

## APPEALS REPORT

### PROPOSED CORAL COAST RESORT

#### 1. Background

Coral Coast Resort (CCR) is proposed by Coral Coast Marina Development Pty Ltd (CCMD), a private company formed in October 1987 with the specific purpose of developing a resort at Mauds Landing. Mauds Landing is situated on the North West Cape of Western Australia, between Carnarvon and Exmouth, being approximately 250 km north of Carnarvon and 150 km south of Exmouth. The Mauds Landing townsite covers an area of approximately 250 ha and is situated approximately three km north of the existing Coral Bay (Bills Bay) settlement.

The Environmental Protection Authority (EPA) assessed a previous proposal for a marina-style resort at Mauds Landing in 1995, and found the proposal to be environmentally acceptable, subject to nine recommendations and a set of recommended environmental conditions. The EPA's findings and recommendations were reported in Bulletin 796 (EPA 1995). Appeals were received by the former Minister for the Environment against the EPA's report.

Following consideration of the appeals, in May 1997 the Minister determined that the proposal assessed by the EPA should not be implemented. The Minister advised the EPA that any new proposal for Mauds Landing should be assessed with a view to reducing the scope of the development to meet achievable and definable environmental impacts, with particular emphasis on the impacts on the Ningaloo Marine Park and the water resources of the region.

In April 1999, State Cabinet invited CCMD to submit a revised proposal for a resort development at Mauds Landing and endorsed a set of guidelines for the development. The guidelines recommended that the:

- inland marina concept is preferred to an offshore marina;
- extent of tourist development proposed in Phase 1 of the project is consistent with the *Gascoyne Coast Regional Strategy*;
- golf course component should preferably be deleted from the project, or at least be relocated;
- extent of residential development associated with Phase 1 of the project should be limited to no more than 200 dwellings above that required for staff associated with the development, and the residential dwellings should be in a mixture of forms in equal proportions including apartments, strata units and single residential;
- developments in addition to the tourist and residential components (town centre and social infrastructure) to be in accord with the modified scale of development;
- development of Phase 2 of the project should be dependent on satisfactorily meeting agreed environmental and planning performance criteria established for Phase 1;
- extent of tourist development proposed in Phase 2 of the project be consistent with the *Gascoyne Coast Regional Strategy*; and
- extent of residential development in Phase 2 be limited to no more than 100 dwellings (ie 300 dwellings for Phases 1 and 2 combined) above that required for staff associated with the tourist development. The residential dwellings should be in a mixture of forms as per Phase 1 in equal proportions.

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## 2. Proposal

The CCR proposal assessed by the EPA in Bulletin 1073 was the first phase (Phase 1) of what could be an expanded development in the future. The extent of any possible expansion (Phase 2) has not been defined, but the EPA understood that it could increase the number of people by up to fifty percent. Any proposed expansion would need to be approved by Government and assessed by the EPA. The CCR proposal assessed by the EPA and the subject of this appeals investigation is referred to throughout this report as the CCR or CCR proposal.

The CCR is proposed to provide a broad range of short-stay and holiday accommodation, as well as permanent residential lots. The proposal includes a 47ha inland marina and lagoon system. There is provision in the proposal for incidental recreational, tourist and commercial facilities consistent with the anticipated needs of visitors to the location as well as a Services Area for the provision of utilities services such as wastewater treatment, landfill, gas, power and light industrial activities.

The Mauds Landing townsite is zoned 'Resort Development' under the Shire of Carnarvon Town Planning Scheme.

The proposed development site at Mauds Landing is located adjacent to Bateman Bay, a Recreation Zone in the current Ningaloo Marine Park Management Plan (Department of Conservation and Land Management 1989). Two breakwaters which shelter an entrance channel to the marina are proposed to be constructed in Bateman Bay, within the boundary of Ningaloo Marine Park.

In addition to tourist, residential and incidental commercial facilities at the Mauds Landing site, the proposal also includes a 62 ha Services Area where it is proposed to develop infrastructure and public utilities services, including solid waste management, a power station, storage of natural gas, general stores and wastewater treatment infrastructure. The proposed Services Area is situated approximately 3 km south of Mauds Landing and 2km inland from Coral Bay. The Services Area is zoned 'Rural' under the Shire of Carnarvon District Planning Scheme (DPS) No 11. Amendment No 3 to that DPS provides for the provision of public utilities and light industry in the rural area, subject to Council discretion.

The CCR proposal considered by the EPA in Bulletin 1073 consisted of elements including:

- an inland marina;
- marina village (comprising a serviced resort complex, festival and convenience retail, food and beverage facilities, environment interpretive centre, including office spaces for the Department of Conservation and Land Management and the Department of Fisheries);
- tourist accommodation (including Caravan and Chalet Park, Beach 'annex' to the marina village resort providing further serviced suites, backpackers hostel, and tourist villa, townhouse and timeshare sites);
- supporting coach terminal, auto/marine servicing area, boat launching and parking facilities;
- sports and community centre;
- residential accommodation;
- staff accommodation; and
- services utilities infrastructure and Services Area.

Under a proposed Land Development Agreement with the State Government, if the proposal is allowed to proceed, the proponent would develop the CCR in at least two stages.

The proposal assessed by the EPA in Bulletin 1073 did not cover a possible Phase 2 development.

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In the CCR Public Environmental Review document, ATA Environmental (November 2000: Volume 1) reported that the project has a number of direct and indirect benefits both to the environment and people of the region. The PER stated that through development, the resort would reduce further pressures on the Sanctuary Zone at Bills Bay. Additional environmental benefits identified in the PER included:

- construction of an inland marina that will allow the majority of boating activities to be shifted from Bills Bay and provide direct access to Cardabia Passage without impacting on sensitive coral locations;
- inclusion of a constructed snorkelling reef, upon which corals will be propagated, that will provide the opportunity for many tourists to experience a reef environment without actually impacting on Ningaloo Reef. This may reduce pressure on the reef, even with greater visitation, and educate the public on the sensitive nature of the reef environment. Corals on the artificial reef will be propagated and will not require translocation;
- the project incorporates all service utilities including sewerage, wastewater treatment, power, solid waste landfill and reticulated water. The landfill site will be sized to accommodate solid waste from the existing Coral Bay townsite. CCMD has also made a commitment to design utilities, including sewerage and power, so that they can be upgraded to accommodate the requirements of the existing Coral Bay development. This will reduce the risk of leaching of effluent nutrient into Bills Bay which has been identified as contributing to reduced water quality and accordingly, damage to the coral systems within the Sanctuary Zone;
- potential to reduce overcrowding at Coral Bay during periods of peak visitor demand;
- the opportunity for the relevant authorities, notably the Department of Conservation and Land Management and Fisheries WA, to develop and institute more effective management controls on the Sanctuary Zone at Bills Bay and the greater Ningaloo Marine Park area as a consequence of a permanent on-site presence, better control of recreational fishing, adequate surveillance of recreational boats, greater control of control of marine safety, substantially safer boat access and management, and substantially improved boat handling and launching facilities; and
- through the provision of an Environment and Interpretive Centre, the opportunity for management agencies such as CALM and Fisheries, to undertake a much higher level of research into the Ningaloo Marine Park while at the same time increasing visitor awareness and education of the marine ecosystem.

### 3. Environmental Assessment

The CCR proposal was referred to the EPA in May 2000 and the level of assessment was set at Public Environmental Review (PER) level of assessment, which included a twelve week public comment period.

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, if any, to which the proposal should be subject. In addition, the EPA may make recommendations as it sees fit.

The EPA reported via Bulletin 1073 and its overarching advice to the Minister for the Environment and Heritage was that:

*“... while the biophysical and pollution impacts associated with the proposal’s footprint could be managed to meet the EPA’s environmental objectives with satisfactory implementation of environmental management commitments and recommended conditions, and while the proponent has made commendable efforts to address issues of wider management, it is beyond the proponent’s authority to undertake the management of people’s*

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*activities outside of its development area, which is necessary to ensure that the values of the Ningaloo Marine Park and adjacent coastal areas are protected.*

*Accordingly, it is the EPA's recommendation that the proposal should not be approved for implementation unless Government is able to:*

- *identify and confirm the environmental management resources required across the natural resource management sectors to adequately protect all values of the Ningaloo Marine Park and its adjacent coastline, as well as having regard for potential World Heritage values from the impacts of additional people pressure;*
- *confirm that any commitments by CCMD to support environmental management are legally and financially sound in terms of their capacity to deliver the necessary environmental management in the long-term;*
- *make a whole-of-Government commitment to any environmental management arrangement with CCMD; and*
- *commit to prepare and implement an effective environmental management system, including the preparation of management plans and the provision of resources commensurate with the level of human-use pressures on the Ningaloo Marine Park, to ensure that the environmental values of the region are adequately protected in the long-term."*

The thrust of the EPA's advice was fundamentally related to the challenge of sustainable use of the Ningaloo/Cape Range coastal area in the context of the Government's election commitment to seek World Heritage listing for the Ningaloo Marine Park.

#### **4. Appeals**

Seventy-nine appeals were lodged against the EPA's Report and Recommendations in Bulletin 1073. Appellants included individuals, local business operators, conservation organisations, members of the scientific community, members of parliament, government agencies and statutory authorities, the proponent and a tourism association. A list of appellants is included in Appendix 1.

An overwhelming flavour in appeals was that the proposal should not be allowed to proceed. Many appellants held the view that it would be inappropriate to allow a private development proponent to threaten environmental/social values of a public asset – the Ningaloo Marine Park. There was a view that the CCR proposal was not the most appropriate answer to the question of additional tourist accommodation in the region. Some appellants expressed support for other forms of development at the site and possibly at other locations along the Ningaloo coast, provided that development was considered in the context of a strategic planning process that includes an appropriate level of public participation. Many of the appeals raised issues relevant to the broader considerations of sustainability including economic risks (and subsequent environmental risks), impacts on sense of place, settlement efficiency and equity (development for public good). There was a view that the proposal would contradict a number of principles set out in the draft State Sustainability Strategy. Several appellants argued that the Government's recent commitments to address wastewater treatment and public boating problems at Coral Bay make the CCR proposal largely redundant and therefore contrary to the principles of sustainability. Conservation organisations and members of the scientific community included technical reports to support issues raised in their appeals.

The Tourism Council Western Australia which is the peak industry for tourism in Western Australia, welcomed the EPA's conditional approval of the development and believed that if the rigorous process followed by the EPA has determined the ecological sustainability of the

development, then Government support should be forthcoming. The Council endorsed the EPA recommendation of the development of a whole-of-Government approach to a planning framework for the area. Further, that regardless of the final decision regarding the proposal, it does not relinquish the Government's responsibility to address the current situation in Coral Bay. The Council had previously expressed concern about the lack of infrastructure, planning and management of the Coral Bay township and the damage being done to the Ningaloo Reef through uncontrolled access. The Tourism Council provided a copy of its report into the situation at Coral Bay.

ATA Environmental, representing CCMD, lodged an appeal contending that on the basis of stygofauna assessment and groundwater monitoring results undertaken to date within and areas immediately surrounding the Mauds Landing townsite and services area, it is not appropriate to require research on stygofauna as a condition of approval for the CCR proposal. Supporting documentation in the form of a technical report titled *Stygofauna Assessment Coral Coast Resort* was included in the appeal. Further information on this ground of appeal by ATA Environmental on behalf of CCMD is provided in Section 6. It was apparent from the ATA Environmental appeal that CCMD considered the EPA's report provided some form of conditional approval.

The main grounds raised in appeals were:

#### *General Environmental Issues*

- Scale of proposal.
- Inadequate information.
- Manageability of human-use pressures.
- Management:  
Environmental management structure; management framework; marine protection and conservation strategies; management inadequacies; timetable for management plans; management authority; management requirements.
- Public participation.

#### *Specific Environmental Issues*

- Marine flora: corals; seagrass.
- Marine fauna: Bateman Bay; manta rays; turtles; management of impacts on turtles; tiger sharks; and shark nets.
- Avifauna: migratory birds.
- Wilderness qualities: wilderness values; and World Heritage.
- Coastal processes: coastal structures and processes; and ocean currents.
- Terrestrial flora.
- Terrestrial fauna: terrestrial fauna; feral animals; and fauna road deaths.
- Subterranean fauna: stygofauna; recommended condition 9.
- Marina water quality.
- Marine water quality: marine water quality (Ningaloo Marine Park); turbidity from boats.
- Surface water: stormwater management; and mosquitoes.
- Environmental education.
- Water supply.
- Waste recycling.

#### *Other Issues*

- Precautionary principle.
- Sustainability principles.
- Timing of decision making process.

- Proponent’s financial capacity to fulfil environmental conditions.
- Cost to Government.
- Future expansion of CCR.
- Aircraft landing ground.
- Public services.
- Other tourist development.
- Natural disasters.
- Information in submissions.
- Coast road.
- Nodal development.
- Visitation.

## 5. Appeal Investigations

Meetings, discussions or email communications were held with the following:

CCMD representatives:

Mr Alan Smith – Executive Director Coral Coast Marina Development Pty Ltd

Mr Henk Van der Wiele – ATA Environmental

Giz Watson MLC

Mr Dennis Beros

Dr Dorian Moro

Mr Nick Wood

Ms Helen Penrose – Director Oceanwise Environmental Scientists

Mr/s W Barker & Mr/s J Willems

Mr Hans Kemp – Biologist Marine Information and Research Group

Mr R Shaw

Mrs Eileen Boase – Secretary Avon Valley Environmental Society Inc

Marine Parks and Reserves Authority (MPRA):

Eric Streitberg (Deputy Chairman), Kim Colero (Member) and Angus Horwood (Member).

Barry Wilson was not in attendance during this item. (Others in attendance were: Kaylene

Carter – Executive Officer to MPRA; Chris Simpson –Department of Conservation and

Land Management; Ian Briggs – Department of Industry and Resources; and Eve Bunbury

– Department of Fisheries).

Mr & Mrs Chapman

Dr Anne Brearly

Mr B Teede

Mr A Sullivan – Spokesperson Coastal Planning Coalition

Ms Gail Taylor

Mr David Goodfield

Ms Joanna Jones – Regional Manager – Wilderness Defenders Campaign WA

Conservation Council of WA Inc/Save Ningaloo Campaign representatives:

Rachel Siewert (Co-ordinator - Conservation Council of WA), Jane Madgewick (Regional Manager - WWF), Lee McIntosh (Principal Solicitor - Environmental Defenders Office),

Edie Ringel (Observer – Environmental Defenders Office), Dr David Sutton (ACF and

AMCSWA), Dr Nic Dunlop (AMCSWA), Tim Winton (Vice-president - AMCSWA),

Anneke der Graaf (Community Campaigner – The Wilderness Society), Susie Bedford (by

proxy) (President - Cape Conservation Group), Paul Gamblin (Spokesperson – Save

Ningaloo Campaign), and Dennis Beros (Co-ordinator – Save Ningaloo Campaign and

Executive Member – Australian Marine Conservation Society).

Tourism Council Western Australia representatives:

Manny Papadoulis and Ron Buckey

Ms Ann Preest

Mr Axel Passeck

Mr Tim Nicol – Ningaloo Care Group

Robin Chapple MLC

A visit was made to the site.

The EPA Chairman provided detailed advice on the appeals pursuant to section 106(1) (a) of the *Environmental Protection Act (1986)*. The EPA advised that when considering the appeal grounds and its advice that it was important to note the EPA Chairman's summary of the EPA's overarching advice to the Minister for the Environment and Heritage that:

*'...the proposal as it stands should not be approved for implementation, even with the conditions set out in Appendix 4 of the EPA report. Making the proposal environmentally acceptable would require significant involvement and investment by Government into the management of the Ningaloo Marine Park.' The area requiring intensive management would include coastal lands adjacent to the Ningaloo Marine Park (NMP) – areas that are beyond the proponent's authority to manage. The overarching advice is a summary of Recommendations 10, 11 and 12 in EPA Bulletin 1073.*

The EPA advised that although the thrust of the EPA's advice was that the proposal should not be approved for implementation, the *Environmental Protection Act (1986)* sets out that the EPA should provide a set of conditions that would need to be fulfilled by the proponent if a decision is made by Government to allow the proposal to be implemented. The EPA advised that several appellants mis-interpreted the EPA's overarching advice having considered that the EPA had recommended conditional approval be granted to the proposal.

The Acting Chief Executive Officer – Department of Environmental Protection provided a report on the appeals pursuant to section 106(1)(a) of the *Environmental Protection Act (1986)*. The Acting Chief Executive Officer advised that he had considered the advice provided by the Chairman of the EPA and that he had nothing further to add. Discussions were also held with the Acting Chief Executive Officer.

ATA Environmental, representing the proponent, provided a response to the issues raised in appeals. ATA Environmental contended that concerns expressed in appeals failed to identify the underlying issue for the development of the CCR that of the management of current tourism demands on the support resources of the area. Further, that it was in recognition of this need that Cabinet endorsed project specifications of 1999 was developed. ATA Environmental contended that failure of the CCR or an equivalent development will result in a continuation of *ad-hoc* development amongst the primary dune systems at Coral Bay. ATA Environmental reported that many of the matters have been raised by appellants in submissions and adequately considered by the EPA based on information provided in the PER document, Response to Submissions or in addressing further matters arising from the Response. ATA Environmental provided comment on appeal matters concerning insufficient baseline data, EPA failure to consider ecologically sustainable development, lack of availability of management plans for public comment, and that the EPA should have considered current and potential Phase 2 impacts. In discussion during the appeal investigation, CCMD indicated that while alternative layouts were possible that could reduce the size of the water body and number of boats for the proposal, that the proposal submitted was designed to meet Government requirements of the time. In its response to appeals, ATA Environmental states that the current proposal complies fully with Guidelines set by Cabinet.

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Further information about general views expressed in appeals not supporting the proposal is included in Appendix 2.

Further details of specific grounds of appeal and EPA advice on these matters are included in Appendix 3.

Further details of ATA Environmental's response are outlined in Appendix 4.

## 6. Issues of Appeal by Proponent

ATA Environmental, acting on behalf of the proponent, lodged an appeal specifically relating to Recommended Condition 9 on subterranean fauna. The condition requires the proponent to develop and implement a Subterranean Fauna Management Plan for the respective area to the requirements of the Minister for the Environment and Heritage on advice of the EPA which will in turn seek the advice of the Department of Conservation and Land Management and the Western Australian Museum. ATA Environmental reported that CCMD has undertaken an assessment of the Stygofauna within and areas immediately surrounding the Mauds Landing townsite and services area. The study was undertaken at the request of the Chairman of the EPA following release of the PER document. The study was supervised by Dr Brenton Knott of the University of Western Australia. ATA Environmental reported that Dr Knott, in providing initial advice in the PER concluded that:

*... I would expect to find stygofauna in the shallow, but not deep aquifers, underlying Mauds Landing. I can see no evidence of local barriers, so I would expect any such fauna to be widely distributed more widely than within the immediate area of Mauds' Landing.*

ATA Environmental reported that subsequently a series of groundwater monitoring bores were installed in the shallow aquifer at the CCR and Services areas, and areas surrounding, and a report produced (ATA Environmental 2001 – copy attached to appeal). A total of thirteen monitoring bores were installed comprising eight and five bores at the CCR area, and the Services Area respectively. The bore logs confirmed the preliminary hydrogeological assessments carried out at the Mauds Landing site to the effect that it comprises deep sands of recent origin with no limestone subterranean voids present. Dr Knott, in reviewing the results of the monitoring concluded that:

*No stygofaunal species were identified in the samples collected. Given the areas sampled include the proposed development sites and extend into adjoining areas, it is highly unlikely that important stygofaunal populations within the superficial aquifer will be impacted by the development of the CCR. The paucity of subterranean fauna generally is a likely consequence of the deep fine sands and silts of recent origin encountered, and absence of limestone or subterranean voids.*

ATA Environmental reported that CCMD recognises that DCLM and the Museum of Western Australia would be supportive of additional scientific research into stygofaunal associations into the Holocene calcareous and gypsiferous clays, silt and sand shallow sediments and aeolian sandstone of the Bundera calcarenites, and will support these institutions in this endeavour. However, given the prospectively of the area likely to be impacted by the proposed development and results of monitoring undertaken to date, CCMD do not believe it is appropriate to require this research as a condition of approval. ATA Environmental also noted that the existing unlined Coral Bay landfill site is located within the Holocene sediments, as are the existing effluent leach ponds.



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In its appeal report, the EPA advised that it considered the report titled *Stygofauna Assessment Coral Coast Resort* as part of its assessment of the CCR project. The report concluded that no stygofauna species were present in the vicinity of the proposed development site. However, the EPA was concerned about the adequacy of sampling, particularly the limited depth of sample bores. Advice was sought from Dr Bill Humphries of the WA Museum in this regard. Dr Humphries replied informally to the EPA suggesting the report provided an inadequate risk assessment and contained only limited sampling.

In view of the desktop review of stygofauna prepared for the proponent, the results of the limited work undertaken as part of the *Stygofauna Assessment Coral Coast Resort* report and CCMD's management commitments with regard to groundwater and pollution control, the EPA considered that stygofauna is unlikely to be a major issue provided additional work was undertaken about stygofauna in the area.

Given the preliminary advice of the WA Museum about the *Stygofauna Assessment Coral Coast Resort* report and the fundamental importance of maintaining habitat quality, the EPA considered that information about potential habitat and subsequent monitoring of hydrology of habitat(s) would be important.

## **7. Issues raised by appellants not supporting the proposal**

### **7.1 Scale of proposal**

The proposal would occupy approximately 1.6 km of coastal land adjacent to the Ningaloo Marine Park which extends for approximately 260km. Key elements of the CCR proposal assessed by the EPA included two breakwaters extending approximately 200 metres from the shoreline covering approximately 2.5 hectares currently in the Ningaloo Marine Park in Bateman Bay; an inland marina and beaches encompassing about 50 ha and a total of 100 boat pens for public and commercial use; permanent residential of approximately 12.6 ha including no more than 200 serviced freehold lots; a caravan and chalet park (approximately 4 ha) with 100 bays and 20 chalets/park cabins; a backpackers hostel (approximately 1 ha); a marine village and resort of approximately 4 ha including an environmental research and visitor centre, Aboriginal heritage and cultural centres, and administrative facilities for relevant government agencies; and access and internal arterial roads, public parking (approximately 20.7 ha) with 120 boat trailer parking bays. The proposal also includes parks, open space and northern access reserves. A Services Area of approximately 62 hectares is proposed to be located 1.5 km east of Coral Bay. In Bulletin 1073, the EPA reported that the proponent anticipates that accommodation capacity of the CCR is likely to be in the order of 2000 to 2500 people per night during peak periods.

Appellants considered the proposal to be too large and not in keeping with the site, and that it would introduce too many people to the area over too short a time period to ensure that environmental values would be protected. They believed that the EPA did not adequately consider the size and form of the proposal by either ignoring or making recommendations that are inconsistent with previous planning process, recommendations in planning documents and policies about the North West Cape. Appellants noted the negative views of the Marine Parks and Reserves Authority with respect to the size of the proposal and considered that the EPA should have given more consideration to the Marine Parks and Reserves Authority's views.

In its response to appeals, ATA Environmental reported that estimates of visitor numbers have been made by CCR and are based on the observations of tourism operators, residents and government agency representatives residing in or regularly visiting the Coral Bay area. Further, that pressures leading to increased visitation to the Coral Bay area will continue regardless of the implementation of the CCR, and will result in an increase in visitation numbers by a further 50%

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by 2009. ATA Environmental reported that the proposal to develop the CCR referred to the EPA presents one of many options as to how these pressures may be addressed. ATA Environmental contended that development of small scale ecotourism style developments will not meet current visitation pressure, let alone those projected into the future.

To give a perspective on the proposal scale, in Bulletin 1073 the EPA reported that the CCR proposal was essentially a small tourist town which would require a high degree of management involving a number of entities for the life of the project. The EPA also reported that the Marine Parks and Reserves Authority had advised that it considers the proposal should not proceed because the scale of development is too large, it will create a new node of development within the Ningaloo Marine Park and should not precede the current review of the Ningaloo Marine Park Management Plan. Further, that the Marine Parks and Reserves Authority was also concerned that the proposal would impact on the wilderness quality of the Park. In its appeal against Bulletin 1073, the the Marine Parks and Reserves Authority advised that, on the evidence contained in the report that the EPA should have made an unequivocal recommendation that the proposal should not be approved.

The EPA appeal advice reported that its view is that form and scale of development proposals in any location are fundamental planning matters. Notwithstanding, the EPA did consider the scale of the proposal from the perspective of the scale of the footprint impacts, the human-use pressures it will impose on the environment and the coinciding environmental management burden these pressures would create on and off site. Due to the amount of tourist and residential accommodation proposed, the EPA found that the human-use pressures on the environment would be significant and without an adequate management system implemented by Government to protect the values of the Ningaloo Marine Park and adjacent coastal lands, the proposal should not be approved for implementation.

## **7.2 Impact on coast, Bateman Bay and Ningaloo Reef**

Mauds Landing is located on the shores of Bateman Bay in the southern sector of the Ningaloo Marine Park. The area adjacent to the project site is a Recreation Zone under the Ningaloo Marine Park Management Plan. Bateman Bay is a large semi-enclosed, relatively deep bay formed by a discontinuous barrier coral reef. The barrier reef is interrupted in the southern part of Bateman Bay by Cardabia Passage, which provides access to the open ocean adjacent to the proposal. The substratum of the lagoon in the southern part of Bateman Bay is predominantly sand colonised in patches by seagrass. Coral reefs are found north and south of Point Maud, along the barrier reefs which enclose Bateman Bay and in lagoonal areas to the north known as Stanley Pool. Significant nearshore coral communities are found nearby in Bills Bay. The EPA reported in Bulletin 1073 that the proposal would result in localised (approximately five ha) direct impact on subtidal platforms which are well represented in backreef lagoons along the Ningaloo Reef tract. The proposal would not directly impact on perennial seagrass meadows.

During its assessment, the EPA heard differing views about the values of Bateman Bay. The EPA reported in Bulletin 1073 that it understood from information presented by the proponent, the public and the Department of Conservation and Land Management that a number of important species utilise Bateman Bay and its shores for various reasons at various times of the year. The EPA reported that the sandy beaches of Bateman Bay are used by a number of migratory birds which roost and loaf on beaches mainly in the southern portion of the Bay; loggerhead sea turtles use Bateman Bay as a breeding area with nests made on beaches north of the proposal and in recent years nests observed in the near vicinity of the proposal; hawksbill sea turtles nest in Bateman Bay; humpback whales (some with calves) have been observed in Bateman Bay during their migration and it has been speculated that these whales use Bateman Bay as a resting area;

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and although little is known about manta rays in the Bateman Bay lagoon they aggregate in the vicinity of the proposal.

Appellants argued that the EPA failed to consider the proposal in the context of global threats facing coral reefs. They provided new information regarding the seagrass and algae of Bateman Bay and believed that the data collected during this survey called the proponent's information into question (eg eight species of seagrass were identified in Bateman Bay during the survey undertaken by Oceanwise Environmental Scientists and Murdoch University in July 2002, including the three previously identified in the PER). Appellants argued that the EPA did not take a holistic view of Bateman Bay – considering the area's importance and role it plays in the ecology of the broader Ningaloo Reef system, for example that the EPA had not recognised that marine animals such as humpback whales, manta rays and dugong do utilise the area adjacent to the proposal as critical habitat. Appellants were critical that the impacts of the proposal on manta rays were not given adequate attention through the PER process and by the EPA. They were also critical of the EPA's consideration of matters related to sea turtles, particularly the protection of loggerhead sea turtles that nest on Bateman Bay beaches.

In its response to appeals, ATA Environmental referred to a formal commitment in the form of a Natural Resources Management Agreement with the Department of Conservation and Land Management and the Fisheries Department to provide resources and support to the Government agencies involved in managing environmental impacts in Ningaloo Marine Park. ATA Environmental also advised that the site location is outside the sensitive Sanctuary Zone of Bills Bay and construction of an inland marina so as to cause minimal impact on the marine environment. Further, that the inclusion of a constructed reef with propagated corals to provide the opportunity for many tourists to recreate and experience a reef environment without actually impacting on Ningaloo Reef, with a view to reducing pressure on Bills Bay and educating the public on the sensitive nature of the reef environment – the constructed reef would not require translocation of corals.

In its appeal advice, the EPA reported that it was aware of key threats to coral reefs throughout the world, including coastal development and tourism. In relation to coral reefs, water quality issues associated with construction of the CCR and impacts of people in boats were fundamental to the EPA's assessment. The EPA appeal advice also reported that of interest from a biodiversity perspective was the presence of *Halophila tricostata*, a species only previously recorded from the Great Barrier Reef. Accordingly, as part of the Seagrass and Coral Management Plan, the EPA advised that the proponent should provide support for a study by appropriately qualified scientists to undertake more detailed examination of *H. tricostata* in Bateman Bay and the Ningaloo Marine Park more generally. With regard to marine fauna, the EPA appeal advice was that from the information before it, the EPA considered that the effects of the proposal's footprint would not be persistent over sufficiently large an area to impact populations of fauna species such as whales, manta rays and dugongs, provided that there is satisfactory implementation, of the recommended environmental conditions and commitments by the proponent. The interconnectedness of ecosystem processes in natural marine environments is extremely complex and are not fully understood, even in intensely studied systems. It was the EPA's view that active and diligent management would be required to ensure populations of manta rays are protected from the effects of boating activity. As in relation to protection of sea turtles, management measures such as speed restrictions, boat exclusion areas and/or designated boat channels may be necessary to minimise disturbance of manta rays.

The EPA considered that its advice and recommended conditions provided in Bulletin 1073 gave attention to key ecological values that affect marine environmental quality. In this way, the EPA considered that the linkages between the impacts of the proposal on ecosystem attributes and the potential effects of these impacts on higher trophic elements of the Bateman Bay system (eg marine fauna) have been given attention. After considering the information before it, the EPA

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arrived at the view that environmental management is fundamental to the environmental acceptability of the proposal. Issues concerning the manageability of human-use pressures are further discussed below.

If a decision was taken to uphold appeals related to uncertainty about the potential impacts on ecological values of Bateman Bay, the Ningaloo Marine Park and adjacent coastal lands in the region, Section 43 of the *Environmental Protection Act (1986)* provides the opportunity for the Minister for the Environment to direct the EPA to assess environmental factors more fully or more publicly or both as the case requires.

### **7.3 Adequacy of baseline information**

A key ground of appeal was that the EPA released Bulletin 1073 without adequate baseline data/information about the marine and terrestrial environments to make informed judgements about the potential impacts of the proposal. Many appeals focused on a lack of baseline scientific information about marine megafauna such as humpback whales, whale sharks, manta rays, dugongs and sea turtles which could be used up-front to determine whether management strategies would be effective. Appellants argued that information used by the EPA for its assessment was inadequate in two ways: information necessary to understand the ecological values of the area and to assess environmental impacts of the proposal was not provided by the proponent or otherwise obtained by the EPA; and previously unavailable information now exists which is relevant to consideration of the environmental acceptability of the proposal.

Appellants argued that the EPA had no basis to conclude that the CCR proposal is unlikely to compromise its objectives. Moreover, that by not providing adequate baseline environmental data, CCMD did not comply with the EPA's guidelines for the PER. Appellants contended that the EPA's assessment of the information before it is not adequate or final because the baseline environmental data to determine whether proposed and recommended management will be effective in protecting the environment was not available. Appellants believed the EPA too readily accepted CCMD's commitments as a means of addressing information deficits, and the assessment approach adopted by the EPA was too reliant on post-approval implementation of management plans. Appellants argued that the risks posed to the environment by adopting this approach could threaten the values which make the Ningaloo Marine Park a wilderness area that may support values of global significance (World Heritage values). Appellants also argued that the EPA did not consider how impacts would be managed (and by whom) if monitoring undertaken during operation of the proposal indicates that significant impacts may be occurring. Appellants believed that the lack of baseline environmental information warrants the proposal being referred back to the EPA for a more thorough assessment before any decision can be made about whether or not the proposal should be allowed to be implemented.

On the contention that there was insufficient baseline data, in its response to appeals, ATA Environmental advised that DCLM has been active in undertaking baseline research within the Ningaloo Marine Park since its inception in 1988. ATA Environmental considered that although focused more widely than the area proposed for the CCR, these broad ranging studies are relevant in development of a robust baseline. Aspects in relation to the management of the impacts resulting from the implementation of the CCR and drawing reference to existing baseline information are described throughout the PER document, most notably in sections 5 and 6 (ATA Environmental 2000). ATA Environmental also referred to general comments B and C provided in Volume II of the Response to Submissions (ATA Environmental 2001) as being relevant to this appeal ground, as is response to submission 2.1.17 in Volume I.

