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**ORGANISATION DES NATIONS UNIES
POUR L'EDUCATION, LA SCIENCE ET LA CULTURE**

**CONVENTION CONCERNANT LA PROTECTION DU PATRIMOINE
MONDIAL, CULTUREL ET NATUREL**

BUREAU DU COMITE DU PATRIMOINE MONDIAL

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**Document d'Information: La zone du patrimoine mondial de la baie Shark
(Australie): conditions, gestion et menaces.**

Ce rapport a été préparé par le Comité Australien de l'UICN (CAUICN) par le biais d'un vaste processus de consultation de toutes les parties concernées par la conservation de la zone du patrimoine mondial de la baie Shark. Les principales recommandations provenant de ce rapport de l'UICN sont contenues dans le document de travail WHC-2000/CONF.202/5 sur l'état de conservation des biens inscrits sur la Liste du patrimoine mondial.



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SHARK BAY WORLD HERITAGE AREA

CONDITION, MANAGEMENT & THREATS

31 March 2000

1. Introduction

The Operational Guidelines to the World Heritage Convention define two types of reporting: periodic and reactive. Periodic reporting is undertaken by the State Parties to the Convention in which they set out information concerning the 'condition' of their world heritage sites and the legal and administrative arrangements that have been put in place to fulfil their requirements as a party to the Convention. Reactive monitoring is reporting by the World Heritage Centre, other sectors of UNESCO and the advisory bodies to the World Heritage Bureau and Committee on threats to specific world heritage sites.

This report has been compiled over several months culminating in its adoption by ACIUCN at its 41st Ordinary Meeting 30-31 March 2000. As a first step in compiling the report nomination and evaluation documents for the listing of Shark Bay as a world heritage area were consulted, as was the Rapporteur's Reports of Sessions of the World Heritage Committee and its Bureau. In the first stage, a questionnaire was circulated by ACIUCN to thirty-three organisations, agencies, and individuals representing a range of interests in the Shark Bay World Heritage Area, including Commonwealth, State and local government authorities, conservation groups, members of the Shark Bay Community Consultative and Scientific Advisory Committees, scientists, locals and industry groups. A list of those circulated is at Annex 1. The questionnaire sought recipients' views on the overall condition of the world heritage site, particularly related to the maintenance of world heritage values¹; management of the site, including over time; actual and potential threats; and recommendations for action. Of the questionnaires circulated, ten responses were received representing a return rate of some 30 percent. These responses covered the diversity of sector interests surveyed. Responses were then collated into a report (*Shark Bay World Heritage Area: State of Conservation Report*, 1 October 1998) which also drew on relevant IUCN General Assembly, now World Conservation Congress, resolutions and recommendations and relevant formal policies and/or decisions of the Australian Committee for IUCN.

In the next stage, this report was circulated to all members of ACIUCN (a list of members is given at Annex 2) and all those who had responded to the initial questionnaire. Comments were invited on the report, specifically with respect to: the accuracy of statements in the report; omissions from the report; recommendations for action; and priority issues and actions. A small working group of ACIUCN members was then formed consisting of representatives of government agency (both Commonwealth and state) and non government organisation members of ACIUCN. (Members of the Working Group are noted at Annex 3.) Using the 1 October 1998 report as the base document, the role of the Working Group was:

- to review the comments received
- to clarify issues of fact
- to identify where there is disagreement and what the points of disagreement are
- to list the threats to the world heritage property and to highlight those that are most significant in terms of the integrity of the property and maintenance of world heritage values, particularly those that are immediate priorities for management
- to note what actions are currently being taken to address the threats; and
- to prepare clear recommendations to IUCN and the World Heritage Committee for action.

The Working Group met in Perth at the offices of the Department of Conservation and Land Management on 12 February 1999.

In the final stage the Working Group's discussions were incorporated into an agreed, revised report. This final draft was then circulated to all ACIUCN members and presented to the 41st Ordinary Meeting of ACIUCN, 30-31 March 2000, for adoption.

2. Background

Shark Bay World Heritage Area was inscribed on the World Heritage List at the 15th Session of the World Heritage Committee, meeting in Carthage, Tunisia from 9-13 December 1991. It was entered on the list having met world heritage criteria N(atural) (i), (ii), (iii) and (iv). The township of Denham and the land around Useless Loop were excluded from the world heritage area, although they are situated within the designated area. In its 1991 evaluation of

¹ The phrase 'world heritage values' has slipped increasingly into common usage in recent times. The World Heritage Convention and the Operational Guidelines use the term 'value' only in the context of 'outstanding universal value'. For a natural site, 'world heritage values' typically refers to those biophysical and aesthetic attributes that are seen as the reason why the property is of 'outstanding universal value' (see Lucas et al. 1997). This is the context in which world heritage values are discussed in this report. The Australian Government is developing lists of world heritage values for each Australian world heritage property in the context of Administrative Guidelines for the implementation of provisions of the *Environment Protection and Biodiversity Conservation Act* (1999). This is described in more detail in Section 7 of this report.

the Australian Government nomination of Shark Bay, IUCN noted a number of concerns, including threats from excessive grazing of domestic stock, introduced species, the effects of trawling and tourism, saltworks activities, sand mining, and increased water supply, relating to the condition of integrity for criteria (iv). In inscribing the site on the list, the World Heritage Committee “*urged the Australian authorities to expedite the implementation of the management agreement between the State of Western Australia and the Commonwealth of Australia and to accelerate efforts towards more effective management of the area for conservation purposes*”.

At its July 1994 meeting, the World Heritage Bureau expressed concern at the slow progress in implementing the management agreement, a point repeated at the World Heritage Committee in December 1994 (Phuket, Thailand) where concern was expressed that most of the provisions of the agreement had not been operationalised. Bureau meetings in December 1996 and June 1998 identified salt mining and petroleum exploration respectively as potential threats to the world heritage area.

3. Management Structures and Processes

As noted above, at the time of listing of Shark Bay on the world heritage list, the World Heritage Committee:

“urged the Australian authorities to expedite the implementation of the management agreement between the State of Western Australia and the Commonwealth of Australia and to accelerate efforts towards more effective management of the area for conservation purposes”.

Concern at slow progress in implementing the management agreement was again raised at subsequent meetings. A number of measures have since been taken which address these concerns.

On 12 September 1997 a joint Commonwealth-State (Western Australia) Agreement was signed, outlining administrative arrangements for the world heritage area. The agreement sets out, *inter alia*, respective roles of the Commonwealth and Western Australian governments which are considered by the governments to be consistent with Australia’s State Party obligations under the World Heritage Convention and with Australian Constitutional arrangements and formalised management arrangements that had already been operating. The agreement provides for the Western Australian Department of Conservation and Land Management to be the lead agency in coordinating world heritage matters within the property. It also provided terms of reference for the Shark Bay Ministerial Council and for Scientific Advisory and Community Consultative committees to advise the Ministerial Council. These bodies came into operation in 1997. The agreement also commits to the development of a strategic plan for the entire world heritage area in order to provide an overall framework to ensure the protection, conservation and preservation of the Property’s outstanding universal values.

The Ministerial Council consists of four ministers, two each from the Commonwealth and Western Australia, including the relevant environment ministers. The Council coordinates government policy relating to management of the world heritage property.

The Scientific Advisory Committee and Community Consultative Committee provide community views and scientific/technical advice on matters affecting Shark Bay World Heritage Property to the Ministerial Council.

At the state level, the Western Australian Department of Minerals and Energy also has a Memorandum of Understanding with the Western Australian Environmental Protection Authority to ensure that decisions and management requirements related to any proposed resource exploration or development take into account the values for which the property was listed.

The principal management document applying at the time of listing of Shark Bay was the *Shark Bay Region Plan 1988* (State Planning Commission 1987). This was recently reviewed and updated and a new strategy released in October 1997: *Shark Bay Regional Strategy: A Review of the 1988 Shark Bay Region Plan* (Western Australian Planning Commission 1997). The strategy recognises that the management of the Shark Bay World Heritage property must be consistent with the Commonwealth’s obligations to, *inter alia*, ensure the conservation and protection of the world heritage values of the property. The primary purpose of the strategy is:

“To provide a link between State and local planning for land and water use and development which is based on a balance of economic, social and environmental considerations”.

In addition to the 1997 Shark Bay Regional Strategy a number of other planning documents apply over part or all of the area. These include the *Shark Bay Marine Reserves Management Plan 1996-2006*, the *Shark Bay World Heritage*

Property Management Paper for Fish Resources (1996) and the *Gascoyne Regional Ecotourism Strategy 1996*. In addition, the *Shark Bay Terrestrial Reserves: Draft Management Plan* has been released and the period for public comments has closed and a number of other plans are in draft form. Most significant of these is the *Shark Bay World Heritage Property Strategic Plan* which is being prepared in close cooperation between the Commonwealth and Western Australian governments. Whilst recognising that various planning documents do apply over the property, and recognising that the draft *Shark Bay World Heritage Property Strategic Plan* is being finalised for release for public comment, it is a matter of concern to ACIUCN that there is still no overarching management plan with a primary objective being protection of the world heritage property in perpetuity to provide an overall framework for activity within the area. ACIUCN further notes that a number of reserve proposals identified in the 1988 Shark Bay Region Plan and the 1997 Shark Bay Regional Strategy are yet to be implemented.

