As the drift of oil is based on a vector combining surface current speed and 3% of the wind speed (see Technical Appendix 3), this would be a close approximation of the calm conditions at that time. At North Bills Bay, run 1 shows that nearly all the fuel beaches at Point Maud (potentially affecting seabirds and turtles). At Southern Bills Bay (i.e. under the present boat launching and fuelling arrangements), run 11 shows about a third of a diesel spill would spread over most of Bills Bay in about 3 hours. At Monck Head, run 21 shows that after 6 hours about a third of the spill would spread over a 5 square kilometre area of corals to the west of Coral Bay.

9.1.2.2 The location of this proposal and its semi-enclosed nature would offer considerable assistance in the effective management of any fuel spill from within the harbour. Containment booms could be rapidly deployed across the harbour entrance and the harbour beach, efficiently containing the spill for dispersal. The penning of untrailered vessels within totally protected waters would greatly reduce the risk of a major spill in this facility, particularly from unattended vessels at night.

Response: Agreed.

9.1.3 Issues specific to Monck Head

9.1.3.1 A boating facility would ensure that spilt fuels and oils of thousands of boats a year would wash amongst the corals at this site, blown by the S/E–S/W winds, and cause considerable damage, even kill the area. The area is relatively undamaged at present because pollution at South Bills Bay is washed northwards by the strong southerly current

Response: The discharge of very small amounts of fuel and oil to the environment is intrinsic to the operation of boat engines, and small fuel spills are also a routine occurrence, but fortunately the spilt fuel rapidly evaporates. This chronic, low-level impact is a function of boat numbers and already occurs all over the Coral Bay area wherever boats go, including the many that traverse the Monck Head area to reach fishing areas further south. The density of boats at any facility Monck Head will be no greater than presently at Southern Bills Bay, where coral recruits are re-establishing (see PER Technical Appendix 5), indicating that the level of 'operational' fuel loss is not sufficient to prevent coral survival and growth. Also, with a facility at Monck Head, the majority of boats will have less distance to travel, and so their engines will be operating for shorter times, resulting in less overall impact, although this may be partly offset by an increase in boat numbers.

9.1.3.2 The potential for environmental damage due to fuel spills, or the like, appears to be greater at Monck Head than at North Bills Bay.

Response: As noted in the Response to 3.2.1.5, the risk of oils spills is minor in either case. In relative terms, the risk of potential impacts on corals is probably lesser at the North Bills Bay site due to prevailing current movement and the opportunity to contain spills within the breakwater, but the North Bills Bay site does involve the additional risk of impacts on the bird sanctuary at Point Maud, and even possibly extending around Point Maud to turtle nesting beaches. The fuel spill management plan will be customized to address the different risks at whichever site is chosen.

9.1.3.3 I have witnessed a 'minor' fuel spill from a moored boat at Monck Head and observed how it spread around into Bills Bay and across all of the coral on its way. This will not be an isolated event if the Head becomes a large mooring area.

Response: DCLM controls moorings. It is understood that there is no intention of Monck Head—or anywhere else in the Coral Bay area—becoming a large mooring area, just the management of existing mooring requirements. Fuel spills are a potential risk wherever boats are moored, and have the potential to affect any nearby corals that are exposed or very close to the water surface. There is a risk at present with the boats moored in Southern Bills Bay. The comment in the submission seems to indicate that the fuel spill was not due to a boat breaking free of a mooring (i.e. not associated with mooring *per se*), but due to lack of good boat maintenance and/or good boating practice.

9.1.3.4 If the facility was at North Bills Bay and if there was a fuel spillage, with the southerly winds the fuel would be carried out to sea, whereas if it was at Monck Head the winds would carry any fuels into Southern Bills Bay. Therefore causing extreme damage to the coral gardens both at Monck Head and Bills Bay.

Response: Any spill escaping from the North Bills Bay facility is likely to closely follow the shore in response to longshore currents and the predominantly southerly winds, potentially impacting the bird sanctuary at Point Maud and possibly extending

around Point Maud to turtle nesting beaches (depending on the size of the spill). The risk of extreme damage to corals at either North Bills Bay or Monck Head is very low: the risk of a large fuel spill is itself extremely low, and the fuel spill would be present as a buoyant surface layer that would quickly evaporate (especially under the warm windy conditions typical of Coral Bay: over 90% of gasoline within an hour; and over 50% of diesel within 3 hours and over 90% within 24 hours). The amounts of toxic fuel components actually reaching subtidal corals would be about 100 times below levels likely to cause sub-lethal toxicity effects. Exposed corals or those very close to the water surface could potentially be effected, but even at low tide the large majority of corals in the region are subtidal.

9.1.3.5 *It should be noted that a major spill is likely to originate from one of the vessels using the offshore mooring facility. The worse case scenario would involve a vessel full of fuel slipping its mooring whilst unattended at night, grounding itself on the coral at low tide and laying over on its side, initiating a large spill. Any spilt fuel would be carried by wind and tide straight through the middle of Bills Bay with potentially devastating effects. A pollution contingency management plan (PCMP) is only effective if someone is present to witness the spill. An efficient response to a major spill would be severely hampered in strong winds at low tide by the inability to deploy containment booms without damaging the coral.*

On any astronomical tide lower than 0.5 m Chart Datum, there is at least some coral exposed. The lowest astronomical tides in this region generally occur around October and November, with substantial amounts of coral exposed. It should also be noted that these are generally the windiest months of the year.

Response: See Response to 9.1.3.4. The risk of a worst case scenario is already present (and has potentially far worst impacts) with boats moored in Southern Bills Bay, there is the added risk of the informal refuelling arrangements that presently occur off the beach, and there is presently no PCMP to deal with any spill. The situation can only improve with the establishment of a formal boating facility and preparation of a PCMP including on-site storage of appropriate oil spill containment equipment. The PCMP will address the need for different strategies under different environmental conditions (tide levels, wind speed).

9.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

9.2.1 Issues specific to North Bills Bay

9.2.1.1 *The Shire of Carnarvon prefers the NBB site over the MH site because fuel spills could be contained by the breakwater and prevailing currents are away from Southern Bills Bay.*

Response: See Responses to 9.1.2.2 and 9.1.3.4.

10. SOLID WASTE/SEWAGE

10.1 PUBLIC SUBMISSIONS

10.1.1 Issues relevant to both sites

10.1.1.1 It would appear unacceptable that pump out facilities are not being provided in such sensitive area. These should be provided, why not?

Response: Non-trailered vessels based in Coral Bay that have on-board toilet facilities are few in number and generally operate in offshore waters where discharge of sewerage is permitted. As such, there would be insufficient use of onshore sullage facilities to warrant their inclusion. This matter will be discussed with the DCLM.

10.1.1.2 It should be noted that the paper on the Discharge of Sewerage from Vessels into the Marine Environment is a draft discussion paper only. If the final legislation on this matter prevents the discharge of sewerage less than twelve nautical miles offshore then a (sullage) facility would be required. Recommendation: Install sullage tanks at the chosen location ahead of future legislation preventing all discharges not the sea.

Response: See Response to 10.1.1.1.

10.1.1.3 There should be no fish cleaning stations provided at the facility. This will discourage feral and native species foraging. This also applies to waste disposal of any kind. There is a central fish cleaning facility in the Coral Bay settlement, and its use should be encouraged.

Response: Long experience in such matters indicates that people will clean their fish at the boat launching facility, irrespective of whether facilities are provided or not. In terms of lessening environmental impacts, it is better to provide fish cleaning stations and deal with the waste properly. Appropriate design (i.e. strategically placed, vermin-proof receptacles) and management of the fish cleaning facility (eg regular emptying of receptacles, signs on the importance of correct management of waste) will minimise foraging by feral and native species.

10.1.2 Issues specific to Monck Head

10.1.2.1 A strong current flows northward close to the shore and would direct boating debris, oil spillage and general rubbish (from Monck Head) towards Coral Bay itself. Where ever there is a concentration of boats, such rubbish and waste will occur and there is no point in allowing Coral Bay and the public to be in its path.

Response: Rubbish and turbidity from boating activities presently occurs right in Southern Bills Bill where launching takes place. Provision of a formal boating facility with proper waste management facilities, educational material and signs can only lessen any impacts. See also Responses to 7.1.2.1 and 7.1.2.2.

11. ABORIGINAL CULTURE AND HERITAGE

11.1 PUBLIC SUBMISSIONS

11.1.1 Issues relevant to both sites

11.1.1.1 The treatment of Native Title issues is inadequate. What discussions have taken place and what undertakings and agreements are in place with the Baiyungu people and the Gnulli Claimants?

Response: The National Native Title Tribunal was consulted during the scoping of the PER, as were representatives from the Yamatji Land and Sea Council—the representative body for the area under the *Native Title Act 1993*. Representatives of the Baiyungu native title claimants, together with the Yamatji Land and Sea Council's anthropologist, also participated in a combined archeological and anthropological survey undertaken for the purposes of the PER, between 7–9th April 1998. The proponent has made a commitment that construction activities will comply with any conditions related to Native Title negotiations.

11.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

11.2.1 Issues relevant to both sites

11.2.1.1 The Department of Indigenous Affairs notes that aboriginal site issues need to be addressed, based on the Aboriginal heritage report in the Technical Appendices. The developer would need to be aware of the possible existence of unknown/unrecorded burial sites as well as other archaeological sites within the dunal areas. A management plan is also needed to protect those recorded Aboriginal sites that are close to the chosen location. Although a Section 16 under the (State) Aboriginal Heritage Act 1972 will not be needed if the recorded Aboriginal sites can be avoided and not disturbed by the proposal, it is suggested that a Section 16 be sought to monitor the chosen location, in case an unrecorded Aboriginal site is uncovered during construction. Consultation with the Aboriginal community would also be necessary.

Response: The proponent has made a commitment that its construction Environmental Management Plan (EMP) will ensure all construction site personnel are educated regarding the protection of Aboriginal Heritage sites and the provisions of the *Aboriginal Heritage Act 1972,* and that construction activities will comply with the requirements of the *Aboriginal Heritage Act 1972*. A representative of the Yamatji Land and Sea Council will be invited to be present during ground-disturbing work. The maintenance and operation of the facility is not expected to have any further impacts on aboriginal sites.

