Periodic Assessment Report – Jurien Bay Marine Park & Turquoise Coast Islands

Conservation and Parks Commission - Function

The Conservation and Parks Commission's (Commission) periodic assessments are undertaken primarily to fulfil the functions described in section 19 (g) of the *Conservation and Land Management Act 1984*, that is to assess the effectiveness of the implementation of management plans by those responsible for implementing them. The assessments also inform the Commission's policy advice function to the Minister for Environment on the development of policies, amongst others, on the achievement of the purpose of the reservation of the land, for the preservation of the natural environment and the provision of facilities for the enjoyment of that environment by the community; and conservation and management of biodiversity and biodiversity components throughout the State.

The periodic assessment was undertaken in accordance with the Commission's position statement and guidelines for periodic assessments.

This document is available on the Commission's website:
www.conservation.wa.gov.au.

Approved at Conservation and Parks Commission meeting 20th July 2018

Assessment number: CRMPPA–01/18

Conservation and Parks Commission
Block 11, 17 Dick Perry Avenue
Kensington WA 6151

The recommended reference for this report is:

Conservation and Parks Commission (2018). *Periodic assessment – Jurien Bay Marine Park and Turquoise Coast Island Nature Reserves*. Conservation and Parks Commission, Kensington, WA.

The use of Department of Biodiversity, Conservation and Attractions and other key stakeholder data for the production of this report is acknowledged.

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1 Executive Summary

The periodic assessment of the implementation of these two management plans has presented the first opportunity to integrate the reporting process for marine and terrestrial management plans. The process has highlighted the differing approaches between marine and terrestrial planning and while both plans have formal measures in terms of Key Performance Indicators (KPIs), the structure of the KPIs and the differences in reporting frequency has dictated the use of differing types of analyses for the available marine and terrestrial data. A comparison of the two approaches to planning and planning review has highlighted the benefits from a monitoring perspective of marine planning's consistent values-based approach which has yielded formal indicators in a consistent format for many years. In order to collate the equivalent terrestrial KPIs into a format which can provide comparable reporting, the terrestrial KPIs were allocated into groups. Also guided by the performance assessment approach of marine planning, the Conservation and Parks Commission (Commission) requested that the response to the terrestrial KPIs from the Department of Biodiversity, Conservation and Attractions (DBCA) also follow the Condition-Pressure-Response method of evaluating management effectiveness where possible. This approach is being considered for other terrestrial periodic assessments.

The Key Performance Indicators (KPIs) for the Jurien Bay Marine Park Management Plan do not indicate specific areas for concern. Reporting for the 'Finfish KPI' has indicated a medium-low effectiveness rating for several years. From the limited stakeholder engagement undertaken for this assessment, there are also some indications that more effective stakeholder engagement strategies should be considered.

As described in previous reports for the Jurien Bay Marine Park Management Plan, there is a longstanding recommendation to review the adequacy of the marine park sanctuary zones however no formal process of zoning review has been initiated. As such a review would require formal public consultation in accordance with the Conservation and Lands Management Act 1984 (CALM Act) it is logical to conclude that any formal review of the marine park sanctuary zones would be one of the considerations of a new management plan process should that be undertaken. Also, the CALM Act 1984 amendments now enable joint management of lands and waters between the DBCA and other landowners, or those with a vested or other interest in the land, including Aboriginal people. A proposal for a new management plan could be explored for this location including provisions to enable the joint management of reserves already managed under the CALM Act and vested in the Commission. This may also progress the proposal to gazette the marine park to the low water mark to manage the relevant portions of the intertidal area.

The KPIs for the Turquoise Coast Island Nature Reserves Management Plan do not indicate specific areas for concern. Monitoring of the endangered species of fauna

which inhabit some islands has been consistently undertaken over the life of the management plan.

A number of findings with accompanying recommendations are listed below to consider in the future management of these parks and reserves.

1.1 **Findings and Recommendations**

Finding 1

The practice of the former Marine Parks and Reserves Authority (and now the Commission) of selectively sampling specific groups of stakeholders regarding views on the implementation of a management plan represents only a very small sample size.

Recommendation 1

It is recommended that the Commission explore ways of broadening the periodic assessment stakeholder survey process to increase the number of potential respondents.

Finding 2

It is understood that the Jurien Bay Management Advisory Committee was formed but disbanded many years ago.

Recommendation 2

It is recommended that DBCA reform the Management Advisory Committee or similar as means of facilitating community engagement.

Finding 3

There has been no formal measurement of erosion of the beaches within the marine park and surrounds.

Recommendation 3

It is recommended that the DBCA monitor the threat of coastal erosion on the ecological and social values of the marine park.

Finding 4

Rather than the current intermittent approach to managing the issue of dredging in and around the Jurien Bay Boat Harbour, a medium-to-long term strategy needs to be considered which balances the overall cumulative impacts (both terrestrial and marine) on this location.