Recommendations:

- That the *Shark Bay World Heritage Property Strategic Plan* be completed and implementation begun as a matter of high priority.
- That outstanding reserve proposals identified in the 1988 Shark Bay Region Plan and the 1997 Shark Bay Regional Strategy be implemented as a matter of priority. [Recommendation 1]

4. Responses to Questionnaire

This section details the responses that were received to the questionnaire circulated by ACIUCN. Respondents were asked to keep their answers brief and the level of detail provided therefore varied considerably. Condition, management and threats are all interrelated and this was clearly seen in the responses received. This section presents views expressed by respondents. ACIUCN's views are reflected in section 5 and subsequent sections.

4.1 Condition of the World Heritage Site

In the questionnaire, respondents' views were sought as to whether, overall, they would say that the values for which Shark Bay World Heritage Area was included on the world heritage list have been maintained and/or enhanced since listing. They were also asked to state the most significant factors influencing their assessment. All of the respondents to ACIUCN's questionnaire considered that the values for which Shark Bay World Heritage Area was included on the World Heritage List have been maintained or enhanced since listing. The factors cited by respondents as influencing their views included:

- administrative arrangements and structures in place;
- establishment (and improved management) of extensive terrestrial (e.g. Francois Peron National Park, Shell Beach Conservation Park) and marine (e.g. Shark Bay Marine Park and Hamelin Pool Marine Nature Reserve) protected areas;
- considerable resources provided by both the Western Australian and Commonwealth governments for planning and improved management;
- measures taken to eradicate/control feral herbivores and predators;
- captive breeding programmes and reintroductions of native fauna;
- increased signage, raising the awareness of the world heritage area;
- increased research effort, e.g. in marine areas and the Western Australian Department of Conservation and Land Management's Project Eden;
- an evolving attitude to value the property's inherent environmental riches.

In contrast, one respondent qualified their view by suggesting that although the values had been maintained, this was more a result of chance than active management, pointing out that there is still no management/strategic plan for the world heritage area; there is no management plan for terrestrial reserves²; the Scientific and Community Consultative Committees were only put in place after 6 years; and ongoing threats.

4.2 Management

Noting that management can include a range of considerations and factors such as the day to day operations, management arrangements, resources, responsiveness to concerns, etc. the questionnaire asked respondents to rate the management of Shark Bay World Heritage Area on a scale of five from "very poor" to "excellent". They were also asked to indicate whether they considered that management of the world heritage area was better; similar; or worse than when the area was inscribed on the World Heritage List. Reasons for their assessment given were sought in each case.

² See now *Shark Bay Terrestrial Reserves: Draft Management Plan 1998* (CALM 1998).

Management was rated generally by respondents from “good” to “very good”, with one indicating “poor”. Respondents also felt that management of Shark Bay World Heritage Area was either similar or better than when the area was inscribed on the World Heritage List. Some respondents qualified their responses by saying that on balance it was similar as some aspects of management were better, but others were worse.

On the positive side, the following comments were made about management:

- an agreement is now in place between the Western Australian and Commonwealth governments regarding world heritage administration and management arrangements;
- Ministerial Council, Scientific Advisory Committee and Community Consultative Committee are established and functioning;
- extensive marine and terrestrial protected areas have been established, and protected areas are well managed;
- planning is in place or underway at various levels for most areas/issues;
- increased management resources have been provided by both the Western Australian and Commonwealth governments and improved management structures are in place;
- increased level of management presence involved in on-ground conservation management;
- improved recreation management through planning and provision of facilities, improved protection of natural resources and enhanced visitor enjoyment;
- there is an improved awareness and appreciation of world heritage status, values and requirements by all government agencies, local community and visitors leading to better management.

This view was balanced by the following comments:

- to date, management has been ad hoc, with no management strategy or plan;
- resources have been limited, although some funding for specific projects has been made available from the Commonwealth Government over the last two years;
- management has not been uniform, with some specific sites, e.g. the offshore islands such as Bernier and Dorre, and Francois Peron National Park, being better managed than others;
- significant increase in tourists (including 4WD vehicles and motor bikes) since listing is having a detrimental impact on certain sensitive sites, e.g. at Hamelin Pool, Steep Point, fragile beach dune systems;
- there is no visitors’ interpretative centre;
- signage is inadequate, e.g. there are no world heritage signs on Bernier and Dorre Islands; nor are there any world heritage signs in the Carnarvon area;
- mining activity has increased, and there is a lack of will to implement a policy on mining;
- problem of overexploitation of fishery resources, particularly by recreational fishers;
- funding to the local community has not had a demonstrable effect;
- management structure is very expensive;
- whilst there has been substantial effort to reduce feral animal numbers on Peron Peninsula, numbers of feral animals are still a problem outside of the peninsula.

Whilst not varying greatly in their overall assessment, there were clearly differences in respondents’ perceptions about management. This may, to some extent at least, reflect increased attention and progress in more recent years to management than in the first years after listing.

4.3 Threats

Respondents to the questionnaire were also asked what they perceive as the current threats to Shark Bay World Heritage Area. They were asked to indicate the way in which the threat (either current or potential) is having a detrimental effect on the world heritage site and what actions they would recommend to ameliorate the threat.

5. **Threats to Integrity**

The threats identified by respondents to the questionnaire formed the basis for discussion in the Working Group. This section, and its recommendations, represents ACIUCN’s views as to the current and/or potential threats to the integrity of Shark Bay World Heritage Area.

All new developments that would have a significant effect on the environment are subject to an environmental assessment process under Commonwealth and/or Western Australian legislation. The 1997 Commonwealth/State agreement includes the commitment that such assessments will take into account potential impacts on world heritage values and will involve both the State and Commonwealth governments.

Threats, either current or potential, to the Shark Bay World Heritage Area include:

5.1 Mining and Petroleum Exploration and Production

This includes basic raw material extraction. A range of activities were cited under this heading. With the exception of the salt works, most of these activities occur within the boundaries of the world heritage area. It was suggested that some activity occurring outside of the world heritage area may also affect the visual amenity of it. A number of different activities occurring in or impacting on the Shark Bay World Heritage Area were considered.

5.1.1 Shell Mining

There are two shell mining operations: one operated by the Shire of Shark Bay Shell Quarry at Lharidon Bight and the other by a private company in the same area. This activity is current, and has a direct impact on a feature of the world heritage area. *Fragum erugatum*, a bivalve, is one of the few species which can exist in the hypersaline environment of Lharidon Bight and vast deposits of almost pure white shell from the bivalve accumulate in ridges on the beach, believed swept onshore during storms. The coquina deposits are a feature of the world heritage area and one of the world heritage area's main attractions. With respect to world heritage values the mining:

- addresses a Pleistocene and post-Pleistocene fossil deposit and results in the direct destruction of the coquina, an important feature of the world heritage area; and
- impacts on aesthetics and natural beauty - the Shire quarry operates less than 1 kilometre east of the Shell Beach viewing area.

The roads and infrastructure associated with the mining activity have been built on top of the shell deposits and have resulted in a loss of scenic beauty. The track linking the two mining leases is the original Nanga pastoral lease access track that pre-dates world heritage listing. In recent years maintenance of the track involving the use of red earth has significantly affected the visual amenity of the world heritage attribute.

Recommendations:

- All shell mining should cease³;
- The existing Shell Beach Conservation Park should be reclassified as a Class A reserve as recommended in the *Shark Bay Terrestrial Reserves: Draft Management Plan 1998*;
- All shell deposits in the area of Lharidon Bight should be included within the conservation reserves⁴.
[Recommendation 2.]

5.1.2 Extraction of Basic Raw Materials

Basic raw materials (BRM), including gravel, are extracted from within the world heritage area and used for construction purposes such as road construction and maintenance and recreation site developments. This imposes a requirement on planning and management arrangements to avoid threats to world heritage values. The need to ensure rehabilitation of pit sites and adjacent areas is emphasised. ACIUCN notes that in its January 1998 submission to the Department of Conservation and Land Management for the Draft Plan on the Shark Bay Terrestrial Reserves (1998) the Department of Minerals and Energy recommended that a BRM strategy be developed and endorses this suggestion.

Recommendations:

- That a basic raw materials strategy for the world heritage area be developed;
- That the Environmental Protection Authority carry out a Strategic Environmental Assessment under Section 16(e) of the Western Australian *Environmental Protection Act (1986)* of the basic raw material strategy to ensure that basic raw materials are accessed in an ecologically sustainable manner.
[Recommendation 3.]

