

Expansion of Monkey Mia Dolphin Resort

Monkey Mia Dolphin Resort Pty Ltd

**Report and recommendations
of the Environmental Protection Authority**

**Environmental Protection Authority
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Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
21/10/02	Level of Assessment set (following any appeals upheld)	
08/06/04	Proponent Document Released for Public Comment	85 weeks
06/07/04	Public Comment Period Closed	4 weeks
9/12/04	Final Proponent response to the issues raised	22 weeks
21/2/05	EPA report to the Minister for the Environment	11 weeks

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Summary and recommendations

Monkey Mia Dolphin Resort Pty Ltd proposes to expand the existing Monkey Mia Dolphin Resort at Monkey Mia, Shark Bay to increase the overnight accommodation capacity from approximately 600 to 1200 guests. The proposal also provides staff accommodation and infrastructure as well as upgrading the site's wastewater treatment plant. 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 proposal.

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.

Relevant environmental issues

The EPA decided that the following environmental issues relevant to the proposal required detailed evaluation in the report:

- (a) Impacts associated with the proposal's footprint; and
- (b) Ongoing management.

There were a number of other factors which were very relevant to the proposal, but the EPA is of the view that the information set out in Appendix 3 provides sufficient evaluation.

Conclusion

The EPA has considered the proposal by Monkey Mia Dolphin Resort Pty Ltd to expand the Monkey Mia Dolphin Resort, incorporating an increase in facilities for guests and staff as well as an upgrade of the existing wastewater treatment plant.

The proposal's footprint will result in the clearing of 5.1 hectares (ha) of white coastal sandplain vegetation for the Resort expansion and 0.09 ha of red coastal sandplain vegetation for the wastewater treatment plant (WWTP). The vegetation affected by the proposal is well represented at a regional scale and the vegetation clearing is not considered to be significant.

There are a number of populations of Thick-billed Grasswren (*Amytornis textilis*) in the vicinity of the Resort. This species is classified as Vulnerable under both State and Commonwealth legislation. A baseline fauna survey identified two family groups that are likely to be impacted, in particular, by clearing associated with the Resort expansion and in the longer term by a reduction of habitat values. A condition has been recommended which provides for any clearing of vegetation to occur after the completion of nesting, after fledglings have left the nests. Information in the fauna survey suggests that the Grasswrens will continue to use the developed area provided there is sufficient habitat and refuge areas. The recommended condition also provides for Grasswren habitat to be maintained in a vegetated buffer area along the length of

the Resort expansion area and will include revegetation with local provenance species.

The EPA notes that the ongoing management of the activities at Monkey Mia, in particular those flowing from the increase in capacity of the Resort, will need to be managed in a way that ensures the values of the World Heritage Area are not compromised.

In May 2004, the Shark Bay World Heritage Property Scientific Advisory Committee convened a workshop on the “carrying capacity concept”. The workshop was convened in response to a need for the consideration of the carrying capacity issue in the context of the ongoing impacts of the proposed expansion of the Monkey Mia Dolphin Resort. The workshop indicated that there is no clear tool to proceed with in assessing carrying capacity. However, the need to limit negative impacts on the values of the Shark Bay World Heritage Property was highlighted.

The EPA is mindful of the outcomes of the workshop but considers that the absence of a strategic framework should not preclude further consideration of this expansion proposal as it has not been established if there are likely to be discernable regional impacts. The primary issue raised in relation to the expansion of the Resort and its consequential effect on carrying capacity is the management of the dolphin interaction area.

The dolphin interaction area is located between the Resort’s lease and the Shark Bay Marine Park and is currently a crown reserve jointly vested in the Shire of Shark Bay and the Executive Director of the Department of Conservation and Land Management (CALM). The current vesting does not allow the *Conservation and Land Management Act 1984* to be applied to the management of the area. This means the management planning requirements of the *Conservation and Land Management Act 1984* and, significantly, the management regulations are not able to be applied and used in effecting management of visitors and impacts on wildlife.

In order to address management of the dolphin interaction area, the proponent has proposed the reformation of the Monkey Mia Management Advisory Committee (MMMAC). The committee is to include representatives from the Monkey Mia Dolphin Resort, CALM, the Shire of Shark Bay, the Chamber of Commerce, tour operators, professional anglers and the indigenous community. The proponent states that the main objective of the committee is to “ensure the appropriate management of the Monkey Mia area”. The EPA notes that this Committee does not have any statutory backing. However, given the representation on the Committee, it is likely that there would be avenues to progress management recommendations.

The EPA has been advised by CALM that in December 1997, the Government of the day considered the potential for further tourism development at Monkey Mia. In considering further development opportunities it was recommended that the public area for visitors services should be solely vested in the then National Parks and Nature Conservation Authority (now the Conservation Commission). The public area for visitor services includes the beach area, carpark, fee collection site and existing developments (visitor centre, office and associated gardens) immediately adjacent to the Resort.

A number of potential management measures will be required as a result of the Resort expansion and the increase in visitor numbers to the dolphin interaction area which may include:

- restricting the number of people within the dolphin interaction area at any one time;
- providing a defined time for each session at the dolphin interaction area; and
- encouraging visitation to other activities and attractions in Shark Bay.

The EPA has concluded that while MMMAC is a worthy management initiative, there are likely to be difficult management decisions required to protect the Monkey Mia dolphins which may not be entirely sympathetic with visitor expectations. These decisions need to rest with CALM as the management authority for wildlife in Western Australia.

The EPA therefore recommends the change of vesting for the public area for visitor services to the Conservation Commission to allow for CALM to have greater management authority. The EPA recommends that the proposal should not be implemented before this is achieved.

The WWTP part of the proposal has been modified, with a membrane bioreactor plant now proposed. The plant is to be located on the site of the existing WWTP and will use the existing ponds. The revised WWTP will now only require a maximum additional clearing area of up to 0.09 ha. The area of clearing is to be contiguous with the existing WWTP site. The EPA is aware however that the existing WWTP and the proposed expansion are within a Parks and Recreation reserve. In managing the WWTP site, it would be advantageous for a distinct area to be identified within the Reserve for the specific purpose of the WWTP. This will allow for greater enforceability in the case of unauthorised discharge from the facility.

It is expected that the final details of the WWTP will be clarified during the Department of Environment's works approval and licensing process required under Part V of the *Environmental Protection Act 1986*.

The EPA has therefore concluded that the proposal for the expansion of the Resort should not be implemented before the public area for visitor services is vested with the Conservation Commission. However, the impacts associated with the footprint of the proposal are unlikely to compromise the EPA's objectives, provided there is satisfactory implementation by the proponent of its commitments and the recommended conditions set out in Appendix 4 and summarised in Section 5.

Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the proposal being assessed is for the expansion, incorporating construction and operation, of the Monkey Mia Dolphin Resort.
2. That the Minister considers the report on the relevant environmental issues as set out in Section 4.

3. That the Minister notes the EPA's advice that in order for the proposal to be adequately managed, it will be necessary for the vesting of the public area for visitor services adjacent to the Monkey Mia Dolphin Resort to be transferred solely to the Conservation Commission and that the proposal should not be implemented before this can be achieved.
4. That the Minister notes that the EPA has concluded that the impacts associated with the footprint of the proposal are unlikely to compromise the EPA's objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 4, and summarised in Section 5, including the proponent's commitments.
5. That the Minister imposes the conditions and procedures recommended in Appendix 4 of this report.
6. That the Minister notes the EPA's advice that the wastewater treatment plant is currently located within a Parks and Recreation reserve. The wastewater treatment plant site should be appropriately identified and contained to a known boundary within the Reserve.
7. That the Minister notes the EPA's other advice presented in Section 6.

Conditions

Having considered the proponent's commitments and information provided in this report, the EPA has developed a set of conditions that it recommends be imposed if the proposal by Monkey Mia Dolphin Resort Pty Ltd to expand the Monkey Mia Dolphin Resort is approved for implementation. These conditions are presented in Appendix 4. 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 4 (Condition 2);
- (b) fulfill the conditions relating to the management of potential impact on the Thick-billed Grasswren (Condition 6);
- (c) fulfill the conditions relating to the preparation and implementation of a Drainage Management Plan (Condition 7);
- (d) fulfill the conditions relating to the preparation and implementation of a Nutrient and Irrigation Management Plan (Condition 8); and
- (e) fulfill the conditions relating to the preparation and implementation of a Foreshore Management Plan (Condition 9).

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3. Summary of identification of relevant environmental factors
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5. Summary of submissions and proponent's response to submissions
6. Values of the Shark Bay World Heritage Property

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 the proposal by Monkey Mia Dolphin Resort Pty Ltd to expand the existing Monkey Mia Dolphin Resort to increase the accommodation capacity from approximately 600 to 1200 guests. The proposal also provides staff accommodation and infrastructure, as well as upgrading the site's wastewater treatment plant.

The proposed expansion of the Monkey Mia Dolphin Resort comprises three main components:

- increasing the Resort site from its current area of 3.74 hectares (ha) up to 6.84 ha;
- developing a new staff accommodation site of up to 2.3 ha adjacent and to the west of the existing Resort site; and
- upgrading the wastewater treatment plant using a membrane bioreactor package plant (expansion area of up to 0.09ha).

The proponent considers that the Resort expansion is an important development providing benefits to Western Australia at a State and regional level and that the expansion will accommodate an expected increase in domestic and international visitors to Monkey Mia.

The proposal is within the Shark Bay World Heritage Property and as such there are defined values of the area that need to be protected. These values are listed in Appendix 6. In ensuring that these values are protected into the future, the issue of the environmental carrying capacity of the Monkey Mia area has been given consideration through the formal environmental impact assessment process.

Expansion of the facilities at Monkey Mia was initially proposed through the preparation of an Outline Development Plan for the Monkey Mia site by O'Brien Planning Consultants for the Western Australian Planning Commission in 1995. Monkey Mia Dolphin Resort Pty Ltd referred a revised proposal to the EPA in September 2002 and the level of assessment of Public Environmental Review (PER) was set in October 2002.

The statutory and policy considerations relevant to this proposal are outlined in Section 2 of this report. Further details of the proposal are presented in Section 3 of this report. Section 4 discusses the environmental issues 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 Section 5. Section 6 provides other EPA advice, Section 7 presents the EPA's conclusions and Section 8, the EPA's recommendations.

Appendix 5 contains a summary of submissions and the proponent's response to submissions (as a compact disc) and 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.

2. Statutory and policy considerations

A summary is provided below of aspects of the statutory and policy framework in which the proposal for the expansion of the Monkey Mia Dolphin Resort has been considered.

2.1 Guidance Statement for Assessment of Development Proposals in Shark Bay World Heritage Property

As the proposal is within the Shark Bay World Heritage Property, the EPA's Guidance Statement for Assessment of Development Proposals in Shark Bay World Heritage Property (released in November 2000) is relevant.

This Guidance Statement deals with environmental impact assessment of development proposals within and adjacent to the Shark Bay World Heritage Property. In this Guidance Statement, the EPA acknowledges that "while World Heritage listing does not prevent development, there is obviously an expectation that developments are carefully evaluated from an environmental point of view and only allowed to proceed if they can be implemented in a way which does not compromise the values for which the area was listed".