Recommendation 4

It is recommended that the DBCA advise the Commission on medium-to-long term strategic solutions to dredging (and disposal of dredge material) from in and around the Jurien Bay Boat Harbour.

Finding 5

The former Marine Parks and Reserves Authority recommended zoning reviews in its 2008 assessments but no formal process has been initiated.

Recommendation 5

DBCA to advise the Commission on the proposed scheduling of the new marine park management plan and intensions to review the zoning scheme.

Finding 6

The Condition-Pressure-Response method of evaluating management effectiveness was used for the Turquoise Coast Island Nature Reserves Management Plan KPIs.

Recommendation 6

It is recommended that where scientific information is available to support terrestrial KPIs, that the Condition-Pressure-Response approach is utilised for evaluating KPIs and management effectiveness.

Finding 7

The weed-related KPI measure references a singular species and does not include reference to any other weed species although there are more than 40 weed species occurring on the islands (now inclusive of the invasive tree mallow).

Recommendation 7

It is recommended that formal measures such as KPIs should be structured to enable measurement of the management of emerging priority weed species.

2 Overview

The two management plans to be concurrently reported through this assessment are:

- Jurien Bay Marine Park Management Plan 2005 -2015
- Turquoise Coast Island Nature Reserves Management Plan 2004

The periodic assessment for the Jurien Bay Marine Park and Turquoise Coast Island Nature Reserves was added to the periodic assessment schedule for 2017/18.

2.1 Aim and Objectives

The Commission has statutory obligations to meet regarding the lands and waters vested in it. Through the periodic assessment of management plans, the Commission aims to:

- determine which reserves, and their values, meet performance targets and which do not; and
- assess how well the reserves conserve our natural and cultural heritage and facilitate sustainable recreational use.

These periodic assessments inform the Commission on the condition of the conservation estate and effectiveness of management activities to achieve proper care, control and management of vested lands and waters in accordance with the established statutory management plans.

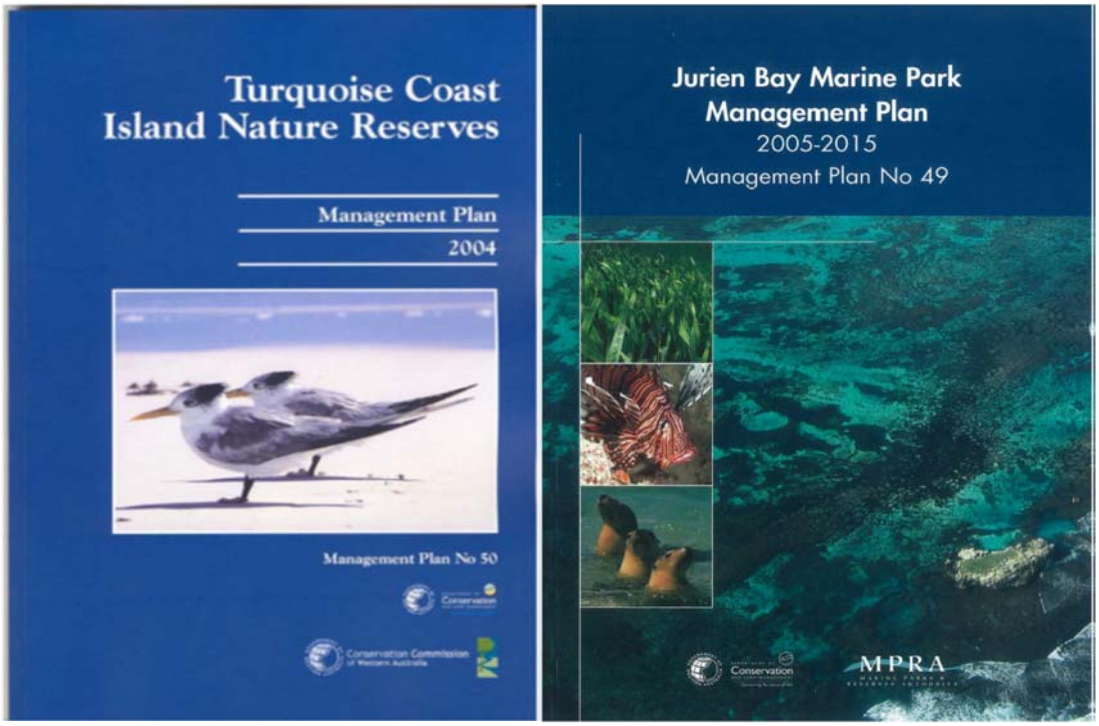
This periodic assessment has the following objectives:

1. To identify the effectiveness of performance in relation to the achievement of the management plan objectives.
2. To identify the actual outcome of management activities compared with the intended outcome.
3. To report on key risks and challenges for each planning area.
4. To provide for adequate consultation with all relevant stakeholders including the dissemination of findings to benefit reserve management outcomes.