5.1.3 Gypsum leases

Gypsum leases exist over vacant crown land as enclaves in the northern part of Francois Peron National Park. Gypsum mining is a potential threat if the leases are taken up. The mining leases occur over a type of unique gypsiferous dune formation which is not otherwise represented in the world heritage property. Development of these mining leases would also require major infrastructure construction for transport and shipping and would likely have severe impact on the integrity of the world heritage property.

³ Note: Department of Conservation and Land Management, Western Australia and Environment Australia opposed this part of the recommendation, noting that shell mining was an existing use of the area at the time of world heritage listing and that the nomination was put forward on the basis of agreement by the State and Commonwealth governments that shell mining, subject to appropriate management controls, would be a continuing use of the world heritage area.

⁴ Note: Department of Conservation and Land Management, Western Australia and Environment Australia did not support this part of the recommendation in respect of those shell deposits subject to approved mining operations.

Recommendation:

- That the enclave gypsum mining tenements situated within the outer boundary of the Francois Peron National Park be revoked and the areas be incorporated within Francois Peron National Park.⁵ [Recommendation 4.]

5.1.4 Petroleum exploration

In 1997 a licence was granted by the Western Australian Government for petroleum exploration in parts of the Shark Bay World Heritage Area without consultation with either the WA Department of Conservation and Land Management or the Commonwealth Government. The exploration activities as proposed at the time would involve both seismic surveys followed by exploration wells and represents a potential threat to, for example, seagrass beds and marine fauna, including dugongs. A process of environmental assessment, with an initial assessment being made under section 16(e) of the WA *Environmental Protection Act (1986)*, followed by a final decision made by the Shark Bay World Heritage Property Ministerial Council, has been agreed upon by the Western Australian and Commonwealth governments. Whilst the assessment is being undertaken, the licence cannot be utilised. ACIUCN urges the exercise of the precautionary principle and that the environmental assessment process for petroleum exploration be conducted with extreme rigour. Any decision to permit petroleum exploration is likely to be precedent-setting and lead to the potential for cumulative impacts in the world heritage area

At its 1990 Perth General Assembly, IUCN adopted recommendation 18.72 on Mineral, including Oil, Exploration in or adjacent to Marine Parks and World Heritage Areas in Australia (Annex 4) which, *inter alia*, called on the Australian Government to ensure that no mineral, including oil or gas, exploration or development activities will occur in waters adjacent to Australia which could cause damage to world heritage sites and other marine protected areas from blow-out or other events associated with exploration, production and transport. In April 1999, IUCN's Council welcomed as a World Commission on Protected Areas Position Statement a statement on Mining and Associated Activities in Relation to Protected Areas (Annex 5) which, *inter alia*, states that mining and mineral exploration should be prohibited in IUCN Categories I to IV protected areas.

Recommendations:

- That the precautionary principle be applied in any determination of petroleum exploration permits and that the environmental assessment process be conducted with extreme rigour, also taking into account potential cumulative impacts;
- That no mineral exploration or development activities be permitted where these have the potential to cause damage to the world heritage values of Shark Bay World Heritage Area;
- That no mining and mineral exploration, including petroleum exploration, be permitted in any protected areas within or adjacent to the Shark Bay World Heritage Area which correspond to IUCN management categories I - IV⁶. [Recommendation 5.]

5.1.5 Expansion of Salt Extraction Works

Salt extraction occurs in an area around Useless Inlet which is excluded from the world heritage area but surrounded by it. Salt extraction is an ongoing activity which was occurring at the time the area was inscribed on the World Heritage List. The salt operation is managed in accordance with the *Shark Bay Solar Salt Industry Agreement Act 1983*. In 1997 a new bar, further up Useless Inlet and outside the world heritage property, was completed to provide for the expansion of salt extraction activities. Any further expansion of the salt extraction works is seen as potentially having an impact on the integrity of the world heritage area and its values, through displacement effects, increased turbidity particularly during construction work, impacts on fish stocks and loss of visual amenity. Approval for the expansion was given following an environmental assessment under the Western Australian *Environmental Protection Act (1986)* but as the activity did not occur in the world heritage area the environmental assessment was not required to take into consideration impacts on world heritage values. Concern has been expressed at the quality of the environmental assessment report. Of particular concern was that adequate monitoring of the impact on world heritage values was not put in place before work on the bar was commenced although the Department of Conservation and Land Management did subsequently put in place some stations to monitor impacts. For many members of the local community, including representatives on the Community Consultative Committee, the expansion of the salt works was seen as a test of the "effectiveness" of world heritage listing. Subsequently, they felt let down and that the process had failed them.

⁵ Note: Department of Conservation and Land Management, Western Australia and Environment Australia opposed this recommendation noting that any proposal for gypsum mining will be subject to environmental assessment that will take account of impacts on world heritage values.

⁶ Note: Department of Conservation and Land Management, Western Australia did not support this part of the recommendation.

Two new proposals - one to expand the salt works within the existing lease but not in the world heritage area; the other to expand the lease on to land within the world heritage area - represent further potential threats. The Shark Bay Scientific Advisory Committee has recommended that the proposal to expand the lease into the world heritage area not go ahead.

Recommendations:

- No excision should be permitted from the existing world heritage area in order to facilitate development activity, including expansion of the salt extraction lease⁷;
- The existing excision at Useless Inlet should be assessed in terms of its world heritage values and significance to the ecological integrity of the world heritage area as a whole. If salt extraction activities are not compatible with those values and maintenance of integrity the lease should be revoked and the area incorporated into the Shark Bay World Heritage Area⁸. [*Recommendation 6.*]

5.1.6 Mineral Sands Mining

A series of leases for mineral sands mining exist in the south of the world heritage area through the botanical transition zone between the eucalypt dominated Southwest Province and the acacia dominated Eremaean Province and in the inland portion of Zuytdorp Nature Reserve. Exercise of these leases is a potential threat with possible impacts on the high botanical values in the transition zone, the important vegetation communities in the Zuytdorp Nature Reserve, scenic amenity and landscape values and integrity of the area. Both the *Shark Bay Regional Strategy* (Western Australian Planning Commission 1997) and the *Shark Bay Terrestrial Reserves: Draft Management Plan 1998* (CALM 1998) recommend the acquisition of parts of Nanga and Tamala pastoral leases for incorporation in Zuytdorp Nature Reserve in order to give greater representation in conservation reserves to two of Shark Bay's world heritage values, including the transition zone. Under the IUCN World Commission on Protected Areas Position Statement on Mining and Associated Activities in Relation to Protected Areas (Annex 5) mineral sands mining and exploration are incompatible activities in nature reserves. It is understood that both the Community Consultative and Scientific Advisory committees are opposed to mineral sands mining in these areas.

Recommendations:

- That no mineral sands mining or exploration be permitted in the Zuytdorp Nature Reserve or areas recommended for inclusion within the reserve⁹;
- That no mineral sands mining or exploration be permitted if it is likely to cause damage to the Shark Bay World Heritage Area and world heritage values. [*Recommendation 7.*]

5.2 Ballast Water Discharge

The discharge of ballast water from ships visiting the world heritage area presents a current and potential threat arising from the possibility for the introduction of exotic marine pests displacing native species and impacting on, for example, the seagrass beds. Ballast water discharge occurs both from ships using the protection of Shark Bay to stop over for the purpose of exchange of ballast and in conjunction with servicing of the Useless Loop salt operation. Introductions from ballast water or the hulls of ships have already had serious impacts in other some other parts of Australia. As a large, semi-enclosed shallow embayment with limited flushing of bays and inlets, the risk from exotic organisms in Shark Bay is increased. Ballast water discharge is managed by the Australian Quarantine and Inspection Service (AQIS).

No legislation or regulations directly control ballast discharge although voluntary guidelines were introduced in 1990. The extent however to which the shipping industry complied with these guidelines was unknown (CALM 1996). Effective from 1 August 1998 AQIS introduced new Australian Ballast Water Management Requirements which

⁷ Note: Department of Conservation and Land Management, Western Australia and Environment Australia did not support this part of the recommendation noting that salt extraction outside the world heritage area was an ongoing activity at the time of world heritage listing, that any proposal to expand salt extraction will be subject to environmental assessment taking account of impacts on world heritage values, and that no excision from the world heritage area is under consideration for any purpose.

⁸ Note: Department of Conservation and Land Management, Western Australia and Environment Australia did not support this part of the recommendation, noting that salt extraction was an existing use at the time of world heritage listing and that the nomination was put forward on the basis of agreement by the State and Commonwealth governments that salt extraction would be a continuing use.

⁹ Note: Department of Conservation and Land Management, Western Australia did not support this part of the recommendation.

include mandatory ballast water requirements covering reporting, ballast water and sediment sampling and sediment removal provisions that are enforceable under the *Quarantine Act 1908*. Ships are also requested to comply with the *Australian Ballast Water Management Guidelines* which are based on the International Maritime Organisation (IMO) ballast water management guidelines. Further, AQIS is working through the IMO for the development of a mandatory international regulatory framework for ballast water management with options including an Annex to MARPOL, a Protocol to MARPOL, or a new convention. A target date of 2000 has been set and Australia has already indicated its intention to introduce mandatory ballast water management arrangements based on the IMO framework.