It provides a process to be followed for the referral of proposal within the Shark Bay World Heritage Property which includes seeking the advice of the Shark Bay World Heritage Property Scientific Advisory Committee (SAC) and the Shark Bay World Heritage Property Community Consultative Committee (CCC). In addition, the Shark Bay's World Heritage Values are described (see Appendix 6).

2.2 Shark Bay Marine Reserves Management Plan 1996-2006

The proposal is adjacent to the Monkey Mia Recreation Zone of the Shark Bay Marine Park.

This Management Plan provides for the management of the Shark Bay Marine Park and the Hamelin Pool Marine Nature Reserve. It outlines the values of the area, including conservation, cultural, recreational, educational and scientific and commercial values. Shark Bay Marine Park was created in 1990 to help preserve the outstanding natural features of the region.

The Monkey Mia Recreation Zone exists as an 800 metre radius from the north west corner of the Monkey Mia jetty. The objective of this zone is to provide for a wide variety of recreation uses compatible with the protection of dolphins and the maintenance of the dolphin interaction experience.

3. The proposal

The proposal is for the expansion of the Monkey Mia Dolphin Resort, incorporating both construction and operation. There are three primary components to the proposal:

- increasing the capacity of the Resort from approximately 600 to 1200 guests per night through an increase from its current area of 3.74 hectares (ha) up to 6.84 ha;
- developing a new staff accommodation precinct of 2.3 ha immediately to the west of the existing Resort area, incorporating accommodation, recreational facilities and car and boat/trailer parking areas; and
- upgrading the site's wastewater treatment plant (WWTP) using a membrane bioreactor package plant to a total maximum area of 0.36 ha.

The Resort is contained within Reserve 40727, also described as Lot 104 on Deposited Plan (DP) 28250. The expansion area and staff accommodation area are to be excised from the adjacent proposed Lot 105 on DP219786. The WWTP is within a portion of proposed Lot 103 on DP219786.

Figure 1 is an aerial photo of the location of the Monkey Mia Dolphin Resort and identifies the expansion areas for the Resort, staff accommodation and WWTP. Figure 2 shows more detail of the proposed layout of the Resort expansion area and staff accommodation area, noting the areas proposed to be two storey.

The main characteristics of the proposal are summarised in Table 1 below. A detailed description of the proposal is provided in Section 14 of the Public Environmental Review (PER) (RPS BBG 2004a).

Table 1: Summary of key proposal characteristics

Element	Description
Major components (of proposal)	<ul style="list-style-type: none"> • expansion of existing Resort area to accommodate up to 1200 guests • provision of staff accommodation facilities • upgrade of the existing wastewater treatment plant using a Membrane Bioreactor Package Plant
Resort expansion area	Up to 3.1 hectares
Staff accommodation area	Up to 2.3 hectares
Wastewater treatment plant area	Up to 0.36 hectares
<i>Resort Expansion</i>	
Function rooms	1
Two storey development	Approximately one third of the Resort (shaded in Figure 2)
Hotel suites	Up to 100 (total)
Bungalows	Up to 30 (total)
Budget accommodation	Up to 120 bed (total)

Motel units	Up to 70 (total)
Caravan lots	Up to 71 (total)
Camping area	Up to 4400 metres ² (total) (accommodating approximately 260 people)
Tennis courts	3 (total)
Swimming pool	Existing 6 metre pool and spa (self-contained)
Manager's residence	1
Car parking	Provision for approximately 200 cars and 2 buses within Resort
Vegetation clearing	Up to 3.1 hectares of white coastal sandplain vegetation
<i>Staff Accommodation Facilities</i>	
Suites	Up to 36
Caravan park sites	Up to 24
Swimming pool	Up to 100 metre ² pool (self-contained)
Car parking	Provision for approximately 55 cars and 24 boat/trailer bays within staff accommodation area
Vegetation clearing	Up to 2.3 hectares of white coastal sandplain vegetation
<i>Wastewater Treatment Plant</i>	
Membrane bioreactor package plant	Up to 0.36 hectares (total area) Existing ponds used for storing treated effluent and sludge
Vegetation clearing	Up to 0.09 hectares of red coastal sandplain vegetation, contiguous with the existing wastewater treatment plant.

3.1 Key changes to the proposal from that described in the PER

Since release of the PER, modifications to the proposal have been made by the proponent. These include:

3.1.1 Removal of the swimming pool

The proposal presented in the PER included a 7000 m² swimming pool that was to be self contained. Following the public comment period, the proposal was revised by the proponent such that the swimming pool was proposed to operate as a flow through system, with intake and discharge to Shark Bay. The EPA requested further information from the proponent on the potential environmental impacts associated with the flow through aspects of the proposal. The proponent has now withdrawn the swimming pool from the proposal. The former swimming pool site has been retained as a landscaped area. As a result, within the Resort area, only the existing 6 m pool will remain.

3.1.2 Modification to the wastewater treatment plant (WWTP) proposal

The waste from the existing facility is treated through a system of facultative ponds and infiltration swales. The PER proposed an expansion of this system through an

upgrade providing an additional infiltration swale, and a sprinkler system to increase evaporative loss.

In its response to submissions, the proponent advised that it has considered alternatives to the WWTP proposed in the PER with the objectives of:

- (a) reducing the footprint of the wastewater treatment upgrade and therefore reducing the area of vegetation clearing;
- (b) implementing a system which provides effective, consistent and cost effective treatment of wastewater; and
- (c) assessing the feasibility of using treated wastewater in irrigating the Resort grounds and therefore minimise the requirements for groundwater abstraction and desalination and treatment.

As a result, the WWTP proposed will involve the use of a membrane bioreactor plant. This uses a biological reaction process combined with a micro-filtration membrane system. The plant is to be located on the site of the existing WWTP and will use the existing ponds. However, the revised WWTP will require a maximum additional clearing area of up to 0.09 ha as opposed to the 2.2 ha proposed in the PER document. The area of clearing is to be contiguous with the existing WWTP site.

It is expected that the final details of this plant will be clarified during the Department of Environment's works approval and licensing process required under Part V of the *Environmental Protection Act 1986*.

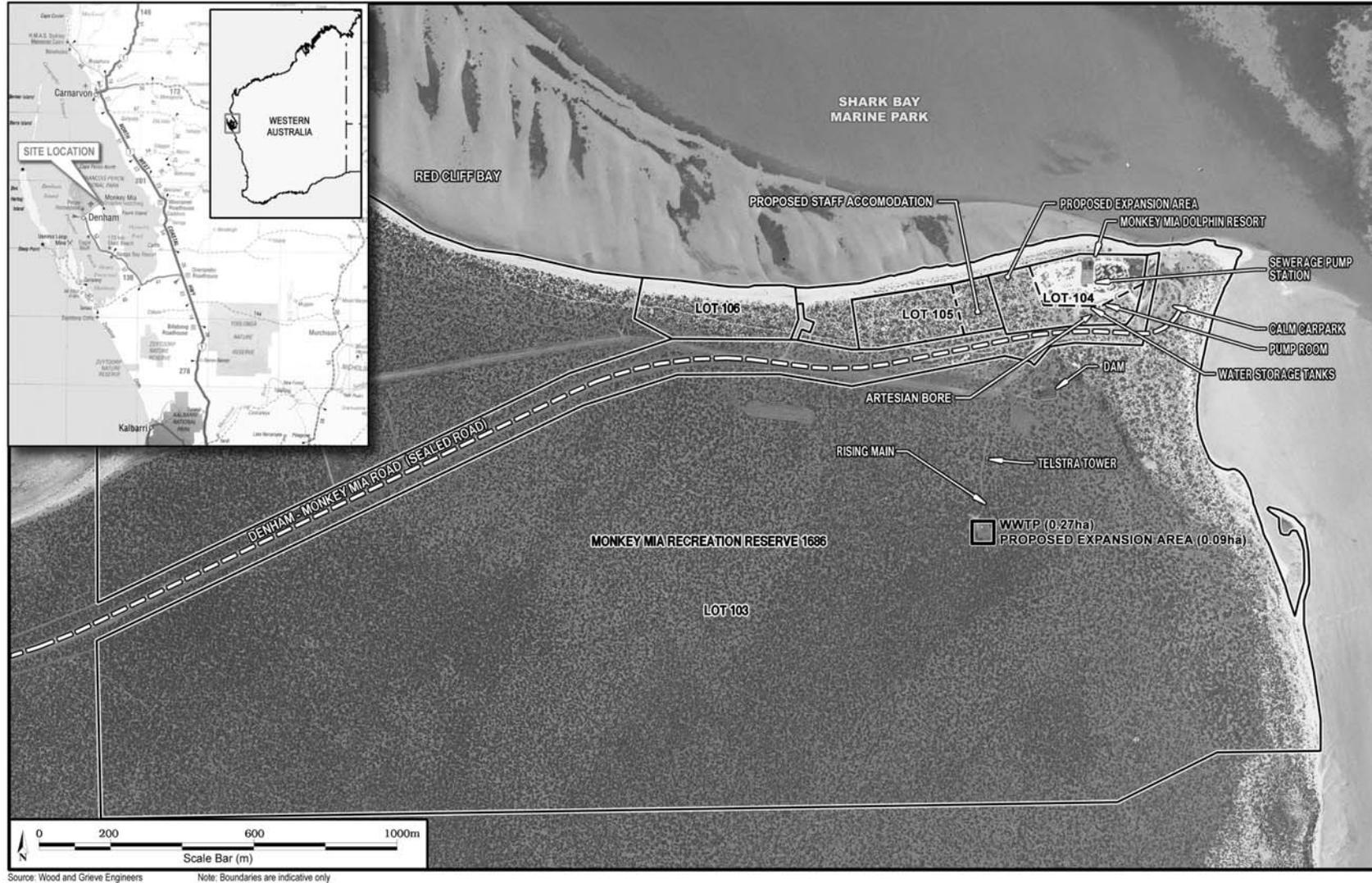


Figure 1: Monkey Mia Dolphin Resort location, noting expansion areas for the Resort, staff accommodation and wastewater treatment plant.



Source: Overman and Zuideveld, November 2004

Figure 2: Layout of the expansion and redevelopment of the Resort and staff accommodation areas.

4. Relevant environmental issues

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, such as impacts on coastal processes, marine flora and fauna and water use, are very 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 issues relevant to the proposal require detailed evaluation in this report:

- (a) Impacts associated with the proposal's footprint; and
- (b) Ongoing management.

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

Details on the relevant environmental issues and their assessment are contained in Sections 4.1 - 4.2. 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.

4.1 Impacts associated with the proposal's footprint

Description

The Resort expansion and staff accommodation area is expected to impact on 5.1 ha of white coastal sandplain vegetation. This vegetation is dominated by *Acacia sclerosperma* scrub. The WWTP expansion is expected to impact 0.09 ha of red coastal sandplain vegetation. This thicket/scrub vegetation is dominated by *Acacia ramulosa* with some *A. tetragonophylla*.

No declared rare or priority flora species were recorded in the flora surveys undertaken on the site.

The Department of Conservation and Land Management's (CALM) threatened fauna database listed a number of threatened and priority fauna that could occur within the study area. The Thick-billed Grasswren was the only threatened species recorded from the surveys within the Resort expansion area. A number of migratory bird

species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* were recorded at the WWTP site.