2.2 Scope of work

This assessment focused on lands and waters identified within each of the planning areas. The main focus was upon the DBCA reporting of the KPI's as identified in the two management plans: -

- Jurien Bay Marine Park Management Plan 2005 -2015
- Turquoise Coast Island Nature Reserves Management Plan 2004



2.3 **Methodology**

Periodic assessments rely on objective evidence for evaluating performance against a set of criteria. Objective evidence will be derived from the following areas: -

- Records
- Documents
- Interviews
- Observations

Where possible, the assessment process has sought to verify documents and records with observations and interviews and vice versa.

The periodic assessment of the implementation of these two management plans has presented the first opportunity to integrate the reporting process for marine and terrestrial management plans. The process has highlighted the differing approaches between marine and terrestrial planning and while both plans have formal measures in terms of Key Performance Indicators (KPIs), the structure of the KPIs and the differences in reporting frequency has dictated the use of differing types of analyses for the available marine and terrestrial data. As such, the KPIs and associated discussion of the results are included in separate sections of the report.

2.4 **Previous assessments**

In 2008, the former Marine Parks and Reserves Authority published a mid-term periodic audit report on the implementation of the Jurien Bay Marine Park Management Plan 2005 -2015. The assessment found the following: -

The audit has found a very high level of support amongst stakeholders for the existence of the park, its role in protecting local marine biodiversity, value to the local community, and its management by DEC and DoF. Based on evidence relating to the KPIs, the park is well-managed and is consistently meeting all but two of its primary objectives. Based on the information supplied during this audit, the park appears to be failing to meet the objective of comprehensive protection of its biodiversity through provision of adequate sanctuary zones, and there is qualitative evidence that the objectives for the conservation of populations of targeted finfish are not being achieved. (Jurien Bay Marine Park Periodic Audit Report, Marine Parks and Reserves Authority, July 2008).

In 2008 the former Conservation Commission sought a reporting update from the DBCA on the KPIs for the Turquoise Coast Island Nature Reserves Management Plan 2004. The table and response to this review is included as APPENDIX F to this report.

2.5 **Site Description**

The plans for the two planning areas are of comparable age and do share some overlapping values within intertidal areas of the Turquoise Coast Island Nature Reserves which extend to low water mark. The majority of the islands were originally gazetted between 1958 and 1968, with the Jurien Bay Marine Park formally declared on 31st August 2003. Both planning areas are vested in the Commission and managed by the DBCA.

The marine park is unique in that it covers an area at the margins of both tropical and temperate marine ecosystems. The park extends from Wedge Island in the south to Green Head in the north and west to the State boundary. The marine plants and animals in the park are heavily influenced by the southward-flowing Leeuwin Current. The marine park covers environments from sandy beaches and rocky shores to seagrass meadows and limestone reefs with a diverse range of species. It also provides many recreational opportunities.

Within the confines of the marine park, the Turquoise Coast island nature reserves are a chain of approximately 40 islands, islets and rocks lying between Lancelin and Dongara and extending from Lancelin Island and Edwards Island (approximately 110 km north of Perth) to the Beagle Islands group (260 km north of Perth). The islands range in size from less than 0.1 ha to approximately 31.5 ha and are grouped into 13 nature reserves. The islands provide educational, interpretive and recreational opportunities due to their diversity, conservation value and proximity to the coast.

3 Jurien Bay Marine Park KPIs

The following table details both the indicators or values and their respective KPI reporting frequency for the Jurien Bay Marine Park planning area: -

Table 1. Marine values and summary indication of available data sources

Indicator/value	Reporting available past 5 years	Use in summary dashboard
Sea lions*	Yes	Yes
Water quality*	Yes	Yes
Finfish*	Yes	Yes
Seagrass*	Yes	Yes
Seascape*	Yes	Yes
Seabirds	Yes	Yes
Invertebrates	Yes	Yes
Geomorphology	Yes	Yes
Cetaceans	Yes	Yes
Macroalgal subtidal	Yes	Yes
Intertidal reef platforms	Yes	Yes
Commercial fishing	No	No
Nature based recreation and tourism	No	No
Research marine	No	No
Resources and associated industries	No	No
Aquaculture	No	No
Indigenous heritage	No	No
Community	No	No
Historical marine	No	No
Coastal use*	No	No

*KPIs – '*Key performance indicators (KPIs) are measures of the overall effectiveness of management in relation to the strategic objectives of the marine park. KPIs relate specifically to the management targets for key ecological and social values and reflect the highest conservation (from biodiversity and ecosystem integrity perspectives) and management (social) priorities of the MPRA, CALM and the community.*' - page 13, *Jurien Bay Marine Park Management Plan 2005 -2015*. '*Given the key values and pressures on the area, the KPI's for the Jurien Bay Marine Park will be based on the management targets for sea lions, water quality, finfish and seagrass values and for coastal use and seascape.*' – page 13, *Jurien Bay Marine Park Management Plan 2005 -2015*.