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ATA Environmental also referred to the Indicative Specific Area Marine Management Plan (SAMMP) provided in the PER document that identified baseline and ongoing monitoring requirements for the Maud Specific Management Area (MSMA). This document (section 6.0 ATA Environmental 2000a) identified existing resources together with required research and monitoring programs required to effectively manage impacts arising from the development on the Ningaloo Marine Park. Implementation of the SAMMP allows the early detection of detrimental changes and provides the trigger for management action to ameliorate potential impacts before they lead to undesirable changes in the MSMA and accordingly Ningaloo Marine Park values. ATA Environmental also reported that implementation and achievements against short and long term objectives of the SAMMP will be subject to annual audit by CALM on advice from Fisheries WA. ATA Environmental reported that a commitment has been made to complete the SAMMP in consultation with relevant agencies prior to the implementation of the project, and to implement the agreed plan during construction and operation. Baseline monitoring would be initiated prior to construction, and would result in two years of data prior to any increased pressures from holiday makers. ATA Environmental considered that the EPA through the EPA Support Group had been exhaustive in its review of baseline information presented.

With regard to the impacts of the proposal's footprint, the EPA reported in its appeal advice that it considered that the proponent provided sufficient information to enable a judgement to be made as to whether the risks to the environment posed by the CCR proposal could be managed to meet the EPA's environmental objectives. In several cases the EPA concluded that its environmental objectives as they relate to the proposal footprint, could only be met if the proponent satisfactorily implemented its commitments and a rigorous set of environmental conditions. Several of the recommended conditions set out in Appendix 4 of Bulletin 1073 provide for additional data collection to guide and focus management strategies that would also be set out in management plans. In drawing its conclusions on each relevant environmental factor associated with the proposal footprint, the EPA not only drew on information provided by the proponent, but it also considered submissions and advice of relevant Government agencies.

In relation to off-site impacts, the EPA reported in its appeal advice that it recognises that there is scientific uncertainty and limited management-orientated information available for some of the key environmental values of the Ningaloo Marine Park. The EPA also recognises that this information is time-consuming to collect and that the impacts of visitors on environmental values beyond the proposal's footprint are difficult to predict up front, even if baseline data were available. Under these circumstances, the EPA sought management advice from the Department of Fisheries and the Department of Conservation and Land Management. The EPA also utilised published information from other parts of Australia to form its views about the potential impacts of boating on marine wildlife and the manageability of off-site marine impacts. The EPA advised that information available indicated that with a commitment to a significant level of Government resources (funding, personnel/expertise, policy/regulation), an environmental management system could be put in place to protect the key ecological values of the Ningaloo Marine Park and its surrounds. As stated in Bulletin 1073, the responsibilities to implement such an environmental management system reside with Government.

Recognising scientific uncertainties and current experience in land management, the fundamental thrust of the EPA's advice was that the authority to undertake the necessary marine and terrestrial management in areas outside of the proposed development precinct resides with Government, and not the proponent. Accordingly, the EPA's advice contained in recommendations 10, 11 and 12 was that the proposal as it stands should not be approved for implementation unless there is a significant involvement and investment by Government into the management of the Ningaloo Marine Park and adjacent coastal lands.

In accord with the EPA appeal report, during the appeal investigation, the Department of Conservation and Land Management - as day-to-day manager of the Ningaloo Marine Park - was consulted on the likely research requirements as part of the decision-making process for the CCR proposal. The Department advised that in its submission to the PER that it commented that there appeared to have been little on-ground activity by way of gathering data that would enable an adequate assessment of the potential environmental impacts of the proposed development. The Department advised that the proposed development would result in localised impacts in relation to marine flora and fauna but that a full scale risk assessment would need to be undertaken to ascertain the wider off-site impacts. Details of the research requirements identified by the Department that would enable an adequate assessment of the potential impacts of the proposed CCR are included in Appendix 5. The research requirements identified include:

- improved inventories and baseline datasets for marine wildlife to support a better assessment of the ecological significance of Bateman Bay for marine wildlife;
- more detailed mapping of marine habitats to identify marine communities that are sensitive and/or vulnerable to direct impacts such as diver and anchor/boat damage;
- improved inventories and baseline data sets for human in the marine and terrestrial area to facilitate an improved assessment of existing and potential threats;
- development of predictive models for the levels and type of human activities in the area (marine and terrestrial);
- improved baselines of local populations of 'site-attached' targeted fish species to assess their vulnerability to increased fishing effort;
- improved inventories and baseline datasets of toxic contaminant concentrations in water and sediments;
- introduced marine pests survey;
- improved understanding of the oceanography of Bateman Bay to better assess the fate and potential impacts of oil spills, toxic contamination etc resulting from the development; and
- more detailed analysis and prioritisation of key threatening processes to better focus ongoing research and management priorities on the major issues.

The EPA appeal advice indicated that increased research, subsequent management/enforcement presence and rigour of policy that should be brought about if a decision is made to allow the proposal to proceed is likely to have its own impact on people's experience of the Ningaloo Marine Park and adjacent land areas. This possible outcome was noted by the Marine Parks and Reserves Authority in correspondence to the EPA and was reflected in the EPA's report. If the CCR proposal does not proceed, the issues raised by appellants, particularly in relation to understanding the risks and responses of marine fauna to environmental impacts of people's activities in the Ningaloo Marine Park would continue to be relevant. If, as expected, tourist numbers in the region continue to increase, it is likely that there will be a need for a greater management effort to ensure tourism is sustainable in the long term.

#### **7.4 Manageability of human-use pressures – Ningaloo Marine Park**

The Ningaloo Reef is the largest fringing coral reef in Australia and one of the longest fringing barrier reefs in the world. The Ningaloo Reef tract is formed from a series of discontinuous barrier reefs and lagoonal reefs off the west side of North West Cape. In contrast to other Australian coral reefs, such as the Great Barrier Reef and atolls off the north west coast, the Ningaloo Reef is unique in that it is one of only a few placed in Australia where luxuriant growth of coral occurs close to the mainland. A considerable portion of the Ningaloo Reef tract has been reserved in the Ningaloo Marine Park to protect the high conservation values whilst allowing compatible use of its resources. From biogeographical and biodiversity perspectives the Ningaloo Marine Park is important because it is located in an overlap zone between the tropical Indo-West Pacific and the temperate Southern Australian biogeographical zones. Consequently

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the waters of the Ningaloo Marine Park support a diverse flora and fauna consisting of assemblages of tropical and temperate species, a number of which are at the limits of their geographical ranges. A number of marine species found in the Ningaloo Marine Park are listed under State and Federal legislation as well as in the International Union for the Conservation of Nature Red List.

Appellants expressed significant concerns about the manageability of potential impacts associated with the CCR proposal and argued that risks posed to the environment (both marine and terrestrial areas) by boat traffic, fishing and general tourist activities associated with the proposal are too great to accept the EPA's recommendation that off-site impacts could be managed with the provision of Government resources. They contended that despite numerous submissions alerting the EPA to the issues, its assessment approach failed to recognise the uniqueness of Bateman Bay as a habitat for a variety of marine mega-fauna and the extent to which impacts from the development are likely to undermine existing patterns in the abundance and distribution of mega-fauna in Bateman Bay and surrounding areas. New information by Oceanwise Environmental Scientists and Murdoch University about the marine flora and fauna of Bateman Bay was included in an appeal. Noting that the current level of boat activity is impacting the marine environment (coral, water quality, fish stocks), appellants suggested that the EPA failed to recognise that additional boat traffic associated with the CCR proposal would exacerbate current impacts. New information was presented in an appeal regarding the effectiveness of no-take areas for the management of fish and maintenance of ecological processes. Appellants argued that there is insufficient baseline scientific information upon which to determine whether effective management could be put in place, and given the Government has not effectively managed existing pressures that it would be unlikely to deliver the environmental management requirements for the proposal. There were mixed views about the appropriateness of a dedicated management authority for the North West Cape region.

ATA Environmental reported that, as recognised by the EPA, impacts arising from the implementation of this or any development in a sensitive area, is not necessarily a function of the design or the number of people it will attract, but rather the management of the factors that may bring about change. It considered that appellants have not recognised the mitigation resulting from the enhanced management that can arise from CCR implementation. CCMD believes the EPA has presented an insightful review of the proposal and potential impacts (understandable given the knowledge and expansion of the members and commitment of EPA Service Unit), if possibly overconservative.

The EPA considered the potential threats to marine environmental values of the Ningaloo Marine Park as a result of the proposal in the context of the following factors: fishing pressure; boat strikes; disturbance to wildlife; habitat degradation; and pollution. After considering the information before it, the EPA formed the view that the proposal's footprint could be managed to meet the EPA's objectives with onerous and diligent management by the proponent. In its appeal advice, the EPA reported that in forming its view about the manageability of off-site impacts, the EPA considered information provided by the proponent, submissions, previous planning documents for the region, advice of relevant Government agencies and published reports and articles from other sensitive locations in Australia. Fundamental to the EPA's overarching advice to the Minister for the Environment and Heritage was the recognition that the possible scope of far-field human-use pressures associated with the CCR proposal are beyond the power of the proponent to manage. It is primarily this issue that caused the EPA to recommend that the proposal as it stands should not be approved for implementation.

The EPA considered that although land access management is well developed in this State, making the proposal environmentally acceptable would require appropriately resourced coastal land management by Government. The use and control of personal watercraft and water sport activities such as skiing in a marine reserve are operational matters addressed by the Department

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of Conservation and Land Management, as managers of marine reserves in Western Australia. The Ningaloo Marine Park Management Plan sets out the permitted uses and activities in the Park. Mooring control areas and other boating control strategies are proposed to be established by the MPRA to manage current levels of boating activity and related impacts in the Mauds Sanctuary Zone. As the maintenance of viable populations of flora and fauna is critical to conserving biodiversity and there is in general more information about populations than individuals of species, the EPA considered it appropriate to assess potential impacts of the proposal on marine mega-fauna at the population level.

The EPA advised that the new information on marine mammals in appeals generally confirmed the information provided by CCMD in its responses to submissions. Further, that the information in appeals confirmed that the ecological function of Bateman Bay as habitat for marine mammals (humpback whales, dolphins and dugongs) is not well understood – though anecdotal evidence suggests the Bay could be used as a nesting, feeding and resting area for whales, dolphins and dugongs. The EPA considered that the recommendation in appeals that large increases in boating activity should be minimised and that research, management and regulation of boating should be implemented following increased knowledge of habitat requirements was broadly in accord with the views of the EPA. Fisheries provided advice to the EPA regarding the management requirements to protect fish stocks in the Ningaloo Marine Park from additional recreational fishing pressure. Advice of Fisheries suggested that recreational fisheries management is possible, but would have significant implications for Fisheries' recurrent resource requirements. The intent of EPA recommendation 10 was that during consultation with agencies about environmental management requirements, the Government would seek clarification as to the strategies such as data acquisition and the establishment of 'no-take' areas or habitat protection areas to ensure key environmental values are protected.

In accord with the EPA appeal report, the Department of Conservation and Land Management was consulted on the likely management requirements in relation to the CCR proposal. The Department advised that in its submission to the PER it pointed out that without an attempt by the proponent to predict activity patterns for visitors and residents of the resort, it was not possible to undertake the necessary risk assessment and to determine the level of management requirements and resources needed. During the appeal investigation, the Department identified additional management requirements that would be required to mitigate impacts from the proposed development. These are detailed in Appendix 6 and include the need to review the Ningaloo Marine Park zoning in the vicinity of the development and other legal mechanisms to facilitate better protection for Ningaloo Marine Park (eg limiting boat speeds, regulating access, prohibiting certain types of activities such as jet skis). Establishment of a mechanism to ensure local input to ongoing management and planning of this area of Ningaloo Marine Park, programs to improve community understanding and compliance with park rules and enhanced ongoing monitoring of key ecological and marine wildlife values were also identified as management requirements. The Department advised that without information on the intensity, scale and location of visitor and resident activities, it is not possible to provide a complete indication of the management implications and requirements resulting from the proposed development.

The EPA did not recommend that a management authority be established to oversee the management of the Ningaloo Marine Park, but rather advised that management bodies have been established to manage sensitive areas in other parts of Australia. The Rottneest Island Authority and the Great Barrier Reef Marine Park Authority were included only as examples of systems that have been established elsewhere. These models may not necessarily be appropriate for the management of the Ningaloo/Cape Range area. In its advice on appeals, the EPA indicated that a decision by Government to adopt a particular system of management for the Ningaloo/Cape Range area should be made after consideration of other sustainability issues that are beyond the scope of the EPA's assessment (social and economic). This is not only because of the environmental significance of the area, but also due to the varying community visions for the area



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and long term management obligations the proposal would place on the State to protect the values.

## 7.5 Environmental management framework

Appellants questioned the EPA's conclusions with respect to legal framework, authority and resources for implementation and enforcement of necessary regulatory/management controls. They questioned the EPA's decision not to give detailed consideration to the ability of the Community Association to address environmental management issues in the longer term, particularly given CCMD has only committed to manage the proposal for a limited time, until it sells adequate lots to make a profit or it transfers a range of responsibilities to a third party. It was contended that the proponent did not demonstrate to the EPA that its funding arrangements for environmental management are sustainable, and that CCMD's commitments – particularly with respect to management – cannot be enforced. Concerns were also expressed about the way in which the EPA addressed the Shire's capacity to manage the proposal in the long-term. Appellants asserted that the EPA should have considered the environmental management requirements to be too problematic to enable the proposal to proceed.

In its advice on appeals, the EPA reported that it recognised that there is likely to be risks associated with the Community Association proposed by the proponent. However, it did not give detailed attention to long term management by a Community Association at this time because a draft lease agreement prepared by the Department of Land Administration for the proposal would bind the proponent to the management of all areas that are not converted to freehold land and unallocated Crown Land for a term of 50 years. It is also understood that the proposed lease agreement could provide a regulated mechanism to assess CCMD's financial capacity and its proposal to fund environmental management required by any statement issued by the Minister for the Environment and Heritage pursuant to Section 45 of the *Environmental Protection Act (1986)*. Provision could also be made in the Lease to allow CCMD to transfer some management responsibilities to a third party. The Department of Land Administration had not been formally approached by CCMD to explore this option at the time Bulletin 1073 was published. If a decision was made under the *Environmental Protection Act (1986)* to allow the proposal to be implemented, CCMD would be responsible for the delivery of all environmental management commitments and conditions for the life of the project. Section 38(7) of the *Environmental Protection Act (1986)* sets out the requirements in respect of changes to proponentship. The EPA appeal report also advised that the *Environmental Protection Act (1986)* and the proposed lease prepared under the provisions of the *Land Administration Act 1997* provide strong legal basis to ensure management is implemented in appropriate areas. The *Environmental Protection Act (1986)* provides for penalties where non-compliance with a Statement occurs.

The EPA advised that the proponent expressed a desire to enter into an arrangement with the Shire of Carnarvon to delineate long and short-term responsibilities for the townsite, including environmental management commitments, rating to finance management and development of appropriate development approval guidelines for the CCR. The intent of the EPA's recommended condition 15 was to strengthen CCMD's commitment to seek a Resort Management Agreement with the Shire of Carnarvon. Legal advice received by the EPA following the release of Bulletin 1073 has now indicated that there is considerable doubt about the validity of condition 15. In its appeal advice, the EPA reported that the legal advice indicates that there are fundamental difficulties implementing a condition that requires the proponent to enter into a legal agreement with the Shire of Carnarvon for management. In summary, these difficulties relate to the ambulatory nature of recommended condition 15 and that matters relating to planning and approval processes and that other matters relating to the keeping of pets, the use of off-road vehicles and rating are contained in various legislation.

It is understood that the legal advice adds that it is not to say that statutory instruments could not be made available to provide for the management of the impacts of the CCR proposal and that suggestions were made in the advice as to how this may be achieved. It is understood that the suggestions included:

- a town planning scheme could be made which would apply specifically to the Mauds Landing townsite although this would not address the broader environmental planning and management issues raised in the EPA's report;
- a specific town planning scheme could impose management responsibilities and powers on an incorporated body and provide for a levy recovering the expenses of the body corporate arising from the scheme. However, building this approach into a condition would be difficult as it would be of a similar ambulatory nature as the original condition 15;
- requiring the proponent to assume responsibility for management of specified aspects of the proposal for a specified period of time. After that time the responsibility could devolve to the Shire of Carnarvon without any binding agreement as to how the responsibility would be fulfilled. This approach does not provide any particular mechanism for ensuring adequate levels of resources are applied to the management of the proposal.

A final suggestion would be to provide for an agreement between CCMD and the State and the local authority to be ratified by an Act of Parliament. This approach would require support through the Parliamentary process and without that support, it would not be feasible.

## 7.6 World Heritage values

Appellants argued that the EPA report did not consider the impacts of the proposal on the potential World Heritage values and Government's commitment to seek World Heritage nomination for the Ningaloo Marine Park. Appellants believed that the proposal (its impacts and private ownership) would not be consistent with a World Heritage area and that the area should be maintained as an icon, valued for its isolation and naturalness. A supporting document "Assessment of the proposed Mauds Landing marina/residential development on the World Heritage values of the Ningaloo Reef and Cape Range Region, Western Australia" which put forward a case outlining the global significance of Ningaloo Reef and the impacts of the proposal on World Heritage nomination and potential values. Referring to Article 2 of the Convention for the Protection of the World Cultural and Natural Heritage, it is argued that Ningaloo clearly satisfies relevant criteria from aesthetic, scientific and conservation perspectives.

Potential World Heritage values and the spatial boundaries of the nomination area are yet to be negotiated and determined. In the absence of this information or the finalisation of the State's case for nomination, in its appeal advice the EPA indicated it would be inappropriate for the EPA to pre-judge the scope of potential values or the impacts of the proposal against a set of possible World Heritage values at this time. Notwithstanding, the EPA considered that the document *Assessment of the proposed Mauds Landing marina/resort/residential development on the World Heritage values of the Ningaloo Reef and Cape Range Region, Western Australia* by Peter Hitchcock puts forward convincing arguments as to the potential World Heritage values of the Ningaloo Reef/Cape Range region. In its appeal advice, the EPA advised that comment would most appropriately be sought from the Department of Conservation and Land Management for its preliminary views on the Hitchcock report.

During the appeal investigation, the Department of Conservation and Land Management advised that the State Government is about to embark, in consultation with the Commonwealth Government, on a full assessment of World Heritage values and the identification of boundaries for the World Heritage Property necessary to protect the integrity of those values. The

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Department is the lead agency for the development and forwarding of the nomination on behalf of the State.

In its preliminary comments on the Hitchcock report, the Department of Conservation and Land Management advised the following with regard to the proposal:

- the report correctly asserted that the proponent was not required to consider World Heritage values nor the impact on any future assessment for nominations;
- the hypothesis was accepted that the negative impact of the proposed development on World Heritage nomination is likely to be greater if the ‘minimalist’ area is nominated, that is Cape Range National Park and Ningaloo Marine Park, rather than a larger area;
- it is accepted that the full assessment of values to be included in the nomination and the boundaries of the nominated properties are required before a determination of impact of the proposed development on nomination can be determined; and
- the report bases much of the likely negative impact of a successful World Heritage nomination on the “controversy” that may emerge from the project proceeding. The Department considered that it is a valid assertion that public concern may impact on, even compromise, the successful nomination for World Heritage. However, that is an issue of value judgement.

The report also makes the case that the exceptional natural integrity of the reef and adjacent coastal land and hinterland contributes greatly to the significance of the area. This “wilderness condition” if changed is considered to impact on the globally significant heritage value of the coastal reef condition. The Department of Conservation and Land Management advised that this hypothesis, while supported, still requires testing through a thorough assessment of World Heritage values and delineation of boundaries necessary to maintain their integrity.

Further details of the Department of Conservation and Land Management’s preliminary comments on the Hitchcock report are included in Appendix 7.

## **8. Resolution of problems at Coral Bay and justification for proposal**

This topic was raised in several appeals. It was argued that the Government’s recent commitments to address wastewater treatment and public boating problems at Coral Bay make the CCR proposal largely redundant and therefore contrary to the principles of sustainability. As stated in section 4, the Tourism Council Western Australia endorsed the EPA recommendation of the development of a whole-of-Government approach to a planning framework for the area. Further, that regardless of the final decision regarding the proposal, it does not relinquish the Government’s responsibility to address the current situation in Coral Bay.

In its appeal report, the EPA advised that there is little doubt that the Government proposals for a wastewater treatment plant (WWTP) and a public boating facility will assist in addressing long-standing environmental and public safety issues in Coral Bay that CCMD claim its proposal would assist in addressing. The EPA advised that along with provision of a public water supply, an appropriate WWTP could trigger expansion of Coral Bay under the existing Shire of Carnarvon Town Planning Scheme (TPS). The possible consequences of this for population increase, human-use pressures and environmental management were noted in the EPA’s Other Advice in Bulletin 1073. The EPA also noted that it is likely to provide strategic advice on matters related to future planning and management of the Coral Bay settlement as part of its review of the Shire of Carnarvon TPS. The EPA supported the views of appellants that regardless of whether the CCR proceeds, planning, public safety and environmental issues need to be addressed in Coral Bay as a matter of urgency, particularly as it appears the desire to visit the area is increasing.

## 9. Government planning and environmental management initiatives for the Ningaloo coastline

There are several planning and environmental management initiatives currently being progressed for the area including the CCR proposal. These include:

### *Carnarvon-Ningaloo Coast Regional Strategy*

The Western Australian Planning Commission has undertaken the preparation of the Carnarvon-Ningaloo Coast Regional Strategy with the following purpose:

- review the Gascoyne Coast Regional Strategy and incorporate the recommendations of other relevant planning documents, including the Exmouth-Learmonth (North West Cape) Structure Plan, relevant Statements of Planning Policy and the draft State Sustainability Strategy;
- co-ordinate with other concurrent planning activities in the study area such as, the Ningaloo Marine Park Management Plan, Cape Range National Park Management Plan, RAMSAR listings and (possible) World Heritage nomination;
- identify the most appropriate long term tourism and development options for the coast within the study area;
- identify and recommend the preferred vesting and management options for the conservation and recreation strip along the coast;
- prepare revised structure plans for Carnarvon and Exmouth;
- prepare settlement or site plans for Coral Bay and the future Blowholes tourist node;
- prepare environmental and planning guidelines for tourism development on the Carnarvon-Ningaloo Coast; and
- prepare an implementation strategy to achieve sustainable outcomes for the study area.

A Community Stakeholder Advisory Group is actively involved in the planning process as are local government and government agencies.

As part of the public consultation process for the Carnarvon-Ningaloo Coast Regional Strategy, the Department for Planning and Infrastructure is preparing for the Western Australian Planning Commission a report on scenarios for the future use of the Carnarvon-Ningaloo Coast which is expected to be released for public comment in the near future.

### *Ningaloo Marine Park Management Plan*

The Ningaloo Marine Park was gazetted as an A-class marine park in 1987 and is vested in the Marine Parks and Reserves Authority. A management plan for the Ningaloo Marine Park was approved in 1989 and in accordance with the *Conservation and Land Management Act 1984* is now being reviewed. The review process is overseen by the Marine Parks and Reserves Authority and co-ordinated by the Department of Conservation and Land Management.

Over the past two years the Department has collated and assessed a comprehensive range of bio-physical and social information much of which was not available when the current management plan was formulated in the late 1980s. The Department will undertake a planning process to review the management arrangements for the Park in accordance with changes in scientific knowledge and community attitudes. These revised arrangements will be formulated in consultation with the local and wider community and expressed in a new management plan. As part of this process, consideration will be given to extending the marine reserve system immediately to the north and south of the existing Park.

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The development of the Ningaloo Marine Park draft management plan will take account of the emerging outcomes of the review of the Cape Range National Park Management Plan, the World Heritage listing process and outcomes of the Carnarvon-Ningaloo Coast Regional Strategy.

#### *Cape Range National Park Management Plan Review*

The Cape Range National Park was gazetted as an A class reserve in 1971, and is vested in the Conservation Commission of Western Australia. A Management Plan for the National Park was approved in 1987 and in accordance with the Conservation and Land Management Act 1984 is now being reviewed. The planning process is overseen by the Conservation Commission of Western Australia and co-ordinated by the Department of Conservation and Land Management.

The Department of Conservation and Land Management has held meetings with key stakeholders on the preparation of the new Management Plan for the Cape Range National Park. An Issues Paper as a basis for discussion is being prepared and the Coral Coast Parks Community Advisory Committee for the management of conservation estate in the NW Cape, including preparation of the new management plans for Cape Range National Park and Ningaloo Marine Park, has been established.

Proposed extensions to the National Park are also being investigated as part of the planning process, as well as potential additions to the terrestrial conservation estate managed by the Department of Conservation and Land Management. Conservation estate additions, other than extensions to the National Park, may result from the negotiations that are underway to exclude conservation significant areas of pastoral leases in the NW Cape and secure their appropriate environmental protection and management. Negotiations for these areas will be completed by December 2004.

## **10. Findings**

Appeals have raised a large number of issues, many of which relate to planning for the Ningaloo coast. Planning, financial and other non-environmental issues have not been considered by this Appeals Committee.

In regard to the issues raised in appeals and in consideration of advice from the EPA, the proponent and the Department of Conservation and Land Management this Appeals Committee has found that:

1. Coral Coast Marina Development Pty Ltd (CCMD) proposes to develop a Coral Coast Resort (CCR) at Mauds Landing. Mauds Landing is located in the southern portion of the Ningaloo Marine Park, approximately three kilometres north of the existing Coral Bay settlement. The CCR proposal assessed by the EPA in Bulletin 1073 envisages a marina, a resort complex, private housing, a variety of short-stay accommodation, basic utilities infrastructure and associated commercial buildings and shops.
2. The EPA assessed the proposal at the Public Environmental Review (PER) level of assessment including a twelve week public review period. The proposal assessed by the EPA was the first phase of what could be an expanded development in the future.
3. After considering the information before it, the EPA formed the view that the proposal's footprint could be managed to meet the EPA's objectives with onerous and diligent management by the proponent.

4. The EPA is concerned that people's activities beyond the footprint of the proposal could have serious environmental consequences in the absence of an adequate management system. The thrust of the EPA's advice is that the proposal should not be approved for implementation. The EPA provided a set of conditions that would need to be fulfilled by the proponent if a decision is made by Government to allow the proposal to be implemented.
5. The proposal is adjacent to the Ningaloo Reef and the Ningaloo Marine Park. The Ningaloo Reef is the largest fringing coral reef in Australia and is one of the longest fringing barrier reefs in the world. The Ningaloo Marine Park was gazetted as an A-class Marine Park in 1987 and is vested in the Marine Parks and Reserves Authority. The Ningaloo Marine Park is an icon of State, National and International significance. The area adjacent to the project site is a Recreation Zone under the Ningaloo Marine Park Management Plan.
6. The sandy beaches of Bateman Bay are used by a number of migratory birds and sea turtles. Humpback whales have been observed in Bateman Bay during their migration and aggregations of manta rays occur in the Bay. Potential threats to marine environmental values of the Ningaloo Marine Park include fishing pressure, boat strikes, disturbance to wildlife, habitat degradation and pollution.
7. A management plan for the Ningaloo Marine Park was approved in 1989 and in accordance with the *Conservation and Land Management Act 1984* is now being reviewed. The Cape Range National Park Management Plan is also currently being reviewed. The State Government is about to embark on a full assessment of World Heritage values and the identification of boundaries for the World Heritage Property necessary to protect the integrity of those values.
8. The proposal has attracted considerable public interest and the overwhelming view in appeals is that the proposal in its current form should not proceed. Strong criticism has been levelled against the adequacy of baseline information, the capacity for management of human-use pressures associated with the proposal and its potential impacts on Bateman Bay and the wider Ningaloo Marine Park. The justification of the proposal to solve existing visitor and environmental management problems at Coral Bay has also been questioned.
9. The large scale and form of the proposal including an inland marina represents a major environmental impact in a coastal area and an area adjacent to a Marine Park. Information and views presented in appeals, particularly in relation to the manageability of impacts associated with the CCR proposal, build on the concerns expressed by the EPA in relation to the proposal.
10. There is significant doubt about the validity of EPA Recommended Condition 15 which sought to require the proponent to enter into a legal agreement with the Shire of Carnarvon to address management issues associated with the proposal.
11. CCMD's reports about the proposal's environmental benefits in relation to wastewater treatment practices at the Coral Bay townsite and through the relocation of boating activities from Bills Bay have been complicated by Government announcements to address these matters. This includes the announcement in June 2002 that expenditure of \$7.5 million had been approved to provide a wastewater system for Coral Bay. Earthworks are due to commence soon. The Government has also commenced implementation of an overall boating strategy including installation of new moorings in Bills Bay to improve safety and protection of the reef, and instigated a public environmental review process to identify an appropriate location for boating facilities in the Coral Bay area.

12. With regard to management of increasing people pressure on the environment of the Carnarvon-Ningaloo Coast, the Western Australian Planning Commission has progressed a regional strategy to develop a sustainable land use framework for the Ningaloo Coast which will assist Government in ensuring that significant values of the area are protected. The strategy will provide a framework for future land management, tourism and recreation development, to ensure an integrated and sustainable future for the Ningaloo Coast and the development of a number of nodes in the Shires of Carnarvon and Exmouth.

## **11. Recommendations**

After reviewing all the issues, it is considered that the critical issues relating to the proposal arise from its scale and form, and its location in a sensitive environment. The environmental risks and management needs for the proposal have not been demonstrated to be environmentally acceptable. There are doubts about the EPA's recommended mechanism to achieve adequate long term management in relation to the proposal.

It is recommended that appeals be determined such that the proposal should not proceed.

Fiona Keating  
APPEALS COMMITTEE

2nd July 2003

## **Appendices**

1. Appeals Lodged Against EPA Bulletin 1073: Coral Coast Resort
2. General Views Expressed in Appeals Not Supporting the Proposal and EPA Advice
3. Appeal Grounds and EPA Advice
4. Proponent's Response to Matters Raised in Appeals
5. Research Requirements Identified by the Department of Conservation and Land Management
6. Management Requirements Identified by the Department of Conservation and Land Management
7. Preliminary Comments by the Department of Conservation and Land Management on the Report by Peter Hitchcock on World Heritage Values

**APPEALS LODGED AGAINST EPA BULLETIN 1073: CORAL COAST RESORT**

248/02 Giz Watson MLC  
249/02 Ms Margaret Wilson  
250/02 Mr Dennis Beros  
251/02 Mr John Eyres  
252/02 Dr Dorian Moro  
253/02 Mr Nick Wood  
254/02 Mr Jarrad Clark  
255/02 Mr Jarrad Cousin  
256/02 Mr/s Anya Lam  
257/02 Oceanwise Environmental Scientists & Murdoch University  
258/02 Mr/s W Barker & Mr/s J Willems  
259/02 Marine Information and Research Group  
260/02 Mr R Shaw  
261/02 Mrs Patricia Gallaher  
262/02 Ms Susan Harrington  
263/02 Avon Valley Environmental Society Inc  
264/02 Ms Kathryn Buselich  
265/02 Mr Russell Hobbs  
266/02 Marine Parks and Reserves Authority  
267/02 Mr & Mrs Chapman  
268/02 Dr Anne Brearly  
269/02 Ms Tanya Farquhar  
270/02 Mr Bruce Teede JP  
271/02 Dr T Wheatley  
272/02 Mr Brian Perriam  
273/02 Mr Mark Westera  
274/02 Ms Alison Westera  
275/02 Cape to Cape Alliance  
276/02 Coastal Planning Coalition  
277/02 Mr R Todd – Aquarius Productions  
278/02 ATA Environmental on behalf of CCMD  
279/02 Western Australian Naturalists' Club  
280/02 Ms Gail Taylor  
281/02 Mrs D Hennessy  
282/02 Mr D Goodfield  
283/02 The Wilderness Society  
284/02 Save Ningaloo Campaign – Conservation Council  
285/02 Ms Jill De Bont  
286/02 Ms S Madden  
287/02 Dr F Gaschk  
288/02 Dr Mike Van Keulen – Murdoch University  
289/02 Ms Joan Payne  
290/02 Mr D Boase-Jelinek  
291/02 Ningaloo Experience  
292/02 Wild Life Preservation Society of Australia  
293/02 Mr J Underwood  
294/02 Ms Z Underwood  
295/02 Tourism Council Western Australia  
296/02 Ms Ann Preest



297/02 Ms Jill Gamble  
298/02 Ms Katie Bewley  
299/02 Bayview Coral Bay  
300/02 Mr Crispin Underwood  
301/02 Ms Ann Leah  
302/02 Sea Breeze Resort  
303/02 Dr Reinhart Klessner  
304/02 Department of Health (Mosquito - Borne Disease Control)  
305/02 Ningaloo Care Group  
306/02 Ms Sallyann Gudge  
307/02 Ningaloo Safari Tours  
308/02 Cape Conservation Group  
309/02 Robin Chapple MLC  
310/02 Mr Martin Copley  
311/02 Ms Susie Scott  
312/02 Ian Grantham  
313/02 Mr & Mrs Archibald  
314/02 Mr G Jagoe & Ms B de la Hunty  
315/02 Ms Traci Gamblin  
316/02 Mr Dave Farnworth  
317/02 Mr Ben Bedford  
318/02 Ms Linda Siddall  
319/02 Mr Paul Groves  
320/02 Ms Sophia Stafford  
321/02 Mr Brendon Mc Atee  
322/02 Ms Natalie Wasley  
323/02 Mr Brooke Collins  
324/02 Mr Roderic Collins  
325/02 Ms Yvonne Suares  
326/02 Ms Betty Murphy

## Appendix 2

### GENERAL VIEWS EXPRESSED IN APPEALS NOT SUPPORTING THE PROPOSAL AND EPA ADVICE

An overwhelming flavour in appeals was that the proposal should not be allowed to proceed. In addition to the grounds of appeal against the EPA's Report and Recommendations set out in Bulletin 1073, appellants expressed opinions about the proposal and its impacts as discussed below.