The footprint of the proposal is entirely within the terrestrial environment and will not extend to the beach area nor to the marine environment.

Submissions

Submissions related to the footprint of the proposal raised the following matters:

- the manner in which the fauna surveys were undertaken; and
- the potential for impact on Thick-billed Grasswren populations.

Assessment

The EPA's environmental objective for this issue is:

- to maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge.

The following assessment is provided on the primary matters associated with the footprint of the proposal:

4.1.1 Terrestrial Fauna

The fauna surveys undertaken were considered in the context of the EPA's *Guidance Statement 56 – Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004). Section 3.2.5 of the Guidance Statement provides an indicative level of survey required, based on the scale and nature of impact and the sensitivity of the receiving environment. Figure 1 of the EPA's *Position Statement Number 3 – Terrestrial Biological Surveys as an Element of Biodiversity Protection* (EPA 2002) identifies Monkey Mia as being within the Carnarvon Bioregion. Based on the scale of the proposal, less than 10 ha of clearing within the Carnarvon Bioregion would result in an indication to undertake a level 1 survey entailing a desktop study followed by a reconnaissance survey. The proponent met this indicative level of survey.

The fauna surveys note the presence of a number of populations of Thick-billed Grasswren (*Amytornis textilis*) within the white coastal sandplain vegetation. This species is classified as Vulnerable under both State and Commonwealth legislation. A directed survey of the Thick-billed Grasswren population at Monkey Mia was undertaken in January 2003 (Appendix C of RPS BBG 2004a). This collected baseline data on the numbers and location of Thick-billed Grasswren families within approximately 50 ha immediately around Monkey Mia. It appears that two family groups are likely to be impacted by the Resort expansion. This baseline information will allow for the proponent's monitoring to specifically target the families located within and adjacent to the proposed expansion area in order to ensure that any potential impacts are minimised.

To manage the potential impacts associated with vegetation clearing and construction in the area, the EPA has recommended a condition which provides for any clearing of vegetation to occur after the completion of nesting, after fledglings have left the nests (Condition 6). Information in the fauna survey suggests that the Grasswrens will

continue to use the developed area provided there is sufficient habitat and refuge areas. The recommended condition also provides for Grasswren habitat to be maintained in a vegetated buffer area along the length of the Resort expansion area and will include revegetation with local provenance species.

It should also be noted that the expansion of the Resort is proposed to be undertaken over a ten year period. As such, this partially staged approach is likely to allow for movement of fauna out of the proposed construction areas.

4.1.2 Terrestrial Flora

No priority or rare species were identified in the flora survey and the vegetation types to be impacted are well represented within the Shark Bay area. The footprint associated with the WWTP has been reduced to 0.36 ha in total, with 0.09 ha of clearing of vegetation proposed. In the implementation of the proposal, it is expected that vegetation clearing will be minimised wherever possible and the areas of proposed clearing noted in the key characteristics table (Table 1) will be the upper limits.

The Nutrient and Irrigation Management Plan required through recommended condition 8 and the Foreshore Management Plan required through recommended condition 9 will incorporate the species proposed to be planted. It is expected that these species will primarily be local provenance native species with some habitat value.

The Management Plans required through the recommended conditions will need to be approved prior to the commencement of construction. It is also recommended that the Plans be publicly available on request.

Summary

The EPA considers that the issue of impacts associated with the proposal's footprint has been adequately addressed and can meet the EPA's objectives for this factor provided that vegetation clearing is minimised wherever possible and important habitat for the Grasswrens is maintained and replaced within the development. These matters are addressed in the recommended conditions.

4.2 Ongoing management

Description

The expansion of the Monkey Mia Dolphin Resort will increase the overnight capacity at Monkey Mia from 600 to 1200 guests. The proponent notes that the expansion will be undertaken over a ten year period, and the Resort is not expected to be at 100% occupancy at all times.

It is likely that the proposal will have offsite impacts in addition to the impacts of the proposal's footprint. As such, the management requirements associated with the operation of this facility, including the management of the increase in people to the site are likely to be ongoing and require additional resources from both the proponent and the relevant management authorities.

The matters relevant to this issue include carrying capacity, management of the dolphin interaction area and management recommendations associated with the WWTP site.

Submissions

Most of the submissions on the PER made some reference to aspects associated with the ongoing management of the Monkey Mia Dolphin Resort. In particular, the following matters were raised:

- lack of direct management action by the proponent and reliance on the CALM to manage additional visitor pressure;
- need for the proponent to support increased resourcing to manage impacts of the expansion at the site, indexed according to visitor numbers;
- little attempt to determine the carrying capacity of the local and regional environment;
- potential for an increasing number of people on the beach at Monkey Mia to impact on the values of the Shark Bay World Heritage Area.

Assessment

The EPA's environmental objectives for biodiversity and conservation areas are relevant to the issue of ongoing management. These objectives include:

- to maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge;
- to protect the environmental values of areas identified as having significant environmental attributes; and

The following assessment is provided on the primary matters associated with ongoing management:

4.2.1 Carrying Capacity

The issue of carrying capacity is based on the concept of the maximum number of individuals that a given environment can support without detrimental effects. As a function, CALM has stated that carrying capacity is the ability of ecological and social values to cope with sustained increases in human induced pressures, in relation to the available management resources and ability of Government agencies to manage the increases in human usage and subsequent pressures.

In May 2004, the Shark Bay World Heritage Property Scientific Advisory Committee (SAC) convened a workshop on the "carrying capacity concept". The workshop was convened in response to a need for the consideration of the carrying capacity issue in the context of the ongoing impacts of the proposed expansion of the Monkey Mia Dolphin Resort. The workshop indicated that there is no clear tool to proceed with in assessing carrying capacity. However, the need to limit negative impacts on the values of the Shark Bay World Heritage Property was highlighted. In particular, the ability to manage future increases in the numbers of visitors within the Shark Bay

area. It was identified that negative impacts from increased visitors could be lessened if the values of the World Heritage Property were explained and the potential activities to be undertaken while visiting the site were diversified.

As an outcome of the meeting, the following approach was suggested for considering carrying capacity in environmentally sensitive areas such as Shark Bay:

- (a) identify economic, social and environmental values, considering World Heritage values, defined by all stakeholder groups;
- (b) set 'value condition targets';
- (c) develop 'value condition indicators' to monitor those values (e.g. environmental indicators, visitor satisfaction, local employment); and
- (d) develop/maintain management actions to ensure value condition targets are achieved, especially in relation to a hierarchy of sites to be provided for visitation to areas with different levels of environmental significance and sensitivity.

The EPA notes that such an approach could potentially be incorporated into a review of the Shark Bay Regional Strategy (WAPC 1997). This Strategy documents issues facing the Shark Bay region and provides a good overview, however, it should also be noted that it was due for review in October 2002. A revised document could greater reflect on the World Heritage values of the area as well as taking account of the increasing development pressures within Shark Bay. Any regional Strategy should incorporate potential mechanisms to manage increasing numbers of visitors to the World Heritage Property, thereby reducing the risk of damage to the Property's internationally significant values.

The outcomes of the May 2004 carrying capacity workshop have provided a great deal of good advice for the ongoing consideration of the carrying capacity issue within Shark Bay. However, there has been no clear mechanism established to consider carrying capacity and the process outlined could take some time to conclude. While it is hoped that the information gained on the carrying capacity issue will be progressed to further the drive for a "sustainable Shark Bay" it is considered that the absence of a strategic framework should not preclude further consideration of this expansion proposal as it has not been established if there are likely to be discernable regional impacts.

The primary issue raised in relation to the expansion of the Resort and its consequential effect on carrying capacity is the management of the dolphin interaction area.

4.2.2 Management of the dolphin interaction area

The proponent has estimated that if the Resort reaches full capacity, the average number of visitors to the dolphin interaction area each day is expected to increase by 25 % over current numbers. This is based on approximately 102,000 people currently visiting Monkey Mia each year, of which approximately 29,000 (28%) visitors stay at the Monkey Mia Dolphin Resort with the remaining 73,000 visitors (72%) being day visitors.

Given that the potential for visitors to interact with dolphins is one of the key reasons for people visiting Monkey Mia and staying at the Resort, it is expected that an increase in capacity of the Resort is likely to increase the numbers of visitors to the beach area, and in particular the dolphin interaction area.

It is considered that the potential for impact on the dolphin interaction area, the visitor experience and the potential for impact on the dolphins themselves are all interrelated and may be impacted in some way through the expansion of the Resort if adequate management is not in place.

The dolphin interaction area is located between the Resort's lease area and the ocean and is currently a crown reserve jointly vested in the Shire of Shark Bay and the Executive Director of the Department of Conservation and Land Management.

In its response to submissions on the PER document, the proponent has noted that it has initiated the reformation of the Monkey Mia Management Advisory Committee (MMMAC). The committee is to include representatives from the Monkey Mia Dolphin Resort, CALM, the Shire of Shark Bay, the Chamber of Commerce, tour operators, professional anglers and the indigenous community. The proponent states that the main objective of the committee is to "ensure the appropriate management of the Monkey Mia area". The EPA notes that this Committee does not have any statutory backing. However, given the representation on the Committee, it is likely that there would be avenues to progress management recommendations.

The EPA has been advised by CALM that in December 1997, the Government of the day considered the potential for further tourism development at Monkey Mia. The concept of the development of tourism projects at Monkey Mia was endorsed in principle based on a number of recommendations and requirements. One of these requirements was for the public area for visitors services to be vested in the then National Parks and Nature Conservation Authority (now the Conservation Commission).

CALM has also advised that it strongly supports this recommendation as it will greatly aid in the ability for CALM to manage a number of aspects of the proposal on an ongoing basis. The current vesting, that is in the Executive Director of CALM and the Shire of Shark Bay, does not allow the *Conservation and Land Management Act 1984* to be applied to the management of the area. This means the management planning requirements of the *Conservation and Land Management Act 1984* and, significantly, the management regulations are not able to be applied and used in effecting management of visitors and impacts on wildlife.

A number of potential management measures were discussed in the PER (RPS BBG 2004a), the submissions and in the Response to Submissions (RPS BBG 2004b, Appendix 5). Some of these measures included:

- restricting the number of people within the dolphin interaction area at any one time (it would need to be made clear that entrance to the interaction area at any one time would be on a first come first served basis);
- providing a defined time for each session at the dolphin interaction area (however as the dolphins do not visit the beach at a set time, there would not be any guarantee of encountering a dolphin); and

- encourage visitation to other activities and attractions in Shark Bay.

Some submissions on the PER suggested that additional structures should be constructed to enhance the ability for an increased number of people to see the dolphin interaction area. These suggestions included the development of an additional jetty within the Monkey Mia area and the construction of tiered seating within the beach area. It should be noted that the suggestions incorporating additional infrastructure were not considered to be part of the proposal. Any future infrastructure proposal would need to be considered on its merits, taking into account the potential for environmental impact.

It is expected that in managing the dolphin interaction area, CALM would be able to identify any potential impacts on the visitor experience at Monkey Mia. It would also be expected that ongoing management of the area would be based on a combination of strategies for the management of the number of people on the beach and the individual experience. If the public area for visitor services were to be vested in the Conservation Commission, CALM would be able to exert greater control over the management of the dolphin interaction area.