While not all the values listed in Table 1 above were marked as requiring 'KPIs', where data was available for reporting, it has been included in Figure 1 below which summarises (average for approximately the last seven years of annual reporting) management effectiveness for those values.

3.1 **Summary Dashboard - Jurien Bay Marine Park Management Plan**

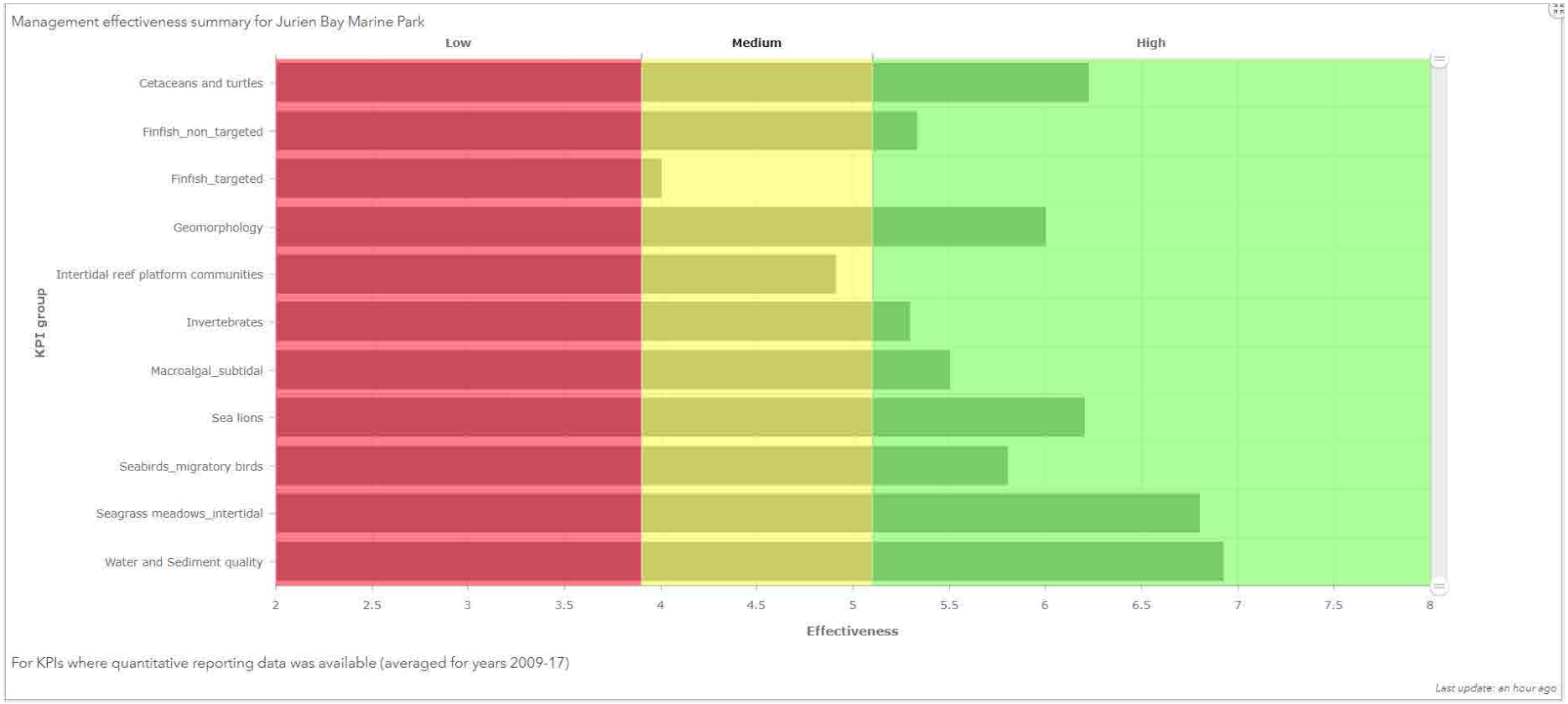


Figure 1. Management effectiveness summary for Jurien Bay Marine Park Management Plan KPIs

An explanation of the ratings using Condition-Pressure-Response for management effectiveness is provided in APPENDIX B. Due to the established practice of measuring and recording marine KPI effectiveness annually, the management effectiveness for a given KPI can also be represented as an average, as in Figure 1, or as a series of values to gauge the effectiveness over time as shown in Figure 2.