12. RECREATION

12.1 PUBLIC SUBMISSIONS

12.1.1 Issues relevant to both sites

12.1.1.1 Coral Bay is in a beautiful area and has already been marginally exploited by the tourism industry. The construction of a man-made facility will spoil the aesthetic appeal of the area, and also lead to more exploitation of the area and further loss of the aesthetic appeal of the area. It should be in the peoples' rights to protect and conserve Coral Bay so that the children of tomorrow's generation can enjoy it too.

Response: The beauty and popularity of Coral Bay has led to the present situation, where it is no longer safe for informal boat launching activities to occur in a popular swimming area. In the interests of both public safety and to lessen potential impacts on the environment, the provision of a modest boat launching facility and marked boating track is considered essential. As far as possible, the facility will be designed to be environmentally friendly and visually unobtrusive, to minimise aesthetic impacts. As noted in the PER, the numbers of visitors to the area have increased dramatically in the last 20 years, largely due to changes in the amount and type of accommodation available. Accommodation, rather than a boating facility, will determine the level of exploitation of the Coral Bay area. The boating facility is intended to better manage the present level of use, not encourage a large increase in exploitation of the area.

12.1.1.2 No facility should be allowed at either site, but Coral Bay is a tourist area, and the natural beauty needs to be protected. Limit the number of commercial boats in the area to 15, and move the professional fishermen off their moorings in front of the pub: they can moor in lots of places.

Response: DCLM has prepared an mooring plan for Southern Bills Bay as an interim measure prior to the provision of formalised boating facilities (which it supports). The issue of the number of licenced operators permitted in the area, and where they can moor, is a DCLM management issue. DCLM's Coral Bay Boating Strategy (recently approved, and now being implemented) is also intended to address the issue of commercial mooring.

12.1.1.3 No facility should be allowed at either site, but recreational boaters should not be allowed to moor in Coral Bay, or to leave their boats on the beach. They should take their boats out of the water at the conclusion of each day's fishing.

Response: As for Submission 12.1.1.2, this is a DCLM management issue. The present revision of the Ningaloo Marine Park Management Plan offers an opportunity to raise such issues, as did the recent submission period for the Coral Bay Boating Strategy.

12.1.1.4 The final decision on the facility needs to be made quickly and the boat ramp constructed with some urgency. It is years overdue.

Response: Agreed.

12.1.1.5 On what basis has the capacity of parking and the facility been designed?

Response: The facility has been designed on the basis of accommodating upper (although not peak) estimates of the present level of use during school holidays.

12.1.1.6 What are the boat data and visitation data?

Response: Boat data are based on a combination of data from counts of boat trailers in Coral Bay during school holidays, including information from local residents (Caz Muntz, *pers. comm*. 1998, who indicated *peak* estimates of 150–170 boats), and recreational fishing pressure data from Fisheries WA (2,600 recreational boat launchings in Coral Bay in 1998). Counts undertaken in April and May 2001 for the Coral Coast Resort development also indicated an average of 98 private boats during the school holiday period. The facility has been designed to accommodate this level of use (i.e. about 100 vehicles). Visitation data were obtained from the Ministry for Planning and DCLM, as referenced in the PER (Ministry for Planning, 1996a; Cary *et al*., 2000).

12.1.1.7 How will future expansion for Coral Bay be accommodated?

Response: The facility is not intended to be expanded, although it would be possible. The level of visitor pressure that Coral Bay can or should accommodate is a strategic planning and management issue best addressed at the higher government level.

12.1.1.8 Is the capacity for the facility designed for average or peak conditions, and if not for peak, how and where are overflow requirements to be managed?

Response: The facility is designed for upper (although not peak) estimates of the present level of use during school holidays. Facilities are not built for peak conditions, as this creates overly-large structures that are under-used for most of the year. When the facility is full, people will have to wait until room becomes available or undertaken different activities, as at other popular facilities in WA.

12.1.1.9 What is the capacity for expansion of the facility and in what direction?

Response: See Response to 12.1.1.7. There is no intention to expand the car park.

12.1.1.10 Both Monck Head and North Bills Bay options fail to address the need for refuelling for medium to large non-trailerable petrol powered boats. I for one own a 35 foot petrol powered boat, permanently moored at Coral Bay. I recently attended both the Gold Coast and Perth Boat Shows, and without a doubt the most common source of power for these large craft was twin-powered petrol stern drives. I would urge consideration be given to the provision of petrol as well as diesel.

Response: The majority of resident non-trailered boats at Coral Bay are diesel powered. A diesel refueling facility is included to, primarily, service these vessels, and the present informal re-fueling arrangements from the shore would cease. The vast majority of petrol powered boats that are at or visit Coral Bay are trailered and are intended to be removed from the water for refueling (at the Coral Bay petrol station). There would be insufficient demand to warrant the inclusion of permanent petrol refueling facilities at the site.

12.1.1.11 A rapid or disproportionate increase in boating traffic in the area would be more likely to arise from an increase in accommodation available to visitors, rather than formalising boating facilities

Response: Agreed, but the provision of formalised boating facilities may encourage more of those people who come to Coral Bay to also bring their boats.

12.1.1.12 *Disagree (with the stated intention) that the provision of refuelling facilities for the non-trailered boats is proposed as an interim solution pending any private development at Mauds Landing. DPI and CALM levy substantial fees on the licensed CALM tour operators and as such have a responsibility to provide adequate facilities to maintain consistency with the current administration's triple bottom line approach to sustainability. The construction of a private facility at Mauds Landing should have no bearing on taxpayer funded facilities.*

Response: In effect, the refuelling facility has to be constructed as a permanent fixture. The intention was to decommission it if private development at Mauds Landing goes ahead. If the DCLM decides (after stakeholder/community feedback) that a permanent refueling facility should be provided at the boating facility irrespective of whether the private development at Mauds Landing goes ahead, then it is simply a matter of not decommissioning the refueling facility.

12.1.1.13 *Increased travel costs are economic and social costs, not an environmental cost.*

Response: The submission is correct in identifying increased travel costs as economic and social costs. They are also an environmental cost, as more fuel is consumed and as a result more greenhouse gases are produced.

12.1.1.14 *In the DPI review I didn't see a great deal of thought given to mooring and waiting areas for ingoing and outgoing boat movements, especially at North Bills Bay. Where will boats to hold station whilst the driver parks the car/trailer and walks back to rejoin his boat? Boaties are every bit as impatient at boat ramps as car owners in traffic situations.*

Response: This is a management issue faced at many boat ramps and jetties. Boats will have to be tied up to the jetties while cars are parked/retrieved, and it should be noted that the jetties are longer than usual to accommodate this. As with any shared facilities, a degree of patience (and courtesy) will be required during periods of heavy use. This is a price to be paid for the gains in public safety achieved by separating boat launching from swimming.

12.1.1.15 *Any planning of facilities clearly needs to be based on accurate estimates of actual need, and there is a paucity data on boating effort at Coral Bay. The PER relies on an estimate of peak boating presence at Coral Bay of 150–170 boats. This is sourced to a personal communication, for whom no reference is provided. Our inquiries indicate this estimate is far in excess of the actual situation. For much of the year, there are fewer than 20 boats in Southern Bills Bay, and this is confirmed by observations by operators, visitor and photographs. At peak times, locals estimate that there may be up to 70 boats (mostly small 'tinnies' as the PER reiterates). A formal study may be needed to clarify this matter.*

Response: The available data were considered adequate for the purpose of designing the facilities. Car parking is provided for approximately 100 vehicles (see Responses to 12.1.1.5, 12.1.1.6 and 12.1.1.7). A formal study would only be needed if planning had to accommodate a greatly increased level of use.

12.1.2 Issues specific to North Bills Bay

12.1.2.1 A boating facility with parking area and fences will spoil the 'wilderness experience' presently enjoyed by thousands of tourists, of walking along the wide sweep of the sandy bay around to North Bills Bay.

Response: See Response to 12.1.1.1. It is arguable that the aesthetic enjoyment of thousands of swimmers and boaters will be enhanced by removing boat launching activities from a popular swimming spot at Southern Coral Bay, and providing a formal boating facility.

12.1.2.2 How many dinghies and small boats will want to use South Bills Bay and how will they get there?

Response: The majority of dinghies and small boats will wish to access the corals south of the Coral Bay settlement or along the recommended boating track, or will head south of Monck Head to fish. Once the boating facility is complete, the DPI intend to close navigable waters of Southern Bills Bay to all vessels except glass-bottomed tour vessels and non-powered craft, and this will be discussed with the DCLM.

12.1.2.3 If (the private development at) Mauds Landing proceeds, there will be no need for pens or re-fuelling at NBB, or indeed any need for the NBB facility. Will NBB still proceed if Mauds Landing proceeds, and if so, why?

Response: There is an urgent need for a boating facility to service Coral Bay, and existing needs cannot be neglected pending approval for a private facility at Mauds Landing. Also, the Mauds Landing development will not satisfy all the boating needs at Coral Bay: periods of high energy waves (which occur regularly in Bateman Bay) would frequently preclude small craft access to and from this site. Furthermore, the private development at Mauds Landing is proving a highly contentious issue, with no guarantee that it will be approved. If the private development goes ahead, it will provide additional facilities to the area. It is possible that some of the larger commercial boats may choose to re-locate to Mauds Landing, but patterns of boat use (i.e. within the reef line versus open waters) for the large majority of craft (which are small recreational boats that stay within the reef line) are not expected to change.

12.1.2.4 According to the plan submitted in the PER document the service jetty is approximately thirty metres long and may present the potential for user conflict as only two vessels will be able to berth at one time. Conflict is most likely to arise from several vessels requiring berths at the same time. Recommendation: Extend the jetty length to approximately sixty metres long allow to berth up to four vessels at a time and impose a restriction on berthing duration.

Response: The jetty length is considered adequate for the permitted fleet at Coral Bay, and as there are few commercial operators in Coral Bay a simple time-table could be developed, backed up (if necessary) by signage. See also Responses to 12.1.1.14 and 12.1.3.9.