The EPA has concluded that while MMMAC is a worthy management initiative, there are likely to be difficult management decisions required to protect the Monkey Mia dolphins which may not be entirely sympathetic with visitor expectations. These decisions need to rest with CALM as the management authority for wildlife in Western Australia.

The EPA therefore recommends the change of vesting for the public area for visitor services to the Conservation Commission to allow for CALM to have greater management authority. The EPA recommends that the proposal should not be implemented before this is achieved.

4.2.3 Management at the WWTP site

The existing WWTP and the proposed expansion area is within proposed Lot 103 on DP219786. This area is reserved as Parks and Recreation in the Shire of Shark Bay Town Planning Scheme Number 2. While a WWTP would not normally be considered within a Parks and Recreation reserve, the Shire of Shark Bay and CALM have agreed to the operation of the WWTP within Reserve 1686.

The location of the WWTP site is shown on Figure 1, although the specific footprint of the final 0.36 ha site is not shown. The existing WWTP area is proposed to be increased by 0.09 ha as part of this proposal. It is expected that the expansion area is to be contiguous with the existing WWTP site.

In managing the WWTP site, it would be advantageous for a distinct area to be identified within proposed Lot 103 (part of Reserve 1686) for the specific purpose of the WWTP. This is already the case for a grave site and a telecommunications site within the reserve. It will allow for greater enforceability in the case of unauthorised discharge from the facility. As such, in the interests of orderly planning and ongoing management, it is recommended that the 0.36 ha WWTP site be identified specifically

for this purpose within the Shire of Shark Bay Town Planning Scheme and through the Department of Land Information.

The details of the WWTP expansion and its direct management will be addressed through the issue of a works approval and license by the Department of Environment under Part V of the *Environmental Protection Act 1986*. Aspects raised by the Department of Health will also need to be addressed prior to construction.

Matters such as management of drainage from the site as well as the management of application of nutrient and irrigation can be managed through the appropriate implementation of the recommended conditions 7 and 8 respectively.

Summary

Taking into account the information provided by the proponent and the discussion provided above in Section 4.2, the EPA considers that:

- (a) in order for the proposal to be adequately managed, it will be necessary for the vesting of the public area for visitor services adjacent to the Monkey Mia Dolphin Resort to be transferred solely to the Conservation Commission and that the proposal should not be implemented before this can be achieved.
- (b) the wastewater treatment plant is currently located within a Parks and Recreation reserve. The wastewater treatment plant site should be appropriately identified and contained to a known boundary within the Reserve.
- (c) the impacts associated with the footprint of the proposal are unlikely to compromise the EPA's objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 4, and summarised in Section 5, including the proponent's commitments.

5. 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.

5.1 Proponent's commitments

The proponent's commitments as set in the PER and subsequently modified, as shown in Appendix 4, should be made enforceable. These include:

- preparation and implementation of an environmental management system;
- preparation and implementation of a construction management plan; and
- aboriginal heritage issues.

These commitments are drawn from those provided by the proponent in its summary of submissions on the PER, as shown in Appendix 5. It is expected that the proponent will undertake the commitments noted in Appendix 5, however, only those included in Appendix 4 are proposed to form part of the conditions to which the proposal should be subject if it is to be implemented.

5.2 Recommended conditions

Having considered the proponent's commitments and the information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by Monkey Mia Dolphin Resort Pty Ltd to expand the Monkey Mia Dolphin Resort (as described in Section 3), is approved for implementation. These conditions are presented in Appendix 4.

A number of the proponent's original commitments have been modified to conditions to clarify the EPA's intent in relation to these matters. 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 4;
- (b) that the proponent shall minimise impact on the Thick-billed Grasswren;
- (c) that the proponent shall prepare and implement a Drainage Management Plan;
- (d) that the proponent shall prepare and implement a Nutrient and Irrigation Management Plan; and
- (e) that the proponent shall prepare and implement a Foreshore Management Plan.

It should be noted that other regulatory mechanisms relevant to the proposal include:

- the requirement for a works approval and license to be issued by the Department of Environment prior to the expansion of the wastewater treatment plant;
- the provisions of the Shire of Shark Bay Town Planning Scheme constrain expansion of the Monkey Mia Dolphin Resort until a Concept Development Plan (CDP) is prepared and approved by the Shark Bay council and the Western Australian Planning Commission (it is expected that the CDP would reflect the proposal described in the PER document);
- the requirement for a lease for the Resort expansion area to be issued through the Land Asset Management Services Section of the Department for Planning and Infrastructure on behalf of the Shire of Shark Bay; and

- the requirement for a lease for the staff accommodation area to be issued through the Land Asset Management Services Section of the Department for Planning and Infrastructure.

6. Other advice

6.1 Management and resourcing requirements

Advice was sought from the relevant management authorities associated with the ongoing management of the proposal in relation to providing an indication of the ongoing resourcing requirements associated with the proposal. It is considered by the relevant agencies, in particular CALM and the Department of Fisheries, that additional resources will be required to ensure that the impacts from the proposed expansion of the Monkey Mia Dolphin Resort can be managed, and the values of the World Heritage Area are not compromised in the implementation of this proposal. In order to achieve this, it is expected that the progressive implementation of the proposal over 10 years will allow for adaptive management and the potential for an increase in resources to be provided over time. While it is noted that it is difficult to quantify the level of additional resourcing that will be required for ongoing management, CALM has highlighted the importance of the public area for visitor services adjacent to the Resort being vested solely with the Conservation Commission to allow for appropriate management decisions to be taken.

6.2 Swimming pool

The proposal documented in the PER incorporated a 7000 m² recirculated saltwater swimming pool. This swimming pool was then amended to operate on a flow through basis with water intake from and discharge to Shark Bay waters. The proponent has now withdrawn the proposal for the swimming pool and it no longer forms part of this assessment. It should be noted that the area proposed for the swimming pool has been retained as a landscaped area.

Should the proponent wish to proceed with the development of a swimming pool in the future, referral of the proposal to the EPA will be required and the proponent shall provide the information previously requested by the EPA.

It should also be noted that the Department of Health requirements applicable to a public swimming pool would be required to be met.

6.3 Commonwealth assessment

The EPA notes that the proponent referred the proposal to the Commonwealth Department of the Environment and Heritage under the *Environment Protection and Biodiversity Conservation Act 1999* due to the potential for the proposal to impact on matters of national environmental significance, in particular, the Shark Bay World Heritage Property. In October 2003, the Department of the Environment and Heritage advised the proponent that the expansion of the Monkey Mia Dolphin Resort is not a “controlled action”.

7. Conclusions

The EPA has considered the proposal by Monkey Mia Dolphin Resort Pty Ltd to expand the Monkey Mia Dolphin Resort, incorporating an increase in facilities for guests and staff as well as an upgrade of the existing wastewater treatment plant.

The proposal's footprint will result in the clearing of 5.1 hectares (ha) of white coastal sandplain vegetation for the Resort expansion and 0.09 ha of red coastal sandplain vegetation for the wastewater treatment plant (WWTP). The vegetation affected by the proposal is well represented at a regional scale and the vegetation clearing is not considered to be significant.

Around the Resort area there are a number of populations of Thick-billed Grasswren (*Amytornis textilis*). This species is classified as Vulnerable under both State and Commonwealth legislation. A baseline fauna survey identified two family groups that are likely to be impacted, in particular, by clearing associated with the Resort expansion and in the longer term by a reduction of habitat values. A condition has been recommended which provides for any clearing of vegetation to occur after the completion of nesting, after fledglings have left the nests. Information in the fauna survey suggests that the Grasswrens will continue to use the developed area provided there is sufficient habitat and refuge areas. The recommended condition also provides for Grasswren habitat to be maintained in a vegetated buffer area along the length of the Resort expansion area and will include revegetation with local provenance species.

The EPA notes that the ongoing management of the activities at Monkey Mia, in particular those flowing from the increase in capacity of the Resort, will need to be managed in a way that ensures the values of the World Heritage Area are not compromised.

In May 2004, the Shark Bay World Heritage Property Scientific Advisory Committee convened a workshop on the "carrying capacity concept". The workshop was convened in response to a need for the consideration of the carrying capacity issue in the context of the ongoing impacts of the proposed expansion of the Monkey Mia Dolphin Resort. The workshop indicated that there is no clear tool to proceed with in assessing carrying capacity. However, the need to limit negative impacts on the values of the Shark Bay World Heritage Property was highlighted.

The EPA is mindful of the outcomes of the workshop but considers that the absence of a strategic framework should not preclude further consideration of this expansion proposal as it has not been established if there are likely to be discernable regional impacts. The primary issue raised in relation to the expansion of the Resort and its consequential effect on carrying capacity is the management of the dolphin interaction area.

The dolphin interaction area is located between the Resort's lease and the Shark Bay Marine Park and is currently a crown reserve jointly vested in the Shire of Shark Bay and the Executive Director of the Department of Conservation and Land Management

(CALM). The current vesting does not allow the *Conservation and Land Management Act 1984* to be applied to the management of the area. This means the management planning requirements of the *Conservation and Land Management Act 1984* and, significantly, the management regulations are not able to be applied and used in effecting management of visitors and impacts on wildlife.

In order to address management of the dolphin interaction area, the proponent has proposed the reformation of the Monkey Mia Management Advisory Committee (MMMAC). The committee is to include representatives from the Monkey Mia Dolphin Resort, CALM, the Shire of Shark Bay, the Chamber of Commerce, tour operators, professional anglers and the indigenous community. The proponent states that the main objective of the committee is to “ensure the appropriate management of the Monkey Mia area”. The EPA notes that this Committee does not have any statutory backing. However, given the representation on the Committee, it is likely that there would be avenues to progress management recommendations.

The EPA has been advised by CALM that in December 1997, the Government of the day considered the potential for further tourism development at Monkey Mia. In considering further development opportunities it was recommended that the public area for visitors services should be solely vested in the then National Parks and Nature Conservation Authority (now the Conservation Commission). The public area for visitor services includes the beach area, carpark, fee collection site and existing developments (visitor centre, office and associated gardens) immediately adjacent to the Resort.

A number of potential management measures will be required as a result of the Resort expansion and the increase in visitor numbers to the dolphin interaction area which may include:

- restricting the number of people within the dolphin interaction area at any one time;
- providing a defined time for each session at the dolphin interaction area; and
- encouraging visitation to other activities and attractions in Shark Bay.

The EPA has concluded that while MMMAC is a worthy management initiative, there are likely to be difficult management decisions required to protect the Monkey Mia dolphins which may not be entirely sympathetic with visitor expectations. These decisions need to rest with CALM as the management authority for wildlife in Western Australia.

The EPA therefore recommends the change of vesting for the public area for visitor services to the Conservation Commission to allow for CALM to have greater management authority. The EPA recommends that the proposal should not be implemented before this is achieved.