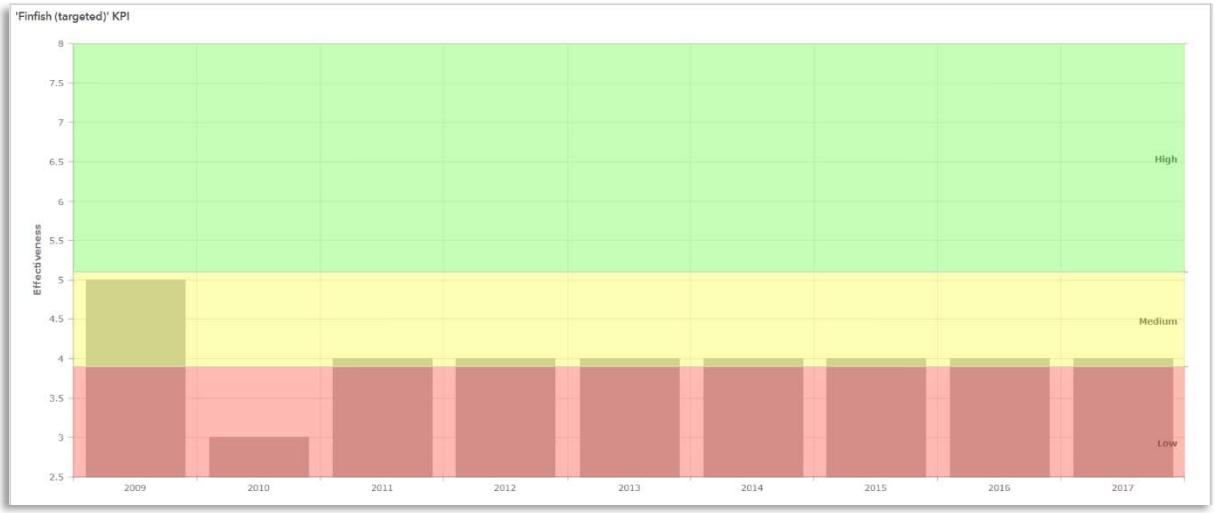


Figure 2. Management effectiveness values for Finfish (targeted) for the period 2009 to 2017

The Key Performance Indicators (KPIs) for the Jurien Bay Marine Park Management Plan do not indicate specific areas for concern. A review of the marine park zoning has been flagged in annual reports to address the medium-low effectiveness rating for targeted invertebrates and finfish in relation to 'no-take' sanctuary zoning (see section on Zoning review).

3.1.1 Water quality

The DBCA advises that 'water quality' is considered to be in overall good condition but there has been a slow increasing trend in seawater temperature in the eastern, northern and southern sectors across the last 32 years and it is 'highly likely that this trend is associated with climate change'.

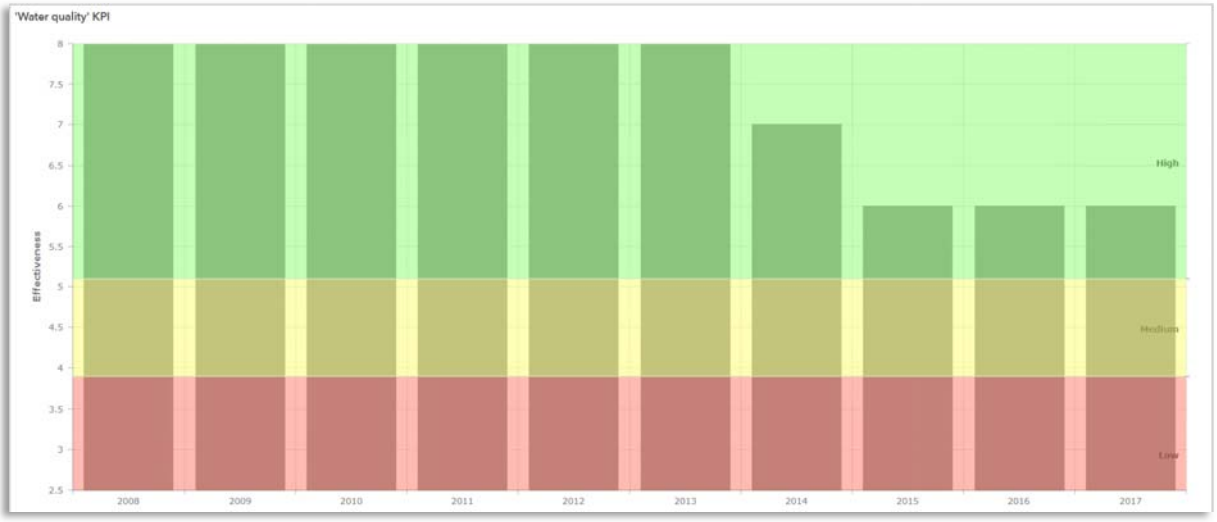


Figure 3. Management effectiveness values for Water Quality for the period 2009 to 2017