#### *Disapproval of the proposal.*

Many appellants hold the view that it would be inappropriate to allow a private development proponent to threaten environmental/social values of a public asset – the NMP. A significant proportion of appellants who appealed against the EPA's report were opposed to the proposal. In particular, there is opposition to the potential requirement to excise from the NMP an area for the construction and management of the breakwaters. The EPA has recognised that a decision to allow the proposal to proceed may have implications on people's experiences of the NMP. There is also a view that the proposal would create exclusivity in and adjacent to a public asset. Appellants consider that because these factors would compromise the very reasons people visit the area, it should remain in its existing 'wilderness' state for future generations.

While the EPA formed the view that Government could manage these issues to an acceptable level with appropriate participation, EPA also recognised the need of greater management (possibly stricter controls/enforcement) of human activities in the NMP and coastal lands regardless of whether the CCR is allowed to proceed. A possible outcome of people's continued desire to visit the area in a relatively unrestricted way may lead to unacceptable impacts and subsequent increased management controls on activities even if the CCR does not proceed.

The EPA has been clear that there would need to be a commitment by Government to a significant input of funds to manage human use pressure before a decision is made to allow the proposal to be implemented. Despite their claims, appellants argue that CCMD's commitments do little for the environment and provide no offsets against the impacts of the proposal. It is true that CCMD has not convinced the EPA that its draft Natural Resources Management Agreement (NRMA) would be sufficient to support Government's management obligations if the proposal proceeds. As it is beyond the EPA's role to make detailed assessments of such financial arrangements, it was suggested that advice be sought from the Treasurer as to the sustainability of CCMD's funding proposals.

#### *Lack of transparency in the proponent*

An appellant noted that despite searches of relevant information the background of the venture capital and the holding party for CCMD's finance is unclear.

Limited information was provided in CCMD's responses to submissions about its company. Fundamental to the EPA's Recommendation 10 is the confirmation of financial and legal aspects of the management arrangements for the proposal and it follows that confirmation of the company's capacity to undertake construction and long-term management of the proposal

in an environmentally responsible way should be part of Government's decision as to whether the proposal could proceed.

*Support for other forms of development*

There is a view among some appellants that the CCR proposal does not represent contemporary best practice coastal development and that the proposal is not the most appropriate answer to the question of additional tourist accommodation in the region.

A number of appellants expressed support for other forms of development at the site and possibly at other locations along the Ningaloo coast, provided that development was considered in the context of a strategic planning process that includes an appropriate level of public participation. There is a preference that alternative or scaled down development should not include a residential component. It is suggested that short stay bases at points such as Yardie Creek and Coral Bay could be used to service eco-tours operating from Exmouth and Carnarvon. The view was expressed that development should be located some distance from the coast to minimise marine and coastal impacts.

Alternative development is beyond the scope of the EPA's assessment. However, in its report (Other Advice), the EPA recognised the Government's initiative to undertake the *Carnarvon-Ningaloo Coast Regional Strategy* which could provide guidance for future planning in the region. The question as to whether any decision on the CCR proposal or other development proposals on the west coast of North West Cape should be postponed until the *Carnarvon-Ningaloo Coast Regional Strategy* is completed is one best answered by the planning portfolio which has a lead role in the delivery of the Strategy.

Appellants express views about the implementation of various systems to control visitation in the region. Systems mooted include quotas and physical barriers systems to limit visitation. Consideration of systems to limit visitation was beyond the scope of the EPA's assessment. The view reflected by the EPA in Bulletin 1073 is that a key to sustainable human-use in the area is appropriately resourced environmental management.

Appellants also express views that future large-scale development should either be located away from the coast or should be confined to existing centres such as Exmouth, Carnarvon and, to a lesser extent, Coral Bay. These views are noted and have some merit, however, EPA was asked to assess the CCR proposal at Mauds Landing which was given conditional support by the Government of the day. The EPA was careful to consider the proposal in the context of planning strategies relevant to the area. The EPA found that the proposal should not be allowed to be implemented unless significant management issues could be addressed both by CCMD and the Government for the long term.

The EPA consideration of alternative tourism facilities should only occur following the completion of a transparent planning process such as the *Carnarvon-Ningaloo Coast Regional Strategy* that complements the revised Management Plan for the NMP. New proposals should be planned in accord with contemporary planning and management review processes which are currently under way. In this way, the broad environmental and social opportunities and constraints for development could be considered up front in the proposal development process.

*Need for a sustainability assessment*

Many of the appeals raise issues which are directly relevant to the broader considerations of sustainability. Issues include economic risks (and subsequent environmental risks), impacts on sense of place, settlement efficiency and equity (development for public good). Appellants consider that the proposal would contradict a number of principles set out in the draft State Sustainability Strategy and that the proposal should be rejected, or at least any approval should be postponed until:

- a generic inventory of contaminant sources to coastal waters has been established for the Ningaloo Reef region to better understand key ecological processes;
- the findings of collaborative research initiatives between the State and Commonwealth which would be used to underpin the establishment of reference sites to understand natural variation and human-induced changes become available and possibly form part of a sustainability assessment of the CCR proposal;
- the State Sustainability Strategy is adopted and the proposal undergoes a sustainability assessment against criteria established to determine if sustainability objectives are met;
- sustainability principles are established and incorporated in a framework to apply to coastal planning and management;
- the CCR is assessed in the context of a marine habitat protection policy which is being developed at this time;
- a representative system of marine reserves has been established; and
- the CCR proposal and its off-site management implications are assessed in the context of cumulative impacts and synergistic effects for multiple activities.

The issues outlined above are raised in the draft State Sustainability Strategy. However, many of the issues fall beyond the scope of the EPA's assessment, are not currently areas targeted by collaborative research with the Commonwealth (Strategic Research Fund for the Marine Environment with CSIRO), are being addressed by various Government agencies (Department of Conservation and Land Management (DCLM) is establishing a representative system of marine reserves) or where addressed in the EPA's assessment (cumulative impacts of human-use pressures). At this stage, a development of a contaminant inventory for the Ningaloo Reef is not likely to be a issue requiring detailed attention due to the lack of development that directly discharges contaminants to the marine environment. The recently drafted Cockburn Sound EPP signifies the EPA's progress towards the development of a *Environmental Protection (State Waters) Policy*. Guidance on the EPA's expectations with respect to marine primary producer habitats is being finalised for release for stakeholder comment.

As noted in Bulletin 1073, the proposal is essentially for a new town – not just a tourist facility. Many of the issues raised by appellants fall within the ambit of several Government instrumentalities (e.g. Treasury, Planning, Tourism, Local Government) and are likely to be relevant to debate about the proposal's sustainability.

The EPA believes it has considered the relevant environmental issues and by including advice regarding the impact(s) of the proposal on Government's key natural resource managers, the EPA's recommendations are fundamentally related to the challenge of sustainable use of the Ningaloo/Cape Range coastal area.

*Resolution of problems at Coral Bay and justification for the proposal*

This topic is raised in several appeals. It is argued that the Government's recent commitments to address wastewater treatment and public boating problems at Coral Bay make the CCR proposal largely redundant and therefore contrary to the principles of sustainability.

There is little doubt that the Government proposals for a wastewater treatment plant (WWTP) and a public boating facility will assist in addressing long-standing environmental and public safety issues in Coral Bay – issues that CCMD claim its proposal would assist in addressing. The view has been expressed that a comprehensive study be undertaken into Coral Bay and development be capped and/or limits should be set for the length of stay during any given period to ensure conservation of the area's values.

Along with provision of a public water supply, an appropriate WWTP could trigger expansion of Coral Bay under the existing Shire of Carnarvon Town Planning Scheme (TPS). The possible consequences of this for population increase, human-use pressures and environmental management were noted in the EPA's Other Advice in Bulletin 1073. The EPA also noted that it is likely to provide strategic advice on matters related to future planning and management of the Coral Bay settlement as part of its review of the Shire of Carnarvon TPS.

The EPA supports the views of appellants that regardless of whether the CCR proceeds, planning, public safety and environmental issues need to be addressed in Coral Bay as a matter of urgency, particularly as it appears the desire to visit the area is increasing. Matters requiring attention in Coral Bay include solid waste management, management of pollution risks from inappropriate storage of fuels, unmanaged coastal access/camping and strategic planning for the area. A report on issues at Coral Bay has been included in an appeal from the Tourism Council Western Australia.

The extent to which the CCR will deliver other environmental benefits (listed on page 2 of CCMD's Public Environmental Review) to the region is a matter of judgement and commitment by relevant parties that include Government sectors and the proponent, to address environmental management and tourism accommodation issues in the region.

*Time provided for the preparation of appeals*

Appellants commented that the time to prepare an appeal was insufficient considering the large volume of written material associated with the EPA's assessment.

There was a considerable volume of material associated with the proposal, particularly the proponent's responses to submissions which was provided in two volumes on compact disk.

Section 100 of the *Environmental Protection Act* provides for appeals to be lodged with the Minister against the EPA's report and recommendations. Section 100 also sets out an appeal period of 14 days following the publication of the EPA's report.

The EPA's report also specifically states that the proponent's responses to submissions documentation is included as a matter of information only and does not form part of the EPA's report and recommendations.

## Appendix 3

### APPEAL GROUNDS AND EPA ADVICE

#### GENERAL ENVIRONMENTAL ISSUES

##### Appeal Ground 1 - Scale of the proposal

Appellants consider that the proposal is too large and not in keeping with the site. Appellants contend that the proposal would introduce too many people to the area over too short a time period to ensure that environmental values could be protected. Appellants note the negative views of the MPRA with respect to the size of the proposal and consider that the EPA should have given more consideration to the MPRA's views on the issue of scale. It is believed that the EPA too readily accepted the proponent's commitments and descriptions of the proposal.

##### *EPA advice*

As noted in Section 3 of EPA Bulletin 1073, the proposal assessed by the EPA was given consideration by the Government of the day in light of relevant planning and policy documents available at the time, including the GCRS, an earlier EPA report on this proposal and numerous other Government documents and reviews. In addition, it is understood that CCMD's Structure Plan was conditionally endorsed by Cabinet as meeting the Planning and Environmental Guidelines it set for development at Mauds Landing. This endorsement was conditional on CCMD obtaining normal approvals, including environmental and planning. Accordingly, CCMD believed that the proposal it referred to the EPA for assessment was broadly in accord with the type of development envisaged by the Government at the time. The EPA assessed CCMD's proposal in the context of its understanding of the outcomes of the then Government's deliberations about the CCR proposal.

It is the EPA's view that form and scale of development proposals in any location are fundamental planning matters.

Notwithstanding, the EPA did consider the scale of the proposal from the perspective of the scale of the footprint impacts, the human-use pressures it will impose on the environment and the coinciding environmental management burden these pressures would create on and off site. Due to the amount of tourist and residential accommodation proposed, the EPA found that the human-use pressures on the environment would be significant and without an adequate management system implemented by Government to protect the values of the NMP and adjacent coastal lands, the proposal should not be approved for implementation.

##### Appeal Ground 2 - Inadequate information

A key ground of appeal is that the EPA released Bulletin 1073 without adequate baseline data/information about the marine and terrestrial environments to make informed judgements about the potential impacts of the proposal. Many appeals focused on a lack of baseline scientific information about marine megafauna such as humpback whales, whale sharks, manta rays, dugongs and sea turtles which could be used up-front to determine whether management strategies would be effective.

It is argued that information used by the EPA for its assessment is inadequate in two ways:

- information necessary to understand the ecological values of the area and to assess environmental impacts of the proposal was not provided by the proponent or otherwise obtained by the EPA; and
- previously unavailable information now exists which is relevant to consideration of the environmental acceptability of the proposal.

Appellants contend that the EPA's assessment of the information before it is not adequate or final because the baseline environmental data to determine whether proposed and recommended management will be effective in protecting the environment was not available. For this reason, appellants argue that the EPA has no basis to conclude that the CCR proposal is unlikely to compromise its objectives.

Moreover, the appellants suggest that by not providing adequate baseline environmental data, CCMD did not comply with the EPA's guidelines for the PER.

The large number and breath of topics covered by management plans reflects the paucity of information provided by the proponent. Appellants believe the EPA too readily accepted CCMD's commitments as a means of addressing the information deficits. Accordingly, the assessment approach adopted by the EPA is too reliant on post-approval implementation of management plans.

Appellants argue that the risks posed to the environment by adopting this approach could threaten the values which make the NMP a wilderness area that may support values of global significance (World Heritage values). Appellants also argue that the EPA did not consider how impacts would be managed (and by whom) if monitoring undertaken during operation of the proposal indicates that significant impacts may be occurring.

Appellants believe that the lack of baseline environmental information warrants the proposal being referred back to the EPA for a more thorough assessment. This further assessment should be undertaken before any decision can be made about whether or not the proposal should be allowed to be implemented.

#### *EPA advice*

With regard to the impacts of the proposal's footprint, the EPA considers that the proponent provided sufficient information to enable a judgement to be made as to whether the risks to the environment posed by the CCR proposal could be managed to meet the EPA's environmental objectives. In several cases the EPA concluded that its environmental objectives as they relate to the proposal footprint, could only be met if the proponent satisfactorily implemented its commitments and a rigorous set of environmental conditions. Several of the recommended conditions set out in Appendix 4 of Bulletin 1073 provide for additional data collection to guide and focus management strategies that would also be set out in management plans.

In drawing its conclusions on each relevant environmental factor associated with the proposal footprint, the EPA not only drew on information provided by the proponent, but it also considered submissions and advice of relevant Government agencies.

In response to specific concerns about the level of baseline data on terrestrial fauna, terrestrial flora, marine water quality and marine water quality, the EPA offers the following advice in relation to the proposal's footprint only.

- After considering information and commitments provided by CCMD and advice from DCLM which notes risks of undertaking fauna surveys prior to the commencement of construction, the EPA concluded terrestrial fauna issues associated with the proposal footprint could be managed to meet relevant environment objectives.
- With respect to flora, the EPA recognised that the proposed site has been historically disturbed by pastoral activities, weed infestation and in more recent times by unregulated vehicle access and the use of a nearby area as an airstrip to service Coral Bay. The EPA also recognised that the proponent must comply with the requirements of the *Wildlife Conservation Act 1950* and CCMD's commitment to undertake management of priority species identified from the site was important in this regard.

- After considering advice from the Western Australian (WA) Museum and a review undertaken for the proponent, the EPA considered that CCMD's stygofauna assessment provided a preliminary assessment of risk to subterranean fauna only. From the EPA's experience, and its consideration of key risks (set out on page 52), the threat of impacts on subterranean fauna immediately below the site would be small. Due to the limited information in the area and the possibility of subterranean fauna within deeper strata below the site, the EPA considered that the proponent should be required to fulfil recommended condition 9 which sets out research requirements.
- The EPA's assessment of water quality impacts is set out in Sections 4.1.7 and 4.1.8. Although flushing times for some areas of the marina are relatively long, the high quality of source water from the NMP and the management commitments and recommended conditions intended to limit the flux of nutrients to the marine environment could limit the risks of water quality problems during operation of the CCR proposal. The EPA set out its objectives for water quality in the marina and the NMP in recommended condition 10. These objectives are currently met in boat harbours (e.g. Hillarys Marina) and ports in the metropolitan area (Fremantle Inner Harbour).

In relation to off-site impacts, the EPA recognises that there is scientific uncertainty and limited management-orientated information available for some of the key environmental values of the NMP. The EPA also recognises that this information is time-consuming to collect and that the impacts of visitors on environmental values beyond the proposal's footprint are difficult to predict up front, even if baseline data were available. Under these circumstances, the EPA sought management advice from the Department of Fisheries (Fisheries) and DCLM. The EPA also utilised published information from other parts of Australia to form its views about the potential impacts of boating on marine wildlife and the manageability of off-site marine impacts. The EPA is also mindful that DCLM manages commercial marine wildlife interactions (e.g. humpback whales, whale sharks, manta rays, turtles) near Coral Bay and Exmouth as well as other places in WA's coastal waters. The EPA is not aware, nor has it been advised by DCLM, that the current level of public interaction with marine wildlife including whale sharks, turtles and humpback whales is unsustainable.

Where there is scientific uncertainty, the EPA relies on advice of management agencies and information contained in published material from other areas to make a judgement about the likely effectiveness of management. The information available indicates that with a commitment to a significant level of Government resources (funding, personnel/expertise, policy/regulation), an environmental management system could be put in place to protect the key ecological values of the NMP and its surrounds. As stated in Bulletin 1073, the responsibilities to implement such an environmental management system reside with Government.

The EPA was mindful that understanding and experience of access management requirements for terrestrial area is greater than for marine areas and land management for conservation purposes is well developed in other environmentally sensitive areas of the State (including some which may be under greater visitor pressures than the Ningaloo coast).

Recognising scientific uncertainties and current experience in land management, the fundamental thrust of the EPA's advice is that the authority to undertake the necessary marine and terrestrial management in areas outside of the proposed development precinct resides with Government, and not the proponent.

Accordingly, the EPA's advice contained in recommendations 10, 11 and 12 was that the proposal as it stands should not be approved for implementation unless there is a significant involvement and investment by Government into the management of the NMP and adjacent coastal lands. A decision to allow the proposal to proceed should only be made after the Government is satisfied that adequate resources and policies are available to DCLM, Fisheries, the Marine Parks and Reserves Authority (MPRA), the Conservation Commission and possibly a range of other agencies for baseline data collection and sustainable management of the NMP.

There are a series of legal, financial and philosophical questions that lie behind CCMD's proposals to contribute towards management of the NMP. Answering these questions is outside the ambit of the EPA,



but the questions should be considered prior to any decision being made as to whether the proposal should proceed.

If, after addressing the matters set out in recommendation 10, Government decides to allow the CCR proposal to be implemented, construction would not be allowed to commence until CCMD can satisfy the EPA and the Minister for the Environment and Heritage that the requirements of environmental management commitments and conditions have been satisfactorily met. In this way, the EPA will consider whether the proponent has adequately satisfied its expectations with regard to resolution of current gaps in technical knowledge in the vicinity of the proposed development site. The EPA is of the view that management actions could be taken by the proponent to the satisfaction of the EPA that would ensure the impacts of the proposal's footprint are made environmentally acceptable. There is little doubt that fulfilling the requirements of conditions will require significant investment by the proponent into a range of environmental and engineering professionals.

Increased research, subsequent management/enforcement presence and rigour of policy that should be bought about if a decision is made to allow the proposal to proceed is likely to have its own impact on people's experience of the NMP and adjacent land areas. This possible outcome was noted by the MPRA in correspondence to the EPA and was reflected in the EPA's report.

If the CCR proposal does not proceed, the issues raised by appellants, particularly in relation to understanding the risks and responses of marine fauna to environmental impacts of people's activities in the NMP would continue to be relevant. If, as expected, tourist numbers in the region continue to increase, it is likely that there will be a need for a greater management effort to ensure tourism is sustainable in the long term.

The EPA considers that management could be undertaken by the proponent and by Government (provided there is an injection of resources commensurate with the management burden created by the proposal) that could provide adequate protection to the environmental values of the NMP and adjacent lands. However, it would be a difficult task to convince the community that an adequate system of management could be implemented.

If a decision is taken to uphold appeals related to uncertainty about the potential impacts on ecological values of Bateman Bay, the NMP and adjacent coastal lands in the region, Section 43 of the EP Act provides the opportunity for the Minister for the Environment to direct the EPA to assess environmental factors more fully or more publicly or both as the case requires.

### **Appeal ground 3 - Manageability of human-use pressures**

Appellants argue that risks posed to the environment (both marine and terrestrial areas) by boat traffic, fishing and general tourist activities associated with the proposal are too great for the Minister to adopt the EPA's recommendation that off-site impacts could be managed with the provision of Government resources. Appellants cite the lack of adequate baseline data on marine and terrestrial environments in the region and the far reaching and long-term nature of the environmental threats posed by the proposal to support their argument.

Despite numerous submissions alerting the EPA to the issues, its assessment approach fails to recognise the uniqueness of Bateman Bay as a habitat for a variety of marine mega-fauna and the extent to which impacts from the development are likely to undermine existing patterns in the abundance and distribution of mega-fauna in Bateman Bay and surrounding areas.

In particular, appellants consider that the spatial scale for the EPA's assessment of impacts on marine fauna and the EPA's focus on population-level effects of impacts are problematic, because the EPA's approach does not consider the uniqueness and ecological function of Bateman Bay for marine mega-fauna. One appeal provides new information about the marine flora and fauna of Bateman Bay.

Noting that the current level of boat activity is impacting the marine environment (coral, water quality, fish stocks), appellants suggest that the EPA has failed to recognise that additional boat traffic associated with the CCR proposal will only exacerbate current impacts.

In addition, the EPA's assessment has not given attention to the potential impacts of water sports such as water skiing, which involves fast-moving boats, and windsurfing on marine environment, particularly marine mega-fauna.

#### *EPA advice*

In forming its view about the manageability of off-site impacts, the EPA considered information provided by the proponent, submissions, previous planning documents for the region, advice of relevant Government agencies and published reports and articles from other sensitive locations in Australia. Fundamental to the EPA's overarching advice to the Minister for the Environment and Heritage was the recognition that the possible scope of far-field human-use pressures associated with the CCR proposal are beyond the power of the proponent to manage. It is primarily this issue that caused the EPA to recommend that the proposal as it stands should not be approved for implementation.

The potential threats to marine environmental values of the NMP as a result of the proposal were considered in the context the following factors:

- fishing pressure;
- boat strikes;
- disturbance to wildlife;
- habitat degradation; and
- pollution.

After considering the information before it, the EPA formed the view that the potential threats to the environment posed by these factors were of such significance that without adequately resourced environmental management, the proposal should not be allowed to proceed. The responsibility for management outside the proposed development precinct resides with Government. The EPA's recommendations indicate that making the proposal environmentally acceptable would require a significant involvement and investment by Government into the management of the NMP, including the implementation of an adequately resourced management system, which should include appropriate strategies and authority to address human-use issues which pose threats to important environmental values.

The EPA considers that although land access management is well developed in this State, making the proposal environmentally acceptable would require appropriately resourced coastal land management by Government.

The use and control of personal watercraft and water sport activities such as skiing in a marine reserve are operational matters addressed by DCLM, as managers of marine reserves in WA. Decisions as to whether some activities (e.g. water skiing and windsurfing) could be permitted in particular areas would need to be made by the MPRA and DCLM after considering if particular activities are compatible with the ecological and social objectives for the Park. Table 3 of the NMP Management Plan (DCLM 1989) sets out the permitted uses and activities in the Park.

Mooring control areas and other boating control strategies are proposed to be established by the MPRA to manage current levels of boating activity and related impacts in the Mauds Sanctuary Zone (MSZ).

As the maintenance of viable populations of flora and fauna is critical to conserving biodiversity and there is in general more information about populations than individuals of species, the EPA considered it appropriate to assess potential impacts of the proposal on marine mega-fauna at the population level.

The EPA has considered the new information provided in appeal 275/02 and considers that the information on marine mammals generally confirms the information provided by CCDM in its responses to submissions. Information in an appeal by Oceanwise Environmental Scientists and Murdoch University

also confirms that the ecological function of Bateman Bay as habitat for marine mammals (humpback whales, dolphins and dugongs) is not well understood – though anecdotal evidence suggests the Bay could be used as a nesting, feeding and resting area for whales, dolphins and dugongs. In view of this, the appellants recommend large increases in boating activity should be minimised and that research, management and regulation of boating should be implemented following increased knowledge of habitat requirements. This is broadly in accord with the views of the EPA.

It is important to note that Exmouth Gulf and Shark Bay (a World Heritage Property) are both known to be important resting/nursing areas for humpback whales and provide critical habitat for large dugong populations, and at the same time support large commercial fisheries. The Exmouth and Shark Bay areas are also centres for considerable marine-based tourism industries. Boat-launch data provided by Fisheries indicates that the level of boat use in these areas is considerably greater than within the NMP. The EPA was not provided with evidence to suggest that marine-based activities in Exmouth Gulf and Shark Bay are unsustainable, with the possible exception of past recreational fishing activities in parts of Shark Bay. Fisheries provided advice regarding the management requirements to protect fish stocks in the NMP from additional recreational fishing pressure. Advice of fisheries suggests that recreational fisheries management is possible, but would have significant implications for Fisheries' recurrent resource requirements.

As day-to-day managers of the NMP, DCLM should be consulted at length on the likely research and management requirements as part of the decision-making process for the CCR proposal.

#### **Appeal Ground 4 - Environmental management structure**

This appeal relates to the EPA's recommendation 10 and other advice regarding Government's environmental management considerations.

Even if a dedicated management authority charged with management responsibilities was established, appellants believe that no matter how comprehensive and effective the management may be, the impact on the environment will be significant. Appellants support this argument with views that there is inadequate baseline scientific information upon which to determine whether effective management could be put in place. Appellants contend that because the Government has been unable to manage existing pressures, it would be unlikely that it could deliver effective environmental management to address the requirements of the proposal.

The EPA's reference to the Rottnest Island Authority as a model for environmental management on the North West Cape region is considered to be misleading because the patterns of visitation and environmental management requirements are considerably different in these two locations. Further, membership of a management body would need to be inclusive of the local community (e.g. local indigenous stakeholders and local Government).

Appellants believe if the EPA had adequately considered these risks and past environmental management performance, it should have recommended that the proposal could not be managed adequately and should not be allowed to proceed.

In view of the above grounds, appellants consider that any decision by the Government to approve the proposal would be difficult to reconcile against the Labor Government's policy statement on the environment.

#### *EPA Advice*

After considering the information before it, the EPA formed the view that the proposal's footprint could be managed to meet the EPA's objectives with onerous and diligent management by the proponent. However, the EPA was concerned that people's activities beyond the footprint of the proposal could have serious

environmental consequences in the absence of an adequate management system. The Government has statutory obligations to manage conservation reserves for the people of WA. These responsibilities cannot be transferred to CCMD.

Noting this, Recommendation 10 of EPA Bulletin 1073 sets out that the proposal should not be allowed to proceed unless Government can make a number of commitments to environmental management in the Ningaloo/Cape Range area. If the proposal is allowed to proceed, a considerable amount of management-based research and monitoring would be needed prior to the construction and operation of the proposal. From advice it received from natural resource management agencies, the EPA formed the view that this work could assist in the delivery of an effective environmental management system to protect the important values of the area.

The EPA did not recommend that a management authority be established to oversee the management of the NMP, but rather advised that management bodies have been established to manage sensitive areas in other parts Australia. The Rottneest Island Authority and the Great Barrier Reef Marine Park Authority were included only as examples of systems that have established elsewhere. These models may not necessarily be appropriate for the management of the Ningaloo/Cape Range area. The EPA also recognised that there would be opportunities to integrate existing sectoral management arrangements to provide effective environmental management in the North West Cape region. This could be particularly relevant where terrestrial and marine values are significant and complementary by controlled by separate bodies.

A decision by Government to adopt a particular system of management for the Ningaloo/Cape Range area should be made after consideration of other sustainability issues that are beyond the scope of the EPA's assessment (social and economic). This is not only because of the environmental significance of the area, but also due the varying community visions for the area and long term management obligations the proposal would place on the State to protect the values.

### **Appeal Ground 5 - Management framework**

This ground of appeal questions the EPA's conclusions with respect to legal framework, authority and resources for implementation and enforcement of necessary regulatory/management controls.

Appellants question the EPA's decision not to give detailed attention to the ability of the Community Association to address environmental management issues in the longer term, particularly given CCMD has only committed to manage the proposal for a limited time, until it sells adequate lots to make a profit or it transfers a range of responsibilities to a third party. If the proposal was to proceed, the legal, financial planning and maintenance program of the resort infrastructure as set out in the rules of Association should be reviewed by the EPA to ensure that the association is legally sound and that obligations are binding on the proponent.

Concerns are expressed about the way in which the EPA addressed the Shire's capacity to manage the proposal in the long-term. Appellants consider that the responsibilities for management of new developments must be 'water-tight' and for perpetuity if they are to be approved.

There is no advice from the EPA as to how much of the funds generated from the CCR would be used to cover the costs of environmental management. The proponent did not demonstrate to the EPA that its funding arrangements for environmental management are sustainable. Therefore, the EPA should have considered the environmental management requirements to be too problematic to enable the proposal to proceed. An appellant considers that it is inappropriate that the proposal's management will require significant resources from local Government and other statutory bodies.

Appellants also argue that the proponent's commitments, particularly with respect to management, have no legal standing and cannot be enforced. Accordingly, the EPA should have recommended that the proposal should not be allowed to proceed.

### *EPA advice*

The EPA recognised that there is likely to be risks associated with the Community Association proposed by the proponent. However it did not give detailed attention to long term management by a Community Association at this time because a draft lease agreement prepared by the Department of Land Administration (DOLA) for the proposal would bind the proponent to the management of all areas that are not converted to freehold land and unallocated Crown Land for a term of 50 years. It is also understood that the proposed lease agreement could provide a regulated mechanism to assess CCMD's financial capacity and its proposal to fund environmental management required by any statement issued by the Minister for the Environment and Heritage pursuant to Section 45 of the EP Act. Provision could also be made in the Lease to allow CCMD to transfer some management responsibilities to a third party. DOLA had not been formally approached by CCMD to explore this option at the time Bulletin 1073 was published. If a decision is made under the EP Act to allow the proposal to be implemented, CCMD will be responsible for the delivery of all environmental management commitments and conditions for the life of the project. Section 38(7) of the EP Act sets out the requirements in respect of changes to proponentship.

The EP Act and the proposed lease prepared under the provisions of the *Land Administration Act 1997* provide strong legal basis to ensure management is implemented in appropriate areas. The EP Act provides for penalties where non-compliance with a Statement occurs.

The proponent also expressed a desire to enter into an arrangement with the Shire of Carnarvon to delineate long and short-term responsibilities for the townsite, including environmental management commitments, rating to finance management and development of appropriate development approval guidelines for the CCR. The intent of the EPA's recommended condition 15 was to strengthen CCMD's commitment to seek a Resort Management Agreement with the Shire of Carnarvon. Legal advice has now indicated that there is considerable doubt about the validity of condition 15.

The legal advice indicates that there are fundamental difficulties implementing a condition that requires the proponent to enter into a legal agreement with the Shire of Carnarvon for management. In summary, these difficulties relate to the ambulatory nature of recommended condition 15 and that matters relating to planning and approval processes and that other matters relating to the keeping of pets, the use of off-road vehicles and rating are contained in various legislation.

The legal advice adds that it is not to say that statutory instruments could not be made available to provide for the management of the impacts or the CCR proposal. The legal advice makes a number of suggestions as to how this may be achieved. Firstly, a town planning scheme could be made which would apply specifically to the Mauds Landing townsite. A planning scheme could address many of the management issues related to the proposed development site identified by the EPA. However, a planning scheme, being limited to the scheme area, would not address the broader environmental planning and management issues raised in the EPA's report.

Secondly, the concept of an incorporated association which undertakes certain aspects of management may be worth revisiting as it could give focus to the Mauds Landing development which a local government the size and remoteness of the Shire of Carnarvon may find difficult to maintain. There is precedent for such an approach. The legal advice indicates that great care would need to be taken in drafting the constitution of the incorporated association and membership should include representatives of State and local governments as well as land owners. A specific town planning scheme could impose management responsibilities and powers on the incorporated body and provide for a levy recovering the expenses of the body corporate arising from the scheme. However, building this approach into a condition would be difficult as it would be of a similar ambulatory nature as the original condition 15.

Other approaches suggested in the legal advice include requiring the proponent to assume responsibility for management of specified aspects of the proposal for a specified period of time. After that time the responsibility could devolve to the Shire of Carnarvon without any binding agreement as to how the

responsibility would be fulfilled. This approach does not provide any particular mechanism for ensuring adequate levels of resources are applied to the management of the proposal.

A final suggestion would be to provide for an agreement between CCMD and the State and the local authority to be ratified by an Act of Parliament. This approach would require support through the Parliamentary process and without that support, it would not be feasible.