The WWTP part of the proposal has been modified with a membrane bioreactor plant now proposed. The plant is to be located on the site of the existing WWTP and will use the existing ponds. The revised WWTP will now only require a maximum additional clearing area of up to 0.09 ha. The area of clearing is to be contiguous with the existing WWTP site. The EPA is aware however that the existing WWTP and the proposed expansion are within a Parks and Recreation reserve. In managing the

WWTP site, it would be advantageous for a distinct area to be identified within the Reserve for the specific purpose of the WWTP. This will allow for greater enforceability in the case of unauthorised discharge from the facility.

It is expected that the final details of the WWTP will be clarified during the Department of Environment's works approval and licensing process required under Part V of the *Environmental Protection Act 1986*.

The EPA has therefore concluded that the proposal for the expansion of the Resort should not be implemented before the public area for visitor services is vested with the Conservation Commission. However, the impacts associated with the footprint of the proposal are unlikely to compromise the EPA's objectives, provided there is satisfactory implementation by the proponent of its commitments and the recommended conditions set out in Appendix 4 and summarised in Section 5.

8. Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the proposal being assessed is for the expansion, incorporating construction and operation, of the Monkey Mia Dolphin Resort.
2. That the Minister considers the report on the relevant environmental issues as set out in Section 4.
3. That the Minister notes the EPA's advice that in order for the proposal to be adequately managed, it will be necessary for the vesting of the public area for visitor services adjacent to the Monkey Mia Dolphin Resort to be transferred solely to the Conservation Commission and that the proposal should not be implemented before this can be achieved.
4. That the Minister notes that the EPA has concluded that the impacts associated with the footprint of the proposal are unlikely to compromise the EPA's objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 4, and summarised in Section 5, including the proponent's commitments.
5. That the Minister imposes the conditions and procedures recommended in Appendix 4 of this report.
6. That the Minister notes the EPA's advice that the wastewater treatment plant is currently located within a Parks and Recreation reserve. The wastewater treatment plant site should be appropriately identified and contained to a known boundary within the Reserve.
7. That the Minister notes the EPA's other advice presented in Section 6.

Appendix 1

List of submitters

State and Local Government Agencies:

Department for Planning and Infrastructure

Department of Conservation and Land Management

Department of Environment

Department of Health

Department of Indigenous Affairs

Marine Parks and Reserves Authority

Shark Bay World Heritage Property Community Consultative Committee

Shark Bay World Heritage Property Scientific Advisory Committee

Shire of Shark Bay

Western Australian Tourism Commission

Organisations and Companies:

Conservation Council of Western Australia

Prague Holdings Pty Ltd

Shark Bay Conservation Foundation (Friends of Shark Bay)

Yamatji Marlpa Barna Baba Maaja Aboriginal Corporation

Individuals:

B Mitchell

J Sellenger

A Smith

H Smith

G Thompson

P Rakela

Appendix 2

References

Bowman, Bishaw Gorham (2004) *Expansion of Monkey Mia Dolphin Resort Environmental Scoping Document*. Prepared for Monkey Mia Dolphin Resort Pty Ltd. January 2004.

Environmental Protection Authority (2000) *Guidance for the Assessment of Environmental Factors: Guidance Statement for Assessment of Development Proposals in Shark Bay World Heritage Property*. Guidance Statement No. 49 (final), November 2000.

Environmental Protection Authority (2002) *Terrestrial Biological Surveys as an Element of Biodiversity Protection*. Position Statement Number 3. March 2002.

Environmental Protection Authority (2004) *Guidance for the Assessment of Environmental Factors: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*. Guidance Statement No. 56, June 2004.

Department of Conservation and Land Management (1996) *Shark Bay Marine Reserves Management Plan 1996 – 2006. Management Plan No 34*. 1996

RPS Bowman Bishaw Gorham (2004a) *Expansion of Monkey Mia Dolphin Resort, Public Environmental Review (Assessment Number 1455)*. Prepared for Monkey Mia Dolphin Resort Pty Ltd. Prepared by RPS Bowman Bishaw Gorham. 8 June 2004.

RPS Bowman Bishaw Gorham (2004b) *Expansion of Monkey Mia Dolphin Resort, Public Environmental Review: Response to Public Submissions (EPA Assessment Number 1455)*. Prepared for Monkey Mia Dolphin Resort Pty Ltd. Prepared by RPS Bowman Bishaw Gorham. December 2004.

Western Australian Planning Commission (1997) *Shark Bay Regional Strategy: A review of the 1988 Shark Bay Regional Plan*. October 1997.

Appendix 3

Summary of identification of relevant environmental issues

Expansion of the Monkey Mia Dolphin Resort – Summary of identification of relevant environmental issues

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
Carrying capacity	<p>Proposal is for the expansion of the Resort, providing for more people to be accommodated in the area.</p> <p>The maximum number of people to be accommodated at the Resort will increase from 600 to 1200.</p>	<p>CALM:</p> <p>The management measures proposed to address carrying capacity amount to very little in terms of direct action and place the burden of additional visitor pressure in the hands of CALM.</p> <p>The direct links between carrying capacity and the management burden, including dolphin management, that CALM will inherit are not clear. The Resort should commit to support increased resourcing required by CALM to manage impacts of the expansion both at the site and at other environmentally significant sites. This additional resourcing could be indexed according to visitor numbers.</p> <p>CCC:</p> <p>The environmental objective for carrying capacity relates to the local and regional environment, but no attempt is made to determine what those carrying capacities are. There needs to be a clear framework for a Sustainable Shark Bay in place before development proposals are approved on an ad hoc basis. This needs to be developed in consultation with the local and wider community and involve consideration of types of infrastructure needed for the future, a clear definition of baseline data, transparent consideration of likely impacts and a robust monitoring regime. If the tourist footprint is controlled and minimised properly then the visitor experience is enhanced.</p> <p>SAC:</p> <p>Concern over the impact of increasing the number of people on the beach at Monkey Mia, especially without plans to deal with the potential effects on the values of the Shark Bay World Heritage Area, except in relation to dolphins.</p> <p>Carrying Capacity Workshop outcomes:</p> <p>No tool to proceed with when assessing carrying capacity.</p>	<p>Considered to be a relevant environmental factor and is discussed in the context of ongoing management, incorporating carrying capacity.</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
		<p>There is a need to limit negative impacts on World Heritage Property values and have the ability to manage future increases in numbers.</p> <p>Need for a sustainable tourism approach and Sustainable Management Guidelines to be driven back into the planning process.</p> <p>No “golden number” for carrying capacity.</p> <p>Negative impacts of increased visitors could be lessened if the values were explained and activities diversified.</p> <p>A suggested strategy:</p> <ul style="list-style-type: none"> • identify Economic, Social and Environmental Values, considering World Heritage values, defined by all stakeholder groups; • set “value condition targets”; • develop “value condition indicators” to monitor those values e.g. environmental indicators, visitor satisfaction, local employment; and • develop/maintain management actions to ensure value condition targets are achieved, especially in relation to a hierarchy of sites to be provided for visitation to areas with different levels of environmental significance and sensitivity. 	
Management		<p>CALM:</p> <p>The impact that an increase in the number of boats visiting the area may have on the marine fauna and flora of the Shark Bay Marine Park is not adequately addressed. Current research is looking at the impact of boating activity in general on the behaviour and distribution of marine animals. Implementation of management responses to research findings will occur in the future in consultation with the Resort and stakeholders. The management strategies proposed for increased signage and promotion of boating regulations is not sufficient. Constraints need to be considered</p>	<p>The proponent has stated that the majority of guests visiting the Resort do not engage in boating activities other than those offered through charter or tour boat operators, which is regulated through the DPI and DoF.</p> <p>Additional boat / trailer parking bays are provided in the staff accommodation area for researchers. However, no boat / trailer facilities are provided for within the resort expansion area.</p> <p>The proposal being considered is that put forward by the proponent and described in Section 3 of this report. Any other structures such as an additional jetty would be considered to be separate proposal.</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
		<p>regarding boat usage by guests by limiting the Resort's capacity to accommodate boats.</p> <p>CCC, CALM, DoE:</p> <p>The issue of a reduced dolphin interactive experience with an influx of additional patrons has not been addressed. The management measure to encourage guests to avoid congestion at the dolphin interaction by stating the time of their proposed visit and encourage visitation to other activities and attractions in Shark Bay would entail patrons visiting the dolphin interaction area at other times with no guarantee of encountering a dolphin. The dolphins do not visit on a regular basis during the morning and therefore the interactions cannot be run on a predetermined schedule. Alternative measures to achieve reduction in congestion needs to be explored further, for example, by adding infrastructure to cater for the demand. Increasing CALM personnel on the beach is an unlikely outcome as no resources have been identified for this, and would still not prevent the dolphin interactive experience from being compromised. The key strategy is for CALM to review resourcing levels and if greater resourcing is required for management of the area then the Resort should be contributing to the cost of this action and providing direct resource support to manage this interaction.</p> <p>Additional structures should be constructed to enhance the ability for an increased number of people to see the dolphin interaction area.</p>	<p>A number of aspects of management are considered to be a relevant environmental factor and are discussed in the context of the issue of ongoing management.</p> <p>Some aspects raised in relation to management are discussed in Other Advice.</p>
BIOPHYSICAL			
Water supply and use	The increase in accommodation capacity has the potential to increase the water requirements for the site.	<p>CCC & DoE:</p> <p>The PER does not provide any details about water supply source, predicted demand, management or impacts from sourcing water (groundwater resource sustainability).</p>	The proponent has advised that the Resort uses approximately 26,000m ³ of water per annum from the artesian bore, which is estimated to represent approximately 0.1% of the total water abstracted from the aquifer. The proponent suggests that this supports CALM's (1998) assessment that it is 'unlikely that current levels of extraction or usage of this groundwater would impact on World heritage Values'.