Supporting data for water quality includes average sea surface temperatures within Jurien Bay Marine Park which are slowly increasing as shown below: -

3.1.2 Sea surface temperature

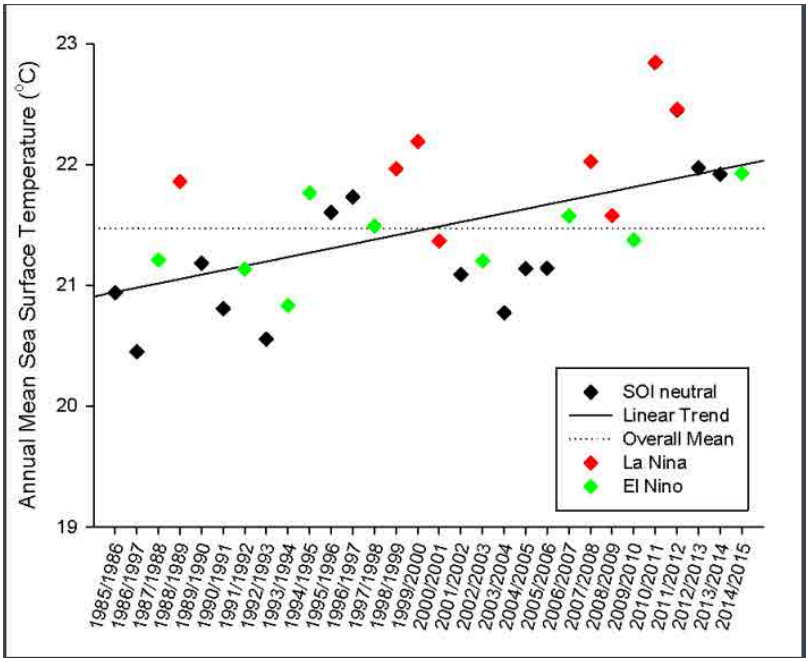


Figure 4. Average sea surface temperatures within Jurien Bay Marine Park are slowly increasing (Data provide by DBCA)

As detailed previously, the other KPI's for the Jurien Bay Marine Park with reporting data are the values sea lions, seagrass and seascape. The management effectiveness for each of these KPIs has also be represented as a series of values to gauge the effectiveness over time in Figure 5, 6 and 7 (below)

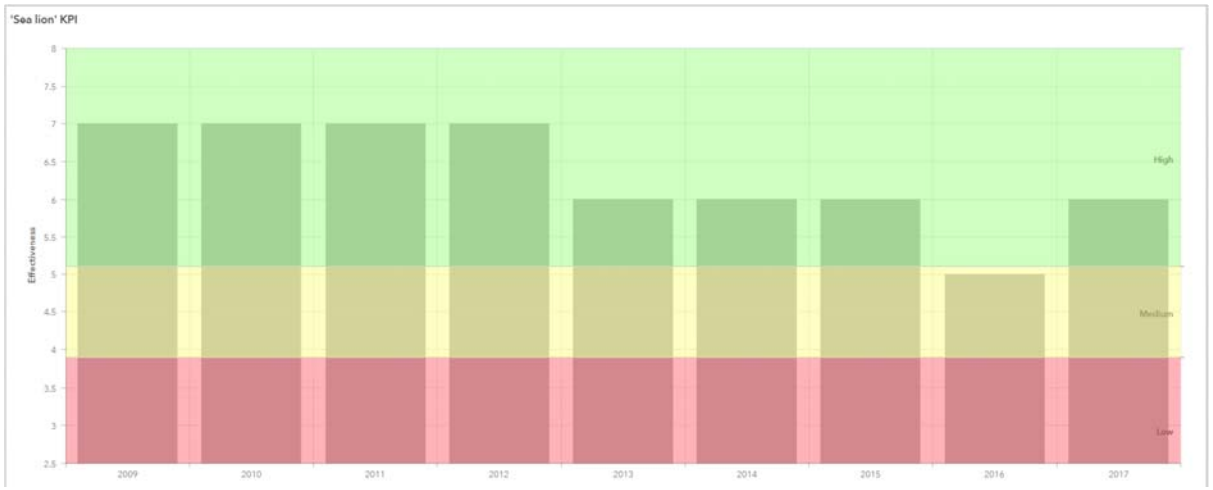


Figure 5 Management effectiveness values for Sea Lions for the period 2009 to 2017

The response from DBCA to this KPI for 2016-17 indicates no sea lion population increase.