12.1.2.5 At present there are eight CALM licensed charter vessels, three authorized licensed fishing vessels and two unauthorized private vessels that requiring relocating from South Bills Bay and only ten pens in the plan accompanying the proposal. This presents the potential for considerable conflict as to who will be issued a pen, and the problem of relocating the unallocated vessel as well as any visiting vessel

requiring a berth. Recommendation: Amend the plan to accommodate all of the authorized vessels plus one spare pen for emergencies.

Response: The plan is a concept diagram only: the exact number of moorings has yet to be decided, and will be based on a consideration of present needs in consultation with DCLM and potential users.

12.1.2.6 *We note that in the specific guidelines for preparation of the PER that the Department of Transport proposed "a limited number of shoreline-based moorings outside the breakwater, for trailerable boats". This proposal does not seem to have been addressed in the PER. We would strongly recommend shoreline-based moorings that can be used during the day. We often use our boat two or three times a day for various activities and it would be preferable to be able to moor the boat rather than remove it from the water several times a day.*

We are also concerned about where we will be able to put our boat when it is not in the water. In the past, we have beach-moored our boat for the duration of our holiday. The caravan parks have very limited areas for parking 7 m boats in front of caravans/campsites. This problem could result in us not being able to keep our boat next to where we are staying, and that would raise problems with security if the boat has to be parked in a separate area. We would strongly recommend that secure protected mooring pens are available inside the breakwater for trailerable boats 6.5–7 m.

Response: There is no plan for provision of shoreline-based moorings, or mooring pens inside the breakwater for large trailerable boats. The issue of parking space for boats in caravans/campsites is outside the scope (and jurisdiction) of this proposal.

Although there is a degree of inconvenience involved, people will have to become used to taking their boat out of the water between morning and afternoon trips—as indeed everyone is obliged to do at boat launching ramps in the Perth area and elsewhere in the State. As noted in the Response to 12.1.1.14, this is a price to be paid for the gains in public safety achieved by separating boat launching from swimming.

12.1.3 Issues specific to Monck Head

12.1.3.1 *Many people—mostly those without boats—gain enormous enjoyment from the natural beauty of the view of Monck Head. Already this enjoyment has been spoiled by mooring of boats in the area, and will be further spoiled by a boating facility.*

Response: See Response to 12.1.1.1.

12.1.3.2 *A facility at Monck Head would only be useable for smaller trailer boats as it would be too shallow for operator vessels.*

Response: The offshore ramp formation and jetties will extend into waters of a sufficient navigable depth (at least –1.0 m relative to chart datum) for commercial operators. Note that the Coral Bay Boating Strategy nominates a draft limit for boats of 1.2 m.

12.1.3.3 *Whilst not necessarily agreeing with the report's comment that a facility at North Bills Bay would complement any private development at Mauds Landing, we would agree that as operators we would still have a visual selling point from Coral Bay, whereas if we were located at Monck Head we would not be visible.*

Response: The lack of a visual contact with the facility from Monck Head is acknowledged, but people are likely to rapidly adjust to the new location: the services offered are attraction enough in their own right. People travel much larger distances for fish charters and whale watching services in Perth. As a visual selling point, it would be hard to identify individual boats at North Bills Bay from the Coral Bay settlement.

12.1.3.4 *The boating ramp at Monck Head comes off a limestone cliff and out over limestone substrate. There is no beach for small boats to use in the process of loading and unloading after launching and before retrieving. This rocky area can be very unforgiving in rough conditions.*

Response: See Responses to 12.1.1.14 and 12.1.2.6. People will have to become accustomed to loading their boats before they launch and unloading after they retrieve their boats, as at other boat ramps around the State.

12.1.3.5 *The immediate environment (at Monck Head) is limestone substrate and it offers limited anchorage possibilities and is a much smaller area than that available at North Bills Bay. Currently, boats making passage along the coast anchor in the North Bills Bay area. Up to five at a time can be seen and this number will probably grow. A facility at North Bills Bay will offer a refueling point for these vessels and easy access to Coral Bay. The Monck Head proposal will not be accessible to these vessels as they will be unable to negotiate the passage inside the Bills Bay lagoon to moor - particularly yachts. These vessels will still anchor in the North Bills Bay area.*

Response: Neither facility is intended to offer overnight (or extended stay) accommodation for large private vessels visiting the area, and according to the Coral Bay Boating Strategy, no private vessel with a draft greater than 1.2 m is to be permitted in the Coral Bay area. Access to permitted moorings would need to be arranged through DCLM, and no private moorings will be approved. Overnight stays would also raise sullage management issues.

12.1.3.6 *Reference is made in the PER to whichever area is chosen being only a temporary facility for larger boats until the Mauds Marina is built. There is a strong probability that the Marina will not be approved, or if it is in some form it will not be financially viable. Coral Bay should not be dependant on this tenuous possibility. The North Bills Bay option offers a bigger and better harbour for all boats immediately and is capable of being expanded when required. The southern option locks Coral Bay into a limited and inadequate facility.*

Response: See Response to 12.1.2.3. Also, the facility is intended to cater for the present level of use, not to encourage further use, and so there is no intention of expanding.

12.1.3.7 *The efficiency of the Monck Head facility for all boating needs seems doubtful. Larger vessels moored offshore would require dinghy storage at Monck Head, and there is no facility for this in the proposal. It is not practical to expect operators to remove dinghies to their homes on a daily basis and will only increase traffic movement through Coral Bay. The North Bills Bay option provides for greater amenity to Tour Operators, recreational fishers and tourist patrons through the provision of pens for safe access to vessels. Patrons will not be loading onto tours in the same location as the fuelling facility.*

Response: See Responses to 12.1.2.6 and 12.1.3.4. Dinghy moorings for resident non-trailered vessels will be considered when the site is decided. However, it is acknowledged that the North Bills Bay option provides greater amenity to Tour Operators and their patrons. Commercial operators will be the main users of the refuelling facility. For the majority of recreational boaters there will be little difference between the two facilities in terms of amenity, although there will be differences in the distance they have to travel to reach their preferred locations. Compared to the present scenario, less travel would be involved for most recreational boaters if the facility was built at Monck Head, and more if built at North Bills Bay.

12.1.3.8 *At Monck Head there is no facility proposed for use by tour operators or recreational fishers for two trips per day. It is impractical and socially undesirable that recreational divers returning to refill tanks or just for lunch would have to retrieve their boat and place it back in the water for an afternoon cruise. At Monck Head it is not possible to beach a small vessel as the coastline is rocky. If vessels move to where the beach is not rocky they would be impinging on recreational swimmers zones.*

Response: See Response to 12.1.3.4. Also, recreational boaters are no longer allowed to leave their boats on the beach at Southern Bills Bay.

12.1.3.9 *The Monck Head site would be relatively more convenient for the boating public in terms of proximity to Coral Bay, however it is more efficient and less wasteful to travel by road to North Bills Bay to launch and retrieve a boat than to travel from Monck Head by sea to the northern part of the reef. The small inconvenience in time of the additional road travelling to North Bills Bay to launch a boat is not important.*

Response: The submission is correct, but the large majority of trailerable boats do not head north out of Bills Bay, and these recreational boaters would gain considerably in terms of reduced boating time (and reduced road travelling time) if launched at Monck Head whether heading south to fish in the Recreation Zone, or diving on corals inside the reef line.

12.1.3.10 *The selection of this site as being the most suited to a permanent facility is supported. The (proposed) island structure is not supported as it appears to be inappropriate to the boating needs of the area. The manoeuvrability of vehicles on this structure is questioned due to the number of visitors who will be launching vessels at the times of loading/unloading of charter vessels. It is anticipated that the island structure will become congested, especially at peak times (early morning departures and late afternoon arrivals).*

Response: As noted in the Response to 12.1.1.14, congestion is an issue faced at many boat ramps and jetties. As with any shared facilities, a degree of patience (and courtesy) will be required during periods of heavy use. There are not many commercial operators in Coral Bay, and discussions could be held to develop some simple time-tables to minimise congestion problems.

12.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

12.2.1 Issues specific to North Bills Bay

12.2.2.1 The DCLM considers that the North Bills Bay site could potentially have an impact on important social values of northern Bills Bay (e.g. coastal useage, wilderness and seascape), including aesthetic impacts on the viewshed from Coral Bay Settlement.

Response: See Responses to 12.1.1.1 and 12.1.2.1. The viewshed is another difficult and subjective issue to address: there are residents who are strongly in favour of a facility they can see from the settlement. It is acknowledged that the access road would have to be located and constructed to minimize impacts on the viewshed.

12.2.2 Issues specific to Monck Head

12.2.2.1 The DoF notes that, accepting the representation of the report that 80% (page 21) of all recreational fishing pressure is targeted in the lagoon south of Monck Head, development at this site would provide better immediate access (than North Bills Bay) for trailered craft. The development in this area would reduce further impact on the Coral Bay area by providing access to the southern lagoon no longer requiring passage through the Maud Sanctuary Zone in contrast to the North Bills Bay proposed site.

Response: It is acknowledged that the Monck Head option will provide better immediate access for the majority of trailerable boat users, and result in less potential for associated boating impacts on the Coral Bay environment. The North Bills Bay option offers similar advantages for commercial operators. Both options have environmental and social 'pros and cons', but it is considered that the potential impacts of either site can be managed satisfactorily, as described throughout this document.

13. MANAGEMENT

13.1 PUBLIC SUBMISSIONS

13.1.1 Issues relevant to both sites

13.1.1.1 What provisions are made for reinstatement (of the breakwaters and facility) in the event of storm damage?

Response: Once constructed, the facility will be managed by DCLM. Any required repairs will be coordinated by DCLM.

13.1.1.2 How will management, maintenance and repair of breakwaters and the whole facility be funded and what are the estimated recurrent costs?

Response: The facility will be managed by DCLM. It is understood that Coral Bay has recently been allocated two full-time DCLM officers, to be present throughout the year. The facility will be constructed to withstand a considerable degree of storm damage, and maintenance costs (mainly for sand bypassing) will not be large (refer to Responses to 6.1.2.3 and 6.1.3.1). Appreciable damage to the facility is unlikely to occur unless the area is hit by a cyclone, in which case State Government emergency funding will probably be required.