Clearly, each of these approaches to management is complex and would require State Government and local authority resources for the long term in order to implement appropriate management. If the Government, as a matter of philosophy and practice does not wish to provide the resources necessary to develop and implement a rigorous and legally sound management framework for this proposal, then the proposal should not be allowed to proceed.

### **Appeal Ground 6 - Marine protection and conservation strategies**

The EPA did not provide clear advice as to what management strategies would need to be implemented in the NMP to protect important environmental values from the effects of additional visitors associated with the CCR proposal (e.g. additional boating, fishing and wildlife interactions). By way of example, appellants argue that the EPA:

- has not placed enough emphasis on requirements for reserves and habitat protection areas, particularly for turtles, fish, birds and mammals that use this area and whose presence and health are a major focus of the area's popularity; and
- has not provided advice as to the resource and policy requirements to control people's activities in the Marine Park.

New information has been presented in the appeal by the Conservation Council/Save Ningaloo Campaign regarding the effectiveness of no-take areas for the management of fish and maintenance of ecological processes. Particular concern was expressed regarding the adequacy of existing data on fish stocks to ensure that additional recreational fishing associated with the proposal is sustainable.

Some appellants have made recommendations regarding restrictions on hydrocarbon powered boats, boating exclusion areas and 'no-take' areas.

#### *EPA Advice*

The EPA did not provide specific advice regarding the requirements for reserve/no take or habitat protection areas in Bulletin 1073. However, it has acknowledged that there is a need to establish a regional environmental management system supported by adequate resources to ensure the environmental values of the region are adequately protected in the long-term.

While it was not explicit, the term 'adequate resources' in recommendation 10 of Bulletin 1073 was intended to encompass not only human and capital resources, but also policy and management strategy requirements to protect environmental quality, conserve biodiversity and meet the community's aspirations for the environment in the region.

The NMP is vested in the MPRA and one of its roles is to make recommendations to Government about the management of marine reserves established under the CALM Act. DCLM undertake daily operational management of marine reserves on behalf of the MPRA.

Fisheries administer the *Fish Resources Management Act 1994 (FRMA)* and undertake management of fishing and fish in the NMP on behalf of the State.

Information in appeals about the regulation of types of boats and the effectiveness of 'no-take' areas not only for the protection of fish but also for the protection and maintenance of ecological integrity of coral reef ecosystems in the NMP is noted. The EPA recognises the importance of maintaining links among key

ecological process/values for the protection of ecosystems. However, as the MPRA and Government agencies have clear statutory responsibilities with respect to the management of the NMP, it would not be appropriate for the EPA to make recommendations that may pre-empt the operational management needs of these parties.

DCLM and Fisheries provided the EPA with preliminary advice about management needs if the proposal was allowed to proceed. On page 78 of Bulletin 1073 the EPA reinforced the advice of Fisheries with respect to information and research requirements for fish management. The intent of EPA recommendation 10 is that during consultation with agencies about environmental management requirements, the Government would seek clarification as to the strategies such as data acquisition and the establishment of 'no-take' areas or habitat protection areas to ensure key environmental values are protected.

As there are a number of parties with responsibilities for management in the NMP and these responsibilities are likely to be greater should a decision be made to allow the CCR to proceed, the EPA's overarching advice was that the CCR proposal should not be approved for implementation unless Government is able to identify and confirm the management resources required to protect the environment, commit to make those resources available for management in the long-term and implement an environmental management system for the NMP.

### **Appeal Ground 7 - Management inadequacies**

Bulletin 1073 is not final and fails to advise the Minister for the Environment and Heritage in the context of the EPA's objective to protect the environment. Furthermore, the EPA's report compromises its objectives to protect the environment.

Appellants believe that the EPA's report has encumbered the Minister with a decision as to whether the proposal is sustainable based on judgements by Government agencies about environmental management and economic viability. An appellant contends that EPA Bulletin 1073 is flawed, confusing and complex because it lacks a clear conclusion and indicates there is uncertainty with regard to environmental management and the protection NMP and potential World Heritage values. The appellant considers that environmental management can not be left to the Government and the EPA should have assessed the management requirements before releasing its recommendations.

#### *EPA Advice*

The EPA assessed the environmental factors it considered were relevant to the proposal in accord with the requirements of Section 44(1)(a) of the *Environmental Protection Act*. The identification process for the relevant factors selected for detailed evaluation was summarised in Appendix 3 of Bulletin 1073.

The EPA drew conclusions that each environmental factor it considered was relevant to the proposal's footprint could be managed to meet the EPA's objectives subject to rigorous management by the proponent. Subsequent to the EPA's report and following a request for legal advice by the EPA, it has been revealed that the necessary arrangements for appropriate local and Government agency control over development and activities in the proposed development area could be problematic.

The potential effects of human-use pressures on the environment are difficult to predict. However, advice from the Government agencies that have statutory responsibilities for the management of the NMP, suggests that management could be implemented provided that agencies were resourced on an ongoing basis at a level commensurate with the human-use pressures the proposal would create.

Accordingly, the overarching advice of the EPA is that the proposal as it stands should not be implemented, even with the conditions set out in Appendix 4 of the EPA report. The EPA considers that making the proposal environmentally acceptable would require a significant involvement and investment by Government into the management of the NMP and coastal lands.

Judgements about whether the Government is able to act on the EPA's recommendations regarding the need for environmental management should only be made after detailed discussion with relevant agencies and consideration of relevant economic and social concerns, which are beyond the ambit of the EPA. The EPA suggested that advice could be sought from the Treasurer in relation to economic considerations. The planning approvals process is the appropriate place to give attention to the broader social implications of the proposal.

The EPA has provided advice to the Government in relation to relevant environmental factors and environmental management requirements and does not consider that its recommendations are flawed or lack finality. The EPA's recommendations provide part of the guidance required by Government to make a decision on the proposal within a sustainability framework. This proposal provides an opportunity for the Government to integrate advice on environmental, social and economic factors to arrive at a decision on the overall sustainability of the CCR proposal.

Consistent with the EPA's conclusion and recommendations, if the Government is unable to act on the relevant EPA recommendations for the life of the project, a decision should be made not allow the proposal to be implemented.

### **Appeal Ground 8 - Management requirements**

If appeals against the proposal are not upheld, then the Minister should adopt the EPA's recommendation 10. Prior to the Minister deciding whether or not the proposal is allowed to proceed, or to finally determining the appeals, a process should be implemented, using an appropriate Government instrumentality, to properly and vigorously address the matters raised in recommendation 10 of the EPA's report. The process should be a public process which would provide for input by all relevant stakeholders.

#### *EPA Advice*

The appellant's views reflect the intent of the EPA's recommendation 10. The EPA would anticipate that Government should consider the implications of recommendation 10 as part of its process to decide whether or not the proposal should be approved for implementation, the Government should consider the EPA's report and in particular, recommendation 10.

Matters raised in recommendation 10 have far-reaching implications for Government and the proponent alike. Accordingly, in order to adequately address recommendation 10 it would be necessary for Government to consult broadly and transparently, particularly with Government agencies and vesting authorities. The extent of public participation in the process would need to be determined by the Government, but the EPA could provide guidance if requested.

As it stands, recommendation 10 sets out that the proposal should not be implemented. Making the proposal environmentally acceptable would require significant investment and involvement by the Government into the management of the NMP and adjacent lands.

### **Appeal Ground 9 - Timetable for management plans**

In the event that a decision is made to allow the proposal to be implemented, appellants consider that the proponent should be given more time to develop management plans for various environmental issues associated with the proposal's footprint because it has not collected adequate baseline information for management purposes up front in the assessment.

#### *EPA Advice*



The EPA gave careful consideration to the timing requirements included in the recommended environmental conditions set out in Appendix 4 for Bulletin 1073. In view of the amount of baseline data currently available, it is important that all environmental management conditions are fulfilled in accord with the EPA's recommended timing so that the proponent can demonstrate a detailed understanding of the environmental implications and risks, and that any impacts can be managed appropriately up-front.

CCMD was also mindful of timing. It committed to the preparation and implementation of a Specific Area Marine Management Plan prior to the placement of breakwater materials. CCMD anticipates that it implement the SAMMP (including the collection of pre-development reference data) for 18-24 months prior to operation of the proposal. Some of the work proposed in the SAMMP will require expertise that resides only within Government. Arrangements would need to be made with the proponent to ensure some parts of the SAMMP are implemented appropriately. Consistent with recommendation 10 of Bulletin 1073, these arrangements should be confirmed prior to any decision to allow the proposal to be implemented.

Under any approval issued under the EP Act, the proponent would be required to satisfactorily implement all relevant conditions to the requirements of the Minister for the Environment and Heritage on advice of the EPA. Many of the EPA's recommended conditions require that management plans must be developed and approved prior to the commencement ground-disturbing and/or other construction activities. If the proponent does not comply with environmental conditions, the EPA or the Minister could require further work from the proponent before the requirements of the condition are deemed to have been met.

#### **Appeal Ground 10 - Management authority**

While noting that dedicated management authorities have been established in other places to oversee management, the EPA's report fails to make an explicit recommendation to this effect. Some appellants believe that the proposal should only be approved if such a body is established.

Other appellants believe a management authority would not be the appropriate approach to management of the NMP.

#### *EPA Advice*

The EPA did not recommend that a management authority be established to manage the NMP and/or its adjacent coastal lands. Rather, the EPA noted that management authorities have been established to oversee management of other sensitive areas, suggesting that this model may be one warranting further consideration by the Government.

An explicit recommendation in relation to the establishment of a dedicated management authority for the NMP was not included in Bulletin 1073 primarily because the EPA recognised that opportunities exist within the existing sectoral management framework to develop an integrated management system underpinned by environmental values and objectives which are agreed after community and stakeholder consultation.

The EPA's report leaves it open for both management models to be considered. Regardless of which model is adopted, implementation of the management necessary to make the proposal environmentally acceptable will create a considerable burden on the State Government's environmental management resources. The EPA agrees with the fundamental premise of the appeal that, without a commitment by the Government to make the necessary environmental management resources available and to develop and implement an integrated management system, the proposal should not be approved for implementation. This was reflected in the EPA's recommendations to the Minister for the Environment and Heritage.

#### **Appeal Ground 11 - Public participation**

Appellants consider that the EPA, by deferring the consideration of additional information to satisfy environmental objectives to the provision of management plans after approval is granted, has effectively closed the opportunity for further public participation in the assessment process.

The deferral of full assessment of environmental factors, until a later decision on acceptability of management plans fails to provide sufficient certainty for the proponent and the public. If the Minister for the Environment makes a decision for approval based on the current EPA report and its recommendations, the decision will not be final. It is claimed that approval of the proposal on this condition can be legally challenged. It is argued that the public submission period and appeal processes in WA were designed to allow for public comment on the environmental acceptability of proposals. The EPA's approach to defer the acquisition of adequate information until after a decision on implementation has been made circumscribes public access to the decision-making process. This approach is not consistent with the environmental impact provisions of the EP Act and constitutes a procedural irregularity.

Appellants also consider that, if a decision is made to allow the proposal to proceed, public participation in the environmental management has been undervalued by not recommending that the management plans recommended in the environmental conditions set out in the Appendix 4 of the EPA's report be open for public comment.

#### *EPA advice*

The proponent's PER was released for a 12-week period during which a large number of submissions were received by the EPA. The EPA utilised information in submissions as part of its assessment of the CCR proposal. Public participation is also provided for in the 2-week statutory appeal period on EPA Bulletin 1073.

It is important to note that the EPA set out a number of recommended environmental conditions in Appendix 4 of Bulletin 1074 that would need to be fulfilled by the proponent if a decision was made to allow the proposal to proceed. The EPA recommended that management plans related to seagrass and corals, turtle breeding, coastal management, subterranean fauna, marine waters, drainage and stormwater, and decommissioning should be made publicly available, to the requirements of the Minister for the Environment and Heritage on advice of the EPA.

The EPA also recommended that the environmental management programs and plans committed to by CCMD should be made publicly available, to the requirements of the Minister for the Environment and Heritage on advice of the EPA.

The EPA's preliminary advice regarding an appropriate level of public availability is that the proponent would need to make its management plans available at relevant locations accessible to the public and advertise availability in relevant newspapers. The EPA's recommended conditions leave it open for the Minister to require broader opportunities for public participation in the development of the proponent's management plans if necessary after considering the level community interest and the proposal's proximity to an important public asset. If the CCR proposal was to be approved for implementation, the Minister may consider it appropriate for the proponent's management plans undergo to a period of public review and comment. The EPA would not be opposed to such a decision. However, it would have to be clear that the fundamental decision related to the project approval had already been made.

The EPA expects that, in preparing the array of management plans required by the recommended environmental conditions set out in Appendix 4 of Bulletin 1073, the proponent would consult and take into account the advice and comments of relevant government instrumentalities as well as all community stakeholders.

If the proposal is approved for implementation, the proposed Specific Area Marine Management Plan (SAMMP) would be important for the protection of the NMP. CCMD has proposal that a SAMMP could conceivably be an appendix to the revised Management Plan for the NMP and set out the detailed and

intensive management required in the vicinity of the CCR proposal. Advice as to how this could be implemented should be sought from DCLM in the first instance.

While the proponent has committed to prepare a SAMMP, it requires considerably more development and CCMD would not have the authority for its implementation. The EPA noted that if a SAMMP was to be included as an appendix to the revised Management Plan for the NMP, it should be finalised subject to a period of public consultation, similar to that required for a Marine Park Management Plan prepared under the *Conservation and Land Management Act 1984*. The EPA considers that, should the proposal be approved for implementation, a period of public consultation, similar to that required during the preparation of a marine park management plan should be considered as part of the development of a SAMMP.

In summary, opportunities for public participation in the assessment process are provided under Part IV of the EP Act. The EPA's recommended conditions leave it open for the Minister to require broader public participation in the development of management plan if this was considered necessary. If a SAMMP were to be prepared as an appendix to a revised Management Plan for the NMP, a period of public consultation, similar to that required during the preparation of a marine park management plan should be considered.

## **SPECIFIC ENVIRONMENTAL ISSUES**

### **Marine flora**

#### **Appeal Ground 12 - Corals**

The EPA has failed to consider the proposal in the context of global threats facing coral reefs. Appellants quote information, that approximately 60% of the world's coral reef ecosystems are threatened by human activities, including coastal development, overfishing and physical damage to corals. The EPA has also failed to address the issue of climate change in relation to coral reefs.

#### *EPA Advice*

The EPA is aware of the key threats to coral reefs throughout the world. Coastal development and tourism are two such threats. However, if the Ningaloo Reef and NMP continue to be promoted as key tourism attractions in WA, provision must be made to accommodate tourists. The statutory authority and obligations to manage visitors in a sustainable way rests with Government.

The CCR proposal is one option to address the issue of tourist accommodation. The EPA recognised that significant environmental management would need to be implemented by Government over the long term to make the proposal environmentally acceptable.

Mindful of the ecological and biodiversity values of coral of the NMP, the EPA gave careful consideration to the impacts of the proposal footprint and of visitors on coral reefs. The EPA's assessments in sections 4.1.1 and 4.3 of Bulletin are relevant. In relation to coral reefs, water quality issues associated with construction of the CCR and impacts of people in boats were fundamental to the EPA's assessment.

Through its assessment, the EPA formed the view that the proposal should not be approved for implementation unless there can be rigorous management conditions met by the proponent (see recommended conditions 5 & 10) as well as a commitment by Government to provide resources and implement an appropriate environmental management system which integrates land and sea management (see recommendation 10), the impacts of the proposal could be managed to meet the EPA's objectives.

Accordingly, if the proponent and the Government can implement the recommended management for the life of the project, the EPA considers that the proposal is unlikely to pose additional significant threats to the global conservation status of coral reefs.

The issues of climate change are of National and international significance. However, the significance of this proposal in the context of climate change and the possible impacts that climate processes have on coral reefs is questionable. The EPA does not believe that this proposal in itself would contribute significantly to any impacts on coral reefs primarily brought about by climate processes.

### **Appeal Ground 13 - Seagrass**

The baseline information used by the EPA for the assessment of impacts on marine flora is inaccurate. New information regarding the seagrass and algae of Bateman by Oceanwise Environmental Scientists and Murdoch University was provided in an appeal. Appellants believe data collected during this survey calls the proponent's information into question.

The EPA recommended a baseline survey to gain better understanding of the value of seagrass in Bateman Bay. Appellants argue that the EPA is therefore not in a position to state that the footprint of the proposal is unlikely to compromise EPA objectives when they do not have information adequate for that assessment.

#### *EPA Advice*

The information provided in the appeal does add to the information considered in the EPA's assessment of the environmental factor - Marine flora (Section 4.1.1). Eight species of seagrass were identified in Bateman Bay during the survey undertaken in July 2002, including the three previously identified in the PER.

Of interest from a biodiversity perspective was the presence of *Halophila tricostata*, a species only previously recorded from the Great Barrier Reef. In relation to ecosystem integrity, appeal 257/02 notes that seasonal pioneer species such as *Halophila* and *Halodule* are scattered throughout Bateman Bay. These seagrasses are favoured by turtles and dugongs as a food source. As *Halophila ovalis* was abundant in deeper waters of Stanley Pool, some 10 km north of the proposal, it is postulated that the Stanley Pool populations may be an important source of food for migrating or resident dugongs.

Information provided in the appeal about *Halophila* and *Halodule* suggests that it is unlikely that the proposal would compromise the ecological function of these species in Bateman Bay. However, if the EPA is mindful that the importance of abundant stands of *Halophila ovalis* in parts of Bateman Bay for dugongs does not appear to have been scientifically established at this time.

The discovery of *Halophila tricostata* appears to be important from a biodiversity perspective. Accordingly, as part of the Seagrass and Coral Management Plan, the proponent should provide support for a study by appropriately qualified scientists to undertake more detailed examination of *H. tricostata* in Bateman Bay and the NMP more generally.

### **Marine fauna**

#### **Appeal Ground 14 - Bateman Bay values**

The EPA has not taken a holistic view of Bateman Bay - considering the area's importance and role it plays in the ecology of the broader Ningaloo Reef system. By way of example, the EPA has not recognised that marine animals such as humpback whales, manta rays and dugong do utilise the area adjacent to the proposal as critical habitat. Appellants consider the proposal's footprint will impact linkages between natural environmental processes and the abundance/frequency that large marine animals are observed in the Bay.

By way of example:

- Appellants contend that numerous humpback mother-calf pairs were observed within a 300 meter radius of the proposed marina entrance, suggesting the area is an important stopover area for whales during their north-south migration. The EPA also neglected to consider submissions which suggest other whale species have also been observed within Bateman Bay in the vicinity of the proposal.
- Appellants argue that the EPA consider manta rays to be oceanic fish that are only part time visitors to Bateman Bay. Appellants suggest that manta rays are observed in the vicinity of the marina entrance throughout the year and are thought to use the area for feeding and mating. The proposal footprint impacts are likely to alter currently observed behaviour in a detrimental way.

Observations of dugongs suggests that these animals frequent Bateman Bay in high numbers. It is suggest that there is a relationship between the times when dugongs are observed in Bateman Bay and the availability of food resources in more commonly used habitats to the north and south. Appellants consider that the impacts on surrounding marine areas associated with the construction of the proposal will impact the movement of dugongs through Bateman Bay. Shifts in the natural patterns of habitat utilisation are considered to cause impacts on breeding cycles and health in dugongs.

#### *EPA Advice*

The EPA noted that a number of significant marine fauna species are observed in Bateman Bay. Some individuals may be resident in Bateman Bay for considerable periods of their life and for others, Bateman Bay may not be permanent critical habitat. Anecdotal information provided to the EPA via submissions suggests that for some fauna species Bateman Bay may be a temporary habitat, used during migration and/or times of limited abundance of food in preferred feeding grounds.

From the information before it, the EPA considers that the effects of the proposal's footprint would not be persistent over sufficiently large an area to impact populations of fauna species such as whales, manta rays and dugongs, provided that there is satisfactory implementation, of the recommended environmental conditions and commitments by the proponent.

Protection of water quality values in the NMP will be important to ensure objectives for the maintenance of habitat for key marine fauna species are met. The narrative objectives related to protection of water quality in the NMP are set out in recommended condition 10. These objectives may be further developed to include specific factors related to habitat quality both through the review of the NMP Management Plan and also during development of the SAMMP, should the proposal be allowed to be implemented.

By way of example, maintenance of water clarity such that the spatial and temporal extents of seagrass growth in Bateman Bay is not impacted is important for the protection of individuals of dugong populations which are reported from Bateman Bay. So too, the maintenance of other water quality parameters such as plankton abundance within the limits natural variation will be important for the protection of critical habitat used by filter-feeding species such as manta rays. The EPA believes this can be achieved through further modelling work to refine the construction processes and management to limit the flux of nutrients from the proposal to the marina.

The interconnectedness of ecosystem processes in natural marine environments is extremely complex and are not fully understood, even in intensely studied systems. However, the EPA considers that its advice and recommended conditions provided in Bulletin 1073 have given attention to key ecological values that affect marine environmental quality. In this way, the linkages between the impacts of the proposal on ecosystem attributes and the potential effects of these impacts on higher trophic elements of the Bateman Bay system (e.g. marine fauna) have been given attention. After considering the information before it, the EPA arrived at the view that environmental management is fundamental to the environmental acceptability of the proposal.

The EPA recognises that the environmental management requirements it recommended are onerous, both on CCMD and the Government. Accordingly, the EPA recommended that the proposal should not be

approved for implementation unless a number of environmental management matters are addressed and committed to by the Government.

### **Appeal Ground 15 - Manta rays**

Appellants consider a number of impacts of the proposal on manta rays were not given adequate attention in EPA Bulletin 1073.

In particular:

- many people expressed concern about issues relating to manta rays;
- CCMD has produced nothing more than the sparse existing documentation from the PER stage;
- CCMD has repeatedly failed to respond with anything more than promises and Management Plans; and
- the EPA failed to identify the poor performance of the proponent on this matter.

Appellants argue the issues set out above are evidence of a complete failure of this assessment, and therefore the EPA's contention that its objectives are unlikely to be compromised by this proposal cannot be substantiated. Appellants also claim that the proponent's failure to gather information about manta rays over the time since the inception of the proposal (and since the EPA's previous assessment) demonstrates a lack of dedication to environmental protection.

The appeal by the Conservation Council/Save Ningaloo Campaign sets out a range of submissions as evidence to support the argument above. Key issues of concern are that manta rays aggregate year-round in waters adjacent to the proposal and these observations support a view that the area is important for feeding and mating site for manta rays. The appellant considers that the use of the Ningaloo Reef lagoon by manta rays and their pups (particularly Bateman Bay) could be of conservation significance. In this context, a manta ray expert advised an appellant who claims to have observed manta ray births in a nearby lagoon, that births in nearshore lagoons are very rare.

It is believed that if the CCR proposal proceeds, manta rays that currently aggregate close to the proposed CCR site will move away and may never come back. The appellant suggests that from experience, manta rays aggregate in Bateman Bay because of the availability of food and lack of boat traffic. The likelihood that effective management of boat traffic could be implemented to avoid potential impacts on marine wildlife is questioned.

Appellants also suggest that dislocation of the manta ray aggregations from Bateman Bay as a result of additional boat traffic associated with the proposal would impact existing tourism operations which focus on manta rays in Bateman Bay.

#### *EPA Advice*

Manta Rays are not listed as rare or endangered fauna under State or Commonwealth legislation. There is scientific uncertainty about the ecology of manta rays (population size, critical habitats) in the NMP and a similar situation exists elsewhere in the world.

An article by Preen *et al.* (1997) presents some limited survey data on manta rays in the NMP. Information gathered by Preen *et al.* (1997) indicates that NMP, and the northern part in particular, is an important feeding area for manta rays. The information contained in an appeals suggests that other lagoonal areas in the NMP may also be used as critical habitat for manta rays, however the importance of these areas for manta ray populations has not been established.

Tourism operators based in Coral Bay currently take visitors for interaction tours with manta rays that aggregate in Bateman Bay. The EPA is not aware of evidence suggesting that current boating and visitor interactions in the NMP are causing significant impacts on manta ray populations. Nevertheless, an

increasing desire to interact with these animals and additional boating activity in the vicinity of the proposal will pose additional risks to manta rays in Bateman Bay. In view of the conservation status and broad distribution of manta rays in the NMP (see Preen *et al.* 1997), the EPA's judgement was that rigorous management controls and monitoring would become increasingly important to ensure marine-based activities are sustainable.

The information contained in the appeal by Oceanwise Environmental Scientists and Murdoch University drawing links between plankton of Bateman Bay and manta ray feeding is noted, as are the recommendations of the appellant's study in relation to the need for tight controls over nutrient flux to the marine environment. The appellant's recommendation is consistent with the views of the EPA as expressed in Bulletin 1073.

In forming its view with respect to impact of the proposal on manta rays, the EPA was mindful of the issues raised in submissions and appeals. The EPA also considered information provided by CCMD that indicated a similar manta ray aggregation area occurs approximately 10 km north east of the proposed development site. Fundamentally, it was the EPA's view that active and diligent management would be required to ensure populations of manta rays are protected from the effects of boating activity. As noted in appeal ground 19 relating to protection of sea turtles, management measures such as speed restrictions, boat exclusion areas and/or designated boat channels may be necessary to minimise disturbance of manta rays.

Acquisition of management-related baseline data is proposed by CCMD as part of a SAMMP. The SAMMP is not final and may require a considerable period of consultation if it is to be an appendix to the NMP Management Plan as envisaged by the proponent. Moreover, negotiations for the long-term implementation of a SAMMP by Government have not been finalised, though it is likely that the CCR proposal will impose a significant and long-term environmental management burden (including baseline data acquisition) on Government agencies. The EPA's recommendation 10 specifically relates to a whole-of-Government commitment to long term management and implementation of a management system for the NMP in order to make the proposal environmentally acceptable.

### **Appeal ground 16 - Turtles**

A considerable number of appeals were lodged against the EPA's consideration of matters related to sea turtles, particularly matters related to the protection of loggerhead sea turtles (*Caretta caretta*) that nest on Bateman Bay beaches.

Appellants contend that Bateman Bay is a significant *mainland* rookery that requires protection for the long-term viability of loggerhead populations. Levels of nesting by sea turtles on Cape Range are known to vary considerably from year to year and long-term baseline data is required before the EPA can adequately assess utilisation, potential for impact and the likelihood that management would be effective. A commitment to provide such information at a later stage as part of management plan is not considered to be adequate.

CCMD's commitments in relation to sea turtles attempt to address some of the limitations identified by the EPA, including the lack of baseline data and the lack of monitoring and response commitments. However, the commitments and conditions fail to provide clear guidance and inadequate assurance that impacts will be managed. Of greatest concern, is the level of attention given to collection of baseline data for the assessment of potential impacts of boat strikes, management/enforcement of lighting controls, enforcement of domestic animal control and the management of people using the beaches utilised by nesting turtles during the nesting season. The EPA has failed to stipulate what specific actions should be included in the Turtle Management Plan to protect turtles.

### *EPA Advice*

The EPA notes additional information depicting sea turtle nesting sites provided in the appeal by Oceanwise Environmental Scientists and Murdoch University. This information showed that patterns of turtle nesting on Bateman Bay beaches vary between breeding seasons. Unpublished nesting data for the 1997/98 breeding season shows a number of turtle nests within 2-3 km west and north east of the site. The information provided by CCMD did not show turtle nesting west of the proposed CCR site near Point Maud. This finding demonstrates inter-annual variation in the spatial distribution of sea turtle nesting and suggests some individuals may preferentially nest toward the western end of Bateman Bay.

Notably, the available nesting data indicates that the density of nests in the immediate vicinity of the proposal is low, with one nest having been observed directly in front of the site in 1997/97 and 2000/01. This observation is consistent with information provided by CCMD.

The appellant's observations suggest that adult and juvenile green turtles were most prevalent in the Maud Sanctuary Zone, the barrier reef areas and Oyster Bridge area to the north of the proposed development site. There were also incidental sightings of sea turtles throughout the Bay. The appellant's observations generally confirm CCMD's information about the distribution of adult and juvenile sea turtles in the Bateman Bay/MSZ area.

In order to protect turtles from the effects of the proposal's footprint and the people it will attract, there is a need for rigorous management. Due to constraints on CCMD's authority to manage potential impacts from development on free-hold and from activities in areas outside the proposed development precinct, many management responsibilities would reside with either the local Government authority or DCLM.

The EPA noted this by suggesting that planning controls would need to be in place and diligently enforced to ensure that turtle breeding is not impacted. The EPA recognised that implementation of some management within the proposal would require the co-operation of local Government.

Legal advice questions the ability of an agreement between the proponent and the local Government to give effect to management of issues including domestic animals, off-road vehicles and lighting (planning approval procedures generally), as these matters are dealt with under various legislation. The legal advice also questions the ability of the local Government to apply some powers (e.g. control of domestic animals) across the whole development. In order to protect turtle breeding habitat and sea turtle populations, and to make the proposal environmentally acceptable generally, these matters require attention and resolution in accord with the EPA's recommendation 10. If management arrangements for the proposal cannot be resolved, the EPA's view is that values of the NMP could be threatened and the proposal should not be allowed to be implemented.

The legal advice noted that controls on domestic dogs may be implemented by the local Government authority through creation of by-laws or through the administration of the *Dog Act 1976*, however control of cats, which may pose risks to native wildlife, could be problematic.

CCMD has committed to provide a kennel facility as part of the proposal to house domestic animals which have the potential to impact on sea turtles and other native wildlife.

The responsibility for the day-to-day management of activities in the NMP resides with DCLM. The advice from DCLM is that, with adequate management resources, it could address issues such as impacts of boating on marine turtles. An outcome of detailed consideration of management requirements could conceivably be that speed restrictions and or boat exclusion areas should set in place and enforced – requiring Government personnel and assets such as boats.

Management of people on beach areas outside the proposed CCR precinct could be the responsibility of the local Government or DCLM, depending on the location of the NMP boundary. Adequate management of activities on beach and coastal areas within pastoral leases will remain problematic until boundary issues associated with proposed excisions from pastoral leases in the region are negotiated. In order to maintain and improve nesting success in Bateman Bay, people's access to beaches may need to be restricted or closely regulated during the breeding seasons – again requiring Government personnel and assets, and possibly changes to land tenure.



It needs to be borne in mind that if the proposal is not allowed to proceed, measures need to be put in place to address current threats to turtle breeding in Bateman Bay posed by unregulated camping, vehicle access to nesting sites and human-turtle interactions during the breeding season.

### **Appeal Ground 17 - Management of impacts on turtles**

Appellants argue that the EPA erred in concluding that its environmental objectives in relation to sea turtles would not be compromised by the proposal's footprint because throughout its report the EPA noted:

- information deficits with respect to environmental values (some of which may be of global significance warranting consideration for World Heritage nomination);
- opposition to the proposal from the NMP's vesting authority;
- the lack of a planning and management framework that integrates land and sea considerations; and
- reservations about the proponent's strategies to provide and support environmental management in the long-term.

An appellant disagrees that the impact of the proposal (housing and increased activity) on loggerhead turtle breeding could be managed, particularly as the recommended condition 6 – Turtle Breeding Plan – is limited in scope. The appellant considers that the Plan does not specify what actions need to be taken, indicate whether management would be effective and leaves open the management response that might be taken if detrimental impacts occur. While such important matters remain unresolved the appellant argues the EPA should not have drawn a conclusion the proposal could be managed to meet acceptable environmental objectives.

Although the effects of artificial light on turtle breeding was given some attention, the EPA did not consider the impacts of boating. The appellant suggests that because turtles are very sensitive to disturbance when breeding, any activity on the water and on land will impact on nesting. An appellant argues that, if disturbed, the turtles will move away.

It is also suggested that the EPA has too readily accepted the proponent's claims that the loggerhead turtles which utilise Bateman Bay beaches for breeding represent approximately 0.5% of the total known nesting loggerheads in WA. The appellant argues that the information presented in Bulletin 1073 (i.e. data from Baldwin *et al.* in press) would suggest that the figure is closer to 5% of nesting loggerheads in WA.

#### *EPA Advice*

The EPA was provided with an array of information about the biophysical impacts and pollution management aspects of the proposal. Information provided to the EPA included advice from relevant Government agencies, written and verbal presentations by conservation organisations, information collected by the proponent and submissions. The EPA deliberated over the information before it at length. The EPA was also careful to provide its advice within the context of the planning reports relevant to the area, as well as the parameters for the development at Mauds Landing set by the Government of the day.

Based on the information before it and its experience in assessing other marina-based development proposals, the EPA reached the view that the footprint of the proposal could be managed to meet the EPA's objectives, provided there was satisfactory implementation of an onerous set of environmental conditions by the proponent. The EPA considers that the matters raised by the appellants, as they relate to the proposal's footprint have been given adequate attention in Sections 4.1.1 to 4.1.11 of Bulletin 1073.