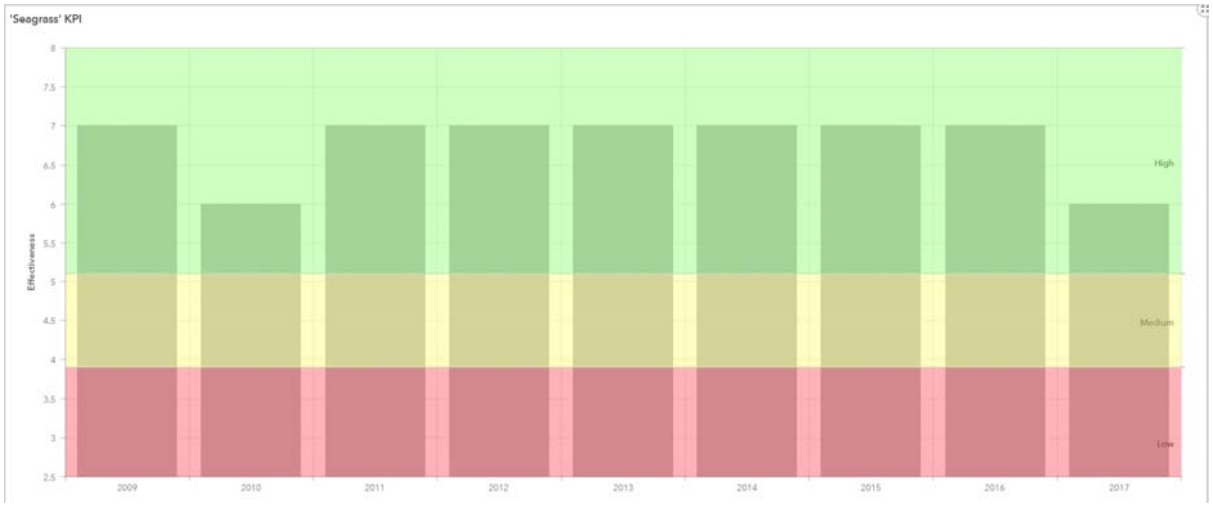


Figure 6 Management effectiveness values for Seagrass for the period 2009 to 2017

The response from DBCA to this KPI for 2016-17 indicates that *Posidonia sinuosa* densities have suffered significant declines at a number of sites, particularly around Boullanger Island. No changes were recorded in percent cover or canopy height.

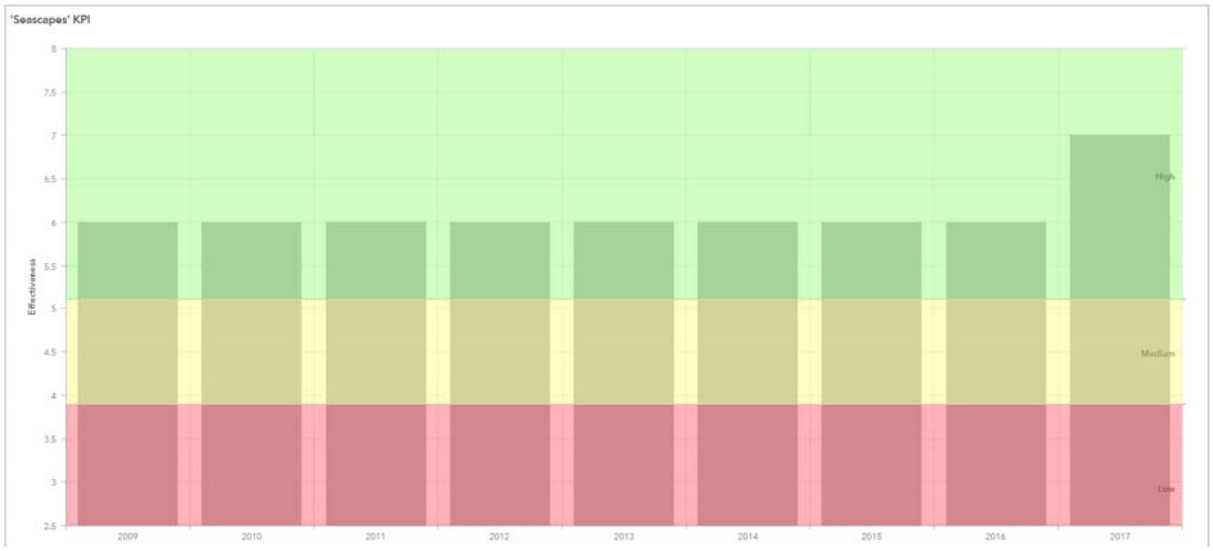


Figure 7 Management effectiveness values for Seascapes for the period 2009 to 2017

The response from DBCA to this KPI for 2016-17 indicates that metrics for measuring seascapes are in development.