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
			<p>Based on this, doubling the capacity of the Resort over a ten year period could potentially represent a 0.1% increase in total groundwater abstraction levels from the aquifer which the proponent suggests is likely to have no significant effect on World Heritage Values.</p> <p>Further assessment of the water supply for the site may be required. However, as the bore is currently licenced to the Shire of Shark Bay, it is expected that any increase in proposed extraction will be managed through the license.</p> <p>In addition, changes to the WWTP proposal, to use a membrane bioreactor package plant will result in water reuse for irrigation of landscaped areas. This will decrease water take from the bore.</p> <p>This factor does not require further EPA evaluation.</p>
<p>Terrestrial biodiversity - fauna incorporating threatened and priority species.</p>	<p>Loss of habitat area: 5.1 hectares (ha) of white coastal sandplain vegetation and 0.09 ha of red sandplain vegetation</p> <p>Potential for impact on threatened species through the loss of habitat in territory for Thick-billed Grasswren.</p>	<p>Public: Concern was raised in relation to the quality of the field surveys: The PER acknowledges the possible presence of Woma pythons (<i>Aspidites ramsayi</i>) in the area. The PER's fauna survey report falsely states that there is only one historical record of the species from the Peron Peninsula, possibly indicating that the population has never been large. CALM has transmitters on a number of Woma pythons from this area and from discussions with locals, park staff and researchers Woma pythons are seen regularly on the Peron Peninsula. Consequently, the management strategies to protect this Schedule 4 species are not addressed in the PER.</p> <p>The EPA <i>Terrestrial Biological Surveys as an Element of Biodiversity Protection (2002)</i> makes it clear that proponents are required to assess the potential impact of the development in the context of the 'biodiversity value at the genetic, species, and ecosystem levels, and its ecological functional value at the ecosystem level'. This has not been done and cannot be adequately done without more data on the terrestrial vertebrate assemblage in the area.</p>	<p>The proponent advised that the purpose of the fauna survey undertaken in early 2002 was to identify whether any significant fauna species would be significantly impacted on as a result of the proposed expansion. The outcomes of this survey identified the need to undertake a second survey which would target populations of Thick-billed Grasswrens.</p> <p>In addition, the proponent notes that the significant fauna species that are expected to be within the region, such as the Woma python, are likely to be widespread, and therefore, the potential impact of the proposed development on them is not considered to be significant and will roughly reflect the proportion of habitat disturbed or altered.</p> <p>The EPA <i>Position Statement No. 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection (2002)</i> provides an indicative guide to the recommended level of investigation. Based on the nature of the impact and the sensitivity of the environment the Position Statement provides indicative levels of biological surveys expected by the EPA for environmental impact assessment. The level of studies undertaken by the proponent was in accordance</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
			<p>with this document.</p> <p>The potential for impact on threatened species is considered to be a relevant environmental factor discussed in the context of impacts of the proposal's footprint.</p> <p>Other aspects of this factor do not require further EPA evaluation.</p>
<p>Terrestrial biodiversity - flora</p>	<p>Loss of 5.1 ha of white coastal sandplain vegetation Loss of 0.09 ha of red sandplain vegetation</p>	<p>No submissions specifically relating to this issue were received.</p>	<p>No rare or priority vegetation species were identified, and it is proposed that clearing of vegetation will be minimised wherever possible. The vegetation types to be cleared are well represented in the Shark Bay area and, as such it is considered that this factor does not require further EPA evaluation.</p>
<p>Marine biodiversity - flora and fauna</p>	<p>No direct impact on the marine environment. Potential for indirect impacts through greater use of the marine environment adjacent to the site.</p>	<p>Public: Doubling accommodation capacity and the resulting increase in visitors to Monkey Mia will lead to a substantial increase in recreational fishing effort and potential increases in commercial fishing activity in the area in order to accommodate tourist demand for alternate activities during their stay at Monkey Mia. This will place unwanted and irreversible damage to an already delicate balance in fin-fish populations. An increase in boating as a result of the development is likely to impact on seagrasses in the area. CALM: Research indicates that the species of dolphin present at Monkey Mia is <i>Tursiops aduncus</i> rather than <i>T. truncatus</i> as stated in the PER. DoE: The increased number boats and boat mooring as a result of the expansion may constitute vegetation clearing of seagrass meadows under the recently amended <i>Environmental Protection Act 1986</i>.</p>	<p>Recreational fishing may increase as a result of the Resort expansion. However, the proponent considers that this will not lead to a significant increase in uncontrolled recreational fishing pressure as guests are more likely to spend time at the dolphin interaction area and other local attractions. The DoF already has in place strict management for recreational fisheries, particularly relating to snapper fishing within Shark Bay. Commercial fishing in the area is highly unlikely to increase as a result of this proposal proceeding. No boat moorings are proposed as part of this proposal and therefore, are not considered through this environmental assessment. As such, direct impacts on marine flora are not expected from the implementation of the proposal. The proponent has advised that it is the Resort's experience that guests wishing to undertake fishing as part of their stay at the Resort usually fish on charter fishing boats. The charter boat industry is managed under a suite of recreational fishing regulations and there is discrete legislation which imposes certain responsibilities and conditions on charter operators. In addition, redevelopment of the Resort will be incremental and occur over a ten year period. This will provide an opportunity for</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
			<p>the Monkey Mia Management Advisory Committee to monitor and assess the potential impacts that the proposed expansion may have on future recreational fishing as well as provide sufficient time for Resort management, relevant Government agencies and key stakeholders to implement and refine the management measures proposed to ensure that fish stocks are not adversely impacted on.</p> <p>The potential for impact on the Monkey Mia “beach dolphins” and the dolphin interaction area is considered to be a relevant environmental factor and is discussed in the context of ongoing management.</p> <p>Other aspects of this factor do not require further EPA evaluation.</p>
Coastal processes	<p>Proposed Resort expansion and staff accommodation facilities are within the recommended 100 metre coastal setback.</p> <p>No structures are proposed within the beach area.</p>	<p>MPRA & SAC:</p> <p>The PER should contain a condition of lease that hardening of the shoreline, with seawalls etc is prohibited as these types of structures will adversely impact on the point and beaches which are very mobile.</p> <p>Due to the protected nature of the beach area in front of the Resort, limited cleaning occurs through wave activity. A clean-up of the beach area in front of the Resort, extending to the jetty, should be required as a condition of approval. Sand needs to be turned over and pumped with water to clean it.</p> <p>Current and future operations and construction plans should require an undertaking that no Pindan sand will be imported to the beach area and deposited there in the future.</p> <p>DoE:</p> <p>The proposed expansion of the Resort is within the 100m guideline setback recommended by the State Coastal Planning Strategy, with proposed setbacks from the permanent vegetation line at approximately 25 metres.</p>	<p>The proposal does not include hardening of the shoreline, construction of seawalls, structures on the beach or additional offshore infrastructure such as a new jetty, as such, they are not considered through this assessment and are not permitted.</p> <p>The proponent has advised that it engages a local indigenous contractor to collect rubbish from the beach and that a sand washing program in the beach area would provide little benefit beyond the rubbish collection program currently undertaken.</p> <p>The proponent has committed to ensuring that no Pindan sand will be imported to the beach area for construction.</p> <p>While the State Coastal Planning Policy No. 2.6 identifies a 100m setback as a guideline for future development, the Policy states that the total required setback will vary according to the circumstances of each proposal.</p> <p>As part of the PER, an engineering assessment was undertaken, with reference to the State Coastal Planning Policy. The engineering assessment suggested that the proposed setback is acceptable.</p> <p>Factor does not require further EPA evaluation.</p>
POLLUTION			

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
Waste management	Potential for increases in levels of wastewater, nutrients, irrigation and stormwater runoff impact.	<p>Public: Need to prevent waste entering the Shark Bay Marine Park.</p> <p>DoH: Wastewater treatment and disposal will require approval of the DoH, the proponent will need to demonstrate that the capacity of ponds proposed is adequate to dispose wastewater generated by the development. Wastewater flows should be based on peak period occupancy of the development including visitors.</p> <p>MPRA & CCC: There is no reference to the proposed wastewater treatment management plan including any contingency or crisis action, should the proposed monitoring program detect adverse impacts. The DoE licence to be issued for this facility should also include conditions to covers such an eventuality.</p>	<p>Management issues associated with the revised WWTP, including contingency actions are to be clarified through the DoE works approval and licence process. The concerns of the DoH will be addressed at this time.</p> <p>The proposed WWTP is different from that proposed in the PER and now requires an additional 0.09 ha of clearing rather than the 2.2 ha originally proposed. The proponent advised that the objectives of the revised WWTP are to:</p> <ul style="list-style-type: none"> • minimise the areas required to be cleared for the upgraded wastewater treatment plant; and • recycle treated wastewater for irrigating the Resort grounds to minimise the requirements for groundwater abstraction, desalinisation and treatment. <p>The operation of the WWTP will be monitored thought the DoE licence required to be issued for commissioning of the facility.</p> <p>Concerns were raised in relation to discharge from the proposed 7000m² swimming pool but the proponent has withdrawn this component of the proposal.</p> <p>Factor does not require further EPA evaluation.</p>
Nutrient management	The proposal will incorporate landscaping and provision of grassed areas.	<p>Public: Raised that the proposed species to be planted and the planting regime should be clarified prior to approval being given, with adequate details to be provided on the amount of water to be used, the plants and the amounts and types of fertilizer to be used.</p>	<p>The proponent's commitments include the preparation and implementation of a Nutrient and Irrigation Management Plan. It is proposed that this commitment will be clarified through a condition. This will then ensure that the potential impacts from nutrient discharge associated with the landscaping of the site will be considered prior to construction.</p> <p>Based on implementation of the conditions, the EPA considers that nutrient management does not require further evaluation.</p>
SOCIAL SURROUNDINGS			
World heritage	Proposal is within the Shark Bay World Heritage Scientific	While a number of submissions raised the need to consider that the proposal is within the World Heritage property, and the values should not be compromised, few submissions related specifically to	The EPA's assessment has taken account that the proposal is within the Shark Bay World Heritage Property and the specific values for which the area was listed have been considered as an integral part of

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Issues
	Property. Likely to result in loss of Thick-billed Grasswren territory.	individual values of the World Heritage area, other than those raised throughout this table.	the assessment. The potential impact on the Thick-billed Grasswren is considered to be a relevant environmental factor discussed in the context of impacts of the proposal's footprint. Other aspects of this factor do not require further specific EPA evaluation.
Aboriginal culture and heritage	Development may impact on aboriginal heritage sites.	DIA: The proposed expansion area should be resurveyed for new sites and a determination should be made regarding the condition of the previously recorded sites, prior to the expansion. The developers should submit a Section 18 notice to the Minister prior to ground disturbing activities as well as consider the recommendations made by Morse (1997).	The proponent has advised that the recommendations of Morse (1997) were considered. The aboriginal people in the area have been involved in the development process and the Yadgalah Aboriginal Corporation is a financial stakeholder in the proposed development. The proponent acknowledges its need to fulfill the requirements stipulated on the Section 18 clearance under the <i>Aboriginal Heritage Act 1972</i> . Factor does not require further EPA evaluation.
Landscape values and visual amenity	Potential for increased structure to impact on visual amenity at the site.	Public: It was recommended that the Resort be constructed primarily as a single storey facility.	Approximately one third of the Resort is proposed to be constructed as two storey, in accordance with Amendment 45 to the Shire of Shark Bay Town Planning Scheme. This amendment allows for structures up to 7.75 metres to be constructed on the site. The location of the two storey buildings will be in accordance with an approved concept development plan (to be based on Figure 2 of this report). Factor does not require further EPA evaluation.

Abbreviations:

CALM: Department of Conservation and Land Management
CCC: Shark Bay World Heritage Property Community Consultative Committee
DIA: Department of Indigenous Affairs
DoE: Department of Environment
DoF: Department of Fisheries
DoH: Department of Health
DPI: Department for Planning and Infrastructure

EMP: Environmental Management Plan
EPA: Environmental Protection Authority
MPRA: Marine Parks and Reserves Authority
PER: Public Environmental Review
SAC: Shark Bay World Heritage Property Scientific Advisory Committee
WWTP: Wastewater Treatment Plant

Appendix 4

Recommended Environmental Conditions and Proponent's Consolidated Commitments

RECOMMENDED CONDITIONS AND PROCEDURES

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

**EXPANSION OF THE MONKEY MIA DOLPHIN RESORT
MONKEY MIA, SHARK BAY**

Proposal: The expansion, incorporating construction and operation of the Monkey Mia Dolphin Resort through expansion of the existing resort area, provision of staff accommodation facilities and upgrade of the wastewater treatment plant, as documented in schedule 1 of this statement.