The EPA considered the impact of the proposal's footprint on sea turtles in Section 4.1.2 of Bulletin 1073. The EPA considered that management actions set out in the proponent's commitment to prepare a Turtle Management Plan (TMP) could assist in minimising risks to turtle breeding on nearby beaches. However, the EPA considered the proponent's commitment was deficient in that it did not include a monitoring component to determine the effectiveness of management measures set out in the TMP. Accordingly, the

EPA recommended that the proponent should implement condition 6 if approvals are granted to undertake the proposal.

The EPA also noted that management of lighting necessary to protect turtle breeding areas would be problematic across the entire proposal. As the proponent's authority to control development of freehold lots would be limited, the EPA noted that specific planning controls (Town Planning Scheme provision or By-laws) would need to be in place for effective lighting management. The issue of planning control was also given attention in the legal referred to above.

The timing of development in relation to the implementation of planning controls will be critical. In order for there to be effective lighting management, planning controls should be in place prior to the commencement of any development. Appropriate lighting standards to be enforced through building approvals would need to be developed on advice of DCLM and Environment Australia.

Effective lighting control should also include diligent policing by the Shire of Carnarvon, particularly during turtle breeding seasons. This will have consequences for the Shire's resources. The EPA understands that resource arrangements between the Shire and the proponent are yet to be resolved.

Limits with respect to the proponent's authority to undertake effective management of human-use pressures outside the proposed development area (including the freehold land) led the EPA to conclude that the CCR proposal, as it stands should not be approved for implementation, unless there is a significant contribution and involvement by Government into management. The advice provided here reinforces the importance of management by third parts to protect values of the NMP, as well as the EPA's position that the proposal as it stands should not be approved for implementation.

With respect to contention about the number of nesting turtles using Bateman Bay as a breeding site, the EPA noted the proponent presented results of a community survey which recorded 68 and 71 nests during nesting seasons in 2000 and 2001. While it appears that three sea turtle species occur in Bateman Bay, the proponent indicated that loggerhead turtles made most nests. This assumption is supported by information in public submissions.

The EPA also understands that a single female sea turtle may make several nests during a breeding season and therefore, it is highly unlikely that all nests surveyed in Bateman Bay were made by different females. Research by the EPA, found that estimates of the total nesting loggerhead population vary considerably (e.g. Baldwin *et al.* in press). The EPA quoted relevant data in Bulletin 1073.

Data limitations and variability in the available data about nesting make it difficult to place an exact figure on the number of turtles breeding on Bateman Bay beaches as a proportion of the entire WA population (eastern Indian Ocean population). Nevertheless, it would seem reasonable to assume the figure lies between 0.5% and 5.0%.

### **Appeal Ground 18 - Tiger sharks**

The EPA has not considered the impacts of the proposal on tiger sharks.

#### *EPA Advice*

The EPA did not consider tiger sharks to be a relevant environmental factor. These species are found worldwide in temperate and tropical seas. In general, tiger sharks species are pelagic predators and are frequently found near reefs (Allen 1999).

The EPA considers that impacts of the proposal are unlikely to threaten tiger sharks, with the possible exception of fishing. In this regard it is noted that tiger sharks were not one of the ten categories of important recreational fish, which together comprise approximately 86% of the total recreational catch by weight in the Gascoyne region (Fisheries 2001).

The proposal is unlikely to significantly influence tiger shark populations or catches by commercial fishers.

### **Appeal Ground 19 - Shark nets**

An appellant contends that the EPA's advice in relation to the use of shark nets in the marina is unreasonable and is not precautionary.

The scope of tasks to be undertaken by CCMD in implementing its proposed Turtle Management Officer (TMO) which includes monitoring of the proposed shark nets are such that the ability of the TMO to monitor and respond to any entanglement would be limited. The appellant notes that shark nets now are rarely used in areas of dugong habitat along the east coast of Australia because of the high levels of dugong mortality that has been attributed to shark nets which were historically set along swimming beaches.

Appellants believe that the EPA should have refused the use of shark nets in the proposal.

#### *EPA Advice*

The EPA's recognised that a number of marine fauna species, including protected species may enter the proposed CCR marina. The EPA's opinion was that if shark nets were to form part of the marina proposal, monitoring must be stringent and year-round to ensure that marine wildlife are not at risk of injury or drowning.

CCMD committed to address concerns about impacts of shark control devices on non-target and protected marine species by employing a TMO. The EPA acknowledges that the TMO's responsibilities would be considerable, however, CCMD is obliged to ensure that adequate resources are made available to the TMO for on-going and diligent monitoring to ensure that its environmental management commitments, the EPA's recommended conditions and the requirements of relevant wildlife conservation legislation would be met within the proposed marina at all times.

Response to any entanglements of protected species is likely to require involvement of appropriately authorised DCLM officers.

Other management strategies to be considered could include daily deployment and retrieval of shark nets, further consideration of risks to human life prior to deployment of nets and/or investigation of other shark control devices.

### **Avifauna**

#### **Appeal Ground 20 - Migratory birds**

The significant migratory birds using the beaches of the project area are terns. These are seabirds not shorebirds, as suggested in the report and recommendations.

An appellant notes that data collected by DCLM had some ambiguities due to uncertainties about identification. Observations by the appellant clarified the avifauna that utilise the area and collated available information about Asiatic Common Tern *Sterna hirundo longipennis* aggregations in WA. These observations were included in a submission to the Commonwealth assessment process. The EPA does not appear to have made use of this material in preparing its report and recommendations.

It is contended that the appellant's observations are confirmed by those made for the proponent by Dr M.J. Bamford for the EIA process under the Commonwealth EPBC Act. The proponent's surveys added small numbers of Asian Little Terns *Sterna albifrons sinensis* (another important migratory species listed under the Migratory Birds Agreements). During aerial surveys, no other locality supporting significant aggregations of migratory terns between North West Cape and Carnarvon was observed.

The appellant claims that these observations suggest that there are no viable alternative habitats for these flocks and it is likely that the area incorporating Bill's and southern Bateman Bay is a critical wintering habitat for one or more populations of migratory Asiatic Common Terns. There are no known aggregations of similar size or persistence in Australia. On the basis of observations of other migratory tern species, it is not inconceivable that the area is the wintering habitat for an entire population. Further, the origin of birds that use the Maud's Landing area is unknown and could probably only be determined efficiently using genetic techniques.

Contrary to information given in the EPA report, it is argued that migratory flocks are not restricted locally to Point Maud. Depending on weather and tide conditions and disturbance events these flocks can be found between Bill's Bay and the jetty posts at Maud's Landing.

The EPA Bulletin 1073 fails to recognise that the potential threat to the migratory birds is mostly due to large numbers of people, not just vehicles. The area used as a roost by the migratory flocks will in effect become the 'front beach' for a resort with several thousand accommodated and day visitors. The constant disturbance of the migratory flocks may impose an energetic cost that will reduce survivorship in the tern population. In view of this, the increased disturbance of these birds may, in the medium term, put that population at risk. This impact would constitute a population-level impact on a listed species as defined by state and Commonwealth legislation and policy.

The coastal and bird management plans proposed by the EPA cannot solve this problem since the proponent will not control the activities of visitors outside the resort precinct. The appellant believes that the existence of the proposed resort population would necessitate the complete closure of the area between Maud's Landing and Point Maud between November and April.

#### *EPA Advice*

The EPA accepts the appellant's correction on the use of the term shore birds.

The EPA was aware of anecdotal information provided to it via a submission on the Commonwealth's assessment of the PER process about avifauna that utilise Bateman Bay foreshore as habitat. However, the EPA primarily considered information collected by DCLM as a basis for its consideration of this issue. The appellant's criticism of the DCLM data is noted.

Bamford's information which is referred to in this appeal was gathered for CCMD as part of the Commonwealth's assessment of the CCR proposal under the EPBC Act. This additional information was not provided to the EPA during its assessment. Accordingly, the EPA is not able to provide informed advice as to the implications of the new work for the protection of important migratory bird populations.

The appellant's interpretation of Bamford's work suggests that there are no viable alternative habitats for flocks of migratory terns. The EPA understands that the spatial coverage of the aerial surveys is limited to coastal areas between NW Cape and Carnarvon. The spatial coverage of aerial survey(s) would need to be extended to confirm the appellant's views about the availability of alternative habitats for migratory terns in WA. Nevertheless, the appeal adds uncertainty about the significance of migratory seabirds which use Bateman Bay beaches and the ability to effectively manage people to protect these birds.

As a means of attempting to address these uncertainties, the EPA offers the following preliminary advice. In order to contribute towards a broader system of management/protection of important migratory birds from the people attracted to the CCR the proposal's footprint, CCMD's Bird Management Plan should give attention to the new information provided by the appellant. Further, as areas of beach outside of the proposed lease area are beyond the authority of the proponent to actively manage, implementation of management will require the cooperation of both the local Government and DCLM depending on the location of the NMP boundary. Consistent with the EPA's overarching advice, in order for the proposal to be allowed to proceed, an agreed and adequately resourced management framework would need to be established to manage the human-use pressures associated with the proposal. This framework should address the issue of protecting significant flocks of migratory birds.

Seasonal closures of beach areas which are used by migratory birds could be an option to manage risks posed by pedestrians to migratory birds. Baseline surveys undertaken during the construction period could be used to develop and assess longer-term management strategies such as beach closures.

The EPA notes that there is anecdotal evidence in submissions that there currently is little in the way of enforcement with respect to the order made under the *Control of Vehicles (Off-Road Vehicles) Act* at Point Maud. Off-road vehicle activity, boating and pedestrians currently pose similar threats to those raised by the appellant. Controls on these activities should be assessed and implemented regardless of whether the CCR proposal is approved for implementation.

While the EPA has not given detailed attention to the new information on migratory birds, it is important to note that the Commonwealth is undertaking an assessment of the proposal under the EPBC Act, including the Bamford work referred to by the appellant. Environment Australia has advised that it is yet to undertake a detailed assessment of the Bamford work in the context of the potential impacts of the CCR proposal.

## **Coastal processes**

### **Appeal Ground 21 - Coastal structures and processes**

The disturbance that the proposed breakwaters to the natural sediment transport patterns have not been adequately considered. Appellants contend that the potential for the proposed breakwaters to cause irreparable damage requiring significant beach stabilisation works is very high. An appellant suggests that large amounts of drift material deposited on beaches near Point Maud illustrates the considerable longshore drift that occurs along Mauds Beach.

Appellants also argue that breakwaters pose significant threats to the coastal environment, including within the Mauds Sanctuary Zone under normal weather conditions and cyclone conditions. Changes in the seafloor and shoreline pose risks to dunes, possibly the remains of the Mauds Landing jetty (burial/erosion) and to turtle nesting habitat.

Changes in sedimentation and dredging requirements brought about by the development of a breakwater are considered to have significant impacts on reef biodiversity as the marine environment has evolved in the absence of significant sedimentation. Coastal stabilisation works have considerable potential to disturb birds (noise), turtle nesting habitat (burial/change in sediment characteristics), benthic communities (corals/seagrass north of Mauds Landing) and dune vegetation (use of heavy excavation equipment). In addition to these issues, turbidity that would be associated with beach stabilisation works has not been considered.

The issue of sediment transport requires further consideration by an independent expert in the field of coastal sediment transport modelling prior to a decision being made. For the event that the proposal is allowed to proceed the EPA should have stipulated baseline performance conditions and in particular, the specific remedial actions to be taken if the breakwater causes significant impacts on the coastal environment.

### *EPA Advice*

The EPA recognises that coastal structures alter natural patterns of sediment transport in coastal systems.

The EPA often seeks expert advice from the Department of Planning and Infrastructure Coastal Facilities Management Branch in relation to coastal processes. In drawing its conclusion about the impacts of the CCR proposal on coastal processes, the EPA noted the advice of the DPI, which suggested that coastal processes appeared to be well researched and appropriately evaluated by the proponent.

The EPA recognised that the beaches of Bateman Bay provide habitat for significant fauna and management would need to have regard for these habitat values. Accordingly, recommended condition 7 – Coastal Management – requires that CCMD give attention to the ecological values of Bateman Bay beaches (e.g. turtle nesting, bird loafing) in the development and implementation of coastal management associated with the proposal. The EPA recommended that the Shoreline Stability Plan required by recommended condition 7-1 should be developed and implemented in consultation with DCLM, DPI and the MPRA, to the satisfaction of the Minister for the Environment and Heritage. Provided the Plan is developed and implemented in accord with advice of the key agencies, the social and ecological values of Bateman Bay beaches could be protected.

### **Appal Ground 22 - Ocean currents**

The report and recommendations do not adequately consider the potential impacts of the proposal on ocean currents. Consequently, the EPA's assessment does not address possible threats to the coral reef system caused by the CCR's impacts on hydrodynamic processes.

Taylor and Pearce (1999) identify three distinct current zones, each of which contribute to the dispersal of coral spawn as well as other marine flora and fauna throughout the Ningaloo Reef System. These three zones are; i) a warm southward-flowing Leeuwin Current flowing along the outer shelf; ii) a wind-driven northward-flowing current (the Ningaloo Current) along the outside of the fringing reef, and; iii) a wave/wind/tidally driven flow within the nearshore reef system. It is argued that because of the interaction between the three current zones identified by Taylor and Pearce, any change to inshore flow patterns has the potential to impact upon coral spawn dispersal within the Ningaloo Reef system.

Appellants hold the view that CCMD provided an overly simplistic picture of the hydrodynamics of the area. The relevant scientific literature describes current regimes in the area as complex and as important factors driving the diversity of the Ningaloo Reef system. A more scientifically rigorous measurement program is required before any conclusions on the impact of the proposal on flow patterns and their relationship to the ecological integrity of the adjacent reef system, can be reached.

#### *EPA Advice*

The EPA did not specifically address the effect of the breakwater structures on ocean currents or possible effects that any changes in current patterns may have on dispersal of coral propagules. The EPA's report focused on the potential impacts of the breakwaters on coastal processes – movement of coastal sediments and impacts on beach stability.

As pointed out by the appellant, work on the hydrodynamics of the Ningaloo Reef system by Taylor and Pearce (1999) suggests that dispersal patterns of coral propagules is a function of three main oceanographic forcings. A recent *Review of the Oceanography of Ningaloo Reef and Adjacent Waters* by D'Adamo and Simpson also outlines these three scales of oceanographic processes at Ningaloo Reef and the interactions between them, which in turn may influence the distribution and abundance of plant and animal communities along the reef tract.

The EPA recognises that CCMD's conclusions about the current patterns in Bateman Bay were not made using sophisticated scientific techniques. Although it has not been tested, it would seem unlikely that the proposed breakwater structures would disrupt hydrodynamic processes to the extent that significant adverse impacts on flushing, coral reproduction and recruitment in Bateman Bay would occur. As a general rule, the zone of influence of a coastal structure on the physical environment (e.g. hydrodynamics) is closely related to the dimensions of the structure. It would be relatively simple for the proponent to undertake modelling of its breakwater to confirm its effect on the hydrodynamic characteristics of the entire Bateman Bay system as well as potential down-stream effects on plankton abundance and the dispersal of coral larvae.

In order to determine the zone of influence of the CCR on NMP waters, CCDM would need to collect, analyse, model and validate detailed quantitative information about hydrodynamic characteristics Bateman Bay. Accordingly, condition 10-1 provides opportunities to address the concerns raised by appellants about the zone of influence of the breakwater structures on hydrodynamics of Bateman Bay. See advice provided on appeal ground 29 – Marina Water Quality.

The current velocities predicted by the proponent are within the order of typical flow speeds in the lagoons and lagoonal channels determined by Hearn *et al.* (1986) – between 0.1 – 0.5 ms<sup>-1</sup>.

## Terrestrial flora

### Appeal Ground 23 - Terrestrial flora

Appellants consider that a range of issues in relation to terrestrial flora have not been addressed to a level of detail that would enable the EPA to make informed judgements about the environmental acceptability of the CCR proposal. The specific grounds of appeal include:

- The impact of stormwater run off on terrestrial flora has not been addressed.
- The spatial extent of groundwater draw-down and its impacts on terrestrial vegetation have not been adequately addressed.
- No information was provided by the proponent or was sought by the EPA as to whether Beard's 'shrub steppe on sandhill' unit within the Services Area is adequately represented in the conservation estate.
- The proponent's desktop survey of vegetation is grossly inadequate to allow a confident decision to be made as to whether additional significant flora to those identified by the proponent as present on or near proposed development site.
- Weed invasion was not considered in the EPA's report and there is no commitment by the proponent to either address this matter or to use only local native species for landscaping. In this regard, the appellant notes the proponent's artistic impressions of the proposal depict non-indigenous species such as palm trees.
- The impact of the proposal and its visitors on biotic interactions which may affect regeneration of flora in the vicinity of the proposal, regardless of whether exiting plants are protected was not addressed. For example increased use of personal insect repellents could affect insect pollinators to the extent that pollination and seed set capacity of some flora species could be affected.

The appellant contends that there is a great degree of uncertainty associated with the information provided by the proponent regarding flora and vegetation. The language used in the EPA's assessment reflects this uncertainty. Specific examples of uncertainty relating to historic records of *Acacia ryaniana* (Herbarium records are considered to be disputable in their reliability) and the desktop review of the Services Area which 'suggests' that vegetation corresponds to Beard's 'shrub steppe on sandhill'. Appellants consider that on the basis of statements by the EPA such as '*it is difficult to forecast the environmental management requirements imposed by the proposal because patterns of people's activities are difficult to predict, the risk of impacts have not been fully assessed at this time and management strategies have not been determined*', it is absurd that the EPA consider that management plans could be prepared to assess issues including vegetation, dewatering, shallow groundwater and landscaping.

### *EPA Advice*

The EPA recognises that proponent only undertook limited surveys of terrestrial flora at the CCR site. The EPA prepared a recommended a condition (condition 8) to address shortfalls in CCMD's terrestrial flora work which had been identified in the EPA's 1995 assessment and which had not been addressed by CCMD.

Despite shortfalls in CCMD's terrestrial flora work, the EPA recognised that the condition of the land at the proposed CCR site has been impacted by grazing, vehicle access and weed infestation. Historically, management of these issues has been limited.

The EPA offers the following advice in relation to the points set out above.

The EPA is aware that inadequate/inappropriate management of urban stormwater can lead to the transport of contaminants off-site and alteration of natural hydrological patterns in catchments. In the absence of appropriate management, these factors can cause significant environmental impacts. Fortunately, a considerable amount is known about best practice stormwater management and good guidance on this issue is provided in the WRC document *A manual for managing urban stormwater quality in Western Australia*.

The EPA was not convinced that CCMD's proposed stormwater management would be adequate to protect environmental values in the vicinity of the proposal. The EPA concluded that the issue of stormwater management could be addressed by the preparation and implementation of a Site Drainage and Stormwater Management Plan (condition 11) with objectives set out on page 67 of Bulletin 1073.

It is recommended that the Plan is prepared during the detailed design phase of the proposal so as to ensure that appropriate management is in place during the construction phase and will continue to operate for the life of the project. The EPA is of the view that implementation of stormwater management in accord with condition 11 would be adequate to protect existing terrestrial flora/vegetation values of the saline flats area from the impacts of urban stormwater run-off. This issue is also addressed in appeal ground 32 – Stormwater Management.

In its response to appeals, ATA Environmental made new explicit commitments including preparation and implementation of an erosion and sedimentation control plan, minimal use of impermeable paved areas and maximisation of permeable paving systems. ATA also reinforced CCMD's intention to use and maintain gross pollutant traps to remove pollutants from stormwater throughout the proposed CCR.

CCMD made assumptions that the spatial extent of groundwater draw-down effects would not extend beyond the proposed development area, based mainly on the slow flow rate of superficial groundwater near the proposed CCR site. The EPA is not aware of any quantitative predictions by the proponent as to the spatial extent of groundwater draw down effects associated with excavation of the marina. The EPA considers that risks to flora and vegetation associated with groundwater draw down could be adequately managed through satisfactory implementation of the proponent's commitment to monitor groundwater levels during construction and to implement contingency plans for any effects on vegetation beyond the footprint of the proposal.

Clearly, any development in a greenfield site will cause a reduction in the local abundance of vegetation. However, in view of the size of the saline flats area at Mauds Landing and the distribution of coastal dune in the region the EPA considers that the risks that the proposal could result in a net loss of floral diversity, changes in species' distribution and/or net decline in the productivity of similar vegetation communities is likely to be low.

The implementation of any proposal must be in accord with the provisions of the *Wildlife Conservation Act 1950*, the legislation that provides protection to threatened flora and fauna. CCMD found two priority 2 flora species on the proposed development site. The proponent's Vegetation Management Plan will need to provide protection to threatened flora in accord with the *Wildlife Conservation Act*. The proponent's Dewatering Management Plan outlined above would also be important for monitoring and managing potential impacts on priority 2 flora species.

The proponent advised the EPA that 'shrub steppe on sandhills' unit is widely distributed in the vicinity of the proposed Services Area and throughout the Gascoyne Region. Preliminary estimates by DCLM suggest that the vegetation type will be 662 - Hummock grassland; shrub steppe ;mixed acacia scrub with soft spinifex and hard spinifex. DCLM has estimated that there are approximately 7,000 ha of this vegetation type within the conservation reserve system. The actual amount of vegetation type 662 reserved would need to be confirmed with accurate geo-referencing of the proposed development site against vegetation



types. ATA Environmental were contacted during the preparation of this advice to confirm co-ordinates of the proposed development sites. However, it had not responded at the time this advice was finalised.

As 7,000 ha represents approximately 2.5% of the original aerial extent and if the accepted international benchmark of 10% reservation of all ecosystems is taken, the vegetation type is probably under-represented within the reserve system. However, the area containing the proposal probably has low conservation value due to the degree of infestation by buffel grass - an environmental weed that is responsible for depleting biodiversity. On the basis of the information available, DCLM has indicated the value of the site from a conservation perspective is probably low.

The appellant's views of the EPA's advice on page ix of Bulletin 1073, have been formed out of context. The EPA's discussion of long-term management requirements primarily relate to management of people and the longer term management of the proposal following the commencement of operations. Matters such as vegetation, dewatering, shallow groundwater and landscaping relate directly to impacts of construction of the footprint and establishment of the proposal.

The EPA considered that the issue of landscaping could be adequately addressed through the Landscaping Management Plan, which would be developed on advice of DCLM and the Shire of Carnarvon. In its response to appeals, ATA Environmental made commitments in relation to extensive use of indigenous planting as part of the landscaping guidelines for the proposed CCR.

Weed control has not been given detailed attention in Bulletin 1073, however, additional commitments are made by ATA Environmental in its response to appeals. ATA noted that integrated pest management would be used to manage feral animals and weed invasion. Although ATA has not clearly articulated how this weed management would be implemented, it could conceivably be implemented and clarified as part of CCMD's Vegetation Management Plan under the heading 'maintenance and protective measures'.

## **Terrestrial fauna**

### **Appeal Ground 24 - Terrestrial fauna**

An appellant considers that potential impacts on terrestrial fauna cannot be adequately assessed using the desktop review undertaken by the proponent. Approval of the proposal should be based on results of extensive, seasonal fauna surveys.

#### *EPA Advice*

The proponent sought advice from DCLM with respect to proposed timing of fauna surveys of the proposed site. DCLM's advice to CCMD was presented as Appendix 15 of CCMD's PER. Noting that no priority or Schedule-listed fauna were recorded at the proposed development sites, DCLM suggested that although it would be inappropriate to draw concrete conclusions from the preliminary work undertaken by *ecologia*, it would not be unduly concerned with CCMD's commitment to undertake a fauna survey of the development area prior to the commencement of construction.

In its correspondence, DCLM advised ATA Environmental that any construction delays or amendments to the proposal caused by the finding of Priority or Schedule-listed species would be entirely the responsibility of CCMD and its employees. In its submission on CCMD's PER, DCLM reiterated its view that the proponent's fauna work was inadequate to draw meaningful conclusions. DCLM also acknowledged its earlier correspondence with CCMD, highlighting the potential for delays if the survey reveals the presence of any Priority or Schedule-listed fauna.

In view of DCLM's advice, the EPA concluded that if the proponent could satisfactorily address the factor of terrestrial fauna through its commitment to undertake a fauna survey of the proposed development site

prior to the commencement of construction. CCMD's commitments in relation to terrestrial fauna include management of species relocation.

### **Appeal Ground 25 - Feral animals**

Appellants consider that the impact of feral predators, such as cats, mice, foxes, rats and silver gulls, on native animals has not been addressed.

#### *EPA Advice*

The EPA formed the view that 'best practice' management, good 'house keeping' within the CCR proposal to reduce attractiveness of the proposal to feral animals and implementation of CCMD's Bird Management Plan and Terrestrial Fauna Management Plan would be effective ways of managing this problem. Indeed, CCMD has included features in its proposal that could assist current feral animal management in the area. One of these features includes proposed waste management strategies such as a kerb-side waste collection program supported by a fenced and actively managed landfill site. The effectiveness of this feature could be realised if the existing landfill site was appropriately decommissioned. This process has not been resolved and the EPA noted that two landfill sites in the vicinity of Coral Bay would not be desirable.

The proponent has made commitments to prepare management plans in relation to the protection of terrestrial fauna and bird populations. Both of these management plans include requirements for the development and implementation of feral and introduced animal management in consultation with DCLM. The commitments in relation to feral animal management have been reinforced in Table 1 of ATA's response to appeals.

The responsibility for feral animal management outside the proposed development area within DCLM-managed land and sea areas would remain with DCLM, the Shire of Carnarvon and pastoralists. The co-operation of these parties and integration of their collective efforts would appear to be necessary for effective control of feral animals in the region generally.

If the co-operative management measures necessary to control potential proliferation of feral animals both on and off-site and the proponent's undertakings to control domestic animals in the CCR cannot be given effect then, in accord with recommendation 10 of Bulletin 1073, the proposal should not be allowed to proceed.

### **Appeal Ground 26 - Fauna: road deaths**

Given that the proposal would increase road traffic generally, a mechanism should be in place to discourage road travel at night as this threatens populations of nocturnal wildlife. The EPA has not considered this issue.

#### *EPA Advice*

Discussion with the DCLM Exmouth District Office (Pers. Comm. 2003) indicates that no data on the impact of vehicle traffic on wildlife is available for the Cape Range National Park or the North West Cape region.

While it is known that vehicle traffic, particularly at night and on country roads, does impact on wildlife, vehicle speed is likely to be a key factor influencing the likelihood of striking an animal.

It would be difficult to envisage how a mechanism to discourage people's use of a public road during certain times of the day could be implemented by the proponent. However, setting and enforcing

appropriate speed limits, as well as public education would be appropriate way to minimise the risks that vehicle traffic pose to terrestrial wildlife.

Controls on speed limits on public roads is beyond the authority of the proponent. If the proposal is allowed to proceed, CCMD have a role and responsibility to reinforce conservation and environmental protection principles through various education programs focused on tourists, residents and employees within the CCR development.

While many of the management plans committed to by the proponent proposed to include public education, the particular issue raised here is not addressed. It is also possible that the proposed interpretive centre would not be effective in targeting the full range of people using facilities within the proposed CCR.

In order to consolidate the education components of CCMD's management commitments and in order to integrate educational opportunities across the whole proposal, it is recommended should the proposal be implemented, that the proponent should prepare a Public Environmental Education Plan to address the means by which it will target and educate the public in environmental protection and biodiversity conservation, including appropriate practices to minimise the risks to wildlife from vehicle and boat traffic.

## **Subterranean fauna**

### **Appeal Ground 27 - Stygofauna**

The EPA's assessment of impacts on stygofauna has been made despite a recognised lack of necessary information and has failed to account for all potential impacts of the development. Furthermore, imposed management conditions will fail to achieve stated environmental objectives.

Submissions repeatedly referred to the inadequacy of data provided on stygofauna and questioned the appropriateness and integrity of predicted outcomes. The survey undertaken by the proponent, which is presented in Volume II of the proponent's response to public submissions does not meet the EPA's guidelines (Part A: Section 3.3) for a baseline survey to determine both the species present and their habitat. The EPA reports that it received advice from Dr Humphreys that 'the proponent's document provided an inadequate risk assessment and contained only limited sampling' and that two species listed under the EPBC Act may potentially occur but were not mentioned (4.1.6).

The EPA report and recommendations state, with respect to stygofauna (section 4.1.6), that a risk-based approach must be adopted based on predicted impacts, and on reasonable assumptions about how subterranean ecosystems function. In the absence of adequate survey information predicted impacts and assumptions resulting from the proponent's survey can in no way be considered 'reasonable'.

The EPA has not adequately addressed the 'ecological footprint' of the proposal. The CCMD is an indirect threat to stygofauna at the site of proposed quarrying of limestone by Learmonth Limestone Pty Ltd at Cape Range near Learmonth. Appellants understand that Learmonth Limestone had a memorandum of understanding with the proponents of a proposed development on the western side of the Cape Range peninsula at Maud's Landing, with the developer requiring approximately 350 000 tonnes of limestone for a new marina and resort (Finesky Holdings Pty Ltd v Australian Speleological Federation Inc). The limestone required by CCMD would account for a large proportion being quarried at the Learmonth site, with the potential of impacting adversely on stygofauna. The EPA should consider material used by CCMD as part of the proposal's ecological footprint, and therefore require that evidence be provided showing that stygofauna will not be indirectly affected by the proposed development.

The stated environmental objectives of the EPA for stygofauna include: 1) maintenance of the abundance, species diversity and geographical distribution of subterranean fauna and 2) the protection of Specially Protected Fauna. The proposed Subterranean Fauna Management plan (Procedural Condition 9) fails to adequately account for these objectives and aims only to identify the subterranean fauna habitats and their

conservation significance. Specific management of potential impacts such as water use and pollution and conservation significant species and habitats are lacking.

The EPA has failed to include under Procedural Condition 9 that a Subterranean Fauna Management Plan should include surveys of substrate to determine whether there are karst formations present, and to monitor their hydrological regime. Previous studies have shown the importance of the karst itself to the survival of subterranean fauna (Humphreys, 1999; Humphreys, 2000; Iliffe, 1984; Nootenboom et al, 1994).

The underground drainage of karst, with its characteristic open conduit flow, makes karst susceptible to the ingress of pollutants which, for the same reasons, are difficult to contain once they have entered the system (Nootenboom et al, 1994). Therefore the management of karst areas requires special knowledge – particularly because surface geomorphology and groundwater drainage are frequently discordant – and management typically needs to extend well outside the karst area itself (Kiernan, 1988).

Additionally, the EPA cannot assume that the geological strata below the site are in hydrological continuity without adequate investigation (Humphreys, 2000). Further, the physico-chemical profile is complex, for example at the Bundera Sinkhole (north of the proposed site) where the characteristic thermo-halocline is associated with polymodal profiles of oxygen, hydrogen sulphide and redox to a depth of 33 metres (Humphreys, 1999).

It is unacceptable to only monitor shallow groundwater (Humphreys, 1999), but also the proponent fails to define the depth of ‘shallow.’ The Groundwater Management Plan should be more specific and proactive, rather than reactive, considering the devastating consequences of potential groundwater pollution. One example of this is the organic pollution of caves in Bermuda as a result of resort developments. In a study of these caves, Iliffe (1984) found that these caves were extremely vulnerable to ‘organic pollution, even at low levels’ due to the lightless environment, highly stratified water column and the long residence time for cave waters.

The Landscaping Management Plan does not specify what is meant by ‘soil improvement.’ This needs to be clarified in the Management Plan. In addition, the use of pesticides or fertilisers for purposes of landscaping should be prohibited because of their impact on groundwater and subterranean fauna (Finesky Holdings Pty Ltd v Australian Speleological Federation Inc).

The proponent fails to include in the survey document the presence of *Lasionectes exleyi* and *Milyeringa veritas* in the Cape Range Peninsula. *L. exleyi* and *M. veritas* are listed as vulnerable under the Environment Protection Biodiversity Conservation (EPBC) Act. A native species is eligible to be included in the vulnerable category at a particular time if, at that time it is not critically endangered or endangered, and it is facing a high risk of extinction in the wild in the medium-term future. It is important to note that this contradicts the EPA’s report which states that ‘risk of stygofauna species extinction as a result of the proposal is small.’

*L. exleyi* is a cave dwelling remipede crustacean, and belongs to a specialised community of a type elsewhere known only from similar habitats on either side of the North Atlantic – the Canary Islands and the Caribbean area. Cape Range is the only site outside of these areas with the crustacean class Remipedia. *L. exleyi* is only the second invertebrate to be protected in Australia by a Commonwealth Act. The entire remipede community is considered threatened in WA, particularly from point source pollution and diving. *Milyeringa veritas* (Blind Gudgeon) belongs to the family *Elotridae*, as is one of the only two blind fish in Australia.