The new requirements introduced in 1998 have reduced the risk of foreign organism introductions through ballast water discharge but a potential threat still remains. ACIUCN is of the view that efforts to control the introduction of exotic organisms should include treatment of ballast waters prior to discharge, improved standards and frequency of ship and inspection, and diversion of shipping away from sensitive areas and be underpinned by legislation rather than relying on voluntary guidelines (ACIUCN 1994).

Recommendations:

- That studies to establish baseline information at key sites be undertaken so that the situation can be monitored;
- That AQIS keep the management agency briefed on current information and statistics concerning ballast water discharge and that if any accidental introductions of exotic organisms occur that the management agency be immediately notified and an immediate response be instigated to eradicate or minimise any threat to the Shark Bay World Heritage Area and its world heritage values;
- That mandatory ballast water management arrangements be introduced;
- That movement of shipping be managed to avoid adverse impacts on world heritage values;
- That the World Heritage Committee examine the threat posed by ballast water introductions to marine based world heritage areas, including an overview of relevant international agreements, and recommend measures to minimise any such threat. [*Recommendation 8.*]

5.3 Tourist Development and Pressures

The 1997 *Shark Bay Regional Strategy* (Western Australian Planning Commission 1997) points out that the tourism industry is an increasingly important component of the Shark Bay economy with total visitor numbers having increased dramatically over the years. The natural attractions of Shark Bay include many of the features for which the area is world heritage listed, for example the algal stromatolites at Hamelin Pool, Shell Beach, Big Lagoon, and Zuytdorp Cliffs. Tourist development and pressures represent both an actual and potential threat to the natural attractions listed above, the flora of the botanical transition zone, marine and fish resources, and the many threatened species of the area, particularly those for which Shark Bay is the last refugia, through overuse, damage and degradation.

There are currently a number of tourist 'hot spots' including:

- Expansion of developments at Monkey Mia
- Developments at South Passage/Steep Point
- Major plans for the southern end of Dirk Hartog Island
- Proposed Kalbarri-South Passage road
- 4 wheel drive activities on non-designated roads, particularly at Cape Peron and Steep Point
- Proposed day visits to Bernier and Dorre islands

By going off designated roads, 4WD users have the potential to destroy fragile vegetation, and bring in to the area burr type weeds such as calthorp and double gee. Some roads in the area, not used for 30 years, still show damage. Five 'roads' currently run out to Steep Point, with the resultant blow-out of sand dunes.

Suggestions have been made for a road to link the township of Kalbarri in the south and Shark Bay along the coast. This would open up until now inaccessible areas and threaten biological evolution and significant habitats. Such a road would also increase the potential for development at Steep Point, as would a designated road from Useless Inlet to Steep Point, with possible impacts on significant natural habitats, biological evolution and superlative natural phenomena.

Another concern is pressure to permit day visits to Bernier and Dorre islands which are both nature reserves and very important for several rare and endangered species, including as the last refugia for some. Some limited access already occurs. The dry spinifex vegetation on the islands is particularly vulnerable to fire which could have catastrophic effects. Increased access also increases the possibility of introduced species. Visitor access to the islands exposes those species which occur nowhere else to the risk of total extinction. The highest level of protection should be maintained on the islands, particularly until the success of re-introductions to the mainland has been guaranteed.

The question of tenure within the terrestrial part of the world heritage area is also an important issue. Many areas of high nature conservation value are currently under pastoral lease. Access to these areas is by consent of the pastoral lessee and the nature conservation agency does not have authority over tourism in these areas. Priority areas include Edel Land within Carrarang Station; parts of Nanga and Tamala Stations; and Dirk Hartog Island. All of these were identified in the 1988 *Shark Bay Region Plan* (State Planning Commission 1987) and in the 1997 *Shark Bay Regional Strategy* (Western Australian Planning Commission 1997) for proposed tenure change to national park or nature reserve.

Increasing tourism to the Shark Bay World Heritage Area requires proper management. Whilst any tourist developments should be subject to environmental assessment and, where permitted to proceed, appropriate conditions imposed, an overall management strategy is needed to deal with these in a systematic way.

Recommendations:

- That an overall tourism management strategy be developed to provide a systematic basis for future tourism developments;
- That management plans be developed for specific 'hot spots' where there is known development activity;
- That immediate priority action be taken to ensure that areas identified in the 1988 Shark Bay Region Plan and the 1997 Shark Bay Regional Strategy, including parts of Edel Land (Carrarang Station), Dirk Hartog Island and parts of Nanga and Tamala Stations, become national parks or nature reserves;
- That access to Bernier and Dorre islands be restricted to essential research and management and day visits to the islands not be permitted, at least until successful re-introductions to the mainland of those species currently restricted to the islands has been secured;
- That access to identified areas of world heritage significance of specific vulnerability be restricted until adequate infrastructure or staffing surveillance is in place. [*Recommendation 9.*]

5.4 Introduced Animals

Areas already disturbed by grazing, clearing or fire are vulnerable to introduced species and feral animals. The threat from introduced and feral animals is currently occurring and originates from both within the world heritage area from existing feral animal populations and from outside through migrations. Impacts from feral animals (dogs, cats, foxes, rabbits, mice, sheep, goats, etc.) include destruction of native vegetation, modification or loss of habitat of threatened species and feral carnivore predation on native fauna. In particular, feral herbivores (primarily goats) present a threat to botanical values of the transition zone and Dirk Hartog Island. Bernier and Dorre islands are now essentially free of feral animals but these would pose a significant risk to conservation values (particularly from predators) were they to be introduced onto the islands. The existence of feral animals limits the potential to reintroduce threatened species into areas from which they have disappeared. Much effort has been put into eradicating feral animals and initiatives such as Project Eden, commenced in 1995 to control introduced predators and herbivores on Peron Peninsula to enable the reestablishment of threatened fauna species which occurred in the area prior to European settlement, are to be commended.

Recommendations:

- That feral herbivore and carnivore predator control and eradication programmes continue as a priority activity;
- That efforts are continued to ensure that areas now free of feral animals, such as Bernier and Dorre islands, remain that way. [*Recommendation 10.*]

5.5 Over-Grazing

A number of pastoral leases exist within the world heritage area, particularly in the southern part and on two islands, and over-grazing or poor grazing management, were it to occur, and lack of proper feral animal/weed control on pastoral leases represents a potential threat. Current pastoral lessees are responsible and pastoralism may not threaten any world heritage values unless leases are poorly managed or stocking rates too high leading to over-grazing which may threaten vegetation, flora or habitats, particularly in the transition zone between Southwest and Eremaen Provinces. The potential for over-grazing increases during periods of low economic returns or drought, etc. and currently there is only limited information on grazing impacts and no close monitoring to ensure stock levels do not exceed recommended carrying capacities at all times. The extent of feral animal and weed control undertaken on pastoral leases in accordance with lease conditions is also not monitored.

Recommendations:

- That the Western Australian Department of Land Administration, Pastoral Lands Board and Agriculture WA be encouraged to more actively administer and monitor management of pastoral leases to ensure protection and conservation of world heritage values on pastoral leases;
- That advice, current research information and assistance are available to pastoralists in an accessible form to ensure best practice pastoral management.
- That relevant legislation for the protection of pastoral areas be enforced where necessary. *[Recommendation 11.]*

5.6 Fisheries

5.6.1 Commercial and recreational fishing (general)

Commercial fisheries are an important social and economic component of the Shark Bay Region. Approximately \$35 million worth of seafood is harvested annually and commercial fisheries represented a capital investment of approximately \$80 million in 1994 and accounted for the direct employment of about 500 people (CALM 1996). Management strategies are outlined in the *Shark Bay World Heritage Property Management Paper for Fish Resources* and the primary managing agency is Fisheries Western Australia. Commercial fishing activities are not permitted in the Hamelin Pool Marine Nature Reserve or in Recreation or Sanctuary Zones within the Shark Bay Marine Reserve. The Shark Bay Marine Reserves Management Plan notes that:

“Most existing commercial fisheries are regarded as fully exploited and are not considered capable of supporting an increase in fishing effort if stocks and the industry are to remain viable. Alternative developments in the areas of tuna, mackerel, squid and bait fish could provide areas of future expansion.”
(CALM 1996)

Shark Bay is considered one of the most popular recreational fishing locations in Western Australia and recreational fisheries represent a major community asset. Recreational fishing is not permitted in the Hamelin Pool Marine Nature Reserve or in the Sanctuary Zones within the Shark Bay Marine Reserve or in the Dolphin Interaction Area at Monkey Mia.

Commercial and recreational fishing is both an actual and potential threat. For example, the pink snapper fishery on the eastern gulf has collapsed, and there is a danger that effort will be transferred onto the western gulf or to other species. Biological diversity (including diversity of marine species) is a world heritage value but fishing pressure has the potential to affect the integrity of the property through the serious depletion of fish stocks of highly favoured fish species.