13.1.1.3 How will vandalism be managed at this remote site generally and specifically in relation to hydrocarbon storage?

Response: The fuel storage will be constructed to Australian Standard AS 1940–1993 and so automatically include a schedule for regular inspection, cleaning and maintenance, which will minimise the potential for, and effects of, vandalism. The presence of two full-time DCLM personnel in Coral Bay will also help discourage vandalism. The DPI will discuss various options for controlling refueling with the DCLM (see Response to 9.1.1.1). It may be necessary to consider additional safety features on the fuel dispensers themselves, such as automatic shut-off nozzles. See also Response to 13.1.1.14.

13.1.1.4 The provision of the NBB or MH will promote greater small boat and fishing useage of Ningaloo Marine Park. How will these impacts be managed? What CALM and Fisheries WA presence will be provided? What resources and funding will be provided to CALM and FWA for the necessary increased management effort?

Response: Management by DCLM officers is likely to focus on public education, and monitoring., and as noted above, Coral Bay has already recently been allocated two full-time DCLM officers, to be present throughout the year. The need for increased presence of Fisheries WA officers may be less critical. It is understood that recent research has shown that the main recreational focus of visitors to the area has changed considerably in the last 10–20 years: appreciation of the marine park's scenic attractions rather than fishing is now the main activity (Jennie Cary, DCLM, *pers. comm.*.) See also Responses to 4.1.1.3, 4.1.1.4 and 4.1.1.6.

13.1.1.5 In approaching the problem of providing boating facilities in Coral Bay, any solution must be part of a regional plan for the Southern region of Ningaloo reef. In particular, this relates to the issue of the refuelling facilities and the required and/or allowable vessel capacity of the facility. It appeared that the proponent had given this minimal consideration in the PER, perhaps because such a plan currently does

not exist. We have approached the situation from an assumption of a regional management plan that supports small-scale sustainable developments in tune with the fragile environment at Ningaloo. We believe that such a policy would be in tune with public opinion and is both the most likely and the most positive solution for the future of Ningaloo. Further to this, Ningaloo is a world significant environment. There is much talk of World Heritage listing for Ningaloo. It seems to us completely irresponsible to consider further development at Ningaloo without giving special consideration to the protection of Ningaloo's incredible environmental values through a regional management plan.

Response: The boating facility is intended to address existing problems and existing needs. In terms of the refuelling facilities being permanent, this is easily accommodated if there is consensus on this issue (see Response to 12.1.1.12). The facility is not intended to be expanded, although it is possible. It is agreed that the level of visitor pressure that Coral Bay can or should accommodate is a strategic planning and management issue best addressed at the higher government level. In terms of strategic plans and frameworks, the DPI is preparing a Carnarvon-Ningaloo Coast Regional Strategy that will address the regional management issues raised. The current revision of the Ningaloo Marine Park Management Plan will also address more specific issues, such as protection of the environmental values of the park. The proposed alternatives have been developed in consultation with the DCLM, and indeed in response to DCLM concerns about the present un-managed boating activities. The DCLM has made its preferred option very clear. It is understood that processes for World Heritage listing will commence at the end of the year. The EPA is certain to take all these factors into account in its assessment of the proposal.

13.1.1.6 *In the development of a sustainable management plan (not including a Mauds Landing Marina), any refuelling facilities must be designed as a long-term solution for the charter boats operating in this region of the reef. Refuelling requirements should also be a consideration in selecting the location and style of the facility. This will also benefit the environment by removing the need for further construction. The proponent mentions that the proposed refuelling facilities are only intended as a temporary solution, pending the construction of a private marina at Mauds Landing. This is considered an unwise assumption considering that the construction of this facility is unlikely given the widespread objection from the public and many members of the scientific community. The provision of a boating facility in Coral Bay should be a 'stand-alone' development, not one that is complementary to the private facility at Mauds Landing. The DPI and CALM have a responsibility to provide long-term solutions for the recreational requirements of the region. Clearly, it would be preferable to deal with all potential issues in the initial design phase, rather than have to amend existing structures, which could involve further construction, expense and damage to the environment.*

Response: The facility is intended to address existing uses and needs. The provision of refueling facilities for charter boats is one consideration, but provision of a boat launching ramp for recreational boats and removal of boat launching activities from a popular swimming area are the main considerations. The proposed facilities will cater for the refueling needs of the licensed commercial boats presently based in Coral Bay, and the DCLM does not intend to allow any more commercial boats in the area. The refueling facility has to be built as a permanent structure anyway, irrespective of whether the Coral Coast Resort is approved or not. Therefore, the facility does provide a long-term solution to the refuelling needs of charter boats in Coral Bay. The decision on whether further accommodation (and therefore more

visitors with trailerable boats) should be provided in Coral Bay is a planning issue that will be addressed in the DPI's Carnarvon-Ningaloo Coast Regional Strategy.

13.1.1.7 *The number of charter boats expected to be allowed to operate in the region should be considered. The option of replacing as much as possible the use of recreational private boats with charter operators could be considered to help control impacts on the region.*

Response: Recommendations are duly recorded here for consideration by DCLM when it takes over management of the boating facility. All information gathered as part of this PER and in Responses to Submissions on the PER will be shared with the DCLM. The recent submission period for the Coral Bay Boating Strategy and the present revision of the Ningaloo Marine Park Management Plan presented/presents an additional opportunity to raise such issues.

13.1.1.8 *The facility should be tied into any investment to increase the control over boating/recreational activities. Having a Fisheries and/or CALM office at the boat ramp would greatly discourage illegal activity and help promote positive education initiatives.*

Response: Recommendations are duly recorded here for consideration by DCLM when it takes over management of the boating facility.

13.1.1.9 *Installing channel markings as outlined in the PER is highly recommended. Other infrastructure could be educational such as dive/snorkel trails and signs on how to look after the environment at the facility.*

Response: Recommendations are duly recorded here for consideration by DCLM when it takes over management of the boating facility.

13.1.1.10 *Another (management) consideration could be the issuing of special fishing licenses for fishing from boats in Ningaloo, such a program would allow for formalised education for most recreational boat users. This education could extend to safety issues such as avoiding the South passage, and assist in the sustainable management of the fisheries/environment. Licensing systems could also be successful in assisting the sustainable management of fragile environments such as Ningaloo. Any funds raised could be used to help protect fish stocks and environment through research and enforcement.*

Response: Recommendations are duly recorded here for consideration by DCLM—in consultation with Fisheries WA. The present revision of the Ningaloo Marine Park Management Plan presents an additional opportunity to raise such issues.

13.1.1.11 *The local community could be encouraged to take some responsibility for the promotion of regulations through volunteer programs such as the Fishcare project. Such programs could also be used to educate the local communities in how to better look after the reef, the biggest asset they have in an eco-tourism management model.*

Response: Recommendations are duly recorded here for consideration by DCLM—in consultation with Fisheries WA. The present revision of the Ningaloo Marine Park Management Plan presents an additional opportunity to raise such issues.

13.1.1.12 *The establishment of a representative system of no-take, sanctuary, and potentially 'no-go' zones, protects species in the various environments as well as protecting*

certain areas from anchor damage and potentially increasing catches in surrounding waters. There would then be a permanent baseline by which to measure impact on surrounding areas. The idea of maintaining Ningaloo as a "partial wilderness" where some areas are left free from human impact to allow a true measurement of changes to other regions of the reef seems sensible when the large area of Ningaloo is considered. This is in our view a sensible application of the precautionary principle, and would go a long way to ensuring we do not destroy the values of a place that we are only beginning to understand. This could not be the sole responsibility of the proponent, but would encompass a wider commitment by all involved Government agencies and the community.

Response: It is understood that DCLM legislation presently has no mechanism by which 'no-go' zones could be implemented. The results of University research on the efficacy of 'no-take' zones in Ningaloo Marine Park are presently being distilled (Mark Westera, Ph. D. programme, Edith Cowan University). The recommendations are duly recorded here for consideration by DCLM. The present revision of the Ningaloo Marine Park Management Plan presents an additional opportunity to raise such issues.

13.1.1.13 *Under the assumption of sustainability as a key driver for regional management at Ningaloo, it seems sensible to consider the long-term effects of any structure built. In this respect a piled structure is much less permanent in its impacts. If it is taken out of service it will tend to be much easier (and less environmentally damaging) to remove, or if this is not possible, it will be much more likely to break up under environmental loads once maintenance is stopped. This is proven by the old Mauds Landing jetty which has all but disappeared. On the other hand, a breakwater structure will be a permanent manmade change to the environment as it would be prohibitively expensive to remove such a structure.*

Response: The construction and longer term maintenance costs for wholly piled structures are considered to be unjustifiable when compared to the structure proposed.

13.1.1.14 *The PER is deficient in detail on best design practice to eliminate potential sources of pollution associated with the boating facility, or where this is not possible, best management practices (BMPs) with emphasis on preventative measures. BMPs should address:*

- *Boat operation, e.g. motorized vessels should be restricted to the marked boating channels, permanent moorings should be installed wherever possible to protect important sea grasses and coral formations (the importance of Bateman Bay as a possible feeding ground for dugongs should not be ignored in this assessment);*
- *Minimizing pollutant inputs, e.g. providing boat sewage disposal facilities, solid and liquid waste disposal facilities, fish cleaning facilities, public information, and prohibiting in-the-water boat work (as suggested in the PER) ;*
- *Liquid wastes and fuel handling, e.g. including fuel additives, lube and hydraulic oils, grey and black water and chemicals along with fuel in any accident scenario; provision of a shore storage facility with adequate containment features such as curbs, berms, walls or dikes should be considered for liquid material; provision of separate and clearly labeled containers for the disposal of waste oil, gasoline and diesel, kerosene and mineral spirits;*

containers to be properly stored and covered, and emptied by a permitted handler;

- *Refueling, e.g. all nozzles to have automatic shut-off nozzles, emergency pump stops at point of refueling, encourage the use of oil-absorbing materials in bilge areas, installation of a spill monitoring system, regular maintenance schedule for pipes, hoses, nozzles and tanks, provision of a floating boom on-site, avoid running pipelines over water if possible; and*
- *Solid waste generation and disposal, e.g. no private vessel maintenance to be allowed and commercial operators to be restricted to simple maintenance, establishment of designated fish cleaning areas and waste receptacles, provision of explicit rules and educational material, and regular waste disposal.*

Response: Once the site for the boating facility is decided and environmental approval given, DPI have committed to preparing a Construction EMP, Rehabilitation EMP, Operations Phase EMP and Pollution Contingency Management Plan (PCMP), all of which will incorporate best management practices, in recognition of the environmental values of the Marine Park. Many valuable recommendations have been made in the above submissions, and others, and are duly noted for consideration when preparing the EMPs and PCMP. As noted in the Response to 13.1.1.7, all information gathered as part of this PER and in Responses to Submissions on the PER will be shared with the DCLM.