The fact that these species are protected under the EPBC Act has implications for the Minister and the proponent. Under this Act (Section 267), recovery plans are required for all extinct in the wild, critically endangered, endangered and vulnerable species and ecological communities (CALM, 2002). A Recovery Plan (RP) or Interim Recovery Plan (IRP) outlines the recovery actions that are required to urgently address those threatening processes most affecting the ongoing survival of the community. These are prepared by CALM and implemented by a Recovery Team. The Recovery Team for the Cape Range Remipede

Community is the North West Cape Karst Management Advisory Committee, and an interim recovery plan is being prepared in conjunction with the Committee.

Section 269A of the Act stipulates that once a RP has come into force, the Minister must ensure that there is always an RP in force for the species or ecological communities. Section 139 requires that, in deciding whether or not to approve an action, such as a development, the Minister must not act inconsistently with Australia's obligations under the Biodiversity Convention, the Apia Convention, CITES, or a recovery plan or threat abatement plan. Section 172 stipulates that the Minister must prepare inventories that identify, and state the abundance of, the listed threatened species or ecological communities on Commonwealth land.

In addition, Environmental Management Plans concerning stygofauna, either directly or indirectly, need to be clear, stating exactly who is responsible for implementation of the Plan. Plans outlined to date by the proponent do not clearly outline how they will monitor the presence and distribution of stygofauna and their habitat, and exactly how impacts will be managed and mitigated, before these problems arise.

#### *EPA Advice*

At the time the PER was released, the EPA wrote to the proponent advising it of the possible consequences of not undertaking an assessment of subterranean fauna at the site. The submissions referred to by the appellant raised issues regarding the lack of field studies on stygofauna in the PER. CCMD only presented a desktop review of stygofauna prepared by Dr Brenton Knott in its PER (Appendix 16). The EPA did not seek advice from the WA Museum on this work as inferred by the appellant.

The proponent undertook a drilling and sampling program at the site after the PER had been released. The EPA sought advice from the WA Museum on CCMD's assessment of subterranean fauna based on this field work. The EPA noted the views of Dr Bill Humphreys on page 51 of Bulletin 1073.

The EPA, being mindful of the limited information on subterranean fauna in WA, applied a similar risk-based assessment as it has used for various mining proposals, which have significant potential to impact subterranean fauna. In forming its view of the impacts of the proposal on subterranean fauna the EPA gave careful consideration to the information contained in CCMD's sampling report, advice from the WA Museum and the information provided to the proponent by Dr Knott.

The EPA based its understanding about geological strata below the site on the review by Dr Knott. On the basis of this information, the EPA formed the view that an absence of local barriers which could restrict the distribution of stygofauna species to the area would minimise the risk of species loss as a result of the proposal.

The EPA considered potential threats to stygofauna relate to processes that could lead to changes in water quality in the shallow unconfined aquifer. These processes were considered to be water quality in the marina, leaching of contaminants from waste facilities (WWTP and landfill) stormwater runoff and spills. It is also relevant to note that CCMD's limited drilling program failed to find any stygofauna species. In view of these factors, rigorous management of stormwater, liquid wastes and marina water quality were considered to be important to minimise potential risks to stygofauna.

The EPA considered that the risks to stygofauna could be addressed through the implementation of a Subterranean Fauna Management Plan aimed at providing additional information on the subterranean fauna in the vicinity of the proposed development site. The appellants views regarding the value of surveys to confirm the presence or absence of karst formations in the vicinity of the site and, if presence a monitoring program of their hydrological regime are supported. Important stygofauna species are known to be associated with karst formations and the presence or absence of these formation below the site has not been confirmed. Further knowledge about the presence of karst below the CCR site and requirements for monitoring would further assist in minimising any potential risk to stygofauna if the proposal is allowed to proceed.

Issues such as impacts of water use and pollution on stygofauna could be addressed through appropriate implementation of the proponent's Environmental Management System (EMS). Effective implementation of the EMS should allow the proponent to integrate information gathered during the implementation of several management plans to target the management of specific issues. By way of example, the results of stygofauna surveys could be considered in the context of marine water quality data, groundwater monitoring and evaluation of the effectiveness of stormwater management to make inference about impacts of the proposal on stygofauna habitat and to set the possible management response in place.

The EPA did not consider the impacts of limestone extraction as part of this assessment because the proposal by Learmonth Limestone is the subject of a separate assessment by the EPA at the level of Environmental Review and Management Program. CCMD has indicated that would seek alternative sources of limestone should the proposal by Learmonth Limestone not be allowed to proceed.

### **Appeal Ground 28 - Recommended condition 9**

An appellant contends that on the basis of information obtained about stygofauna and the occurrence of suitable habitats in the vicinity of the site, it is not appropriate to require research on stygofauna as a condition of approval for the CCR proposal. Supporting documentation in the form of a technical report titled *Stygofauna assessment Coral Coast Resort* is included in the appeal for the Appeal Convenors information.

#### *EPA Advice*

The EPA considered the report titled *Stygofauna assessment Coral Coast Resort* as part of its assessment of the CCR project. The report concludes that no stygofauna species were present in the vicinity of the proposed development site. However, the EPA was concerned about the adequacy of sampling, particularly the limited depth of sample bores. Advice was sought from Dr Bill Humphries of the WA Museum in this regard. Dr Humphries replied informally to the EPA suggesting the report provided an inadequate risk assessment and contained only limited sampling.

In view of the desktop review of stygofauna prepared for the proponent, the results of the limited work undertaken as part of the *Stygofauna assessment Coral Coast Resort* report and CCMD's management commitments with regard to groundwater and pollution control, the EPA considered that stygofauna is unlikely to be a major issue provide additional work was undertaken about stygofauna in the area.

Other appeals have highlighted the importance of knowledge about potential stygofauna habitat and monitoring if habitat is present below the proposed development site. In view of the limitations of the *Stygofauna assessment Coral Coast Resort*, the EPA supports the view that information about potential habitat and subsequent monitoring of hydrology of habitat(s) found would be important.

In view of the preliminary advice of the WA Museum about the *Stygofauna assessment Coral Coast Resort* report and the fundamental importance of maintaining habitat quality, the EPA recommends that recommended condition 9 should prevail and it could be strengthened on the basis of information presented in appeal ground 27 - Stygofauna.

### **Marina water quality**

#### **Appeal Ground 29 - Marina water quality**

Appellants believe that the EPA has not considered a number of matters with regard to water quality in the marina. Appellants consider that the EPA erred in its judgement that the proposal could be managed to

meet the EPA's objectives for water quality in the marina. Matters raised in relation to this ground of appeal are summarised below.

- Due to limited water circulation in the proposed marina, coral spawn from the proposed artificial coral reef has the potential to cause oxygen depletion and fish kills in similar manner to that observed previously in Coral Bay.
- Appellants believe that is highly unlikely that the proposed artificial coral reef will be successful because of limited water circulation and temperature ranges that are beyond the thermal tolerance range of corals. How has the EPA tested CCMD's claims about the proposed snorkelling reef in the marina?
- Pollution of the marina from spillage or leakage of fuel, oil and/or sullage from boats have not been adequately addressed by the EPA. Contamination of the marina by antifouling paints and quarantine/marine pest incursion risks should have been given greater attention.
- There appears to be some question about the flushing efficiency of the proposed marina and accordingly, some uncertainty regarding the potential for algal blooms. Algal blooms in marina have the potential to not only impact waters of the NMP but also pose threats to human health. It does not appear that the EPA has given adequate attention to these issues. It is noted that the proponent's assessment of water circulation in the marine did not consider the possible effects of the proposed shark nets or the likelihood water quality problems in the semi-enclosed marina beaches.
- Potential acid sulphate soils (ASS) impacts on water quality within and outside the marina.

Concern was expressed about the attention given to the proponent's provision of services which involve polluting activities such as antifouling, hull cleaning and other maintenance operations, which in the absence of appropriate dry dock services/facilities could be undertaken in-water.

#### *EPA advice*

- 1) A natural weather anomaly (light winds and low tides) which coincided with mass spawning of a large number of corals in Coral Bay resulted in widespread deoxygenation of marine waters in Bills Bay in March 1989. This event caused major coral and fish kills in the area. The destruction of corals and other reef animals by coral spawn slicks was reported in the international scientific literature by authors from the DEP in 1993 (Simpson *et al.* 1993).

The spawn slicks observed in Coral Bay by Simpson *et al.* (1993) were created by the mass spawning of coral thickets which covered much of the Bay in relatively high cover (30 – 60% cover over much of the Bay) prior to the 1989 event.

Using information about the age of coral colonies, it was suggested that a mortality event of the magnitude observed in Coral Bay in 1989 had not occurred for 4 –5 decades.

The proponent acknowledges that the proposed artificial reef in the marina is not intended to replicate a natural coral reef system with respect to diversity and abundance of corals. Accordingly, the abundance of corals growing on the artificial reef is not expected to be comparable to the abundance of coral which resulted in mortalities in Coral Bay. Moreover, the conditions that occurred at the time and lead to the significant mortality event in Coral Bay are likely to be infrequent.

If coral spawn was considered to pose serious threats to water quality in the marina, the issue would need to be addressed in the Marine Water and Sediment Quality Management Plan recommended by the EPA in Appendix 4 of Bulletin 1073. This Plan requires that performance in relation to environmental quality objectives (EQO) are measured using 'guideline' and 'standard' water quality criteria. This two-tiered management approach is based on the National Water Quality Management Strategy and is consistent with the approach adopted by the EPA for the management of environmental quality in Perth's coastal waters (EPA 2000, 2002).

If monitoring indicated that the 'standard' for dissolved oxygen may not be met, possibly due the consumption of water column oxygen by the decomposition of coral spawn, then the proponent must implement an adaptive management action. Examples of adaptive management could include the containing, collecting and disposing of spawn slicks and/or physical oxygenation of marina waters. Monitoring coral abundance and reproductive status would provide an early warning indicator of potential water quality problems associated with coral spawning.

Monitoring of water quality consistent with the requirements of the EPA's recommended condition 10 will assist in protecting water quality from deterioration as a result of decomposition of coral spawning. Proactive monitoring of coral abundance and reproductive status would provide early warning signs of potential problems, though for the reasons above is not likely to be necessary, at least in the short term.

- 2) As noted in 1. above, neither the proponent nor the EPA expect that the proposed constructed reef will replicate a natural coral reef system of the Ningaloo Reef tract. While it is likely there would be some recruitment of corals within the marina, diversity and growth of any corals within the marina will be less than natural coral reef. The degree of success of the proposed constructed reef will be related to the maintenance of water quality. Coral abundance may be a useful indicator of environmental quality in the marina if the proposal is allowed to proceed.
- 3) Potential pollution of the marina is addressed through a variety of management plans committed to by CCMD. CCMD has made commitments to:
  - prepare and implement an Emergency Response Plan that includes elements to address responses to fuels spills and vessel collisions; and
  - prepare and implement a SAMMP, that includes a program for monitoring and development of contingency plans for introduced marine pests.

The EPA noted that the introduced marine pests program should include a rigorous baseline surveys and ongoing monitoring in the proposed marina and adjacent waters of the NMP. It should be noted that Fisheries are the lead agency with respect to response to marine pests. Accordingly, surveys should be developed in close consultation with Fisheries and the coordination of any response to marine pest incursion in the NMP or CCMD's marina should be undertaken by Fisheries and not the proponent.

Other management plans and initiatives that, if implemented effectively and diligently by the proponent, will assist in maintaining water quality include a Nutrient and Irrigation Management Plan, Drainage and Stormwater Management Plan and a commitment to employ a Waterways Manager.

In addition, it is anticipated that the *Navigable Waters Regulations* would apply to the marina and other waters. Regulation 8 of these Regulations makes it an offence to 'throw into or cause to be placed in any port or harbour or navigable waters any matter or thing except with the permission of the department'. The *Navigable Waters Regulations* are administered by DPI and an involvement by that agency at the CCR would be necessary for enforcement as DPI indicated it would be unlikely to devolve responsibility for the Regulations to the Waterways Manager as inferred by CCMD.

- 4) The EPA considered that in view of the near-pristine quality of source waters for the marina, the eventual quality of marina water would be strongly influenced by the amount of nutrients and other contaminants entering the marina from the built environment and the superficial aquifer. To this end, CCMD made a number of commitments in relation to management of nutrients, wastewater and spills. The EPA also recommended a Water and Sediment Quality Management Plan.

The ecosystem within the marina will have a lower level of protection for ecosystem integrity than waters in the NMP. This is the case for all constructed semi-enclosed water bodies, including Hillary's Boat Harbour which is adjacent to the Marmion Marine Park north of Perth. The EPA considers that with rigorous and diligent management of the issues outlined on page 58 of Bulletin 1073, the



environmental quality of the marina could be managed within limits considered acceptable by the EPA (see *Perth's Coastal Waters: Environmental values and Objectives* (EPA 2000)).

It should be noted that one commitment - control of nutrient application to landscaped areas on freehold land - could be problematic for the proponent. Effective control of nutrient application on freehold properties may require regulation of landscaped areas through planning mechanisms. Legal advice has been provided on the functions, duties and powers of the local Government in respect of the *Local Government Act 1995*.

The questions raised in legal advice about recommended condition 15, mechanisms to apply and enforce CCMD's commitments with respect to nutrient control (among other matters) warrant further investigation.

The proponent's modelling of a worst-case water quality scenario was presented in Appendix 8 of the PER. The modelling indicated that under the worst case scenario, the marina waters would have little effect on waters within the NMP. The zone of influence remained within a 50-70 m area around the marina entrance under all simulated conditions. Although CCMD had not sought concurrence from the MRPA in relation to this zone of influence, the EPA suggested that the effect of the marina on marine environmental quality should be attenuated within any lease area or similar set aside for the development of the proposed breakwaters. In saying this, the EPA was not advocating that a substantial area of Bateman Bay be included in the proposed lease area.

Provided that the outstanding issue of effective long term nutrient control throughout the CCR is given attention and resolved, the EPA considers that the marina and its effect on the waters of the NMP could be managed to meet acceptable environmental objectives.

- 5) The EPA considered information it had been provided by CCMD about the soils in the vicinity of the proposed development site to form a view about potential risks associated with the exposure of acid sulphate soils. Shallow drilling at the marina site did not reveal organic-rich mud. Most soils were fine to medium grain carbonate sands and minor amounts of lacustrine sediments. The information provided does not support assertions in submissions that the proposed development site is situated on a Holocene mangrove system.

It is noted that during the consultation period for Bulletin 1073, the Minister for Agriculture, Forestry and Fisheries wrote to the Minister for the Environment and Heritage on 6 November 2002 pointing out that 'dredging of the marina basin, may depending on the sub soil material, release substances that may have an adverse effect on the adjacent marine environment'.

Should sub-surface strata below the site release contaminants or low pH (acid) substances, the environmental implications for the NMP could be serious.

Notwithstanding, the EPA's recommended condition 10-1 requires that the proponent model the zone of influence of marina construction with regard to parameters including physicochemical parameters. pH is a standard physico-chemical parameter in water quality evaluation and monitoring. In view of the above advice, in order to satisfactorily fulfil condition 10-1 by fully evaluating the zone of influence with respect to pH in particular, it may be necessary for the proponent to further characterise sub-soil conditions at the site.

The Water and Sediment Management Plan (Construction Phase) requires that monitoring be undertaken against 'alert' and 'action' criteria for physicochemical parameters. Here too pH is a standard physicochemical parameter. If an 'alert' and 'action' criteria were compromised, the proponent would be required to undertake potentially expensive adaptive management to address the issue causing a breach of criteria'. This requirement is set out in condition 10-2.

In summary, no new information has been provided to suggest that the risk of ASS exposure during dredging of the marina is high. Notwithstanding, if in fulfilling the EPA's recommended environmental conditions, the proponent models the risk of ASS, validates its model accordingly and

satisfactory undertakes monitoring and management of relevant physicochemical parameters, the EPA is of the view that the issue of ASS can be appropriately managed.

- 6) The proponent has indicated that it would prohibit hull cleaning and the use of organo-tin based antifouling paints in the marina. In its responses to submissions, the proponent advised that boat repairs or servicing would be accommodated within the Services Area. It is relevant to note that the application of organo-tin based antifoulants such as tributyltin (TBT) is prohibited in WA on vessels less than 25 m in length. Moreover, premises on which vessels are commercially built or maintained are prescribed under Part V of the *Environmental Protection Act* and require Works Approval and Licence. As it is expected that the majority of vessels using the marina will be trailered and therefore less than 25 m long, the use and maintenance of vessels treated with TBT-based antifouling paints at the CCR is likely to be minimal.

Notwithstanding, it would be desirable to have in place measures to control activities that have the potential to pollute the environment. ANZECC have developed a Code of Practice for application, use, removal and disposal of antifouling paints, and the EPA expects that management at the CCR be undertaken in accord with this Codes of Practice. Although the proponent may have authority within the marina to request third parties to cease environmentally undesirable activities, the source of CCMD's power to control activities that have the potential to cause pollution is likely to be vicarious.

The legal power to control pollution and polluting activities is enshrined in the *Environmental Protection Act*. Under that Act, it is an offence to cause pollution. The proponent (or its delegated waterways manager) would need to draw on powers and resources of the DEP acting under the provisions of Part V of the *Environmental Protection Act* to control potentially polluting activities such as antifouling, hull cleaning and maintenance.

Some powers to control potentially polluting activities in the marina may also be available through the *Navigable Waters Regulation 1997*. These Regulations are administered by the DPI. In its submission, the DPI (then Transport) suggested it would be unlikely to delegate responsibility for the Regulations to CCMD's Waterways Manager. Accordingly, it would appear that the presence of DPI officers would be necessary to effectively administer the *Regulations* at the CCR.

In view of the possibility (probably likelihood) that the proponent will seek to transfer management responsibilities in the long-term, legal advice which indicates a number of approaches to future management of the proposal should be considered in detail in accord with recommendation 10 of Bulletin 1073.

## **Marine water quality**

### **Appeal Ground 30 - Marine water quality (NMP)**

The EPA's conclusions that the proposal could be managed to meet its objectives of marine water quality seems contradictory given that it did not consider that the proponent had clearly demonstrated that construction and operation would not cause impacts on the Mauds Sanctuary Zone. The EPA effectively transformed assessment of an environmental factor into a management issue.

#### *EPA Advice*

The EPA was concerned about the proponent's claims that construction could have water quality impacts over a large area, which included part of the Mauds Sanctuary Zone. The EPA also noted that the proponent did not appear to have delineated its so-called Development Impact Area on the basis of a quantitative assessment of the potential scale and intensity of impacts. Because of this, the EPA considered additional work involving quantitative modelling techniques was required by the proponent to more clearly define potential water quality impacts within a 'temporary construction impact area' (condition 10-1). The

EPA is of the view that information gathered when undertaking the requirements of condition 10-1 will greatly assist the proponent in incorporating elements into the final design and construction of the proposed marina such that impacts are minimised and important environmental attributes are protected.

The EPA recognises that the monitoring and management of construction will not be simple and will require considerable and diligent work by the proponent to ensure that key environmental values are protected during construction of the marina. The EPA provided guidance as to its expectations with respect to marine water quality management and monitoring in condition 10-2 – Water and Sediment Quality Management Plan (Construction Phase).

Noting that the majority of marina excavation is proposed to be undertaken using ‘dry’ excavation with limited dredging in the marine environment, it was the EPA’s opinion that provided there was satisfactory implementation of condition 10-2 by the proponent, construction activities could be managed in a manner acceptable to the EPA. Rigorous monitoring against alert and action criteria will require the proponent to implement adaptive management to address exceedances. Adaptive management could conceivably include temporary cessation of activities that result in criteria being exceeded.

### **Appeal Ground 31 - Turbidity from boats**

The impacts of turbidity generated by boats travelling through the breakwaters and Bills Bay has not been considered.

#### *EPA Advice*

Marine waters of Bateman Bay adjacent to the proposal are approximately 5 m deep. In this depth of water and with the implementation of additional controls on boat speed, turbidity from boats was not considered to be a factor likely to contribute significantly to environmental impacts.

The regulation of boat speed and enforcement of speed restrictions could be an important part of the day-to-day management of marine-based activities to protect marine megafauna. Accordingly, the participation of DPI and DCLM in the daily management of human-use pressures should be fundamental to the Government’s consideration of an appropriate management response to this proposal. The commitment by Government to resourcing day-to-day management, regulation and enforcement of people’s activities so that the environmental values of the NMP are protected is fundamental to the EPA’s recommendations.

Management of boating activity in Bills Bay is a matter currently under consideration by the MPRA. DCLM has developed a *Maud Sanctuary Zone – Mooring Control Area Strategic Management Plan* to assist in the implementation of a *Coral Bay Boating Strategy*. The *Strategic Management Plan* and *Boating Strategy* set out the actions required to restrict boat use in the MSZ. Management will focus on measures to ensure compliance with the ecological and primary social objectives of the MSZ. A key action includes gazettal of Bills Bay as a Mooring Control Area in accord with the *Shipping and Pilotage Act 1976* and *Regulations 1983*. Under this authority, DCLM will manage and regulate the types of vessels using the restricted area (restrictions on the use of vessels with drafts greater than 1.2 m) and anchoring (mooring and beach anchoring). Speed restricted areas will also be extended as part of the management framework. For vessels with a draft greater than 1.2 m wishing to operate in the MSZ, the Boating Strategy sets out that an operation plan must be submitted for consideration before approval to operate is granted by DCLM. Turbidity generated by boating activity was not specifically addressed in the Strategy, however, DCLM suggests that potential impacts on coral, along with public safety will be a main criteria for setting operational plans.

The EPA considers that issues raised by the appellant are currently being addressed for the MSZ by key management agencies and the MPRA. The EPA has recommended that the issues of management by Government are resolved by the Government before it makes any decision to allow the proposal to proceed.

Without resolution of and appropriate commitments to Government's management obligations, the EPA recommends that the proposal as it stands should not be approved for implementation.

## **Surface water (stormwater management)**

### **Appeal Ground 32 - Stormwater management**

Appeals were lodged against the EPA's consideration of the environmental impacts associated with the proposed stormwater management.

Appellants argue that neither the PER nor Bulletin 1073 addressed the potential impact of stormwater drainage on terrestrial vegetation and avifauna that utilise the saline flats. The appellant notes that the PER identifies a number of bird species listed under the EPBC Act that could potentially utilise the site.

The appellant contends that discharge of polluted wastewater to the saline flats has the potential to cause detrimental impacts on the ecology of birds that use the area as well as the invertebrates on which birds rely for food. In view of the findings of the proponent's flora survey which stated that the saline flats exhibited some conservation significance with regard to vegetation and the scientifically unfounded statements made by the proponent about the significance of the saline flats, the appellant contends that the importance of the Mauds Landing saline flats to avifauna cannot be underestimated.

#### *EPA Advice*

Please note that in addition to advice offered below, specific advice on stormwater management and the Site Drainage and Stormwater Management Plan as it relates to the protection of flora and vegetation is offered under appeal ground concerning terrestrial fauna.

The EPA notes that it is possible that in order to achieve adequate on-site infiltration in accord with the Site Drainage and Stormwater Management Plan, the proponent may need to plan for and provide additional undeveloped areas for drainage within the proposed site. This should be explored further during the planning approvals process associated with CCDM's Structure Plan.

By providing for maximum on-site infiltration, removal of contaminants and the maintenance of natural water relations and inundation patterns of the saline flats, the EPA considers that the satisfactory implementation of the recommended Site Drainage and Stormwater Management Plan would protect the values of the saline flats as they relate to flora, avifauna and other terrestrial animals reliant on this ecosystem. It should be noted that under natural conditions, tropical lows/cyclones can cause rainfall in excess of the land's infiltration capacity. This has resulted in flooding of the low-lying areas south-east of the CCR proposal and similar areas elsewhere along the Gascoyne coast (Dale Rogers, Shire of Carnarvon, Pers. Comm. 2003). Regardless of the stormwater management systems in place at the CCR, it is anticipated that extraordinary rainfall events (e.g. tropical cyclones) would cause some flooding in the saline flat area. However, it is expected that run-off as a result of more typical rainfall events could be managed to meet the EPA's objectives set out in recommended condition 11.

It is also important that any arrangements between the proponent, the Shire of Carnarvon and/or any other management body should provide for on-going implementation of the Site Drainage and Stormwater Management Plan, including maintenance of the CCR's stormwater management system.

### **Appeal Ground 33 - Mosquitoes**

Public health issues related to the management of stormwater and wastewater is a key relevant environmental factor which was not assessed by the EPA. The EPA failed in its statutory requirement to consider relevant environmental factors since it concludes that 'Mosquitoes is (sic) not considered to be a

relevant environmental factor.’ (Appendix 3). Further, the relegation of a public health issue with attendant serious environmental implications to a proposed management plan demonstrates a lack of caution on the part of the EPA.

Appellants contend that there are considerable and unassessed matters relating to the disposal of stormwater to the saline flat and the consequence of this for populations of mosquitos known to be vectors of disease (e.g. Ross River virus, Murray River Valley Encephalitis). These are:

- increasing the temporal abundance of *Aedes* mosquitoes by changing (extending) the inundation patterns of water on the saline flat;
- favouring pest species by increasing nutrient levels in water on the saline flat; and
- supporting mosquito breeding if maintenance of gross pollutant traps is not adequate both in the medium to long term.

Secondly concern has been raised about the effect of the built environment of the proposal on mosquito breeding. The appellant suggests that a species declared as a Ross River Virus vector breeds effectively in the built environment. Proposed stormwater management and wastewater treatment infrastructure are areas of concern. It is considered that the proponent’s commitments should have considered these matters.

An appellant (Department of Health) considers that because there is no doubt that mosquito management, probably utilising chemical and physical control methods, would be necessitated by the proposal, the EPA should have considered the management of mosquitoes as having potential to impact on the environment – thus considering mosquitoes as a relevant environmental factors assessed fully in Bulletin 1073.

A health risk assessment and management plan should be undertaken as part of determining the approval of the proposal. Results of the risk assessment could assist in project design and future mosquito monitoring and management if the proposal is allowed to proceed. Current ad hoc management approach could lead to further environmental changes/alteration and public anger if it is shown in the future that there is an epidemiological consequence of the proposal.

#### *EPA Advice*

From a public health perspective, the EPA acknowledges that inappropriate stormwater management may enhance mosquito breeding. From an environmental perspective, the EPA considered that it was necessary to recommend an environmental condition to ensure CCMD managed stormwater in an appropriate manner.

The recommended environmental condition 11 – Drainage and Stormwater – requires that the proponent development and implement a Site Drainage and Stormwater Management Plan. Through this Plan, the proponent is required to design and implement a stormwater management system to ensure that off-site flow of stormwater remains unchanged from pre-development levels. Particularly relevant to this appeal ground, the EPA recommended that the proponent shall ensure that natural water relations and inundation patters of the saline flats and hypersaline pool are largely unchanged from pre-development conditions.

A considerable amount is known about management of stormwater systems to minimise mosquito breeding. Recent studies have demonstrated the effectiveness of design features in minimising mosquito breeding. In view of the known risks of mosquito borne diseases in the Region generally, it is expected that agencies set out in recommended condition 11-1, would provide CCMD with up to date advice regarding best practice stormwater management design to minimise potential mosquito problems. Integration of best practice drainage design should given attention through detailed planning approval and Works Approval/Licensing processes.

Notwithstanding the importance of design, in view of the public health implications of inappropriate stormwater management, the proponent should also be required to seek advice from the Department of Heath during the preparation of the Site Drainage and Stormwater Management Plan required by the recommended condition 11. The Department of Health’s advice would also be critical to the development and effective implementation of CCMD’s Mosquito and Ross River Virus Management Plan.

In response to appeals about the extent of the EPA's consideration of the potential environmental effects of mosquito control measures, the EPA notes that this matter would be given attention in CCMD's Mosquito and Ross River Virus Management Plan. CCMD is required to seek advice from the Department of Health (the lead agency with respect to mosquito control) and the Shire of Carnarvon in fulfilling the requirements of its commitment. The sensitivity of the environment in the vicinity of the proposal should be considered when making decisions regarding the use of chemical or physical control methods. The EPA also expects that mosquito management would be in accord with EPA Guidance Statement No. 40 *Management of mosquitoes by land developers*.

In relation to the appellant's call for a health risk assessment and management plan as part of the decision-making process information contained in appeals indicates that coastal parts throughout the Gascoyne Region have a known risk of mosquito-borne disease. This raises fundamental questions about planning for tourism development in the region. The question of whether the public health risks associated with mosquito borne diseases are acceptable at the proposed CCR location or at any other coastal location in the Gascoyne should be asked up front and this question is best answered by planning and health agencies.

It would be open for a health risk assessment to be undertaken for Government by the appropriate agency, possibly the Department of Health.

The EPA understands that mechanisms such as the *Health Act 1911* and planning controls/approvals could provide means to address mosquito management and mosquito-borne disease risk in parts of the built environment. The *Health Act 1911* provides the power to make regulations and by-laws in relation to pest or vector control (ref). It is also understood that planning mechanisms such as the imposition of a memorial on tiles can be used to control particular hazards. WAPC Bulletin No. 3 (June 1995) identifies 'insect infestation ( in close proximity to a wetland)' as a hazard requiring a memorial.

## **Visual amenity and wilderness values**

### **Appeal Ground 34 - Wilderness values**

The EPA has failed to appreciate the wilderness appeal and visual amenity of the area. Even with the conditions suggested by the EPA, implementation of the proposal would undermine the physical, biological, and aesthetic qualities that underlie the wilderness value of the immediate area and, more critically, the perception of 'wildness' of the Cape Range region. Although the EPA acknowledged the potential impacts of large-scale development on aesthetic and wilderness qualities, it failed to adequately address the issue by advising the Minister for the Environment and Heritage to consider the balance between the impacts of the proposal on the wilderness value of the area and the provision of additional tourist facilities. An appellant suggests such a trade-off is disingenuous. Appellants emphasise that best-practice eco-tourism development of the area would focus on tourist infrastructure which both manages human impacts and preserves the wilderness value of the region.

It is also argued that some factors that impact on wilderness qualities that were not adequately assessed in the EPA report, including the additional noise (traffic, power), odour (wastewater treatment), dust/smoke (landfill) and light (residential and tourist facilities).

#### *EPA Advice*

The EPA gave attention to wilderness qualities in the context of the environmental factor Visual amenity and wilderness qualities in Section 4.1.11 of Bulletin 1073.

The EPA acknowledged community concerns about the potential impact of the proposal on current visual and wilderness values near the proposed development site. The EPA formed that view that when compared with other locations along the Ningaloo Reef tract, the visual amenity and wilderness attributes of Mauds

Landing had been historically altered by human activities. Accordingly, it was concluded that the proposal would be unlikely to cause impacts such that there is a net loss of these attributes at the site.

Additional visitation to the Ningaloo/Cape Range region has the potential to impact wilderness qualities along the entire NMP coastline regardless of where people are accommodated. Reports by the WA Tourism Commission indicate that a considerable proportion of current visitors to the region travel in their own vehicles. This enables visitors to travel freely and broadly throughout the region, often to areas where there is limited management support. The impacts of this unregulated access on wilderness and amenity values along the NMP coast can be inferred from a recent report by Remote Research (2002). The report notes the proliferation of unofficial tracks, particularly around camping areas, noise from pets and fuel generators and the collection of fire wood. These issues require attention regardless of whether the CCR proposal is allowed to proceed.

Some elements of the proposal as depicted by the proponent's marketing information would be undesirable from the point of view of protecting visual amenity and creating an appropriate sense of place. However, issues related to the detail of the nature and form of development are most appropriately dealt with via planning approvals processes and therefore were not given detailed attention in the EPA's report and recommendations.

The matters such as noise, dust, and odour are relevant to the existing Coral Bay settlement and some issues may be addressed to some extent through the CCR proposal. The EPA articulated the view that the CCR proposal, that includes a managed landfill site and an appropriately designed modern wastewater treatment system, could provide *one* option to address some long-standing environmental matters which are causing impacts on aesthetic qualities of the Coral Bay area. Government is currently addressing the issue of wastewater treatment.

While the EPA's consideration of this factor focused on the visual amenity component of the 'wilderness' quality of the Ningaloo Reef area, the thrust of the EPA's overarching advice on the CCR proposal integrated all of its conclusions about individual environmental factors and issues, including visual/wilderness qualities as well as the biophysical impacts on the broader NMP and adjacent coastal lands.

In effect, the EPA concluded that the proposal as it stands should not be implemented unless there is considerable involvement and investment into the management of the NMP gives attention to protection of biodiversity and ecosystem health values of the entire Ningaloo Reef system, including adjacent coastal lands.

### **Appeal Ground 35 - World Heritage**

Appellants argue that the EPA report has not considered the impacts of the proposal on the potential World Heritage values and Government's commitment to seek World Heritage nomination for the NMP. Appellants believe that the proposal (its impacts and private ownership) would not be consistent with a World Heritage area and that the area should be maintained as an icon, valued for its isolation and naturalness.