Recommendations:

- That Fisheries Western Australia be encouraged to maintain their active research and monitoring programme in order to provide an accurate picture of fish populations and habitat;
- That the future management of commercial and recreational fishing in the Shark Bay World Heritage Area be demonstrably sustainable;
- That measures to ensure the recovery of the eastern gulf population of pink snapper and to prevent further decline and promote recovery of the western gulf population be adopted. *[Recommendation 12.]*

5.6.2 Scallop and Prawn Trawl Fisheries

The Shark Bay Region is the major fishery in Western Australia for prawns and scallops and these fisheries occur both within and outside the world heritage area. The activity is both current and ongoing. Detrimental effects include: destruction of benthic flora and fauna, including sponges (impact on significant natural habitats and ongoing processes); impacts on existing or potential seagrass beds (habitat and superlative natural phenomena); and bycatch. The *Shark Bay Marine Reserves Management Plan* (CALM 1996) also notes:

“Advice from the Fisheries Department has indicated that the disposal of scallop shell at particular sites may cause localised smothering of reef or seagrass...There have been no investigations of the impacts of this activity, however popular anchorages should be monitored.”

The seagrass meadows within the marine park are important prawn nurseries and trawling does not occur in seagrass meadows. Prawn nursery area closures apply under the *Fish Resources Management Act*.

Of major concern is the issue of bycatch. Whilst impacts on species such as turtles, sea snakes and marine mammals is clearly an important concern, little attention has been given to the overall composition of the bycatch including identification of the other, “smaller” species contained in it and any consequent impact on ecosystem diversity. As scallop trawling and prawn trawling are different, independent data for each is needed

and extrapolations should not be made from one to the other. Fisheries WA is trialling bycatch reduction devices with respect to the prawn trawl fishery and has established a committee to develop a Shark Bay Bycatch Action Plan for the prawn trawl fishery. It is understood that later consideration will be given to introducing similar measures into the scallop fishery.

If trawling cannot be demonstrated to be ecologically sustainable and consistent with the protection of world heritage values via appropriate assessment and monitoring then it should be regarded as an inappropriate activity in the Shark Bay World Heritage Area.¹⁰

Recommendations:

- That studies be instituted as a matter of priority to determine both the composition and numbers of the total bycatch and an analysis undertaken of the impact of bycatch on ecosystem diversity;
- That adequate no take areas be identified within areas currently trawled, both within and outside of the marine park, to act as control zones;
- That controls on the disposal of scallop shells from trawlers be implemented if there is evidence that this activity is impacting on the world heritage values of the area;
- That a programme for the compulsory introduction of Bycatch Reduction Devices (BRDs), Turtle Excluder Devices (TEDs), and Vessel Monitoring Systems (VMS) be instituted. [Recommendation 13.]

5.6.3 Aquaculture

Limited aquaculture activities already occur at sites within the world heritage area but as noted in the *Shark Bay Marine Reserves Management Plan 1996-2006* (CALM 1996):

“Possibly the greatest potential for expansion in Shark Bay is aquaculture, with the clean, sheltered and shallow waters of the Bay providing an ideal environment for some components of this industry.”

Aquaculture is both a current and potential threat to the values and integrity of the world heritage area, particularly if located in inappropriate areas. A number of proposals for aquaculture developments are current. There would be concern if native fauna, attracted to aquaculture/mariculture facilities, were to be culled to control predation. The Shark Bay Marine Reserves Management Plan goes on to detail some of the potential impacts from aquaculture:

“Aquaculture may affect the natural environment through physical, visual, chemical and genetic influences...there is the potential for significant adverse environmental and social impacts. Environmental effects may include eutrophication due to nutrient release, impacts of foreign biota...the altering of the genetics of natural populations and direct impacts on the benthic environment...Social impacts can also occur as a result of conflicts with recreational and other commercial uses. This arises because operations often require exclusive use of a site...”

Recommendations:

- That a moratorium be placed on the consideration of aquaculture applications until the completion of a binding aquaculture development plan that has undergone full environmental assessment¹¹;
- That this assessment includes consideration of a range of factors including location of developments, land tenure adjacent to proposed sites, potential for pollution, conditions specific to the area, proximity to seagrass beds, the risk of introduction of invasive species, and emergent infectious diseases of wildlife;
- That the precautionary principle be applied in any determination of aquaculture development applications insofar that no development consent should be granted for an activity until it has been demonstrated that such an activity does not pose a threat to world heritage values and to the ecological integrity and sustainability of marine and estuarine ecosystems;
- That the assessment process be subject to full public consultation, exhibition and comment and be prepared with extreme vigour;
- That no new cage cultures that are likely to damage the world heritage area and its world heritage values be permitted in the Shark Bay World Heritage Area. [Recommendation 14.]

6. IUCN/ACIUCN Policies and Actions

¹⁰ Environment Australia and Department of Conservation and Land Management, Western Australia noted that trawling was an existing use of the area at the time of world heritage listing and that the nomination was put forward on the basis of agreements by the State and Commonwealth governments that trawling would be a continuing use of the world heritage area.

¹¹ Note: Department of Conservation and Land Management, Western Australia did not support this part of the recommendation.

Two of the principles espoused in ACIUCN's document *The Richmond Communiqué: Principles and Guidelines for the Management of Australia's World Heritage Areas* (ACIUCN 1995) are that management plans for each world heritage area must be developed and implemented as a high priority and that the primary objective of the management plan must be to protect the world heritage property in perpetuity, whilst still recognising the implications for management of other natural and cultural values. Essential requirements of such management plans are:

- they preclude land and sea uses which are incompatible with protection of world heritage values;
- they include implementation plans;
- make provision for monitoring and (periodic) review;
- they include mechanisms to address cumulative impacts.

In addition, management plans should have statutory force and adequate resources need to be available for their effective implementation. *The Richmond Communiqué* also lists a number of human activities likely to endanger natural world heritage values including: human settlement; construction of reservoirs which flood important parts of the property; industrial and agricultural development including use of pesticides and fertilizers; major public works; mining; pollution; logging; human encroachment on boundaries or in upstream areas which threaten the integrity of the property.

Whilst recognising that a draft Shark Bay World Heritage Property Strategic Plan is in preparation and that a range of other plans have been or are being prepared, it is nevertheless of concern that some nine years after listing there is still no overall management plan for the Shark Bay World Heritage Area.

Mining and petroleum exploration and production been an ongoing issue of concern and was the subject of IUCN General Assembly recommendations, specifically Recommendation 18.72 Mineral, including Oil, Exploration in or adjacent to Marine Parks and World Heritage Areas in Australia (Annex 4) and Recommendation 19.86 Mining in the Conservation Estate, Australia (Annex 6). Current Western Australian government policy allows exploration and mining in terrestrial and marine conservation areas in accordance with the *CALM Act 1984*, *Environmental Protection Authority Act 1986*, *Mining Act 1978*, *Petroleum Act 1967*, *Petroleum Pipelines Act 1969* and *Petroleum (Submerged Lands) Act 1982*. These latter Acts prevail over the CALM Act in respect of the terrestrial reserves. It is ACIUCN policy that mining is not a compatible activity in a national park (IUCN Category II protected area). At its April 1999 meeting IUCN's Council welcomed as a World Commission on Protected Areas Position Statement a statement on Mining and Associated Activities in Relation to Protected Areas. Under this position statement, a copy of which is attached at Annex 5:

"Exploration and extraction of mineral resources are incompatible with the purposes of protected areas corresponding to IUCN Protected Area Management Categories I to IV, and should therefore be prohibited by law or other effective means."

7. Other Issues and Recommendations

Specific recommendations are listed above against the relevant section and are not generally repeated here.

Administrative arrangements between the Commonwealth Government, the party to the World Heritage Convention, and the Government of Western Australia were formalised in the agreement signed on 12 September 1997 whereby the Western Australian Department of Conservation and Land Management is the lead agency in coordinating world heritage matters within the property. Independent monitoring and assessment of the effectiveness of the agreement in meeting its goals is desirable.

The world heritage protection provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) apply directly to actions (inside or outside a declared world heritage property) that have, will have, or are likely to have a significant impact on the world heritage values of the property. Administrative Guidelines will be issued to guide the Commonwealth Minister in determining whether an impact on world heritage values is significant. To support the Administrative Guidelines, the government is preparing lists of values for each Australian world heritage property based on information contained in nominations and subsequent values revisions and updates. ACIUCN notes that the lists of values, when completed, will be important in guiding government decisions under the EPBC Act. ACIUCN also notes that the lists of values compiled for the implementation of the EPBC Act are also likely to provide a basis for future systematic reporting by the Australian Government for the purposes of paragraph 71 of the Operational Guidelines to the World Heritage Convention.