13.1.1.15 *No mention has been made about future charges regarding access and parking at either of the proposed sites. I wouldn't have any doubt that once CALM takes over the control of these sites, they will be standing with their hand out, regardless of the registration fees owners already pay to licence their boats etc.*

Response: This is a matter outside the scope of this PER.

13.1.1.16 *Facility development at different locations at Ningaloo should be guided by high-order strategic planning processes, including the Minister's recently announced Carnarvon-Ningaloo Coast Regional Framework, the Ningaloo Marine Park Management Plan (currently under review), and Cabinet's recently signaled intent to put forward the Ningaloo Reef/Cape Range region as the next Western Australian World Heritage candidate. Under state and federal law, policy and guidance, there is now an argument for treating the region as though it is a World heritage listed area.*

Response: See Response to 13.1.1.5.

13.1.1.17 *The DPI's recognition that a marina facility at Mauds Landing would not solve the problem of small craft accessing the area, is welcomed. (However) the suggestion in the PER that a potential future facility at Mauds Landing be looked to for permanent refuelling facilities cannot be taken seriously. The PER does not undertake an analysis of the impacts of a facility at Mauds Landing and therefore it is it is inappropriate and premature to suggest any future function at Mauds. In terms of policy context, any approach to a boating facility adjacent to Coral Bay should consider that:*

- *It may ultimately be the only facility in the area, and should therefore have a boat refueling capability 'built-in';*
- *It should not act as an incentive to increase private or commercial boating traffic and/or fishing effort in the region;*

- *It should be of minimal hard/permanent construction;*
- *It have (at least) the capability for future sullage removal from boats; and*
- *It have a best practice fuel spill contingency plan.*

We acknowledge the need for urgent action to alleviate environmental damage currently being visited upon the vicinity. There should be no delays in establishing an appropriate facility, however we encourage the most thorough examination of options in this regard, and strongly recommend that the guidelines (above) be adopted in that regard.

Response: All these factors have been considered. See Responses to 10.1.1.1, 13.1.1.5, 13.1.1.6 and 13.1.1.14.

13.1.1.18 *It may be advisable to place signage explaining the no litter policy, possibly with other educational material regarding catch size, boating practices and other conservation issues. In the future it may be viable to introduce a nominal fee for a fishing permit in the area to allow for all visitors to the area to receive bag limits and general education issues..*

Response: Signage is acknowledged as one of the major management tools used for the facility. Recommendations on the fishing permit fee are duly recorded here for consideration by DCLM—in consultation with Fisheries WA. The present revision of the Ningaloo Marine Park Management Plan presents an additional opportunity to raise such issues.

13.1.2 Issues specific to North Bills Bay

13.1.2.1 *Construction of breakwaters is not permitted in a Sanctuary Zone in Ningaloo Marine Park. How is it proposed to construct breakwaters in the Maud Sanctuary Zone?*

Response: If North Bills Bay was chosen as the preferred site for the boating facility, the Ningaloo Marine Park Management Plan would have to be amended. This would require notification of the community and affected government agencies. Under the Conservation and Land Management (CLM) Act, a public comment period of at least two months would be required. The public and government agency submissions would then have to be considered and the proposal forwarded for consideration by the Marine Parks and Reserves Authority (MPRA). Following consideration by the MPRA the proposal for amendment would be forwarded to the Minister for the Environment, for approval. It is noted here that the MPRA has consistently stated its opposition to the North Bills Bay proposal (see Submission 13.2.2.1).

13.1.2.2 *How are people to be managed to stop them fishing off breakwaters in a Sanctuary Zone?*

Response: The North Bills Bay facility cannot be constructed without amendment of the Ningaloo Marine Park Management Plan. If fishing off the breakwaters was not allowed within that amendment, appropriate signage would need to be erected.

13.1.2.3 *Development of NBB will encourage more pedestrian movement between Coral Bay and Point Maud. What management and facilities will be provided for litter collection?*

Response: The boating facility will include appropriate waste management facilities, such as strategically placed vermin proof receptacles, and management will encompass regularly emptying of receptacles plus appropriate signage on the importance of proper waste practices.

13.1.2.4 *The major objection to the North Bills Bay option from the MPRA, CALM and DEP is that it is located in a sanctuary zone. From a practical point of view, so is the Monck Head option. The launching ramp can just be fitted into the narrow strip along the beach which was excised from the sanctuary to allow beach fishing. The moorings and manoeuvring are in the sanctuary zone. This is a purely technical objection and a boating facility could be excised from the sanctuary zone in this area of poor corals as indicated in the letter from Mr Jim Sharp of CALM in the Technical Appendix I of the PER.*

Response: The MPRA, DCLM and DoE's objections include environmental concerns specific to the North Bills Bay area (such as potential impacts on seabirds, reef sharks and coastal processes), not just the fact the facility will be in a sanctuary zone. Further, the corals in Bills Bay are showing signs of recovery.

13.1.2.5 *The underlying theme of government agency opposition to a facility at North Bills Bay would appear to be one of bureaucratic expediency rather than practical application or environmental concern. The NMP Management Plan is currently under review, providing ample opportunity for amendment of the plan should North Bills Bay option be deemed more appropriate.*

Response: See Responses to 13.1.2.1 and 13.1.2.4.

13.1.2.6 *The NMP Management Plan is currently under review and as such presents a perfect opportunity for amendment if necessary (should North Bills Bay option be deemed more appropriate).*

Response: See Response to 13.1.2.1.

13.1.2.7 *The PER notes that "...the area will require a coordinated management response from a number of agencies, including CALM, Fisheries and the DPI". There is no apparent reason why a coordinated management response has to be delayed pending completion of a formalized boating facility. Recommendation: Relevant agencies to consult with the broader community and vested interests to establish an effective management plan ahead of a formalised boating facility in order to curtail existing inappropriate activities in the Maud Sanctuary Zone.*

Response: Preparation of this PER, the highly contentious private facility proposed at Mauds Landing, and the present review of the NMP Management Plan have already acted to initiate this process.

13.1.3 Issues specific to Monck Head

13.1.3.1 *Development of MH will encourage more pedestrian movement between Coral Bay and MH. What management and facilities will be provided for litter collection?*

Response: The boating facility will include appropriate waste management facilities.

13.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

13.2.1 Issues relevant to both sites

13.2.1.1 *The Shire of Carnarvon's support is conditional upon the State Government agreeing to construct the access road between the boating facility between North Bills Bay and Coral Bay Road (if the NBB site is chosen) or between Banksia Drive and Monck Head (if the MH site is chosen). Further, the Shire's conditions will need to be met before it agrees to take over the management of the access road from the proponent. The Shire's conditions are as follows:*

- *The access road must be constructed at the same time as the boating facility is constructed;*
- *The access road must be designed, constructed and sealed to the Shire standards (to accommodate heavy traffic);*
- *Batters must be stabilised through methods agreed to by the Shire and possibly the EPA;*
- *The proponent must obtain Native Title, clearing of vegetation and other environmental clearances before proceeding; and*
- *The access road should be the responsibility of the proponent for 12 months following completion of the access road to Shire standards.*

Response: The DPI has committed to meeting the Shire's requirements.

13.2.1.2 *The DCLM considers it is essential that the construction and operation of the boating facilities should meet the management objectives, strategies and targets listed in Table A2 of the PER document. The Department of Conservation and Land Management (CALM) recommends that the Department for Planning and Infrastructure quantify the management targets listed in Table A2 of the PER document and include these in the environmental management plans to the requirements of CALM. These performance criteria need to quantify: terrestrial vegetation impacts; dune impacts; marine water and sediment quality for contaminants and turbidity; and cultural and heritage impacts.*

Response: The DPI has committed to prepare alert and action triggers for the management of turbidity and sedimentation associated with the construction of marine structures; and the development of Environmental Values, Environmental Quality Objectives and site-specific criteria for the marine environment as part of the Operation Phase EMP (PER Table 5). The DPI has also committed to prepare a DCLM-approved Rehabilitation EMP for terrestrial areas, and a Construction EMP that ensures compliance with the requirements of the *Aboriginal Heritage Act 1972* and other conditions related to Native Title negotiations (PER Table 5).

13.2.1.3 *The MPRA does not support the provision of facilities which will result in increased boating size and activities. This would have the consequence of even greater impact on an already impacted and sensitive area. Rather, the MPRA supports a small boating facility to better manage the present boat useage in Southern Bills Bay. Any consideration for a single boating facility should be included within the review of the Ningaloo Marine Park Management Plan, which is currently underway. We do not wish to hold up an appropriate boating facility. However care must be taken as it may well be the only permanent boating facility for the area.*

Response: The proposed facilities are only intended to cater for the present level of use in the area, and are 'stand-alone' in that they are designed to function irrespective

of whether the Coral Coast Resort is approved. It is noted that the DCLM and MPRA are presently revising the Ningaloo Marine Park Management Plan, and acknowledged that both organizations have made their boating facility preferences very clear.

13.2.1.4 *The MPRA's view is that any facility requires a prepared best practice contingency plan for oil spills and introduced pest species.*

Response: See Response to 13.1.1.14. The omission of a best practice contingency plan for introduced marine pests is acknowledged, but the DPI notes that the facility is intended for local boat use and is not a regional facility (which would have far greater risk of introduced marine pests), nor do the DCLM intend the facility to be used for overnight stays by large private vessels—or even allow such vessels to enter or moor in the Coral Bay area. The issue of introduced marine pests in the Marine Park is probably also better addressed at the regional level, not focused on a facility that caters for trailered boats and the local (DCLM-licensed) commercial boats.