An appeal included a supporting document: *Assessment of the proposed Mauds Landing marina/resort/residential development on the World Heritage values of the Ningaloo Reef and Cape Range Region, Western Australia* which puts forward a case outlining the global significance of Ningaloo Reef and the impacts of the proposal on World Heritage nomination and potential values. Referring to Article 2 of the Convention for the Protection of the World Cultural and Natural Heritage an appellant suggests that Ningaloo clearly satisfies relevant criteria from aesthetic, scientific and conservations perspectives

*EPA Advice*

Consistent with the Labor Government's policy on World Heritage, an area in the Ningaloo/Cape Range region is expected to be recommended to the Federal Government for World Heritage nomination. DCLM is the lead agency in WA with respect to World Heritage matters and DCLM and Environment Australia administer the nomination process on behalf of the Federal Government as a signatory to the World Heritage Convention.

Potential World Heritage values and the spatial boundaries of the nomination area are yet to be negotiated and determined. In the absence of this information or the finalisation of the State's case for nomination, it would be inappropriate for the EPA to pre-judge the scope of potential values or the impacts of the proposal against a set of possible World Heritage values at this time.

Notwithstanding, the document *Assessment of the proposed Mauds Landing marina/resort/residential development on the World Heritage values of the Ningaloo Reef and Cape Range Region, Western Australia* by Peter Hitchcock puts forward convincing arguments as to the potential World Heritage values of the Ningaloo Reef/Cape Range region. The Hitchcock report also contends that the CCR proposal could prejudice the State's bid for World Heritage Listing of the Region if it were to be selected by the Federal Government for nomination by impacting potential World Heritage values. As mentioned earlier, the EPA is not in a position to pass informed judgement on Hitchcock's arguments in this regard because the formal processes to build the State's case for World Heritage nomination are yet to be finalised.

Advice would most appropriately be sought from DCLM for its preliminary views on the Hitchcock report.

## **Water supply**

### **Appeal Ground 36 - Water supply**

An appellant believes that issues related to the availability of drinking water as well as current and future wastewater treatment facilities were not given adequate attention in Bulletin 1073.

In particular, an appellant considers that the EPA has ignored a statement made in *Environmental and Planning Guidelines for Tourism Development on the North West Cape* (WAPC 1999) that 'development proponent's should endeavour to obtain water from a variety of sources, with the collection of rainwater being a priority'.

Another appellant considers that the EPA has neglected to consider health implications, particularly for young children, of removing minerals from drinking water during the Reverse Osmosis (RO) water treatment process.

### *EPA Advice*

The Water and Rivers Commission (WRC) regulate the use of water resources in WA. CCMD propose to draw water for potable uses from the Birdrong Aquifer, which is some 800 m below current ground level. The WRC has been working with the proponent and has provided advice to the EPA that the predicted groundwater requirements of the proposal could be made available provided that the proponent satisfactorily prepare and implement an Artesian Water Operating Strategy. Although a Strategy has not been prepared at this time, CCMD has made a commitment to prepare it in accord with WRC advice. The Strategy would:

- provide detailed information on the proposed operating rules, monitoring of hydraulic head flows from surrounding bores into the Birdrong Formation, environmental provisions, water use efficiency and administrative details;
- outline how the proponent will address any impacts arising from the proposed groundwater abstraction on existing groundwater users and the environment;
- Address water use efficiencies to minimise water consumption; and



- Response and contingency measures.

The EPA considered that the environmental matters associated with CCMD's wastewater treatment plant could be managed to meet the EPA's objectives through:

- works approval and licensing administered under Part V of the EP Act;
- recommended environmental conditions related to flora and stygofauna; and
- CCMD's commitments in relation to terrestrial fauna and shallow groundwater management.

The EPA also noted that the proposed location for the WWTP would provide a buffer to tourist areas in excess of the 700 m recommended for a WWTP for 5000 people (EPA 1997).

*Environmental and Planning Guidelines for Tourism Development on the North West Cape* was prepared to address environmental and planning issues associated with relatively small tourism development proposals on the North West Cape. The document specifically excluded development proposals at Mauds Landing.

More effective water conservation strategies may include wastewater re-use. The proponent made undertakings in its PER to give consideration to re-use options for treated wastewater. Broad-scale use of treated wastewater for irrigation will require a detailed study of the environmental and public health issues.

Water treated and distributed for public consumption (potable uses) should meet the requirements of the Australian Drinking Water Guidelines (NHMRC and ARMCANZ 1996). The EPA understands that distribution of potable water to consumers could be regulated either by the Office of Water Regulation or the Local Government Authority. Licensing by either of these bodies would require the proponent to meet Department of Health directives. The Department of Health would expect compliance with the Australian Drinking Water Guidelines. Moreover, a well balanced diet is generally sufficient to provide the essential minerals to the body for good health (Richard Theobald Department of Health *pers. com.* 2003).

## **Waste recycling**

### **Appeal Ground 37 - Waste recycling**

The EPA has not considered the issue of waste recycling in its report. This is an important issue from a holistic sustainability perspective.

#### *EPA Advice*

The proponent's undertakings with respect to solid waste management are summarised in Appendix 3 of the EPA's report. The principles of reduce, reuse and recycle should be fundamental to the management of waste generated by this proposal.

As part of its responses to submissions, CCMD provided a document titled *Services Area Preliminary Environmental Assessment and Management Plan*. This document was included on the CD attached to the EPA's report. Information contained within this document formed part of the basis for the EPA's conclusion with respect to waste management.

In CCMD's *Services Area Preliminary Environmental Assessment and Management Plan*, the company advised that the design and operation of a modern landfill would ensure that the non-recyclable portion of the waste stream could be managed without creating environmental or health impacts. Details about the proposed landfill site are included in the PER and responses to submissions (Volumes I and II). CCMD also advised that waste will be sorted to ensure dry recyclables (such as aluminium, paper and glass), where feasible, are separated. The document also sets out strategies including the establishment of an area to compost organic wastes such as lawn clippings, tree prunings and bio-solids.

CCMD advised the EPA that its service provider, possibly Halliburton KBR, would be responsible for the day-to-day management of solid wastes including collection, sorting, recycling and landfill operation. Provided these undertakings are satisfactorily implemented by CCMD, or by its service provider, for the life of the project, recycling opportunities would be acted upon and waste to landfill would be minimised.

In Table 1 of the correspondence from ATA Environmental in response to appeals, a number of commitments are made with respect to sustainable development, including waste avoidance and minimisation. Among these is a commitment to prepare and implement a *Waste Minimisation Plan* to cover design, construction and operation phases of the proposal. Other points in ATA's comments on appeals confirm the EPA's understanding of the proponent's undertakings with respect to the incorporation of education, waste separation and recycling into the proposal.

If requested, the EPA could prepare a recommended environmental condition in order to ensure there is a controlled and more integrated framework for the implementation of the proponent's undertakings with regard to solid waste management.

## **OTHER ISSUES**

### **Appeal Ground 38 - The precautionary principle**

Appellants argue that the EPA's approach whereby baseline information about important environmental values could be collected after the decision-making process (i.e. deferring the acquisition of baseline information to management plans) is not consistent with a precautionary approach generally or the precautionary principle.

Appellants contend that the EPA identified a considerable number of serious threats to environmental values (including values that may be of global significance), information gaps and other environmental risks associated with the proposal. On several occasions in its report and recommendations, the EPA acknowledges that insufficient information exists to assess environmental impacts and that this lack of information makes it difficult to determine the level of risk.

Appellants believe that adoption of the precautionary principle should have led the EPA to recommend that the proposal can not be managed to meet relevant environmental objectives. This is of particular concern to some appellants because the EPA stated in its *Position Statement No. 1 Environmental Protection of the Cape Range Province* (EPA 1999) that the precautionary principle would be fundamental to the EPA's consideration of proposals in the Cape Range Province.

#### *EPA advice*

The thrust of the EPA's advice in Bulletin 1073 is that the proposal as it stands should not be approved for implementation, even with the conditions set out in Appendix 4. Making the proposal environmentally acceptable would require a significant investment and involvement by Government into the management of the NMP and adjacent coastal lands.

Although the EPA recommended the proposal should not be allowed to proceed unless there are significant commitments made by Government to provide environmental management in the region for the long-term, the EP Act sets out that the EPA shall provide a set of environmental conditions to be imposed if the proposal is approved for implementation. The provision of recommended environmental conditions in Bulletin 1073 should not be viewed as a recommendation by the EPA that the proposal should be approved for implementation.

Consistent with its Position Statement No. 1 (EPA 1999), the EPA pointed out in Section 3 of Bulletin 1073 that a precautionary approach should guide the assessment of proposals in the Cape Range Province. Throughout the EPA's report it is recognised that the proponent has made commitments and the EPA has

recommended conditions to undertake further environmental data collection and research should the proposal be approved for implementation. The need to obtain additional information if the proposal was allowed to proceed was also reflected in the EPA's recommended conditions.

The EPA considered the CCR proposal in two broad parts – the proposal footprint and the broader impacts of human-use and management.

After careful evaluation of the information before it, the EPA made a judgement that if the proposal were to be approved for implementation, risks posed to the environment by the CCR's footprint could be managed to meet relevant environmental objectives, provided that an array of environmental management plans and programs were implemented by the proponent. Several of these plans would involve gathering of ecological information for management of the proposal in the longer term. Due to the length of the construction phase (approximately 2 years), the EPA is of the view that sufficient technical information could be collected in this lead-up time to guide the development of management objectives, criteria and strategies.

Some appellants correctly pointed out that environmental values of the Ningaloo region and the Coral Bay/Mauds Landing area are fragile and, as a consequence, are vulnerable to human-use pressures. People's sustainable use of the NMP and adjacent lands is dependent on adequately resourced and effective environmental management by Government agencies, which have relevant authority to undertake management/enforcement. In Bulletin 1073, the EPA recognised that environmental problems have arisen along the Ningaloo Coast, particularly in the vicinity of Coral Bay, as a result of the current level of visitation to the area. The EPA is also mindful that tourist numbers are likely to increase in the future, placing additional pressure on the natural environment and its values.

Mindful of this potential outcome, the EPA noted that:

- the Government's management obligations could be significant;
- that the management requirements were beyond the authority of the proponent; and
- concerns were raised by Government agencies that management requirements would be greater than the scope provided for by recurrent funds.

With consideration of current impacts and the probable increase in human-use pressure in the future, the EPA articulated its view that judgements need to be made by the Government as to the manner by which additional people would be accommodated and able to enjoy the attributes of the NMP in a sustainable way.

In view of these matters, the EPA's overarching advice to the Minister for the Environment and Heritage was that the proposal should not be approved for implementation, even with the conditions set out in Bulletin 1073. Making the proposal environmentally acceptable would require a significant involvement and investment by Government into the management of the NMP on an ongoing basis.

The EPA is of the view that its conclusion reflects the precautionary principle.

### **Appeal Ground 39 - Sustainability principles**

Appellants contend that the EPA's assessment of the CCR proposal has not adequately taken on board the principles of Ecologically Sustainable Development (ESD)/Sustainability as it is outlined in the draft State Sustainability Strategy (SSS, Government of WA 2002).

The key sustainability principles that appellants believe the EPA has failed to adequately apply are:

- 1) conservation of biological diversity and ecological integrity;
- 2) inter-generational equity; and
- 3) the precautionary principle.

*Conservation of biological diversity*

Effective application of the principle of conservation of biological diversity and ecological integrity to assess the environmental acceptability requires a different assessment approach to that taken by the EPA in its report and recommendations. Biodiversity and ecological integrity are marginalised if too large a spatial scale is utilised for assessment. For example, a decline in the usage of Bateman Bay by mega-fauna such as manta rays and whale sharks, due to boating traffic, appears unremarkable if acceptability is defined only in terms of population-level changes and shifts in abundance and distribution within the Ningaloo Reef system as a whole. The appellant believes that adequate application of the principle of conservation of biological diversity and ecological integrity would identify Bateman Bay as a management and assessment unit on its own merit and define any alteration in marine flora and fauna in the area as unacceptable.

#### *Intergenerational Equity*

Appellants believe that management of the area should avoid developments that reduce the integrity or the amenity of the asset for future generations. In assessing the ecological footprint of the proposal, the EPA gave insufficient consideration to the preservation of the ecological values of Bateman Bay and the Ningaloo Reef across generations. Other appellants, while recognising that the EPA is limited in its scope, considered that the EPA has not given adequate attention to how the proposal fits within the broader issue of regional development/planning. Appellants contend that due to its scale and the associated potential impacts on existing tourism operations/centres, financial risks and scope of threats it poses to the environment, the broader issues must be considered as part of the decision-making process. Accordingly, appellants suggest that the proposal is an ideal candidate for a sustainability assessment.

#### *Precautionary principle*

Appeal grounds related to the EPA's application of the precautionary principle are set out in Appeal ground 38 – Precautionary Principle.

#### *EPA advice*

In recent years, 'ecologically sustainable development', 'sustainable development' and 'sustainability' have become part of every day language. The appellants have raised what is a broadening view in the general community that we should be aiming to achieve sustainability, particularly as it relates to new development proposals. However, there remains some confusion as to the meaning of sustainability and about the process of achieving sustainable objectives.

There are at least three elements of sustainability: society, environment and economy. The 1996 State of the Environment Report for Australia (SoEAC 1996) concluded that achieving the goals of sustainability required integration of these three elements, particularly integrating ecology into social and economic planning.

The scope of issues and advice for which the EPA has responsibility is set out under the definition of 'environment' in the EP Act. The EPA is constrained in terms of the matters it can take into account and was very careful to consider only environmental factors within the context of the EP Act. In this context, the EPA 2002 and the draft SSS both note that taking sustainability seriously will require legislative changes to allow broader integrated analyses of the environmental, social and economic impacts of major development proposals.

The environmental impact is only one of the components of a determination as to whether a proposal is sustainable (EPA 2002). Rising to the challenge of sustainability as it relates to the CCR proposal will require a broader and integrated analysis of the environment, society and economic impacts of the proposal. The Government is able to take this wider view. The EPA anticipates that the Government would take the environmental advice provided in Bulletin 1073 into account as one part of the decision-making process, which should also include a systematic evaluation of the economy and society factors associated with the proposal. The EPA considers that this approach would be entirely consistent with the Government's commitment to sustainability, which is outlined in the draft SSS.

To assist this consideration, the EPA included in Bulletin 1073 a preliminary estimate of the economic impacts to the State as a consequence of the likely environmental management requirements of the CCR proposal.

With respect to the EPA's assessment of the CCR's impacts on biodiversity and ecological integrity of the marine environment, the EPA acknowledged that Bateman Bay provides habitat for a range of marine mega-fauna, including humpback whales, manta rays, dugongs and sea turtles. It also recognised that there is limited scientific data about the importance of Bateman Bay for some of these species, but that a better scientific understanding alone will not bring about sustainability.

As the maintenance of viable populations of individuals is critical to conserving biodiversity and there is, in general, more information about populations than individuals of species, the EPA considered it appropriate to consider potential impacts of the proposal on marine fauna at the population level. The EPA is also mindful that while it appears that Bateman Bay provides habitat for a range of marine species, its 'uniqueness' in terms of its habitat functions has not been evaluated.

The EPA concluded that the proposal should not be allowed to proceed unless there can be a significant commitment by Government to the environmental management of the NMP and adjacent coastal lands to ensure the values of the NMP are protected from the additional human-use pressures the proposal would create. With this management in place, the EPA considered human-use pressures could be managed such that risk to ecological integrity of Bateman Bay and NMP is low. It was also noted that additional management requirements may impact on people's experience and/or expectations of the area. While not spelt out explicitly, these are clearly issues of intergenerational equity that were given attention by the EPA.

As it appears there is an increasing desire to visit the NMP and other attractions in the region, there will be pressure to provide tourist accommodation and infrastructure regardless of whether the CCR proposal proceeds. Similarly, adequate levels of environmental management would be necessary to protect the very values visitors want to experience.

The EPA has provided its overarching advice in the context that it is a matter of judgement by Government as to how it believes increasing demand for future tourism facilities should be managed for the long-term benefit of WA and its communities.

The specific intergenerational issues raised by appellants such as competition among regional centres and tourist operators are beyond the scope of the EPA's assessment. The EPA considers that strategic regional planning processes are more appropriate forums to give attention to these matters.

The EPA has set out its advice in relation to its application of the precautionary principle under appeal ground No. 38.

#### **Appeal Ground 40 - Timing of the decision making process**

Appellants argue that any decision in relation to the CCR proposal would be premature in the context of contemporary planning processes and reviews of management plans for the region. Appellants hold view that no decision should be made which could allow development (including and particularly the CCR proposal) to occur along the Ningaloo coast until the planning and management review processes are complete. Appellants refer to the Gascoyne Ningaloo Coast Regional Strategy and the review of the NMP Management Plan.

An appellant also argues that the proposal could not be adequately considered until the *Environmental Protection (State Marine Waters) Policy* (which is currently suspended) is completed.

Appellants contend that the long-standing environmental and planning issues at Coral Bay should be addressed before any decision is made in regard to the CCR or any alternative development in the region.

*EPA advice*

The EPA was careful to consider the proposal within the context of existing planning and environmental management documents for the region. In the Other Advice section of Bulletin 1073, the EPA recognised there is a need for sustainable planning and management of the Ningaloo coast region. It considered that the proposed *Carnarvon-Ningaloo Region Coastal Strategy* would be an appropriate vehicle to address the broader management and planning needs for coastal lands in the region.

The question of how the proposed Strategy will address the matter of the CCR or any other development at Mauds Landing is not possible to answer at this time. Accordingly, it would not be appropriate for the EPA to pre-judge possible outcomes of the Strategy by recommending time frames over which decisions about the CCR should be made. The timing of the decision-making process now resides with Government and may be influenced by factors such as consultation with appellants and with relevant Government Ministers.

The draft *Environmental Protection (State Marine Waters) Policy* is currently suspended pending necessary amendments to the EP Act. The EPA considered marine water quality issues associated with the CCR proposal in the context of the draft *Environmental Protection (Cockburn Sound) Policy 2002* (Cockburn Sound EPP). This policy has been developed consistent with approaches to water quality management set out in the National Water Quality Management Strategy. The EPA applied the principles of the Cockburn Sound EPP in Sections 4.1.7 and 4.1.8 and recommended condition 10 in Bulletin 1073.

#### **Appeal Ground 41 - Proponent's financial capacity**

Appellants believe that the EPA has not adequately accounted for the risk of environmental damage if the proponent is unable to complete the project or to adequately fulfil its environmental management obligations, including the collection of data for management. These concerns relate to the proponent's ability to fulfil these environmental obligations in the short and long-term. There is concern among appellants about the lack of transparency regarding the proponent company (e.g. financial viability, funding, shareholders and dealings with Government for the purchase/lease of the land).

Appellants point out that history has shown that should the proponent be unable to satisfactorily construct and manage the proposal, there is potential for serious environmental impacts which would need to be managed by the State using tax and/or Shire ratepayers funds. In view of this history, appellants believed that the EPA failed to provide advice on a mechanism to ensure that the environment can be protected if the proponent fails to complete the project. A bond was suggested by some appellants to address this matter. In addition, the EPA did not provide advice as to how the management plans set out in Appendix 4 should be resourced and implemented by the proponent.

#### *EPA advice*

The EPA does not have the expertise to assess the financial capacity of CCMD to undertake and operate the project, nor is it the EPA's role to do so. However, the EPA is mindful that the proponent's financial viability is linked to its ability to manage the impacts of the proposal on the environment in an environmentally responsible way.

In recognition of this, the EPA's recommendation 10 sets out that the Minister for the Environment and Heritage should confirm the legal and financial capacity of CCMD's proposals/arrangements to deliver environmental management in the long-term. In this regard, it was suggested that the Minister seek advice from the Treasurer. The EPA also recommended that that environmental management arrangements with CCMD should be made at a whole-of-Government level. The intent of this recommendation is to ensure that the Government as a whole recognises its obligations for environmental management and potential financial implications if it decides that the proposal can proceed.

While it is beyond the capacity of the EPA to assess financial status of proponents, financial issues associated with the CCR proposal have been given some consideration at an earlier date by Price Waterhouse Coopers (PWC). The EPA understands that as part of the then Government's evaluation of the CCMD's proposal in 1999, the WA Tourism Commission (WATC) sought advice from PWC as to the financial viability of CCMD to successfully finance and undertake the proposed CCR project. The final report by PWC was lodged with the WATC in January 2000. The financial assessment by PWC did not provide for public participation.

In its report, PWC briefly considered the issues of environmental management and provision of municipal services. PWC notes that it consulted with the Department of Environmental Protection (DEP) about environmental management costs. While it was noted that the DEP expressed some concern over some costs and timing, PCW suggested that allowances made at the time were reasonable. PWC also note that while additional work was required in the area of municipal services, it considered the issue appears manageable.

The EPA has recommended several conditions that will have financial implications for the proponent beyond those related to its own environmental management commitments. While the scope of environmental management matters costed by PWC is unknown, it is likely that this scope has broadened and become more detailed since the PWC review of CCMD's financial capability.

It is also noted that the issue of municipal servicing is also yet to be resolved with the Shire of Carnarvon. A sound mechanism of municipal management could be made more uncertain in light of recent legal advice on this matter.

As reflected in the EPA's recommendations, the financial capacity of both the proponent, as well as commitment of the Government, to deliver adequate environmental management for the life of the project to be critical to the proposal's environmental acceptability. Accordingly, the EPA reiterates the importance of economic advice of the Treasurer in relation to the evaluation of the CCMD and the proposal's sustainability.

In relation to arrangements for the acquisition of land, the EPA understands that a draft Land Development Agreement (LDA) (including a draft Development lease) is being prepared by the Department of Land Administration (DOLA) on behalf of the Government for the CCR proposal. The proposed LDA sets out preliminary conditions that must be met by the proponent before the Development Lease could be granted. It is understood that preliminary conditions address the issue of project financing. It is also understood that a key feature of the financing arrangement is that the proponent must, as a condition precedent to obtaining finance, pre-sell lots in the proposed residential sub-division to a level acceptable to the proponent's financiers.

Advice from DOLA indicates that the draft documents describing land development arrangements provide for a \$5 million bond to be provided by the proponent to the State. The bond could be used by the State to undo or make good something or complete some part of the work - without obliging the State to actually complete the project. DOLA also advised that the bond would be in place during the 'Site Works' and civil works components of the 'Associated Development Works' as described in the LDA. Detailed information about the draft LDA/Development Lease documentation would be most appropriately sought from DOLA. It may also be necessary to seek further legal advice on this matter.

The bond described above relates specifically to achieving development milestones. If the proposal were to proceed, there would be merit in securing a bond from the proponent that addresses the issue of environmental performance during part of the operational phase of the CCR. Such a bond could be refunded at a time when agreed environmental performance targets required by the various environmental management plans in Appendix 4 of Bulletin 1073, particularly condition 14 (Compliance Audit and

Performance Review) have been met by the proponent. DOLA should be engaged in the first instance about possible arrangements to secure an operational environmental performance bond for the CCR proposal. Failure on the part of the proponent to meet agreed targets could trigger the release of funds so that necessary adaptive management actions can be undertaken at no cost to the State.

The details of adaptive management were not set out in the recommended conditions. However, appropriate adaptive management actions would need to be developed and implemented by the proponent on advice of relevant agencies and the EPA and to the satisfaction of the Minister for the Environment and Heritage. In addition, the EPA recommended that if the proposal proceeds the proponent's environmental performance would be evaluated periodically through Compliance Audit and Performance Review. In this way, there is quality control over the management proposed and ultimately implemented by the proponent.

### **Appeal Ground 42 - Cost to Government**

Appellants argue that because the proponent has no control or statutory responsibilities for the management of people outside the proposal's boundaries and because the management burden of the proposal would be worn by Government, the EPA should have recommended that the proposal should not be allowed to proceed.

Appellants believe that the EPA has placed insufficient emphasis on the cost to Government for the management of the additional people attracted to the region if the proposal is allowed to proceed. Appellants consider that the preliminary costs presented by the EPA are likely to be a significant underestimate of the real and long-term costs. The dollar-value estimate provided in Bulletin 1073 is likely to have provided the proponent with unrealistic expectations that it could meet the long-term resource requirements.

Appellants argue that the EPA has not adequately considered how management would be funded/resourced if the proposal is allowed to proceed. Appellants consider that contributions to Government's management obligations by CCMD should be approached with caution due to the undetermined risks about the sustainability of CCMD's funding proposals.

An appellant also considers that any commitment by Government to environmental management in the area would have shortcomings similar to those observed at present. The notion that offsite marine impacts can be managed by a pre-determined monetary amount and that the proponent by promising to provide funds is considered to be unrealistic in view of the complexity of the issues that require management, the difficulty faced by management agencies in managing current human-use pressure and the view that damage/loss of ecosystem integrity can not be undone by management plans.

#### *EPA advice*

The EPA clearly stated that the figure of \$1.1 Million was only a preliminary estimate and was based on discussions held with DCLM and Fisheries during the assessment. It is likely that the recurrent costs to Government would probably increase considerably above that estimate due to a number of economic factors and, particularly if other agencies and Government services apart from DCLM and Fisheries are required to maintain and sustain the proposal in the long-term.

The EPA considered that it was necessary for the Government to be aware that it could incur significant costs for environmental management if it allows the proposal to proceed. The EPA does not have the capacity to undertake a detailed financial viability assessment of the proponent's management arrangements or the proposal, nor is it the EPA's function to do so. Advice on financial matters is best sought from the



Treasurer and the EPA suggested this course of action to the Minister for the Environment and Heritage as a way forward in considering the proposal.

Ultimately, given the EPA's overarching view that the proposal should not be implemented and its advice regarding the management requirements of the proposal, the Government must determine whether it would assist in supporting a private land development company to implement this proposal and whether it has the resources available in the short and long term to fulfil the recommendations by the EPA.

### **Appeal Ground 43 - Environmental education**

The EPA has not resolved issues regarding environmental education of visitors to the CCR proposal and associated facilities. The appellant notes that the proponent had included fees collected for entry to the environmental interpretive centre in estimates for its contribution to off-site management. However, DCLM consider that such environmental opportunities should be provided free of charge. DCLM also suggest that the interpretive centre alone is unlikely to provide adequate environmental education opportunities.

#### *EPA Advice*

The interpretive centre is proposed to be developed by CCMD and managed by DCLM and Fisheries. The EPA is not aware of any formal arrangements between CCMD and these agencies for the operation of the interpretive centre.

The EPA noted a range of concerns regarding funding proposals and proposed arrangements between the proponent and individual Government agencies for the provision of assistance for environmental management. This is a key reason why the EPA recommended that the proposal should not be allowed to be implemented unless the Government could make a whole-of-Government commitment to any environmental management arrangement with the proponent. Matters relating to Government management of facilities developed by CCMD would need to be given attention through the process of addressing EPA recommendation 10. The EPA recommends that, if the Government is of a mind to allow the proposal to proceed, then such arrangements should be established before a final decision is made.

The EPA recognises that environmental education is important and that the interpretive centre will be helpful in this regard. However, as acknowledged in advice on appeal ground 26, if a decision is made to allow the proposal to proceed, any approval should be conditional on the development and implementation of an Public Environmental Education Plan covering all stages of the proposed development.

### **Appeal Ground 44 - Future expansion of the CCR**

Given that there may be additional phases of the CCR proposal in the future, the appellants believe that the EPA has not adequately assessed the real long-term impacts of the ultimate proposal. Appellants believe that the EPA should have considered the ultimate proposal because if Phase 1 were approved for implementation, CCMD or another proponent(s) would lobby for additional development both at the site.

A specific concern raised by appellants also relates to a possible desire by CCMD to increase the number of boat pens in the marina beyond that considered by the EPA (a total of 100 pens).

#### *EPA Advice*

The proposal assessed by the EPA is for Phase 1 of the CCR only. Phase 1 of the CCR is proposed to be developed in at least two stages. The staging of Phase 1 was outlined in Section 2 of Bulletin 1073 and in the schedule to Appendix 4. The EPA considered the environmental impacts of the entire Phase 1 proposal.

While the EPA is aware that there may be additional phases in the future, the EPA is constrained by the EP Act to assess the proposal before it. The EPA stated in the Summary and Recommendations of Bulletin 1073 that the extent of possible expansion had not been defined, but that the EPA understood the number of people could increase by up to 50%. The EPA noted expansion of the Phase 1 proposal would require assessment by the EPA and approval by Government.

If approval was granted for Phase 1 of the CCR proposal, and a proposal for expansion was referred to the EPA for assessment in the future, the EPA would need to carefully consider the environmental impacts of the cumulative populations of all phases.

With respect to the issue of the number of boats penned in the proposed marina, any approval that may be granted for this proposal would be limited by the description of the proposal set out in schedule 1 of the statement issued by the Minister for the Environment and Heritage. Table 1 in schedule 1 of Appendix 4 of Bulletin 1073 clearly describes a proposal as including a total of 100 pens for use by public and commercial vessels. The EPA has considered 100 penned (and 140 trailered) boats in its assessment of potential offshore impacts. The EPA would be likely to hold a view that more boats (particularly large penned vessels) would pose additional unassessed threats to the marine environment. A change to the proposal, such as the provision more boat pens, would require some consideration by the EPA so that the environmental implications (including management) could be evaluated.

#### **Appeal Ground 45 - Aircraft landing ground**

The appellant considers that the environmental impacts associated with the proposed relocation of the Coral Bay airstrip and noise associated with additional use of the existing have not been adequately addressed.

##### *EPA Advice*

In the Other Advice section of the Bulletin 1073, the EPA noted that the proponent proposes to relocate the existing airstrip that services Coral Bay. CCMD's response to the EPA's queries regarding the proposed Cardabia airstrip upgrades is included in the document *Clarification of Matters Arising from Responses to Submissions* (Section 5.1) on the compact disc attached to Bulletin 1073. CCMD advised that:

- the relocation of the Coral Bay airstrip did not form part of the CCR proposal
- the site is the recognised Cardabia airstrip to the east of proposed CCR;
- works will include upgrading, realignment and extension of the existing earthen Cardabia airstrip to meet Civil Aviation Safety Authority (CASA) standards; and
- upgrades to the Cardabia airstrip would be the subject of a separate referral to the EPA by the Baiyungu Aboriginal Corporation

The works outlined above have not been assessed by the EPA. The EPA expects that the proposed upgrades would be referred for consideration and a decision on the appropriate level of assessment.

It is relevant to note that CCMD undertook a Qualitative Risk Assessment of Coral Bay (Det Norske Veritas, September 2001). Although this work was not considered to be directly relevant to the CCR proposal, the EPA considered that the report raised issues warranting its referral to the Fire and Emergency Services Authority, the Shire of Carnarvon and Mr Norm Marlborough MLA. The DNV report raises

serious concerns in relation to the safety of the existing Coral Bay airstrip. In particular, risks such as obstacles/collision, flooding, fire and contamination were identified.

As noted by the appellant, aircraft noise could be an issue for residents and tourists at the CCR due to the proximity of the CCR to the existing airstrip. However, in the knowledge that the Baiyungu Aboriginal Corporation proposes to upgrade the Cardabia airstrip to appropriate standards, the EPA did not consider this matter further.

The EPA also understands that the Department of Planning and Infrastructure is investigating options for a public airstrip near Coral Bay.

#### **Appeal Ground 46 - Public services**

Appellants believe that the EPA Bulletin 1073 has not adequately considered the issues of public services such as a school, law enforcement and health services.

##### *EPA Advice*

The social and economic considerations associated with the provision of public services such as those identified by appellants is beyond the scope of the EPA and the EP Act. Provision of public services to the CCR proposal is a planning matter requiring consideration by the Western Australian Planning Commission and more broadly by Government in the context of the draft SSS.

#### **Appeal Ground 47 - Other tourist development**

Appellants consider that the EPA has overlooked the issue that approval of the CCR proposal would open the area up for further developments.

##### *EPA Advice*

The EPA is constrained under the EP Act to assess the proposal referred to it and therefore, the EPA's assessment in Bulletin 1073 only considered the environmental impacts of the CCR proposal. Other development proposals in the region would separate require referral to the EPA for consideration and a decision on the level of assessment.

This appeal ground is fundamentally related to the strategic planning of possible future development within the region. Regional-scale planning is beyond the scope of the EPA's assessment of the CCR proposal. The answers to questions about potential for future expansion of development in the region reside with the DPI and the Western Australian Planning Commission.

#### **Appeal Ground 48 - Natural disasters**

Insufficient emphasis has been placed on the fact that the proponent has not modelled or committed adequate management to the impacts of multiple disaster scenarios such as tropical cyclone or tsunamis.

##### *EPA Advice*

The EPA considered the issue of cyclone-related impacts in the context of storm-surge risk and coastal set backs in Appendix 3 of Bulletin 1073.

The EPA's advice was partly based on a qualitative risk assessment of the CCR proposal by Det Norske Veritas (DNV). The DNV report was included as Appendix 2 of Volume II of the CCMD's responses to public submissions.