Proponent: Monkey Mia Dolphin Resort Pty Ltd

Proponent Address: 262 Stirling Highway, (PO Box 140) Claremont WA 6010

Assessment Number: 1455

Report of the Environmental Protection Authority: Bulletin 1165

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

1 Implementation

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

2 Proponent Commitments

2-1 The proponent shall implement the environmental management commitments documented in schedule 2 of this statement, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

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 Environment 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 substantially commence the proposal within five years of the date of this statement 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.

5 Compliance Audit

- 5-1 The proponent shall prepare an audit program and submit compliance reports to the Department of Environment every two years until construction is completed which address:
1. the status of 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 Environment is empowered to monitor 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.

- 5-2 The proponent may submit a report prepared by an auditor approved by the Department of Environment under the “Compliance Auditor Accreditation Scheme” to the Chief Executive Office of the Department of Environment on each condition/commitment of this statement which requires the preparation of a management plan, programme, strategy or system, stating whether the requirements of each condition/commitment have been fulfilled within the timeframe stated within each condition/commitment.

6 Thick-billed Grasswren (*Amytornis textilis textilis*) Habitat

- 6-1 To allow for the protection of part of a territory of the Thick-billed Grasswren, the proponent shall retain a buffer area of *Acacia* sp. along the southern side of the Denham-Monkey Mia Road, for the length of the resort, including the resort expansion area and staff accommodation area, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

The buffer area shall be approximately 600 metres in length and not less than 15 metres wide.

- 6-2 Prior to commencement of construction within the white coastal sandplain area, the proponent shall undertake a survey during the nesting season to determine the presence of Thick-billed Grasswren nests in the area proposed to be cleared, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

Subsequently, the proponent shall repeat this survey prior to commencement of clearing where a particular area is to be cleared in the following 12 months.

- 6-3 The proponent shall only undertake clearing of white coastal sandplain vegetation after the Thick-billed Grasswren fledglings have left their nests.
- 6-4 The proponent shall retain local native vegetation within the white coastal sandplain development area, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

7 Drainage Management Plan

- 7-1 Prior to commencement of construction associated with the resort expansion, the proponent shall prepare a Drainage Management Plan, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

This plan shall address:

1. management of stormwater quality and quantity;
2. potential for erosion, local flooding and contaminant discharge;
3. minimising pollutants at their source; and
4. pollutant removal.

Note: In preparation of advice to the Minister for the Environment, the Environmental Protection Authority expects that the advice of the following agencies will be obtained:

- Department of Conservation and Land Management; and
- Shire of Shark Bay.

- 7-2 The proponent shall implement the Drainage Management Plan required by condition 7-1, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 7-3 The proponent shall make the Drainage Management Plan required by condition 7-1 publicly available, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

8 Nutrient and Irrigation Management Plan

- 8-1 Prior to commencement of construction associated with the resort expansion, the proponent shall prepare a Nutrient and Irrigation Management Plan, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

This plan shall address:

1. method of application;
2. irrigation program;
3. water conservation;

4. recommendation for low nutrient and water requirement plants and grasses; and
5. prescribed fertiliser applications.

Note: In preparation of advice to the Minister for the Environment, the Environmental Protection Authority expects that the advice of the following agencies will be obtained:

- Department of Conservation and Land Management; and
- Shire of Shark Bay.

- 8-2 The proponent shall implement the Nutrient and Irrigation Management Plan required by condition 8-1, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 8-3 The proponent shall make the Nutrient and Irrigation Management Plan required by condition 8-1 publicly available, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

9 Foreshore Management Plan

- 9-1 Prior to commencement of construction associated with the resort expansion, the proponent shall prepare a Foreshore Management Plan, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

This plan shall address:

1. minimising risk of dune erosion;
2. formalised access points;
3. definition of dune preservation and fencing areas;
4. rehabilitation and restoration of foreshore areas, incorporating stabilisation;
5. identification of species to be planted; and
6. education and signage.

Note: In preparation of advice to the Minister for the Environment, the Environmental Protection Authority expects that the advice of the following agency will be obtained:

- Department of Conservation and Land Management.

- 9-2 The proponent shall implement the Foreshore Management Plan required by condition 9-1, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 9-3 The proponent shall make the Foreshore Management Plan required by condition 9-1 publicly available, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

Procedures

- 1 Where a condition states “to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority”, the Environmental Protection Authority will provide that advice to the Department of Environment for the preparation of written notice to the proponent.
- 2 The Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Department of Environment.
- 3 Where a condition lists advisory bodies, it is expected that the proponent will obtain the advice of those listed as part of its compliance reporting to the Department of Environment.

Notes

- 1 The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environment over the fulfilment of the requirements of the conditions.
- 2 The proponent is required to apply for a Works Approval and Licence for the wastewater treatment plant component of this project under the provisions of Part V of the *Environmental Protection Act 1986*.
- 3 Within this statement, to “have in place” means to “prepare, implement and maintain for the duration of the proposal”.

Schedule 1

The Proposal (Assessment No. 1455)

The expansion (construction and operation) of the Monkey Mia Dolphin Resort, incorporating the expansion of the existing resort area through provision of additional guest accommodation facilities, provision of staff accommodation facilities and an upgrade of the wastewater treatment plant.

The resort expansion area is within Reserve 40727, described as Lot 104 on DP28250. The staff accommodation area is within proposed Lot 105 on plan 19786 and the wastewater treatment plant expansion area is adjacent to the existing wastewater treatment plant within proposed Lot 103 on plan 19786. See figures 1 and 2.

Table 1 – Key Proposal Characteristics

Element	Description
Major components (of proposal)	<ul style="list-style-type: none"> expansion of existing resort area provision of staff accommodation facilities upgrade of the existing wastewater treatment plant using a Membrane Bioreactor Package Plant
Resort Expansion Area	Up to 3.1 hectares
Staff Accommodation Area	Up to 2.3 hectares
Wastewater Treatment Plant Area	Up to 0.36 hectares (total area)
<i>Resort Expansion</i>	
Function Rooms	1
Two storey development	Approximately one third of the resort
Hotel Suites	Up to 100 (total)
Bungalows	Up to 30 (total)
Budget Accommodation	Up to 120 bed (total)
Motel units	Up to 70 (total)
Caravan Lots	Up to 71 (total)
Camping Area	Up to 4400 metres ² (total) (accommodating approximately 260 people)
Tennis Courts	3 (total)
Swimming Pool	6 metre pool and spa (self-contained)
Manager's Residence	1
Car parking	Provision for approximately 200 cars and 2 buses within resort Provision for approximately 55 cars and 24 boat/trailer bays within staff accommodation area
Vegetation Clearing	Up to 3.1 hectares of White Coastal Sandplain vegetation
Construction	No pindan sand will be transported to the beach area adjacent to the resort and expansion area
<i>Staff Accommodation Facilities</i>	

Suites	Up to 36
Caravan park sites	Up to 24
Swimming Pool	Up to 100 metre ² pool (self-contained)
Vegetation clearing	Up to 2.3 hectares of White Coastal Sandplain vegetation
<i>Wastewater Treatment Plant</i>	
Membrane bioreactor package plant	Up to 0.36 hectares (total area) Existing ponds used for storing treated effluent and sludge
Vegetation clearing	Up to 0.09 hectares of Red Coastal Sandplain vegetation, adjacent to cleared area for the existing wastewater treatment plant.

Figures (attached)

Figure 1 – Monkey Mia Dolphin Resort location and expansion areas for the resort, staff accommodation and wastewater treatment plant.

Figure 2 – Layout of the resort expansion area and staff accommodation area.