13.2.2 Issues specific to North Bills Bay

13.2.2.1 *The DCLM notes that the North Bills Bay site, being located within the Maud Sanctuary Zone, is inconsistent with approved statutory plans. This Sanctuary Zone was approved by the Minister for the Environment in 1989 as part of the management plan for Ningaloo Marine Park. On page 55 of the management plan it is expressly stated that "groynes, breakwaters or similar structures should not be constructed in Sanctuary Zones." Establishment of a boating facility at the North Bills Bay site would require a significant change to the Ningaloo Marine Park Management Plan. This in turn, under the Conservation and Land Management (CLM) Act would require a public comment period of at least two months and there is no guarantee that the Marine Parks and Reserves Authority (MPRA), in which the marine park is vested, would recommend the change. The MPRA has stated its opposition to this site in letters to the Hon, Cheryl Edwards MLA, the then Minister for the Environment (17 December 1998) and Mr Dennis Forte, the then A/Executive Director, Department of Transport (26 August 1999).*

Response: It is acknowledged that the North Bills Bay facility cannot proceed without amendment of the Ningaloo Marine Park Management Plan, and that the MPRA are opposed to the development of this site.

13.2.2.2 *The DoF notes that, as suggested on page viii, "The relocation of the majority of the boating activity from Southern Bills Bay and Paradise Beach will reduce the conflict of use with the swimmers and snorkellers, and the associated safety issues", and "improvements to boating amenity". While these benefits are not environmental benefits as suggested by the report they may provide for the better management of recreational fishers through the separation of activities. On this basis the development at Monck Head is supported by the Department of Fisheries in favour to the proposed North Bills Bay development.*

Response: The DoF position is acknowledged. See also Response to 12.2.2.2.

13.2.2.3 *The MPRA's strong view is that North Bills Bay is not an appropriate site for a boating facility as it is located in a sanctuary zone.*

Response: See Response to 13.1.2.1 and 13.2.2.1.

13.2.3 Issues specific to Monck Head

13.2.3.1 The MPRA prefers the option at Monck Head with the following suggested changes:

- *It should be a jetty-type structure that, if necessary, can be removed in the future;*
- *It should be a permanent refueling facility;*
- *It should have a best practice sullage removal and rubbish removal system and facility;*
- *It should have an on-going monitoring program for associated impacts and introduced pest species, with a prepared best practice contingency plan; and*
- *Any lease/license type arrangement for fuel distribution at the facility should have strict environmental management conditions that will include a prepared best management practice contingency plan for oil spills.*

Response: See Responses to 10.1.1.1, 13.1.1.5, 13.1.1.13, 13.1.1.14 and 13.2.1.4. MPRA suggestions for alternative facility designs at Monck Head are considered in Section 15.

14. PUBLIC HEALTH AND SAFETY

14.1 PUBLIC SUBMISSIONS

14.1.1 Issues relevant to both sites

14.1.1.1 There is no answer to the danger of skin divers being run down by boats at the corner near the 5 knot sign. This gets back to duty of care on the part of boat owners.

Response: Reliance on duty of care is not an appropriate basis for management of public safety, given the present level of user conflict at Southern Bills Bay.

14.1.1.2 What is the projected boat use which will use open waters and the remainder which will be restricted to using Bills Bay, with and without (the facilities proposed for the Coral Coast Resort at) Mauds Landing?

Response: The boating facility is intended to cater for boating needs in Coral Bay irrespective of whether the private facility at Maud's Landing goes ahead. The question is not relevant.

14.1.1.3 What transport arrangements and safety considerations are to be provided relative to tourist traffic during construction of the breakwaters and facility?

Response: Public safety and transport issues will be covered by the Construction EMP.

14.1.1.4 What are the breakwater design criteria, return period, levels, slopes etc?

Response: Design features will be finalised when the site for the boating facility is chosen. Either facility will be designed to withstand severe storm conditions and accommodate expected sea levels rises.

14.1.1.5 Given the number of accidents already recorded in Yalobia Passage, install signage at the existing launching site at South Bills Bay without delay and re-locate to the new facility on its completion.

Response: The hydrographic chart for Coral Bay is being revised and will carry <u>further</u> caution notes about the Yalobia (South) Passage, similar to those already present in the (free) Coral Bay Boating Guide. The DPI intends to make copies of the Boating Guide available in Coral Bay. Further signage is not proposed until the new facility is built, but the DPI will re-assess the need for new signage if it appears that further considerable delays are likely before the facility receives environmental approval.

14.1.1.6 Lack of formal demarcation (of boating access) is partially responsible for considerable risk to the safety of swimmers in the Maud Sanctuary Zone. Recommendation: Install spar buoys from South Bills Bay to Point Maud without delay and adjust accordingly on completion of the new facility.

Response: See Response to 3.1.1.5.

14.1.2 Issues specific to North Bills Bay

14.1.2.1 A cyclone will hit the Coral Bay area some day, and so the robustness of the boating facility needs to be considered. The North Bills Bay facility is likely to withstand cyclone damage better than the facility at Monck Head.

Response: The facility will be designed to withstand severe storm conditions (i.e. cyclones), irrespective of the site chosen.

14.1.2.2 The PER states that NBB is safer to use in bad weather conditions than Mauds Landing. This is incorrect. Mauds Landing opens into 5 m water depth and is safer to use than NBB in storm conditions where storm waves break in the shallow beach and reef areas. Any boat that can use the Cardabia Passage would use and prefer to use (the facilities proposed for the Coral Coast Resort at) Mauds Landing.

Response: The NBB (or MH) site would be safer for small trailerable craft whose recreational focus is within the reef line.

14.1.2.3 What arrangement are proposed to gain access through CCMD's construction/development area? These will need to be approved by CCMD.

Response: Any appropriate negotiations will be undertaken with CCMD if North Bills Bay is the site chosen for the boating facility.

14.1.2.4 How will the (access) channel be marked?

Response: It is probable that the access channels will be marked with spar buoys.

14.1.2.5 What will be the impact of strong tidal currents at Point Maud (particularly during spring tides) on small boat safety and handling?

Response: The impact will be no different than at present, with or without a boating facility at North Bills Bay. The currents present at Point Maud are not expected to impede access for powered vessels.

14.1.2.6 Routine use of the Yalobia Passage should be discouraged. The close proximity of the North Bills Bay site to the all weather Cardabia Passage is a feature of the location. It should (also) be noted that the distance from North Bills Bay to the 'inside' sheltered waters is less than one nautical mile. This stretch of water is more than adequately protected by the coral outcrops adjacent to the site and does not experience the mid to high wave energy experienced in the exposed portion of Bateman Bay, under normal prevailing conditions.

Response: Irrespective of which site is chosen for the facility, the Coral Bay Boating Guide and signage at the facility will advise of the safety risks associated with using the South Passage.

14.1.2.7 The submerged jetty pile at Mauds Landing already poses a considerable risk to inexperienced mariners who do not consult charts before navigating Bateman Bay. Recommendation: Install appropriate isolated danger marks without delay.

Response: The installation of navigation markers around the submerged jetty pile may be considered if a boating facility is constructed at North Bills Bay. Boats seeking the sheltered waters to the south of Coral Bay would be required to travel

past Point Maud into Bateman Bay before proceeding south, and therefore the number of boats in southern Bateman Bay is likely to increase.

14.1.3 Issues specific to Monck Head

14.1.3.1 How will access channels be marked?

Response: It is probable that the access channels will be marked with spar buoys.

13.1.3.2 If Mauds Landing proceeds, MH will be required for small boats and dinghies which use the waters inshore of the reef and south of Coral Bay. All larger boats and commercial boats will use Mauds Landing. In view of this, because of the dangerous nature of the South Passage leads, that passage should be closed. Is it proposed to close South Passage, and if not, why not?

Response: Removing the South Passage leads is not considered either necessary or desirable. The risks of using it need to be clearly and widely made known, and inexperienced mariners strongly discouraged from using it, but it is still a valuable access passage through the reef. Nor could such a closure be policed effectively.

14.1.3.3 The refuelling jetty will not provide any shelter for small boat launching/retrieval unless it is a solid structure. What are the impacts on boat launching and retrieval during normal and severe wind and sea conditions?

Response: Under normal conditions the Monck Head site is protected from the full impact of swell waves by the fringing reef line, while the headland of Monck Head and the orientation of the island ramp formation would provide shelter from wind waves generated by the prevailing south to south westerly winds. Under severe wind and sea conditions, it is unlikely that charter operators or recreational boats would put to sea.

14.1.3.4 Speaking as members of the local Volunteer Sea Search and Rescue group, we feel that putting the facility at Monck Head would be creating an immediate safety issue. Many recreational boaters follow the commercial and/or charter operators out of the Bay. By putting the facility at Monck Head would be encouraging them to use the South Passage. Over the years we have been involved in a number of rescues at the notorious South Passage, some of which could have been fatal. Putting the facility at North Bills Bay would promote the use of the North Passage which is a much safer option. When considering the options, we believe that safety should be considered before environmental issues. As there is now a Risk Management Strategy in place, proposed actions for improving safety must be considered when being implemented.

Response: The large majority of boaters will stay within the reef line anyway, and hydrographic charts, the Coral Bay Boating Guide and signage at the facility will advise boaters of the risks of using the South Passage. Use of the South Passage cannot be prevented (recreational boaters use it at present), but it can be discouraged and minimised. All vessels will be encouraged to use the recommended boating track inside the reef to access open waters via the North (Cardabia) Passage.

14.1.3.5 Monck Head allows easy access to the South Passage, this is dangerous in medium swell conditions and there have been many accidents and we believe thirteen fatalities in the last fifteen years.

Response: See Response to 14.1.3.4. The DPI found records of rescues, but could find no record of any fatalities in the South Passage.

14.1.3.6 *The proposed Monck Head ramp is located in an area of beautiful corals and with the increasing tourist population, more and more people are swimming and snorkelling in the area. A boat ramp in this area will completely defeat the (safety) purpose of separating the boats from the swimmers.*

Response: The boating facility is clear of the corals, and most boats will be heading south (to fish). The Monck Head facility should improve swimmer safety, as it will reduce the number of boats presently passing through the coral areas on their way from Southern Bills Bay to fish in the lagoon south of Monck Head, or head north via the recommended boating track. See also Response to 12.1.2.2.