World Heritage listing of Shark Bay was accomplished in the face of strong local opposition. Whilst there appears to be a widespread view of increased community awareness of the world heritage values and enhanced community support

for conservation management in the property, some tensions still remain. Further efforts to ensure widespread understanding, acceptance and involvement by the local community in the world heritage area should be encouraged.

ACIUCN encourages additional active programmes of interpretation and education within and about the world heritage area. One point of tension and frustration in the local community is that the anticipated world heritage information and interpretive centre at Denham has not yet eventuated. It is recognised that the issue has been under active consideration for some time and that both the Commonwealth and state governments are supportive of the concept. A site in Denham has now been agreed and concept planning is underway. ACIUCN urges key stakeholders including local people, state government agencies and advisory committees to resolve issues concerning the information and interpretive centre so that it can proceed.

There are two components to the world heritage area: a terrestrial and a marine component. Each is significant in its own right and each contributes to the outstanding universal value of the Shark Bay region. In general, the characteristics of the marine environment and its organisms and the differences between land and sea processes are such that marine conservation needs to be accepted as a specialist area requiring different approaches to conservation from those most commonly applied to land (ACIUCN 1994). In this respect, management of the marine environment and particularly the marine reserves requires dedicated resources and marine reserves should be staffed by specialist marine persons. This last point was an underpinning element of IUCN General Assembly Recommendation 18.33 Training of Coastal and Marine Environment Managers which acknowledged that marine environmental management requires practical people with special skills.

Recommendation:

- That dedicated resources be provided for management of marine reserves and that these be staffed by persons with specialist marine environmental management skills. [*Recommendation 15.*]

With different tenures within the world heritage area a range of management agencies or authorities including Department of Conservation and Land Management, Fisheries Western Australia, Agriculture Western Australia, Department of Environmental Protection, Department of Minerals and Energy and the Pastoral Board of WA, various development commissions and local government have jurisdiction or key responsibility. Government support to ensure interagency cooperation, at all levels of government, to achieve management objectives for the world heritage area is imperative.

Between 1997 and 2000 the Commonwealth Environment Minister has allocated nearly \$2.2 million funding for projects to enhance the protection and management of the Shark Bay World Heritage Property. ACIUCN welcomes this funding. The Commonwealth Government has provided funding for projects to support its priorities for meeting Australia's obligations under the World Heritage Convention, and many relate directly to recommendations contained in this report.

List of Recommendations¹²

1. World Heritage Management Planning:
 - That the *Shark Bay World Heritage Property Strategic Plan* be completed and implementation begun as a matter of high priority;
 - That outstanding reserve proposals identified in the 1988 Shark Bay Region Plan and the 1997 Shark Bay Regional Strategy be implemented as a matter of priority.
2. Shell Mining:
 - All shell mining should cease;
 - The existing Shell Beach Conservation Park should be reclassified as a Class A reserve as recommended in the *Shark Bay Terrestrial Reserves: Draft Management Plan 1998*;
 - All shell deposits in the area of Lharidon Bight should be included within the conservation reserves.
3. Extraction of Basic Raw Materials:
 - That a basic raw materials strategy for the world heritage area be developed;
 - That the Environmental Protection Authority carry out a Strategic Environmental Assessment under Section 16(e) of the Western Australian *Environmental Protection Act (1986)* of the basic raw material strategy to ensure that basic raw materials are accessed in an ecologically sustainable manner.
4. Gypsum Leases:
 - That the enclave gypsum mining tenements situated within the outer boundary of the Francois Peron National Park be revoked and the areas be incorporated within Francois Peron National Park.
5. Petroleum Exploration:
 - That the precautionary principle be applied in any determination of petroleum exploration permits and that the environmental assessment process be conducted with extreme rigour, also taking into account potential cumulative impacts;
 - That no mineral exploration or development activities be permitted where these have the potential to cause damage to the Shark Bay World Heritage Area;
 - That no mining and mineral exploration, including petroleum exploration, be permitted in any protected areas within or adjacent to the Shark Bay World Heritage Area which correspond to IUCN management categories I– IV.
6. Salt Extraction Works:
 - No excision should be permitted from the existing world heritage area in order to facilitate development activity, including expansion of the salt extraction lease;
 - The existing excision at Useless Inlet should be assessed in terms of its world heritage values and significance to the ecological integrity of the world heritage area as a whole. If salt extraction activities are not compatible with those values and maintenance of integrity the lease should be revoked and the area incorporated into the Shark Bay World Heritage Area.
7. Mineral Sands Mining:
 - That no mineral sands mining or exploration be permitted in the Zuytdorp Nature Reserve or areas recommended for inclusion within the reserve;
 - That no mineral sands mining or exploration be permitted if it is likely to cause damage to the Shark Bay World Heritage Area and world heritage values.

¹² Not all recommendations were endorsed unanimously. Recommendations should be read in conjunction with the relevant section of the report where requests by member agencies or organisations to formally have their position transmitted with the decision are noted.

8. Ballast Water:
 - That studies to establish baseline information at key sites be undertaken so that the situation can be monitored;
 - That AQIS keep the management agency briefed on current information and statistics concerning ballast water discharge and that if any accidental introductions of exotic organisms occur that the management agency be immediately notified and an immediate response be instigated to eradicate or minimise any threat to the Shark Bay World Heritage Area and its world heritage values;
 - That mandatory ballast water management arrangements be introduced;
 - That movement of shipping be managed to avoid adverse impacts on world heritage values;
 - That the World Heritage Committee examine the threat posed by ballast water introductions to marine based world heritage areas, including an overview of relevant international agreements, and recommend measures to minimise any such threat.
9. Tourist Development and Pressures:
 - That an overall tourism management strategy be developed to provide a systematic basis for future tourism developments;
 - That management plans be developed for specific 'hot spots' where there is known development activity;
 - That immediate priority action be taken to ensure that areas identified in the 1988 Shark Bay Region Plan and the 1997 Shark Bay Regional Strategy, including parts of Edel Land (Carrarang Station), Dirk Hartog Island and parts of Nanga and Tamala Stations, become national parks or nature reserves;
 - That access to Bernier and Dorre islands be restricted to essential research and management and day visits to the islands not be permitted, at least until successful re-introductions to the mainland of those species currently restricted to the islands has been secured;
 - That access to identified areas of world heritage significance of specific vulnerability be restricted until adequate infrastructure or staffing surveillance is in place.
10. Introduced Animals:
 - That feral herbivore and carnivore predator control and eradication programmes continue as a priority activity;
 - That efforts are continued to ensure that areas now free of feral animals, such as Bernier and Dorre islands, remain that way.
11. Over-Grazing:
 - That the Western Australian Department of Land Administration, Pastoral Lands Board and Agriculture WA be encouraged to more actively administer and monitor management of pastoral leases to ensure protection and conservation of world heritage values on pastoral leases;
 - That advice, current research information and assistance are available to pastoralists in an accessible form to ensure best practice pastoral management.
 - That relevant legislation for the protection of pastoral areas be enforced where necessary.
12. Commercial and Recreational Fishing:
 - That Fisheries Western Australia be encouraged to maintain their active research and monitoring programme in order to provide an accurate picture of fish populations and habitat;
 - That the future management of commercial and recreational fishing in the Shark Bay World Heritage Area be demonstrably sustainable;
 - That measures to ensure the recovery of the eastern gulf population of pink snapper and to prevent further decline and promote recovery of the western gulf population be adopted.

13. Scallop and Prawn Trawling:

- That studies be instituted as a matter of priority to determine both the composition and numbers of the total bycatch and an analysis undertaken of the impact of bycatch on ecosystem diversity;
- That adequate no take areas be identified within areas currently trawled, both within and outside of the marine park, to act as control zones;
- That controls on the disposal of scallop shells from trawlers be implemented if there is evidence that this activity is impacting on the world heritage values of the area;
- That a programme for the compulsory introduction of Bycatch Reduction Devices (BRDs), Turtle Excluder Devices (TEDs), and Vessel Monitoring Systems (VMS) be instituted.

14. Aquaculture:

- That a moratorium be placed on the consideration of aquaculture applications until the completion of a binding aquaculture development plan that has undergone full environmental assessment;
- That this assessment includes consideration of a range of factors including location of developments, land tenure adjacent to proposed sites, potential for pollution, conditions specific to the area, proximity to seagrass beds, the risk of introduction of invasive species, and emergent infectious diseases of wildlife;
- That the precautionary principle be applied in any determination of aquaculture development applications insofar that no development consent should be granted for an activity until it has been demonstrated that such an activity does not pose a threat to world heritage values and to the ecological integrity and sustainability of marine and estuarine ecosystems;
- That the assessment process be subject to full public consultation, exhibition and comment and be prepared with extreme vigour;
- That no new cage cultures that are likely to damage the world heritage area and its world heritage values be permitted in the Shark Bay World Heritage Area.

15. Marine Management:

- That dedicated resources be provided for management of marine reserves and that these be staffed by persons with specialist marine environmental management skills.