The DNV assessment considered risks associated with storm damage to infrastructure and storm surge (ocean flooding). The proponent committed to implement a number of measures to control risks associated with cyclones and storm surge. These include:

- proposal designed to a 1:100 year return Category 5 storm event standard;
- a coastal set back of approximately 140 m;
- the construction of the inland marina behind a largely intact primary and secondary dune system;
- provision of marina facilities for secure anchorage of vessels;
- underground power supply;
- assembly areas;
- formal Emergency and Disaster Recovery Plans and Procedures;
- structures designed to withstand Category 5 cyclones;
- trained fire and emergency services;
- nursing station and first aid; and
- sea search and rescue teams.

In its response to submissions, CCMD made commitments to prepare and implement health, safety and environmental management systems that will comply with OHSAS 18001 and ISO 14001. CCMD also committed to prepare and implement an Emergency Response Plan for the CCR proposal. This Plan would be prepared to the satisfaction of the EPA on advice of the Police, Department of Mineral and Petroleum Resources, Fire and Emergency Services Authority, DPI and the Shire of Carnarvon.

Although useful, CCMD's health and safety commitments were not included in Schedule 2 of Appendix 4 because the EPA does not have the capacity to audit non-environmental commitments, nor is it its role to do so.

The EPA also considered the issue of finished floor levels. Building levels for the previous CCR proposal were less than those proposed for the current proposal. The EPA sought specific advice on this matter during its assessment of the previous proposal from the then Water Authority. The advice received indicated that the approach used by CCMD to determine minimum building levels was sound.

In view of the advice of DoT and DPI, and the information provided in the qualitative risk assessment undertaken by DNV the EPA considered that risks and impacts associated with cyclones and storm surges could be managed. Furthermore, development levels and coastal set backs are matters commonly considered through planning approval process, and there should be scope to give additional attention to these matters as part of the planning considerations for the CCR proposal.

In relation to tsunami risk, the EPA has reviewed a report by Mitchell *et al.* (2000), which considers the northwest of WA to be the most vulnerable section of the Australian coastline to the effects of tsunamis. Four and six metre high tsunami waves have been reported in the NMP and Cape Leveque respectively in recent years (Mitchell *et al.* 2000). Wave propagation modelling shows that the leading wave of a tsunami produced by an earthquake in east Java, Indonesia could make landfall on the North-West Cape within 120 – 180 minutes of the earthquake event.

The EPA understands the Bureau of Meteorology, the National Tidal Facility (NTF), the Australian Geological Survey Organisation and Emergency Management Australia are establishing the Australian Tsunami Warning System (ATWS), with the involvement of the RMIT Seismology Research Centre and the Centre for Earthquake Research in Australia ([http://www.bom.gov.au/announcements/media\\_releases/tsunami.shtml](http://www.bom.gov.au/announcements/media_releases/tsunami.shtml)). The ATWS provides tsunami-warning services to all Australian coasts and should be a key stakeholder providing advice to the proponent as part of its development and implementation of the Emergency Response Plan and the Health and Safety Management System.

While the EPA considers that cyclone and storm surge risk issues could be effectively managed through the design and implementation of the proposal and associated procedures, the information provided by Mitchell *et al.* suggests that human and infrastructure risk issues associated with tsunamis warrant further expert attention. Advice could be sought from the Bureau of Meteorology and/or the National Tidal Facility in the first instance.

#### **Appeal Ground 49 - Information in submissions**

An appellant argues that the EPA was selective and discriminatory in its use of information contained in submissions. It is suggested the EPA favoured information provided by CCMD over public submissions, including those from Government agencies.

##### *EPA Advice*

In making its assessment the EPA draws on a range of information, including that provided by the proponent, specialist advice of Government agencies and public submissions.

For a proposal such as this, assessment of submissions and the proponent's response to them is a time-consuming and complex task. While the EPA considers all submissions, it must make a judgement on the basis of all of the information before it as to which information is fundamental to its assessment of a particular factor. This judgement is based upon expert advice from agencies, evaluation of the consistency of information, consideration of whether submissions raise issues that can be legitimately considered by and the experience of the EPA members.

The EPA is of the opinion that its assessment utilised appropriate information from a range of submissions.

#### **Appeal Ground 50 - Coast road**

The EPA has not adequately considered the implications the improvements to the Coral Bay to Yardie Creek Road, which the appellant considers is inevitable if the CCR proposal is allowed to be implemented.

##### *EPA Advice*

Improvements to the Coral Bay to Yardie Creek road do not form part of the CCR proposal and therefore were not considered by the EPA as part of its assessment presented in Bulletin 1073. However, the EPA pointed to the need to significantly improve management of terrestrial impacts in Section 4.4 of Bulletin 1073.

A proposal to upgrade the road between Coral Bay and Yardie Creek was referred to the EPA in May 1999. The EPA set a level of assessment at PER. The proponent withdrew the proposal in July 2000 following discussions about the scope of the EPA's assessment.

### **Appeal Ground 51 - Visitation**

The EPA has been clear that management of people is an important issue. However, its estimate that visitation is likely to double in the next decade is questioned because no supporting or comparative information provided.

#### *EPA Advice*

Information provided to the EPA by the proponent and DCLM as well as WA Tourism Commission research indicate that, in recent years, more people have been visiting the Gascoyne Region, including the NMP and the Cape Range National Park. The estimate that visitation could double in the next decade was made by DCLM and the proponent. A recent survey by Remote Research (2002) estimates that a trend of 18% annual growth in vehicle arrivals to a study area between Yardie Creek and Coral Bay might be expected to apply annually.

Whatever the predicted number, the EPA has recommended that environmental management should be in place at a level which is commensurate with the level of visitation and human use pressure. When considering the EPA's recommendations, particularly recommendation No. 10, the Government should look carefully at the development and its projected development schedule to determine the resources required for management. On-going monitoring of visitation, not just at Coral Bay/Mauds Landing, but also more broadly throughout coastal areas adjacent to the NMP, would be necessary to ensure that management is effective and resource levels are adequate to protect important environmental values.

### **Appeal Ground 52 - Nodal development**

An appellant disagrees with the EPA's view that human use pressures arising from nodal development would be easier to manage than controlling visitors to several smaller developments along the coast. An appellant contends that smaller developments would provide more 'staff' to ensure people are managed appropriately.

#### *EPA Advice*

The thrust of the EPA's overarching advice in Bulletin 1073 is that management of human-use pressures in the NMP and adjacent lands resides with Government and not private development proponents or their employees.

Current information indicates that increasing numbers of people are visiting to the NMP and other natural attractions in the region. This growth is predicted to continue in the future and a report by Remote Research (2002) suggests estimated an annual growth in the unmanaged camping sector could be approximately 19% (based on vehicle counts). The increased visitation to the area needs to be managed by providing a range accommodation facilities and deployment of a commensurate level of environmental management resources by Government. The CCR proposal is one alternative proposal to address tourism growth along the Ningaloo Coast.

An advantage of small developments along the coast may be that their individual footprint impacts would be small relative to a large central development. However, when considered together, a string of small developments would also have cumulative impact in a similar way that a large development would. The scale of cumulative impacts of several small developments would be a function of their collective footprints and human-use pressures.

While tourists at a single central development will travel beyond the immediate area of a development, it could be expected that a considerable amount of activity would be focused near to the development node. Nodal development, such as the CCR, provides opportunities for the deployment of Government management resources with appropriate authority to control visitor activities from a central place. The ability of management agencies to manage people's activities from a number of separate smaller developments would be affected by factors including travel time, personnel requirements, accommodation and costs. Centralised development (at any scale) could also allow utility services such as power generation, solid waste management, wastewater treatment and potable water supply to be rationalised.

Regardless of the way that the Government decides it should address the issue of increased visitation to the North West Cape Region, relevant management agencies should be consulted about their respective requirements to ensure that the statutory obligations to manage and conserve natural resources can be met in the long term.

### **Appeal Ground 53 – Scale of proposal: EPA consideration of planning documents**

Appellants consider the EPA has not adequately considered the size and form of the proposal by either ignoring or making recommendations that are inconsistent with previous planning process, recommendations in planning documents and policies about the North West Cape area. An appellant considers the EPA has relied too heavily on decisions of the previous Government regarding the scale and form of the proposal.

Appellants refer to documents, legislation and policies including the following:

- Ningaloo Marine Park Management Plan (1989 – 1999);
- Environmental and Planning Guidelines for Tourism Development on the North West Cape;
- Draft State Sustainability Strategy;
- The EPA's Position Statement No. 1 *Environmental Protection of the Cape Range Province*;
- The EPA's preliminary Position Statement No. 6 *Towards Sustainability*;
- Provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- Recommendations of the Ningaloo Marine Park Advisory Committee (NMPAC);
- Provisions of the *Wildlife Conservation Act*.

Other appellants suggest that because existing planning documents recommend against large-scale development of the west coast of the North West Cape/NMP, the EPA should have recommended against the proposal.

#### *EPA Advice*

The EPA was careful to consider the proposal in the context of relevant planning documents and government processes. Five key documents are given detailed attention in Section 3 of Bulletin 1073.

With respect to development on the west side of Cape Range, the EPA interpreted recommendation 2 of the Legislative Assembly Select Committee report that states:

‘There be no shore based resort development on the western side of Cape Range on the coastal land abutting the Ningaloo Marine Park’;

in Principle 10 of its Position Statement No.1, *Environmental Protection of the Cape Range Province*. In this context, the west side of Cape Range refers to planning units 2 and 3 shown in the *Exmouth-Learmonth Structure Plan*. These planning units do not include the Mauds Landing townsite. The EPA was explicit

on this issue in Section 3. The EPA also recognises that the Select Committee recommended that a strip of coastal land be excised to DCLM to enable more integrated environmental management of the NMP and adjacent coastal lands, (Recommendation 5) and that there be no resort development within this coastal strip with the exclusion of the Mauds Landing townsite.

The detail of the nature and form of development are fundamental planning considerations, which are most appropriately addressed through the planning approvals processes. Section 3 of Bulletin 1073 sets the context for the EPA's assessment in relation to the existing strategic planning documents, policies and other processes of the Government of the day. If environmental approval were to be granted, detailed planning assessment of the Coral Coast Marina Development Structure Plan will need to be undertaken by the Western Australian Planning Commission in the context of relevant strategic planning documents before the proposal could proceed.

The EPA has implicitly addressed the size of the proposal by considering the biophysical impacts of the proposal's footprint and the potential human-use pressures the proposal is likely to impose on the environment.

In relation to appeals about the consistency of Bulletin 1073 with the EPA's Preliminary Position Statement No. 6, *Towards Sustainability*, it is relevant to quote from the Forward section of the Position Statement, which states:

'The work of the EPA is largely about the biophysical environment: protecting plants and animals and the habitats which sustain them, but social aspects are also considered as well as economics to a limited extent. In this Position Statement towards sustainability the EPA has been quite general in its statements noting that sustainable development requires integrating ecological thinking into all social and economic planning and actions. The EPA recognizes that in doing so it is extending the discussion outside the definition of the environment set down in the *Environmental Protection Act 1986*. However, the EPA believes that it is appropriate to do so to assist in the discussion about sustainability.'

When preparing its reports and recommendations, the EPA is very careful to ensure that its assessments are within the definition of the 'environment' provided in the EP Act. However, in providing its overarching advice to the Minister for the Environment and Heritage, the EPA pointed out that it would be important for the Government to consider issues, such as economics, as they relate to environmental protection and management as part of the decision-making process for this proposal. In this way, the EPA considers its advice is fundamental to the challenge of achieving sustainability in WA.

The NMPAC has no statutory role in marine park management. It is understood that the NMPAC was established to provide advice to the planning team during the preparation of the draft and final Management Plans for the NMP. It would be unlikely that the Committee provided advice directly to Government as suggested by the appellant. Nevertheless, the EPA considered the proposal in the context of the NMP Management Plan and set out its views in this regard in Section 3 of Bulletin 1073.

Although concerns have been expressed about the EPA's recommendations in the context of the Commonwealth EPBC Act, it must be noted that:

- the EPA's functions are defined under the WA EP Act; and
- the Commonwealth is undertaking a separate and independent assessment of the proposal under the provisions of the EPBC Act on behalf of the Federal Minister for the Environment. This assessment will consider the impacts of the proposal on matters of national environmental significance.

The EPA's assessment does not exempt the proponent from obtaining necessary approvals under the *Wildlife Conservation Act*. Although, the EPA considers it had sufficient information before it to make



judgments about the manageability of the proposal with respect to protection of threatened flora and fauna, the proponent would be required to seek relevant approvals under the *Wildlife Conservation Act*.

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## Appendix 4

### PROPONENT'S RESPONSE TO MATTERS RAISED IN APPEALS

ATA Environmental's response to appeals provided background information about the earlier and current proposal. The response noted that the appeals relate to the modified proposal developed by an intergovernmental committee including the MPRA, EPA and CALM, specified by Government, endorsed by cabinet and subsequently considered by the EPA.

ATA Environmental referred to the EPA's summary (page ii) in which the long history of CCR is acknowledged along with the considerations by Government. Further, that the EPA acknowledges that the CCR proposal is consistent with: the zoning of the land; planning requirements; the *Gascoyne Regional Strategy*; the endorsed assessments of the Inter-Agency Taskforce concerning the development; and that the proposal meets a set of environmental and planning guidelines previously approved by the Government for the development at Mauds Landing.

ATA Environmental contended that concerns expressed in appeals failed to identify the underlying issue for the development of the CCR that of the management of current tourism demands on the support resources of the area. Further, that it was in recognition of this need that Cabinet endorsed project specifications of 1999 was developed. ATA Environmental contended that failure of the CCR or an equivalent development will result in a continuation of *ad-hoc* development amongst the primary dune systems at Coral Bay.

ATA Environmental reported that estimates of visitor numbers have been made by CCR and are based on the observations of tourism operators, residents and government agency representatives residing in or regularly visiting the Coral Bay area. ATA Environmental noted that these estimates (provided in Table A1 and presented in Figure 1 of the Responses to Submissions – ATA Environmental 2001) have not been in dispute. Further, that pressures leading to increased visitation to the Coral Bay area will continue regardless of the implementation of the CCR, and will result in an increase in visitation numbers by a further 50% by 2009. ATA Environmental reported that the proposal to develop the CCR referred to the EPA presents one of many options as to how these pressures may be addressed. ATA Environmental contended that development of small scale ecotourism style developments will not meet current visitation pressure, let alone those projected into the future.

ATA Environmental reported that, as recognised by the EPA, impacts arising from the implementation of this or any development in a sensitive area, is not necessarily a function of the design or the number of people it will attract, but rather the management of the factors that may bring about change. It considered that appellants have not recognised the mitigation resulting from the enhanced management that can arise from CCR implementation. CCMD believes the EPA has presented an insightful review of the proposal and potential impacts (understandable given the knowledge and expansion of the members and commitment of EPA Service Unit), if possibly overconservative.

ATA Environmental reported that the EPA recognises that implementation of the CCR would provide a mechanism by which overcrowding, wastewater treatment and disposal, solid waste disposal and boating safety issues at Coral Bay and the impacts on the adjoining Bills Bay may be resolved. Further, that they temper this with the knowledge that sustainable implementation of this proposal can only occur in partnership with Government as it is the latter that the statutory powers for control reside.

ATA Environmental reported that the following matters have been raised by appellants in submissions and adequately considered by the EPA based on information provided in the PER document (ATA Environmental 2000), Response to Submissions (ATA Environmental 2001) or in addressing further matters arising from the Response (ATA Environmental 2002). The balance were either not raised or are reviewed in the following response to appeals. The proposal will be subject to a separate assessment by Environment Australia under the EPBC Act 1999.

| <u>Biophysical</u>  | <u>Pollution Management</u>   |
|---|---|
| <p>Marine processes – Ningaloo Reef</p> <ul style="list-style-type: none"> <li>- corals;</li> <li>- marine flora;</li> <li>- marine fauna;</li> <li>- substrate.</li> </ul> <p>Land Based Ecosystems</p> <ul style="list-style-type: none"> <li>- terrestrial flora;</li> <li>- fauna (specially protected threatened fauna);</li> <li>- dunes;</li> <li>- flood/storm surge risk.</li> </ul> | <ul style="list-style-type: none"> <li>- marine water quality;</li> <li>- marina water and sediment quality;</li> <li>- pollution management;</li> <li>- liquid and solid waste disposal;</li> <li>- groundwater quality and quantity.</li> </ul> |

ATA Environmental provided comment on the following four appeal grounds:

*Insufficient baseline data*

In relation to the ground of appeal that quality of baseline data presented during the PER and subsequent documentation, ATA Environmental advised that DCLM has been active in undertaking baseline research within the Ningaloo Marine Park since its inception in 1988. ATA Environmental considered that although focused more widely than the area proposed for the CCR, these broad ranging studies are relevant in development of a robust baseline. Aspects in relation to the management of the impacts resulting from the implementation of the CCR and drawing reference to existing baseline information are described throughout the PER document, most notably in sections 5 and 6 (ATA Environmental 2000). ATA Environmental also referred to general comments B and C provided in Volume II of the Response to Submissions (ATA Environmental 2001) as being relevant to this appeal ground, as is response to submission 2.1.17 in Volume I.

ATA Environmental also referred to the Indicative Specific Area Marine Management Plan (SAMMP) provided in the PER document that identified baseline and ongoing monitoring requirements for the Maud Specific Management Area (MSMA). This document (section 6.0 ATA Environmental 2000a) identified existing resources together with required research and monitoring programs required to effectively manage impacts arising from the development on the Ningaloo Marine Park. Implementation of the SAMMP allows the early detection of detrimental changes and provides the trigger for management action to ameliorate potential impacts before they lead to undesirable changes in the MSMA and accordingly Ningaloo Marine Park values. ATA Environmental also reported that implementation and achievements against short and long term objectives of the SAMMP will be subject to annual audit by CALMs on advice from Fisheries WA.

ATA Environmental reported that a commitment has been made to complete the SAMMP in consultation with relevant agencies prior to the implementation of the project, and to implement the agree plan during construction and operation. The construction period is two years. During this time there will be no additional short stay tourists recreating in the NMP resulting from the implementation of this proposal. Table 4 in ATA Environmental (2000) presents the projected staging for the project. Full implementation is not anticipated to occur before year seven. Visitation will gradually increase over the latter five years of the construction program. Initial construction will consist of dry excavation of the marina void, and placement of breakwater stone over about a 24 month period. Baseline monitoring will be initiated prior to construction, and will result in two years of data prior to any increased pressures from holiday makers.

In conclusion, ATA Environmental reported that the EPA through the EPA Support Group has been exhaustive in its review of baseline information presented. Also, that representations were made to the EPA that data collected pre-operation through the SAMMP together with the information already gathered by CALM since 1988, will provide an adequate baseline from which to measure change in the future.

#### *EPA failure to consider Ecologically Sustainable Development*

In relation to the ground of appeal that the EPA has failed to fully consider ESD in making its determination, ATA Environmental reported that matters relating to environmental sustainability were manifest throughout the PER document (ATA Environmental 2000) and have been considered on balance by the EPA in its determination. In developing the CCR concept CCMD adopted the Commonwealth of Australia's 1992 definition that: *Concerns are not just restricted to sustaining the physical environment; the ability to sustain an economic, financial and social environment is also important.*

ATA Environmental referred to the Draft Statement of Planning Policy: Environment and Natural Resources Policy (Western Australian Planning Commission 2001) which has as one of its objectives the sustainable use of natural resources including biodiversity, land, water and energy, and requires the promotion of energy efficient development and urban design.

Guidelines that have been adapted to the management of the environment to meet environmentally sustainable objectives at CCR are presented in Table 1 below.

ATA Environmental advised that these guidelines will be fully implemented in the detailed design of the CCR.

#### *Lack of public availability of management plans*

In relation to the appeal ground that the EPA has erred in not specifying that all management plans should be made available for public comment as opposed to publicly available, ATA Environmental reported that this matter had been specifically considered by the Authority with detailed specifications of timing and content presented. ATA Environmental considered that the discussion of the SAMMP under the appeal ground concerning insufficient baseline data (above) is also relevant to this appeal ground.

ATA Environmental reported that management plans have been proposed for a number of aspects relating to implementation of the project. In all, 13 management plans, comprising working documents covering such broad areas as protected wildlife management to site heritage have been proposed, and will be developed and implemented as specified by the EPA and generally prior to construction commencing. ATA Environmental also referred to the EPA having specified which specialist government agency(s) will determine the acceptability of the Plan, and that the agreed Plan will then become publicly available. CCMD agree that approval process both provides for the responsiveness required to make such working plans effective and for expert comment.

ATA Environmental also advised that the EPA, in accepting CCMD’s commitment to develop and implement the SAMMP requires this document be made available for public comment prior to finalisation and that this mirrors the process by which Marine Park Plans are publicly reviewed.

#### *Consideration of current and potential Phase 2 impacts*

In relation to the ground of appeal relating to phased development, ATA Environmental reported that page 31 of the PER document (ATA Environmental 2001) noted that Cabinet guidelines issued for the development of a resort at Mauds Landing provide for a second phase of development subject to demand and, satisfactory environmental and planning performance of Phase 1. Accordingly, the scope of CCR proposal is limited to the implementation of Phase 1 of the development only. Should Phase 2 proceed in the future it will be the subject of a separate environmental assessment and accordingly was not further described in the PER document.

ATA Environmental reported that this issue was similarly raised in submissions made to the EPA on the PER document. Response to submission 2.2.1.75 (page 100 of ATA Environmental 2001) provides information to the effect that Guidelines adopted by Cabinet provide for a second Phase of development, subject to agreed environmental and planning criteria for Phase 1 being met to the satisfaction of Government. Also, that Phase 2, should it proceed, will need to be the subject of future separate planning and environmental assessments at the appropriate time. The Guidelines limit further development to tourist accommodation consistent with the Gascoyne Coast Regional Strategy and an additional 100 freehold dwellings. ATA Environmental reported that given the constraints of the Cabinet Guidelines, Phase 2 would be smaller, and certainly not the 50% increase indicated by appellants. Finally, ATA Environmental noted that in the context of this development, the EPA can only consider the proposal placed before it.

### **Table 1: Environmental Guidelines for a Sustainable Development**

#### *Design and construction*

Development incorporates or adapts existing facilities as far as possible.  
Building and infrastructure design minimises adverse environmental impacts and impacts on surrounding communities.  
Building material selection is subject to life cycle assessment, considering environmental implications during manufacture, use and disposal.  
Development takes into account the findings of community consultative processes.  
Development minimises the amount of land used while not compromising good design.

Site selection and design avoids native bushland, threatened species, populations and ecological communities, critical habitat, and ecologically sensitive areas including wetlands and wildlife corridors.

Site selection and design avoids areas of Aboriginal or European archaeological significance.

Site selection and design encourages walking.

Environmental management plans are prepared and implemented during design, construction and operational stages of development.

Independent environmental audits are conducted during design, construction and operational stages of development.

#### *Energy conservation*

The development will incorporate passive solar building design.

Insulation and natural ventilation are used.

Life cycle assessment of materials considers thermal performance.

Renewable sources of energy are widely used.

Use of natural light is maximised.

Energy efficient appliances and lighting systems are used.

Use of natural light is maximised.

Energy efficient appliances and lighting systems are used.

Sophisticated building management and control systems assist management of engineering services to minimise energy requirements.

Mechanical ventilation is zoned to allow ventilation flow to be switched off when spaces are unoccupied.

#### *Water conservation*

The development is consistent with any relevant catchment management plan.

A water cycle management plan is incorporated.

Buildings and infrastructure are designed to collect wastewater for recycling.

Lifecycle assessment of materials considers water use.

Treated stormwater and sewage effluent is recycled.

Public information and education supports the recycled water system.

Landscape design uses locally indigenous species, which decrease water requirements.

Water conservation devices are used such as dual flush toilet systems, roof-fed water tanks, water-saving shower roses, and appropriate irrigation devices.

AA rated low-water use appliances are used.

#### *Waste avoidance and minimisation*

A waste minimisation plan covering design, construction and operation is prepared and implemented.

Use information and education supports the waste minimisation plan.

Life cycle assessment of materials considers waste issues, including recycled content.

Packaging is avoided wherever possible during construction and operation of the development.

Waste separation and composting facilities are incorporated in design.

Colour coded recycling bins with signage are used.

Compost from organic waste is used in landscaping.

Regular waste audits are conducted.

Recycled, non-chlorine bleach paper is used in all project documentation.

### *Improving air, water and soil quality*

An air quality managed plan covering design, construction and operation is prepared and implemented.

Design for foot traffic facilitated.

Provision of car parking spaces is limited.

Cycle ways and pedestrian walkways that link to existing routes are provided.

CFC, HFC, HCFC-free refrigerants and processes only are used.

Building design maximises indoor air circulation, without compromising energy saving features.

Integrated pest management is adopted during design, construction and operation to minimise use of chemical pesticides.

Indoor air quality is protected by selecting building materials, finishes and furnishing with the lowest emissions of pollutants and radiation.

Plant species known to produce common allergens are avoided in landscaping near buildings.

Use of chlorine based products (organochlorines) such as PCBs and PVC is avoided or minimised.

An erosion and sedimentation control plan is prepared and implemented.

Paved surfaces are minimised and permeable pavement systems are used where appropriate.

Gross pollutant traps are used to remove pollutants from stormwater.

Cleaner production practices and best practice technology are implemented to minimise licensed pollution discharges.

Comprehensive soil and groundwater contamination testing are undertaken for potentially contaminated sites.

Life cycle assessment of materials considers emissions to air, water and soil.

### *Protecting significant natural and cultural environments*

Flora and fauna impacts are assessed and minimised.

Design avoids damage to native bushland, threatened species, populations and ecological communities, critical habitat, and ecologically sensitive areas including wetlands and wildlife corridors.

Landscape and habitat management plans are prepared and implemented to enhance locally indigenous communities.

Extensive indigenous plantings, including corridor plantings, are used to attract locally indigenous birds and other animals.

Buffer zones are provided between sensitive natural areas and human use areas.

Integrated pest management is used to manage feral animals and weed invasion.

Impacts on Aboriginal or European heritage are assessed and minimised.

Existing landscape features, such as ridges and lookouts, are protected, and visual amenity is assessed and enhanced.

A management plan is prepared and implemented to manage natural, landscaped and cultural features.



## Appendix 5

### **RESEARCH REQUIREMENTS IDENTIFIED BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT – 24 JUNE 2003**

In its submission to the Coral Coast Resort Public Environmental Review (PER) the Department commented that there appears to have been little on-ground activity by way of gathering data that would enable an adequate assessment of the potential environmental impacts of the proposed development.

In relation to the additional information provided by an appellant about the marine flora and fauna of Bateman Bay, the Department agrees, consistent with its submission, that the proposed development would result in localised impacts in relation to marine flora and fauna but that a full scale risk assessment would need to be undertaken to ascertain the wider off-site impacts.

The research requirements identified by the Department that would enable an adequate assessment of the potential impacts of the proposed Coral Coast Resort include:

- Improved inventories and baseline datasets (including historical information) for marine wildlife (eg cetaceans, turtles, dugong, manta rays etc) are needed to provide the information to support a better assessment of the historical and current ecological significance of Bateman Bay for marine wildlife;
- More detailed mapping of marine habitats to identify marine communities that are sensitive and/or vulnerable to direct impacts such as diver and anchor/boat damage;
- Improved inventories and baseline datasets for human activities (including pollutant inputs) in the area (marine and terrestrial) to facilitate an improved assessment of existing and potential threats;
- Development of predictive models for the levels and type of human activities in the area (marine and terrestrial);
- Improved baselines of local populations of 'site-attached' targeted fish species to assess their current and future vulnerability to increased fishing effort;
- Improved inventories and baseline datasets of toxic contaminant concentrations in water and sediments;
- Survey for introduced marine pests;
- Improved understanding of the oceanography of Bateman Bay to better assess the fate and potential impacts of oils spills, toxic contamination etc resulting from the development; and
- A more detailed analysis and prioritisation of key threatening processes to better focus ongoing research and management priorities on the major issues.

## Appendix 6

### **MANAGEMENT REQUIREMENTS IDENTIFIED BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT - 24 JUNE 2003**

In its submission to the Coral Coast Resort PER the Department also commented that the proposed development is highly management dependent and would impose considerable demands on the Department of Conservation and Land Management and other agencies for resources that will require significant additional support in terms of funding and staff resources. It was also pointed out that without an attempt by the proponents to predict activity patterns for visitors and residents of the resort, it is not possible to undertake the necessary risk assessment and to determine the level of management requirements and resources needed.

Additional management requirements that would be required to mitigate impacts from the proposed development include:

- Development of a site specific Marine Information System as a repository for the additional research undertaken;
- A review of the Ningaloo Marine Park zoning in the vicinity of the development (eg assessment of the need to increase the size of Maud Sanctuary Zone; other zones to separate conflicting activities);
- A review of the need to implement other legal mechanisms to facilitate better protection for Ningaloo Marine Park (eg limiting boat speeds, regulating access, prohibiting certain types of activities such as jet skis);
- Establishment of a mechanism to ensure local input to ongoing management and planning of this area of Ningaloo Marine Park;
- Increased staff presence and operational capability for surveillance and enforcement;
- Enhanced public education and public participation programs to improve community understanding and compliance with park rules; and
- Enhanced ongoing monitoring program of key ecological and marine wildlife values.

This only provides an indication of some of the likely management requirements that would need to be considered as a result of the proposed development. Without information on the intensity, scale and location of visitor and resident activities, it is not possible to provide a complete indication of the management implications and requirements resulting from the proposed development.

## Appendix 7

### **PRELIMINARY COMMENTS BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT ON THE REPORT BY PETER HITCHCOCK ON WORLD HERITAGE VALUES – 24 JUNE 2003**

The report by Hitchcock is an examination of the World Heritage values of the Cape Range-Ningaloo Region. The report is valuable in its development of a framework for assessing heritage values and its preliminary assessment of those values pertaining to Cape Range and Ningaloo.

The report is unfortunate in that it questions this Department's objectivity because it attempted to identify management inputs, along with other agencies not mentioned, which would assist in mitigating the human impacts resulting from the proposed development. Information provided by this Department to assist the Environmental Protection Authority and Government decision making on development projects seeks to ensure that full implications of proposals are considered, and therefore options to manage impacts are quite properly examined.

The report correctly asserts that the proponent was not required to consider World Heritage values nor the impact on any future assessment for nominations.

The State Government is about to embark, in consultation with the Commonwealth Government, on a full assessment of World Heritage values and the identification of boundaries for the World Heritage Property necessary to protect the integrity of those values. This Department is the lead agency for the development and forwarding of the nomination on behalf of the State. Hitchcock indicates that his assessment is indicative only but based on experience and knowledge.

The Department accepts the assertion that an area significantly larger than the existing Cape Range National Park and the existing Ningaloo Marine Park would significantly improve the prospects of a successful nomination. It also accepts that significant areas need to be given statutory protection and management and incorporated into protected area management so that the major components of global natural heritage significance are included in the area for nomination.

The hypothesis that the negative impact of the proposed development on World Heritage nomination is likely to be greater if the 'minimalist' area is nominated, that is Cape Range National Park and Ningaloo Marine Park, rather than the larger area, is also accepted.

However, the Hitchcock report states in regard to the question of impact on World Heritage nomination "it is impossible to be completely unequivocal".

It is accepted that the full assessment of values to be included in the nomination and the boundaries of the nominated properties are required before a determination of impact of the proposed development on nomination can be determined.

The report bases much of the likely negative impact of a successful World Heritage nomination on the "controversy" that may emerge from the project proceeding. It is a valid assertion that public concern may impact on, even compromise, the successful nomination for World Heritage. However, that is an issue of value judgement.

The report also makes the case that the exceptional natural integrity of the reef and adjacent coastal land and hinterland contributes greatly to the significance of the area. This "wilderness condition" if changed is considered to impact on the globally significant heritage value of the coastal reef condition. This hypothesis, while supported, still requires testing through a thorough assessment of World Heritage values and delineation of boundaries necessary to maintain their integrity.

The report strongly recommends that immediate action be taken to protect natural heritage values, even before attaining reserve status. A number of options are canvassed including interim protection by the Federal Government, interim protection by the State Government using planning controls, or interim protection using a special piece of legislation or the establishment of a specific management authority. The final suggestion is based on a model whereby private lands are managed by cooperative arrangements, with landowners retaining current rights, however, landowners are entitled to demand Government purchase of their land.

This final model is inappropriate in that negotiations are underway to secure pastoral leases for inclusion into the conservation estate. The areas will be defined by December 2004. The marine and terrestrial reserves are subject to a management regime which is consistent with other internationally significant protected areas, such as Shark Bay, vested in bodies which have statutory responsibilities for publicly consulted management plans. The outcome of this process will be an improved conservation system within a policy and management context that is consistent throughout the State and which is far superior in terms of protection of the public interest than the “Wet Tropics model” which has created a bureaucracy of 30 staff at a cost of \$8.5 million per annum, with the State Parks Service still carrying out day to day management.