14.1.3.7 *The view of the Coral Bay Sea Search & Rescue group, is that the North Bills Bay option is the only real option that should be considered. Our group has been involved in many potentially fatal rescues at the Yalobia South Passage, over the years, and it is our recommendation that small craft and inexperienced operators should stay well clear of the area where possible. By having a facility at North Bills Bay there would be no reason for a user to attempt to go through the South Passage, when the North Passage is so close. This option would enhance boating safety in the area.*

The Monck Head option on the other hand would tend to favour the use of the South Passage, an option not supported by this group. It is noted that in this option, markers would be installed to assist navigation through the back of the reef, track through the corals to the North Passage. This would be very tricky to navigate through, especially in poor lighting conditions.

The Coral Bay Sea Search and Rescue Group support the North Bills Bay option on the grounds of public safety and common sense. If the marine park legislation has to be changed to accommodate this, then so be it. Let us not compromise public safety because we are unprepared to change some legislation. To go the extra mile now may save many families the heart break of losing property or a loved one.

Response: See Response to 14.1.3.4.

14.1.3.8 *It is thought that there is insufficient water depth to cater for large vessels at Monck Head raising concerns of vessel damage, safety of operators and permanency of environmental moorings.*

Response: The facility is located in water of navigable depth suited to the vessels at Coral Bay.

14.1.3.9 *The proposed North Bills Bay boat facility design containing a "wave protection system" offers better protection from the wind, strong currents, waves and swell than the proposed site at Monck Head allowing commercial operators to unload, load and refuel vessels more safely and efficiently. The proposed facility at Monck Head offers little protection from prevailing wind and waves, blowing directly onto the ramp.*

Response: See Response to 14.1.3.3.

14.1.3.10 *Unlike North Bills Bay the coral areas surrounding Monck Head would limit access to daylight hours. This raises safety issues in the event sea rescue vessels are required after dark.*

Response: The boating access channel would be sufficiently marked, particularly for use by members of the Coral Bay Sea Search and Rescue Group, which comprises experienced seaman who are thoroughly familiar with the area.

14.1.3.11 *The Monck Head facility would encourage use of South (Yalobia) Passage, which commercial fishers believe is too dangerous for small vessels to use, particularly if operators have limited knowledge of the area.*

Response: See Response to 14.1.3.4.

14.1.3.12 *Most boating through-traffic activity, both commercial and private is focussed on the northern area and the Yalobia (South) Passage access is known to be more dangerous and a good deal less available based on the prevailing sea conditions. It would therefore make sense to launch boats closer to where they want to go and separate boats from snorkellers and swimmers which tend to concentrate in and south of the Bay.*

Response: The Monck Head option will provide better immediate access for the majority of trailerable boat users. The North Bills Bay option offers similar advantages for commercial operators and those recreational boaters wishing to access waters outside the reef line. The choice of either option will advantage one group of boaters and disadvantage the other.

14.1.3.13 *There are some wonderful snorkelling spots close to Monck Head and over the coral around the southern loop of the usual boating track. A launching facility south of Coral Bay would tend to increase the conflict between boats and swimmers with unsafe situations arising more often. These places will be accessible by boat from North Bills Bay, however through boat traffic should be minimised.*

Response: See Response to 14.1.3.6.

14.1.3.14 *A strong current flows northward close to the shore which is used by snorkellers to drift northward over the coral back towards the town site from near Monck Head and often exiting the water near the 5 Knot speed limit sign. This is a major natural benefit for the public which makes the area unique for land based swimmers. The safety of doing this needs to be considered and preserved by discouraging unnecessary boat movements in that area.*

Response: See Response to 14.1.3.6.

14.1.3.15 *There needs to be a conscious effort to widely separate boats and swimmers/snorkellers as people in the water (who invariably don't have a divers flag) can be very difficult to see particularly when the sun is low in the sky..*

Response: See Response to 14.1.3.6.

14.1.3.16 *The location of the jetty to the north of the main rubble mound, its close proximity to coral colonies and lack of sufficient area to safely turn a larger vessel around is of considerable concern. Strong prevailing south to south west winds will present a difficult and onerous set of circumstances for the Master of any larger vessel using the facility. The short length of the jetty also presents the potential for user conflict given that most vessels using the facility will require berthing at approximately the same time, i.e. charter vessels loading and alighting passengers. Recommendation:*

Extend a timber platform over a portion of the rubble mound to extend the jetty length sufficiently to facilitate adequate turn around area and number of berths.

Response: The jetty proposed is considered adequate for the resident fleet of non-trailered vessels. The nearest coral bommie to the facility is several hundred metres away, and the (existing) boating track will be better marked to reduce impacts on corals.

14.1.3.17 *It would appear that the plans for this facility have been based on bureaucratic expediency without due consideration of the practical flaws contained within the plans and the risks that they represent.*

Response: The site selection issue goes back many years. Designs for facilities at both sites have been given a good deal of thought. As noted in the Response to 14.1.3.12, each option offers both advantages and disadvantages to different groups of boaters. There are both environmental risks and boating safety risks to consider. It must also be remembered that the main human safety concern that the boating facility is intended to address is that of removing the informal boat launching of trailerable boats from a popular swimming area in Southern Bills Bay: either facility will achieve this.

14.1.3.18 *It appears that the DPI would discourage the use of the Yalobia Passage to access open sea. In fact a large number of boats at present do use the Passage. This includes charter operators. With a launch area at Monck Head lessening travel time to the Passage I tend to think useage would increase, notwithstanding a clear passage being marked to Cardabia Passage.*

Response: Commercial operators and those recreational boaters who use the Yalobia Passage at present will almost certainly continue to do so. Given the typical type of vessel and pattern of boat use of recreational boaters in Coral Bay, it is not likely that large numbers of additional recreational boaters will be tempted to use the Yalobia Passage, and these can be minimised by appropriate educational material and signage at the boating facility.

14.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

14.2.1 Issues specific to North Bills Bay

14.2.1.1 *The Shire of Carnarvon prefers the NBB site over the MH site because it offers safer access to the outer Ningaloo Reef, via the North Passage (as opposed to access via the South Passage).*

Response: There are safety 'pros and cons' at both sites. See Responses to 14.1.2.7, 14.1.3.4, 14.1.3.6, 14.1.3.12 and 14.1.3.17.

14.2.1.2 *The Shire of Carnarvon prefers the NBB site over the MH site because it a safe 'all weather' mooring facility.*

Response: It is acknowledged that the NBB facility would offer a base for those boats requiring permanent mooring. The underlying issue here is that the one facility offers the best boating option for the majority of recreational boaters, and the other facility offers the best option for commercial operators and boats wishing to go outside the reef line.

14.2.1.3 The MPRA's strong view is that North Bills Bay is not an appropriate site for a boating facility as the aim is to get boats out of the area and reduce boat traffic through the sanctuary zone, both reducing coral damage and interaction with swimmers and snorkellers.

Response: See Responses to 14.2.1.1 and 14.2.1.2 above.

15. ALTERNATIVE DESIGNS TO THE PROPOSED FACILITIES

15.1 PUBLIC SUBMISSIONS

15.1.1. A split facility could be considered if a location that meets the needs of both the charter boats and the boat ramp cannot be found.

Response: Each of the two sites, Monck Head or North Bills Bay, will provide for the needs of both charter and trailered boats. If the privately developed marina at Mauds Landing is constructed, its boating facilities will complement those provided at either Monck Head or North Bills Bay.

15.1.2 We have considered four methods of construction for the facility: Piled Jetty Structure (a piled structure does not inherently provide significant wave protection, however it could incorporate a simple floating wave energy attenuation system); Rubble Mound Structure: Concrete Gravity Structure; and Sheet Piled Structure. The advantages and disadvantages of each in relation to environmental protection have been considered. Two alternative designs for a boating facility at Monck Head are proposed, and can be summarised as follows:

- *Coral Bay Boating Facility. A small rubble mound facility tucked into the current shadow behind Monck Head. Marine facilities include multiple boat pens, permanent refuelling, limited mooring and a boat ramp.*
- *Coral Bay Jetty. A small jetty, similar to the Lancelin refuelling jetty, and a separate boat ramp, supported by piles or concrete caissons on the coast north of Monck Head. Marine facilities include two boat pens, permanent refuelling, and a boat ramp.*

Response: The seabed to the immediate north of Monck Head (in its lee) is too shallow for a boating facility, and would require capital and maintenance dredging to permit vessel access. The road access to this area is also more difficult due to the height of the adjoining land and the disturbance to a suitable area for boat trailer parking.

A short jetty, or nearshore boat ramp, is not possible near Monck Head because the nearshore water depth is too shallow to support vessel (charter and trailered) access and dredging would be prohibitively expensive. Jetty structures, such as at Lancelin and Cervantes, are expensive when compared to the offshore rock formation proposed for Monck Head. The small approach jetty (bridged) is incorporated onto the Monck Head design at significant capital cost to minimize interruption to longshore sediment movement.

15.1.3. We would like to see other possibilities explored for a boating facility at Monck Head. Currently, our preferred concept for a facility at this site would be a conventional three element system comprising a jetty, a boat ramp and a car park, as follows:

- *Extended jetty. A timber jetty (possibly with multiple fingers at the western end) which would service commercial boats (normally moored in immediately adjacent waters) by way of 'occasional' pens and working service areas and refueling and sullage facilities. The jetty would reach from the upper limestone coastal plain out into deeper waters. The area is well protected by an outer reef which buffers wave energy, but a wave screen may be required to enable safe access to both boats and passengers in times of heaviest swell. The*

refueling pipeline to have an automated shut-down system, and the lines to be drained and shut-down in the event of a cyclone. Energy for lighting and fuel pumps to be sourced from a small-scale hybrid solar/wind powered plant. Given the protected nature of the Monck Head site it is probable that an extended jetty would survive even a 'direct hit' by a cyclone. At present boats in Coral Bay move to marinas either at Carnarvon or Exmouth in times of an imminent cyclone, and it is envisaged that this strategy will continue. The appropriate markings of the channel from Monck Head to Cardabia Passage, as outlined in the PER, are also assumed.