List of Those to Whom Questionnaire was Sent

Betts, Mr Doug - Evaluation Division, Department of Environmental Protection
Brown, Mr Paul - District Manager Gascoyne, Department of Conservation & Land Management
Cannon, Mr Mark - Mining Operations Division, Department of Minerals and Energy
Christensen, Dr Per
Crawford, Mr H.J. - Chair, Shark Bay Land Conservation District Committee
Eliot, Dr Ian - Department of Geography, University of Western Australia
Gillen, Mr Kelly - Regional Manager, Department of Conservation & Land Management
Guerini, Mr Bernie - President, Denham Tourist Committee
Hoult, Mr Bobby
Hoult, Mr Dennis - President, Denham Fishermen's Association
Joll, Dr Lindsay - Fisheries Western Australia
Keighery, Mr Greg - Department of Conservation & Land Management
Krockenberger, Mr Michael - Campaigns Director, Australian Conservation Foundation
Leaman, Mr Greg
Logan, Dr Brian
Marr, Mr Alec - Campaign Director, The Wilderness Society
Mason, Mr Bob - General Manager, Skywest Airlines Pty Ltd
McKenzie, Mr David - The Wilderness Society
McNamara, Mr Keiran - Director, Nature Conservation, Department of Conservation & Land Management
Mills, Mrs D.A. - President, Shire of Carnarvon
Mosley, Dr Geoff
Moss, Mr Les - President, Shire of Shark Bay
Nicholls, Mr Warren - Director, World Heritage Unit, Environment Australia
Patty, Mr Richard - Norwest Seafoods Pty Ltd
Rundle, Mr Graeme - Hon. Secretary, WA National Parks & Reserves Association (Inc.)
Scott, Ms Jane - Project Officer, Department of Conservation & Land Management
Scott, Mr Barry
Shankland, Mrs Jessie
Siewert, Ms Rachel - Coordinator, Conservation Council of Western Australia
Truscott, Ms Marilyn - President, Australia ICOMOS
Wake, Mr Brian - Hamelin Station
Walker, A/Professor Di - Chair, Shark Bay Scientific Advisory Committee
Wilson, Dr Barry - Chair, Shark Bay Community Consultative Committee

ACIUCN Members

Government Agency Members:

Australian Heritage Commission
Department of Conservation & Land Management, Western Australian
Department for Environment and Heritage & Aboriginal Affairs, South Australia
Environment Australia, Department of the Environment and Heritage
Great Barrier Reef Marine Park Authority
NSW National Parks and Wildlife Service
Parks and Wildlife Commission of the Northern Territory
Queensland Parks and Wildlife Service
State Forests of NSW
Wet Tropics Management Authority

National Non-Government Organisation Members:

Association for Research & Environmental Aid
Australian Conservation Foundation
Australian Marine Conservation Society Inc.
Australian Rainforest Conservation Society Inc.
Australian Trust for Conservation Volunteers
Conservation Council of South Australia Inc.
Conservation Council of Western Australia Inc.
Environment Centre Northern Territory Inc.
Environment Institute of Australia Inc.
Greenpeace Australia
Institute of Foresters of Australia Inc.
National Parks Association NSW
National Parks Australia Council
Nature Conservation Council of NSW
Project Jonah Australia
Queensland Conservation Council Inc.
Royal Zoological Society of South Australia
School of Resource, Environmental & Heritage Sciences, University of Canberra
The Wilderness Society
Wild Life Preservation Society of Australia
Wildlife Preservation Society of Queensland
Wildlife Survival Inc
World Wide Fund for Nature Australia

Non Voting Members:

Primary Industries (South Australia)
Tasmanian Conservation Trust Inc.
The Trust for Nature (Victoria)
Mr Peter Hitchcock
Mr Graeme Kelleher
Mr Michael Kennedy
Prof Bruce Davis

Members of the Working Group

Ms Pam Eiser, Executive Officer, Australian Committee for IUCN

Mr Kelly Gillen, Regional Manager, Department of Conservation & Land Management

Ms Fareeha Ibrahim/Mr Rod Atkins/Mr Ian Mason, World Heritage Unit, Environment Australia

Ms Rachel Siewert, Coordinator, Conservation Council of Western Australia

A/Professor Di Walker, Chair, Shark Bay Scientific Advisory Committee

Dr Barry Wilson, Chair, Shark Bay Community Consultative Committee

18.72 Mineral, including Oil, Exploration in or adjacent to Marine Parks and World Heritage Areas in Australia

RECOGNISING the outstanding natural values of much of the Australian marine environment, including areas such as the Great Barrier Reef, Lord Howe Island Group and (proposed) Shark Bay World Heritage Sites;

APPLAUDING the statement of the Prime Minister of Australia during the opening ceremony of the 18th Session of the IUCN General Assembly that he was “pleased to announce that the Australian Government has decided to work towards the ... establishment of a national, representative system of marine protected areas for Australia that will protect these areas ...”;

NOTING an earlier statement by the Prime Minister on 19 July 1990, that he “will not countenance any drilling which would in any way endanger sensitive marine environments” including “not just the Great Barrier Reef area, but also Lord Howe Island as well as the Shark Bay area” and that the Government has commissioned a preliminary environmental assessment by the Great Barrier Reef Marine Park Authority of the likely impacts of oil exploration adjacent to the Marine Park;

RECOGNISING the potentially devastating impact that oil spills associated with exploration, production and transport can have on the marine environment as exemplified by the Exxon Valdez oil spill in Alaska;

BEARING IN MIND the vulnerability of marine ecosystems to both acute impacts of oil spills and the longer term chronic impacts of offshore oil and gas exploitation;

DEEPLY CONCERNED about the Australian Government’s recent proposal to open up much of the continental shelf of Australia to offshore oil and gas exploration, including areas adjacent to existing and proposed marine World Heritage Sites;

RECOGNISING that under Australian law an oil exploration permit automatically confers the right to exploit the resource if oil is discovered;

ACKNOWLEDGING that oil spilled in the marine environment fails to recognise or respect boundaries of World Heritage Sites or marine parks;

The General Assembly of IUCN-The World Conservation Union, at its 18th Session in Perth, Australia, 28 November-5 December 1990:

URGES to Government of Australia:

- a. to move expeditiously to establish a comprehensive system of marine protected areas around Australia;
- b. in light of the Prime Minister’s commitment to a marine protected area system, to immediately defer and review the implementation of the government’s current offshore oil exploration programme until the comprehensive system of marine protected areas has been established;
- c. to ensure that no mineral, including oil or gas, exploration or development activities will occur in waters adjacent to Australia which could cause damage to World Heritage Sites and other marine protected areas from blow-out or other events associated with exploration, production and transport.

Note: This recommendation was adopted by consensus. The Australian State member delegation indicated that they could not support the words “immediately defer” in operative sub-paragraph (b) and so, had there been a vote, the delegation would have abstained.

WCPA POSITION STATEMENT ON MINING AND ASSOCIATED ACTIVITIES IN RELATION TO PROTECTED AREAS

Introduction

This position statement is put forward as a global framework statement which recognises that clear rules are easier to understand and defend than ones which depend too much on interpretation. It is considered more appropriate to provide clear global guidance in a statement such as this and leave it to countries to consider what adaptations are needed in local circumstances. This statement defines the position of IUCN's World Commission on Protected Areas (WCPA) towards mining¹³ and associated activities in and adjacent to protected areas¹⁴. WCPA is the world's largest network of protected area professionals with 1,300 members in 140 countries. This position statement acknowledges the increasing application of "best practices" environmental approaches and lower impact technology within the mining industry as well as examples of support for conservation activities. However, WCPA also notes that exploration and extraction of mineral resources can have serious long-term consequences on the environment.

WCPA has developed this position statement based on what it believes to represent best practice in respect of mining and protected areas. The guiding principle adopted in this statement is that any activity within a protected area has to be compatible with the overall objectives of the protected area. For this reason, this statement is based on the IUCN Protected Area Management Categories, which reflect management objectives focused on the protection and maintenance of biodiversity and associated natural and cultural values.

The IUCN category system is being increasingly recognised and applied around the world. A summary of the protected area categories is attached. The position statement relates to protected areas, which are one part of a spectrum of land use. This statement thus needs to be considered in the context of broader efforts on the part of the mining industry, conservation groups, governments and others to promote ecologically sustainable development on the part of the mining industry.

The process for preparing this position statement has involved: (a) preparation of a draft statement; (b) wide circulation of the draft to a range of different stakeholders; (c) consideration of comments and amendments; and (d) review by the IUCN Council before adoption by WCPA.

Position Statement

WCPA (The World Commission on Protected Areas) believes:

A comprehensive approach to planning should be adopted where possible to establish an adequate and representative protected area system set within the broader landscape. Assessment should be based on good science including assessments of natural and mineral values. This is particularly relevant to the establishment of new protected areas.

Exploration and extraction of mineral resources are incompatible with the purposes of protected areas corresponding to IUCN Protected Area Management Categories I to IV, and should therefore be prohibited by law or other effective means.