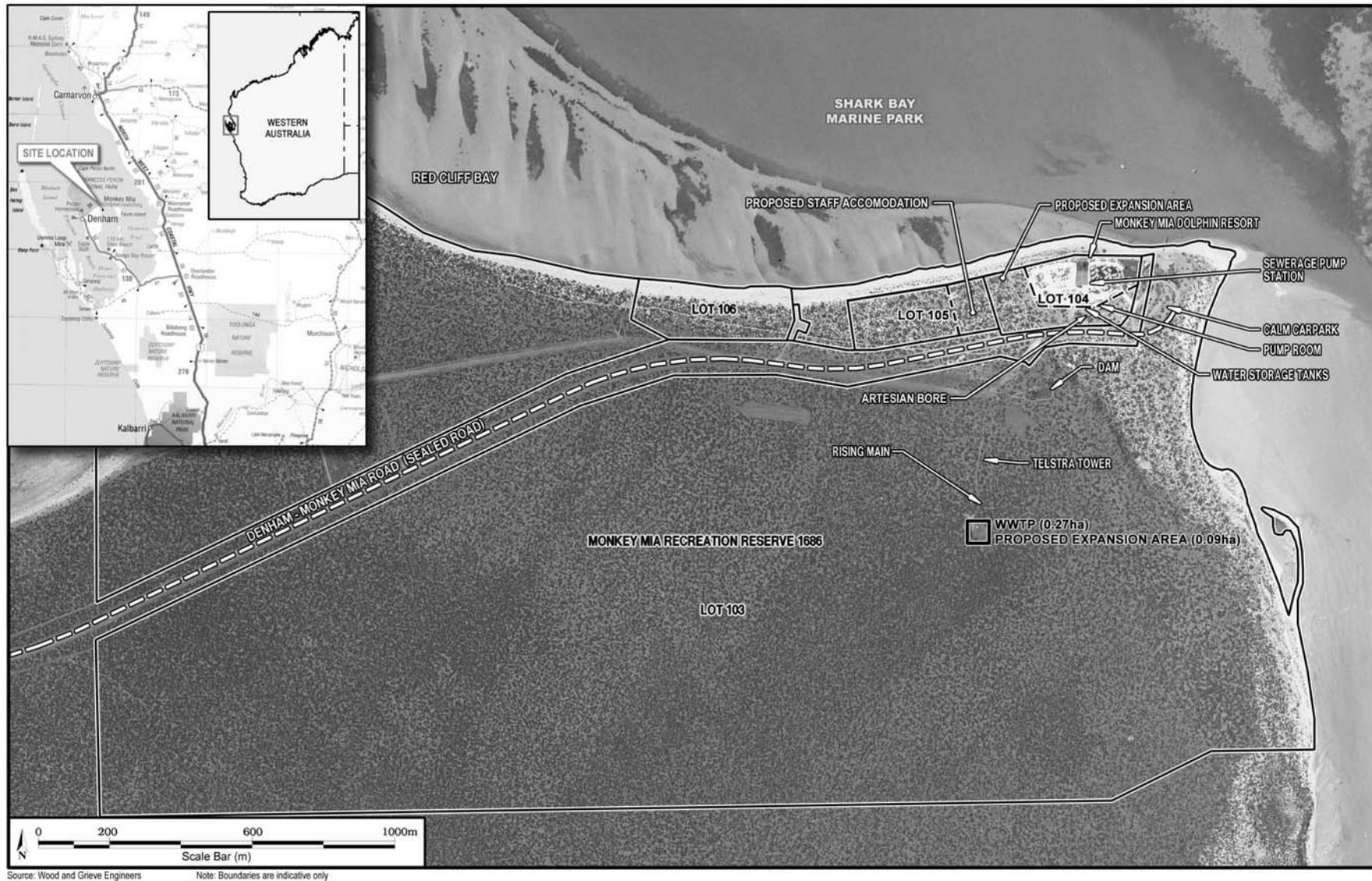
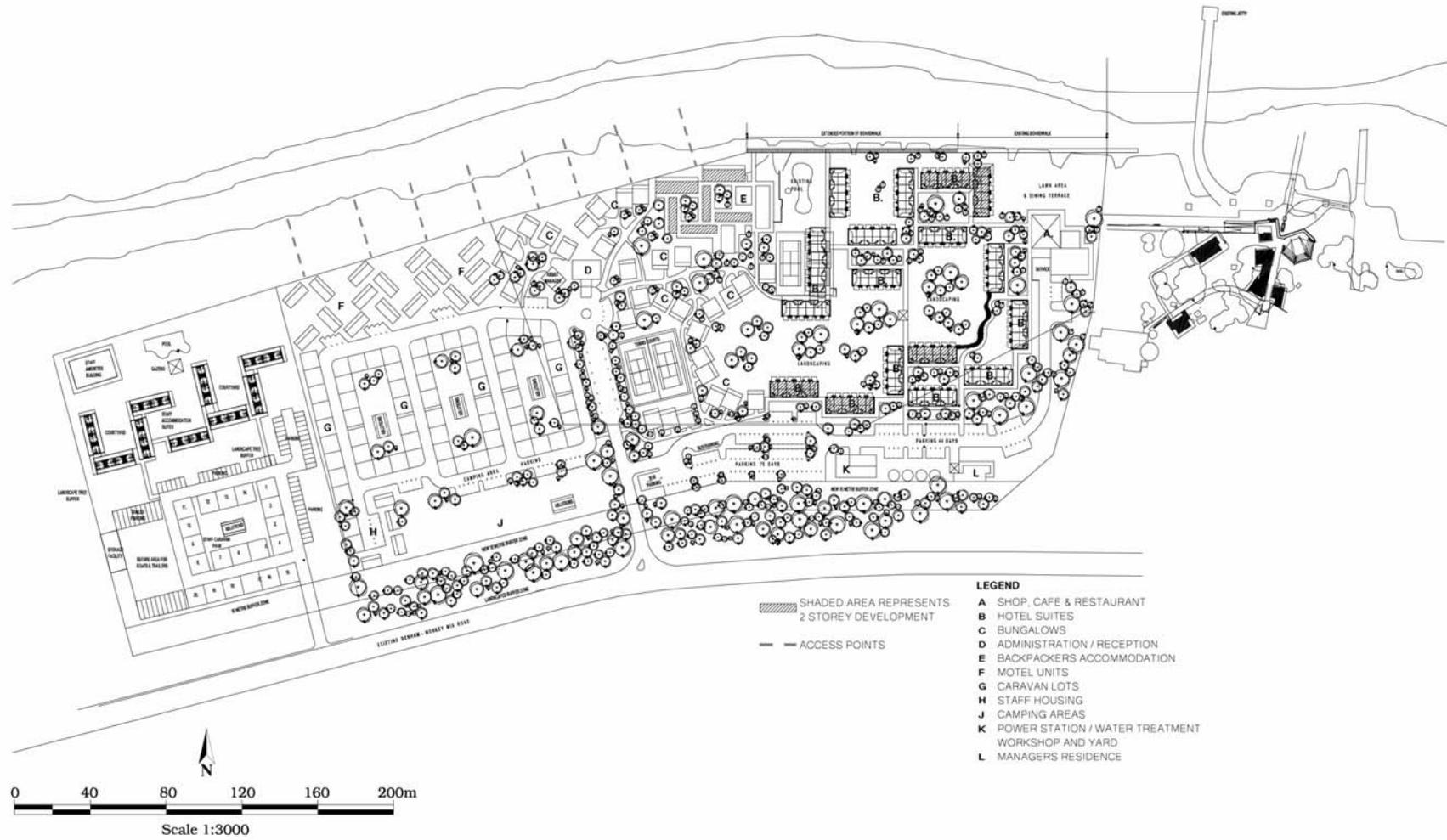


Figure 1: Monkey Mia Dolphin Resort location, noting expansion areas for the resort, staff accommodation and wastewater treatment plant.



Source: Overman and Zuideveld, November 2004

Figure 2: Layout of the expansion and redevelopment of the resort and staff accommodation areas.

Proponent's Environmental Management Commitments

4 February 2005

**EXPANSION OF THE MONKEY MIA
DOLPHIN RESORT, MONKEY MIA,
SHARK BAY**

(Assessment No. 1455)

Monkey Mia Dolphin Resort Pty Ltd

Proponent’s Environmental Management Commitments – February 2005

EXPANSION OF MONKEY MIA DOLPHIN RESORT (Assessment No. 1455)

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 objective of the commitment;
- the ‘action’ to be undertaken by the proponent;
- the timing requirements of the commitment; and
- the body/agency to provide technical advice to the Department of Environment.

Proponent Commitments

No	Topic	Objective	Action	Timing	Advice
1.	Environmental Management System	<p>To ensure environmental best practice in accordance with EPA’s Guidance Statement Number 43.</p> <p>The aim of the EMS is to ensure the operations of the Monkey Mia Dolphin Resort are in accordance with the commitments outlined in this statement.</p>	<p>Have in place, and make publicly available an Environmental Management System (EMS) for this project, which will include:</p> <p>(a) Environmental policies specific to the proposed resort and wastewater treatment plant facilities and corporate commitment to it.</p> <p>(a) Environmental Management Program with specific Management Plans to address the environmental impacts, including:</p> <ul style="list-style-type: none"> • Foreshore Management Plan; • Nutrient and Irrigation Management Plan; and • Wastewater Treatment Management Plan. <p>(b) Setting of appropriate objectives and targets, to meet environmental requirements.</p> <p>(c) Implementation and operation of actions to meet environmental performance.</p> <p>(d) Measurement and evaluation of environmental performance.</p> <p>(e) Creation of appropriate management structures and responsibilities including human, equipment and financial resources.</p>	Prior to construction and post-construction	CALM

No	Topic	Objective	Action	Timing	Advice
			(f) Training, including induction, in environmental management procedures. (g) Development of communication procedures to staff, visitors, members of the community and government officers, and communicating relevant procedures and requirements to suppliers and contractors. (h) Development of performance monitoring and measurement procedures on the key features of the proposal which may impact on the environment. (i) Development of corrective and preventative procedures. (j) Development of management review and feedback procedures.		
2.	Construction Activities	To manage and minimise the potential impacts of construction activities upon the surrounding environment and visual amenity.	Prepare a Construction Management Plan, which will include: (a) management of noise and dust impacts; (b) minimising visual impacts; (c) provision of fencing, appropriate storage facilities and locations; and (d) containment of all earthworks off the beach.	Prior to construction	SoSB and CALM
3.	Construction Activities	As for Commitment 15.	Implement the Construction Management Plan.	During construction.	SoSB and CALM
4.	Aboriginal Heritage and Culture	To fulfil the requirements stipulated on the Section 18 clearance of the <i>Aboriginal Heritage Act 1972</i> .	(a) Undertake an ethnographic and archaeological survey of the proposed wastewater treatment plant site before construction occurs. (b) If any Aboriginal material is uncovered as a result of earthmoving activities work will immediately cease in that area and the discovery will be reported to the relevant authorities. (c) Project personnel and construction workers will be informed of the requirement of the <i>Aboriginal Heritage Act 1972</i> with regards to interference with aboriginal sites.	Prior to construction	DIA

Abbreviations:

CALM: Department of Conservation and Land Management

DIA: Department of Indigenous Affairs

EMS: Environmental Management System

EPA: Environmental Protection Authority

SoSB: Shire of Shark Bay

Appendix 5

Summary of Submissions and Proponent's Response to Submissions

(on Compact Disc attached to back cover)

Appendix 6

Shark Bay World Heritage Values

(Taken from Appendix 2 of EPA Guidance Statement 49)

“..outstanding examples representing the major stages of the earth’s evolutionary history”

- Stromatolites and microbial mats of Hamelin Pool
- Hamelin Pool and L’haridon Bight
- Holocene fossil shell deposits adjacent to Hamelin Pool and L’haridon Bight

“..outstanding examples representing significant ongoing geological processes, biological evolution and man’s interaction with his natural environment”; distinct from the periods of the earth’s development, this focuses upon ongoing processes in the development of communities of plants and animals, landforms and marine areas and fresh water bodies.

MARINE ENVIRONMENT

- Unique hydrological structure, banks and sills-eg Fauré Sill, steep salinity gradients, three biotic zones
- Hypersaline environment of Hamelin Pool
- High genetic biodiversity due to steep environmental gradients (e.g. Snapper, venerid clams, bivalves)
- Seagrass meadows, their species diversity and their role in the evolution of the marine environment eg Wooramel Seagrass Bank
- Carbonate deposits and sediments, including *Fragum erugatum* shell deposits
- Northern limit of transition between temperate and tropical marine environments resulting in high species diversity (323 fish species, 218 bivalve species and 80 coral species)

TERRESTRIAL ENVIRONMENT

- Botanical province transition zone, most evident in the southern parts of Nanga and Tamala Stations
- Floral range limits (229 at their northern limits, 56 at their southern limits, 53 endemic vascular plant species)
- Isolation of fauna on islands and peninsulas – 5 threatened mammals on Bernier and Dorre Islands
- Range limits and fauna species richness (100 species of herpetofauna – 9 endemics, 230 species of birds representing 35% of Australia’s total species)
- Species evolution illustrated in Rufous Hare Wallaby and Banded Hare Wallaby

“Contain superlative natural phenomena, formation or features” for instance, outstanding examples of the most important ecosystems, areas of exceptional natural beauty or exceptional combinations of natural and cultural elements

- Stromatolites
- Abundance of marine fauna (Dugongs, whales, dolphins, sharks, rays, turtles and fish)
- Hypersaline environment of Hamelin Pool
- Fauré Sill, Wooramel seagrass bank
- Coastal scenery of Zuytdorp cliffs, Dirk Hartog Island, Peron Peninsula and Heirisson and Bellefin Prongs
- Strongly contrasting colours of the dunes/cliffs, beaches and adjacent sea of Peron Peninsula
- *Fragum* beaches of L’haridon Bight
- Inundated birridas and lagoons such as Big Lagoon
- Seasonal wildflower display

“Contain the most important and significant natural habitats where threatened species of animals or plants of outstanding universal value from the point of view of science and conservation still survive.”

- 5 out of Australia’s 26 species of endangered mammals (Shark Bay Mouse, Banded Hare Wallaby, Rufous Hare Wallaby, Western Barred Bandicoot and Boodie)
- Bernier Island subspecies of Ash Grey Mouse; endemic *Arenophryne* frog
- 12 threatened reptiles (e.g. Baudin Island Skink and Woma)
- 35 migratory bird species; two threatened species-Thick Billed Grasswren and Mallee Fowl
- Endemic Dirk Hartog subspecies of the Southern Emu-wren
- Dugongs (approx. one eighth of world’s population), Humpback Whales, Loggerhead and Green Turtles
- Two threatened flora species (*Eucalyptus beardiana* and *Plectrachne bromoides*)

(adapted from Shark Bay World Heritage Nomination Document and pers. comm. R Shepherd, CALM)