- *A small scale boat ramp situated to the north of the jetty, made of concrete and/or rubble attached to the existing limestone, and culverted to allow the free movement of water and sediment. It would be necessary for the boat ramp to extend well into deep waters to account for extreme low tides. We believe that such a facility should have as its primary goal - minimal environmental impacts, even if this should inconvenience boating activities to some degree.*
- *Car park. Land-based facilities should be kept to a basic minimum with potable and bore water being available in tanks, dry public toilets and lighting.*

Response: It is agreed that the Monck Head site is afforded good shelter. If the Monck Head site is selected the layout will be further refined during the subsequent detailed design phases. However, it is unlikely that a wholly jetty type structure will be substituted for the combined jetty/rock formation arrangement shown. The cost of a wholly jetty type structure would be prohibitively expensive to construct and maintain (in the longer term).

The toe of the boat ramp needs to be located at about the same distance offshore as shown on the layout (in the PER) to reach the water depth necessary for a formal boat launching facility. A nearshore boat ramp is therefore not feasible as the water is too shallow and the seabed too expensive to dredge.

The trailer park footprint and facilities proposed are in keeping with the needs of a two-lane formal boat launching facility. See also Response to 15.1.2.

15.1.4 Any revised options or alternatives that are explored should be re-circulated to PER respondents for agreement.

Response: Any significant revisions to the boating facility layout, that may arise as a result of the subsequent detailed design phases, will be referred to the EPA for advice as to whether further distribution is required.

15.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

15.2.1 The MPRA prefers the option at Monck Head, but suggests the facility should be a jetty-type structure with a culverted small boat retrieval ramp, which has less impact and is more sustainable for this significant area.

Response: The layout shown is considered appropriate for this important location, but this is not to say that further refinement to the design will not be sought. Indeed, subsequent detailed design phases will revisit most of the work undertaken to date to ensure the best choices have been made. However, a jetty type structure (to serve the charter vessels) would be prohibitively expensive; and a (nearshore) boat ramp would not be feasible due to the shallow water depth nearshore at Monck Head. See also Responses to 15.1.2, 15.1.3 and 15.1.4.

16. OTHER ISSUES

16.1 PUBLIC SUBMISSIONS

16.1.1 Issues relevant to both sites

16.1.1.1 Neither NBB or MH should be developed. Install a boat ramp at Southern Bills Bay between the two poles in front of Monck's Park where boat launching takes place now. Install a ramp similar to one in Drummond Cove, made of plastic cloth with concrete blocks set into it, that can be rolled out or taken away when needed.

Response: The boating facility is primarily intended to address a human safety concern, by removing the informal boat launching of trailerable boats from a popular swimming area in Southern Bills Bay. A ramp at Southern Bills Bay would not achieve this.

16.1.1.2 No facility should be allowed at either site, but professional boats should be moved off the beach permanently, and go onto mooring in the sandy area in front of Monck Park, and northwards. Tenders can be used to get passengers aboard.

Response: A formal boating facility is required to remove the present informal boat launching of trailerable boats from the popular swimming area in Southern Bills Bay

16.1.1.3 It is suggested that diesel fuel storage tanks be located in a lined underground storage area.

Response: Above-ground tanks are preferred as they enable ready visual inspection of protective coating systems. The tanks will be low profile in appearance, and surrounded by a bund wall that is constructed of material (such as limestone) that is sympathetic to the landscape of the area. The tanks will also be constructed to Australian Standard AS1940.

16.1.1.4 The PER states that in-water or dry-hull cleaning will not be permitted at the facility, and that the Exmouth Marina provides a range of facilities for boat servicing and maintenance and it is intended that this marina would be used when required. Whilst agreeing that no in-water or dry-hull cleaning should be permitted at the facility, it should be noted that Exmouth marina currently provides a very limited range of facilities for boat servicing and maintenance, i.e. no sand or water blasting, no spray painting, limited and expensive waste disposal, no power or fresh water at the hardstand area and only private vessel slipping jinkers.

Response: The comment is duly noted, but it is beyond the scope of this development proposal to address such regional service issues.

16.1.1.5 A triple bottom line approach (that balances social, economic and environmental costs) to a sustainable boating facility will benefit all users of the Maud Sanctuary Zone.

Response: The PER attempts to list all the social, economic and environmental costs and benefits of both facilities. The choice of site will vary according to the weighting given to environmental factors and meeting the needs of different groups of boat users. It is, however, believed that environmental issues can be satisfactorily addressed at either site, although the NBB site will require more management effort.

16.1.1.6 *We are told that Coral Bay runs much of its light from solar power sources. We recommend the use of solar or wind energy (rather than diesel) for the minimal power requirements of the boating facility. The use of a generator detracts from the theme of sustainability and will not encourage a culture of sustainable use of Ningaloo. We believe this is important because if people see the authorities making efforts for the future of Ningaloo, they are more likely to respond positively to management initiatives. The symbolic importance of such choices to the future of Ningaloo should not be overlooked and could in itself become part of the attraction. The use of renewable energy also removes another potential source of hydrocarbon pollution and a source of atmospheric and noise pollution.*

Response: Solar powered lighting will be investigated, but winds in the region are very variable. It is anticipated that the use of solar power may be possible for lighting, but that the use of solar or wind power to run fuel pumps is unlikely to be economically viable.

16.1.1.7 *The PER in recommending methods of construction gave only limited qualitative consideration to management of the impact of each. From an engineering perspective the issues to be considered with each design/construction method are: Cost; Ease of Installation/Length of Construction Time; Access for equipment; Pollution containment; Aesthetics; Longevity/Sustainability/Adaptability to dynamic environment; and Maintenance requirements.*

Response: These issues were considered in the designs of the facilities. A PER is not an appropriate document for lengthy engineering dissertations: the main focus is environmental impacts. Much of the engineering information is also commercially sensitive: it could be made available to the EPA upon request, but not to the public.

16.1.1.8 *The stakeholder consultations were conducted in 1997 and 1998. The level of debate, understanding and information provision since then has been significant so there is every likelihood that opinions may have changed. More to the point, the range of options presented and the rationale seem to have altered significantly.*

Response: The level of debate, understanding and information provision has changed since 1998, but the main issues are the same. Also, dialogue has been maintained with all major stakeholders since the initial scoping.

16.1.1.9 *We note that the members of the Progress Association of Coral Bay have voted unanimously in favour of the Northern Bills Bay proposal. It is apparent that government bodies and the consultants who prepared the PER identify Monck Head as the preferred site. This conflict in views.....highlights the need for an overriding management strategy. In the interim, the very existence of the conflict must be considered in the decision-making process. We believe that the sanctuary zone was defined for good reason and would be opposed to boundary changes. However, it is important that the reasons for local preference of the northern option be considered and, where possible, incorporated into any final solution. It is our understanding that the reasons the Coral Bay Progress Association has voted unanimously in favour of this site are: ease of access to the outer reef; availability of pen facilities; and the ability to physically view the facility from Coral Bay itself.*

Response: The Monck Head facility does provide good access to the outer reef. There is no way of incorporating the ability to view the facility from Coral Bay itself, or providing pen facilities, but permanent moorings are incorporated for DCLM-licensed commercial boats. See also Response to 16.1.1.5.

16.1.2 Issues relevant to North Bills Bay

16.1.2.1 *All conservation-based Government departments, including CALM, DEP, NPNCA, MPRA and FWA either oppose or have expressed strong concerns about the NBB facility. Why is it being pursued?*

Response: The NBB and MH areas are those selected as the two most potentially suitable sites for a boating facility out of four sites originally considered by the Coral Bay Task Force in 1996. Consultation with the local community and affected stakeholders is an important part of any environmental assessment. Strong local preferences have been expressed for the NBB site, hence its inclusion in the PER.

16.1.2.2 *Table 1 indicates that Mauds Landing is the best site, except that it needs breakwaters. The NBB facility also needs breakwaters. This Table is misleading—please comment.*

Response: Table 1 is reproduced from the 1996 Coral Bay Task Force Report, and is provided purely as background to the PER.

16.1.2.3 *Six of the eight respondents to the request for comments from vested interests in Coral Bay (during scoping for the PER) were of the opinion that North Bills Bay was the better option for social, economic and environmental reasons.*

Response: See Response to 16.1.1.5.

16.1.2.4 *I'm certainly no expert in this field, but it does appear to my eye that there would be a great deal more impact at the North Bills Bay area than on the Monck Head site.*

Response: The potential for environmental impacts is greater at the North Bills Bay area, but it is considered that the impacts can still be managed satisfactorily.

16.1.2.5 *The Bills Bay location is within a Sanctuary Zone. It would require a separate consultation process and the concurrence of three ministers to allow a boundary change, before a facility could be built here. We argue that selection of this site will result in a protracted debate that is unlikely to reach an early conclusion. We have already argued that the need for an alternative to the current arrangement is urgent.*

Response: It is acknowledged that selection of this site will probably result in delays to construction of a facility.

16.1.3 Issues specific to Monck Head

16.1.3.1 *All conservation-based Government departments, including CALM, DEP, NPNCA, MPRA and FWA) supported the development of a large boat facility at Mauds Landing and a small boat launching facility at MH to service south of Coral Bay. Why then is MH not the only proposal being considered, rather than wasting time and money also pursuing the NBB proposal?*

Response: See Response to 16.1.2.1.

16.2 SUBMISSIONS FROM GOVERNMENT AGENCIES

16.2.1 Issues relevant to both sites

16.2.1.1 *The MPRA notes that the information given in the documents is sparse and out of date in places. It appears to include minimal tidal, current and sediment movement*

detail. There is now more available information to allow better planning for an appropriate boating facility.

Response: The information in the document was considered sufficient for a comparative assessment of the environmental effects of facilities proposed at the two sites. Further information on tides, currents and sediment movement will assist in refining the design and management of the facilities.

16.2.2 Issues relevant to North Bills Bay

16.2.2.1 The Shire of Carnarvon prefers the NBB site over the MH site because the local community has previously and consistently favoured it.

Response: See Response to 16.1.1.5.