In Categories V and VI, exploration and minimal and localised extraction is acceptable only where this is compatible with the objectives of the protected area and then only after the assessment of environmental impact (EIA) and subject to strict operating, monitoring and after use restoration conditions. This should apply "best practices" environmental approaches.

That should exploration be permitted in category V and VI, an environmental impact assessment (EIA) should be required following such exploration before extraction is permitted. Approval for exploration should not imply automatic approval for extraction.

Proposed changes to the boundaries of protected areas, or to their categorisation, to allow operations for the exploration or extraction of mineral resources should be subject to procedures at least as rigorous as those involved in the

¹³ The term mining in this position statement describes all forms of mineral, salt and hydrocarbon extraction.

¹⁴ IUCN defines (IUCN 1994) protected area as "an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means".

establishment of the protected area in the first place. There should also be an assessment of the impact of the proposed change on the ability to meet the objectives of the protected area.

Exploration and extraction of mineral resources, and associated infrastructure, which are outside of, but negatively affecting the values for which protected areas were established should be subject to EIA procedures which consider, *inter alia*, the immediate and cumulative effects of the activity on the protected area, recommend operating and after use conditions, and ensure that the values of the protected areas are safeguarded.

In recognising the important contribution the mining industry can play, opportunities for co-operation and partnership between the mining industry and protected area agencies should be strongly encouraged. Collaboration with the mining industry should focus on securing respect and support for this position statement; broadening the application of best environmental practice for mining activity; and exploring areas of mutual benefit.

19.86 Mining in the Conservation Estate, Australia

NOTING Recommendation 18.66 of the 18th Session of the General Assembly;

CONCERNED that no action has been taken by the past or current Western Australian Governments to implement this Recommendation;

CONCERNED that the current Western Australian Government has lifted the ban on mining in national parks;

ALARMED that exploration and mining may now be allowed in any of Western Australia's national parks or nature reserves;

ALARMED that the Western Australian government is prepared to allow oil exploration and drilling in the Ningaloo Marine Park;

AWARE that many important national parks and nature reserves in Western Australia are currently being explored and/or mined, including the internationally important Karijini and D'Entrecasteaux National Parks;

AWARE that the conservation estate in Western Australia is still far from comprehensive;

The General Assembly of IUCN - The World Conservation Union, at its 19th Session in Buenos Aires, Argentina, 17-26 January 1994:

1. CALLS UPON the Government of Western Australia:
 - (a) to change its policy on exploration and mining in national parks and nature reserves to exclude these activities;
 - (b) to protect national parks and nature reserves from exploitative industries and hence uphold the IUCN definitions of national parks and nature reserves;
 - (c) to ban oil exploration and drilling from marine parks, in particular the Ningaloo Marine Park;
2. CALLS ON the Commonwealth Government of Australia to honour its commitment to the protection of biodiversity by using all powers available to it to protect national parks and nature reserves that are under threat in Australia.

Note. This Recommendation was adopted by consensus. The delegations of the State members Australia, Canada, Denmark, Finland, France, Germany, Greece, Malaysia, Netherlands, New Zealand, Norway, Oman, South Africa, Sweden, United Kingdom, United States, Zaire and Zimbabwe, and the delegation of the Department of Environment and Conservation, Papua New Guinea (a Government Agency member), indicated that had there been a vote, they would have abstained.

Select Reference List

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- CALM (1996), *Shark Bay Marine Reserves: Management Plan 1996-2006*, Management Plan No. 34, Department of Conservation and Land Management for the National Parks and Nature Conservation Authority, Perth.
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- IUCN (1994), *Guidelines for Protected Area Management Categories*, IUCN Commission on National Parks and Protected Areas with the assistance of the World Conservation Monitoring Centre, IUCN, Gland, Switzerland and Cambridge, UK.
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- State Planning Commission (1987), *Shark Bay Region Plan*, March 1987, State Planning Commission and Department of Conservation and Land Management, Perth.
- Western Australian Planning Commission (1997), *Shark Bay Regional Strategy: A Review of the 1988 Shark Bay Region Plan*, A Strategic Policy Statement and Land Use Plan, October 1997, Western Australian Planning Commission, Perth.

SHARK BAY - FOCUSED RECOMMENDATIONS BASED ON THE ACIUCN REPORT

The World Heritage Committee at its meeting in December 1999 requested that IUCN and the State Party provide a detailed and up-to-date state of conservation report for Shark Bay World Heritage Area, including a focused set of recommendations and a plan for their implementation as had been developed for the Great Barrier Reef World Heritage Area. It noted and commended the consultative process involving stakeholders undertaken in arriving at the Great Barrier Reef reports.

On 31 March 2000 the Australian Committee for IUCN (ACIUCN) adopted its report *Shark Bay World Heritage Area: Condition, Management & Threats* during its 41st Ordinary Meeting.

ACIUCN consequently:

- undertook an analysis of the recommendations of its March 2000 report with the aim of identifying recommendations for priority actions;
- involved members of the ACIUCN working group established to help prepare its earlier report, including State Party representatives, in the analysis of recommendations, and
- conveyed these recommendations to relevant government officers at the earliest possible stage to facilitate development of a State Party response.

To arrive at a set of focused recommendations, ACIUCN therefore undertook a clustering analysis of the 15 recommendations contained in its March 2000 report. This process and an initial draft were discussed at the 41st meeting of ACIUCN in March 2000 and the process completed by the ACIUCN Executive in consultation with members of the ACIUCN working group which developed the report.

The analysis identified five priority action areas:

1. **Overall Management Framework** (*Recommendations 1 and 15 in the ACIUCN Report*)

Although Shark Bay was inscribed on the world heritage list in 1991, there is still no overarching management plan with a primary objective of protection of the world heritage property in perpetuity to provide an overall framework for activity within the area whilst recognising that various planning documents do apply over the property, and recognising that the draft *Shark Bay World Heritage Property Strategic Plan* is being finalised for public comment.

ACIUCN recommends that the *Shark Bay World Heritage Property Strategic Plan* be completed and implemented as a matter of high priority. **ACIUCN further recommends** that outstanding reserve proposals identified in existing planning documents be implemented as a matter of priority and that appropriately resourced and staffed management arrangements be instituted to ensure that the world heritage values of the property are maintained

2. Minerals and Petroleum: Exploration and Extraction (*Recommendations, 2, 3, 4, 5, 6 and 7 in the ACIUCN Report*)

Activities relating to exploration, extraction or production of geological resources and salt have the potential to impact on the World Heritage values of the property. Issues concerning mineral exploration and extraction are contentious and it was not possible to achieve unanimous agreement with respect to the recommendations adopted in the ACIUCN report. Shell mining and salt extraction were existing activities at the time of world heritage listing and State Party and Western Australian government agreement to its listing was predicated on their continuation. The coquina shell nevertheless is an important feature of the world heritage area and proposals to expand salt extraction into the current world heritage area are of concern. It is existing ACIUCN policy that mining and mineral exploration should not take place in IUCN Categories I and II protected areas. Consistent with the recent IUCN World Commission on Protected Areas Position Paper, this was extended, although not unanimously, in the recommendations contained in this report to include Categories III and IV protected areas. ACIUCN suggests that the governments concerned report on actions taken to ensure that where any such activities occur they do not cause damage to world heritage values.

ACIUCN recommends that no such activities should take place where they are likely to cause damage to world heritage values.

3. Biological Resource Harvest (*Recommendations 11, 12, 13 and 14 in the ACIUCN Report*)

There are grazing leases in parts of the terrestrial area, aquaculture operations, proposals for further aquaculture developments and a number of fisheries in the marine area. The extent to which they are ecologically sustainable and may impact individually or cumulatively on the world heritage values of the area is not clear.

ACIUCN recommends that management plans be developed and implemented that ensure that any grazing activities, aquaculture and fisheries are ecologically sustainable and not likely individually or cumulatively to cause adverse impacts on world heritage values.

4. Invasive Species (*Recommendations 8,10 and 14 in the ACIUCN Report*)

Pastoral activities, aquaculture and ballast discharge from ships present current and potential threats of feral animal and exotic plant introduction with consequent impacts on world heritage values.

ACIUCN recommends that strategic plans be developed and implemented to eradicate or adequately control feral and exotic species which currently occur and to prevent future entry and establishment of invasive species.

5. Visitor Management (*Recommendations 9 and 12 in the ACIUCN Report*)

World heritage status requires presentation of the natural and cultural heritage whilst ensuring that the activities of visitors are not likely to impact adversely on the values of the area. The natural attractions of Shark Bay include many of the features for which the area is world heritage listed. In addition, Shark Bay is considered one of the most popular recreational fishing locations in Western Australia. Proposals to facilitate and encourage visitor access are currently under consideration.

ACIUCN recommends that an overall visitor management strategy be developed as a matter of priority, with particular reference to areas of high nature conservation value, to ensure that tourism and recreational fishing are consistent with maintenance of world heritage values.

R A Kenchington
President
Australian Committee for IUCN, 14 April 2000