3.1.3 Intertidal area

The landward boundary of the marine park is the low-water mark. However, it is clear from the management plan that there is intent to amend the boundary to the high-water mark, *The intertidal components are an important marine habitat, and the low water mark is an impractical boundary for management. CALM will therefore be undertaking negotiations with the registered native title claimants to seek agreement to the inclusion of the intertidal component in the marine park as soon as is practicable. This is consistent with the notice of intent and the indicative management plan that recommended that the intertidal area be vested as marine park - Jurien Bay Marine Park Management Plan 2005 -2015 (page 2)* and *The marine park has been gazetted to the low watermark with the unvested intertidal component (i.e. not already vested in other reserves such as National Parks and Nature Reserves), proposed to be included in the marine park at a later date. Given the requirements of the Native Title Act 1994, it will be necessary to obtain the support of the registered native title claimants for this to occur. CALM will undertake consultation with the Native Title claimants in regard to this issue - Jurien Bay Marine Park Management Plan 2005 - 2015 (page 32) and However, a large proportion of the coastal intertidal area adjacent to the marine park is vested as national park or nature reserve. To facilitate enforcement of the zoning scheme in the marine park, the regulations covering the marine park zones will be applied to the adjacent intertidal areas. It is anticipated that the remaining intertidal areas will be included in the marine park in the near future. Until this occurs, these areas will be managed consistent with the area of the marine park to which they adjoin - Jurien Bay Marine Park Management Plan 2005 -2015 (page 49)*

The Jurien Bay Marine Park Management Plan area is part of the South West Native Title Settlement Area ((the Noongar Native Title Agreement Group called Yued (Jurien, Moora, Lancelin, Gingin)). The National Native Title Tribunal Registrar's decision to register the Agreements has been delayed. The Yued ILUA, is not the subject of the delay but is still awaiting a registration decision by the Native Title Registrar. The proposal to gazette the marine park to the low water could also be part of the consultation process for a new management plan should that be scheduled (following a registration decision on an Indigenous Land Use Agreement ILUA).

3.1.4 Public participation - Stakeholder survey

The DBCA maintains a state-wide satisfaction sample, collected as a corporate indicator for annual reporting purposes. Some sampling was undertaken for Jurien Bay Marine Park at a rate of approximately 10 samples per year. For Jurien, the average satisfaction score across the last 5 years was 90.7%, with a sample size of 49.

It was the practice of the former MPRA at the end-of-term plan periodic assessment stage to selectively sample specific groups of stakeholders with regard to views on the implementation of a management plan. This practice was adapted and used for this current assessment in an online survey (see APPENDIX C for a copy of the online survey and APPENDIX D for the survey results) with a stakeholder list developed in consultation with the DBCA's Jurien Bay District office. As the survey was targeted to a relatively small number of stakeholders, and not all stakeholders responded, the results from this survey while quite informative, represent only a very small sample size. Furthermore, only a small number of people had knowledge about the survey, and it is likely that those who did participate, did so because they felt strongly about the topic. This can affect the results.

Finding 1

The practice of the former Marine Parks and Reserves Authority (and now the Commission) of selectively sampling specific groups of stakeholders regarding views on the implementation of a management plan represents only a very small sample size.

Recommendation 1

It is recommended that the Commission explore ways of broadening the periodic assessment stakeholder survey process to increase the number of potential respondents.

Nonetheless, the survey results do provide an indication that there is a need for greater community engagement. The Jurien Bay Marine Park Management Plan outlines as follows, 'An important early step in the administration of the Jurien Bay Marine Park is the establishment of a community-based Management Advisory Committee (MAC).' It is understood that the Jurien Bay Management Advisory

Committee (MAC) was formed but disbanded many years ago. Annual reporting from the DBCA indicates that there has been DPaW representation on community and steering group committees focussing on coastal and marine park stakeholder interests and some indication of a process leading towards re-formation of a MAC however it is unclear whether this process has been progressed.

Finding 2

It is understood that the Jurien Bay Management Advisory Committee was formed but disbanded many years ago.

Recommendation 2

It is recommended that DBCA reform the Management Advisory Committee or similar as means of facilitating community engagement.

3.1.5 Coastal erosion

In the Jurien Bay Marine Park Management Plan 2005 -2015, 'beaches' are mentioned under ecological values under the title of 'Geomorphology':-

Geomorphology: A complex seabed and coastal topography consisting of islands, sub-tidal and inter-tidal limestone reefs, protected inshore lagoons and deeper basins, beaches and headlands.

And further mentioned in the plan as Social values under 'Seascapes' and 'Coastal Use':-

Seascapes: Panoramic vistas of turquoise lagoon waters, offshore islands, reefs, beaches, breaking surf and the blue open ocean beyond the reef line are major attractions of the marine park.

Coastal use: Recreational use of headlands, dunes and long white beaches for walking, swimming, surfing and fishing are a major value of the marine park.

The response to the 'Seascapes' KPI for the 2017 annual report indicates 'metrics in development'. There is no mention of beaches in the reporting available for the Geomorphology KPI. Beaches are one of the more visual aspects of the seascape, as can be seen by the stakeholder response to the survey where erosion was identified as the biggest threat to the park and reserves: -

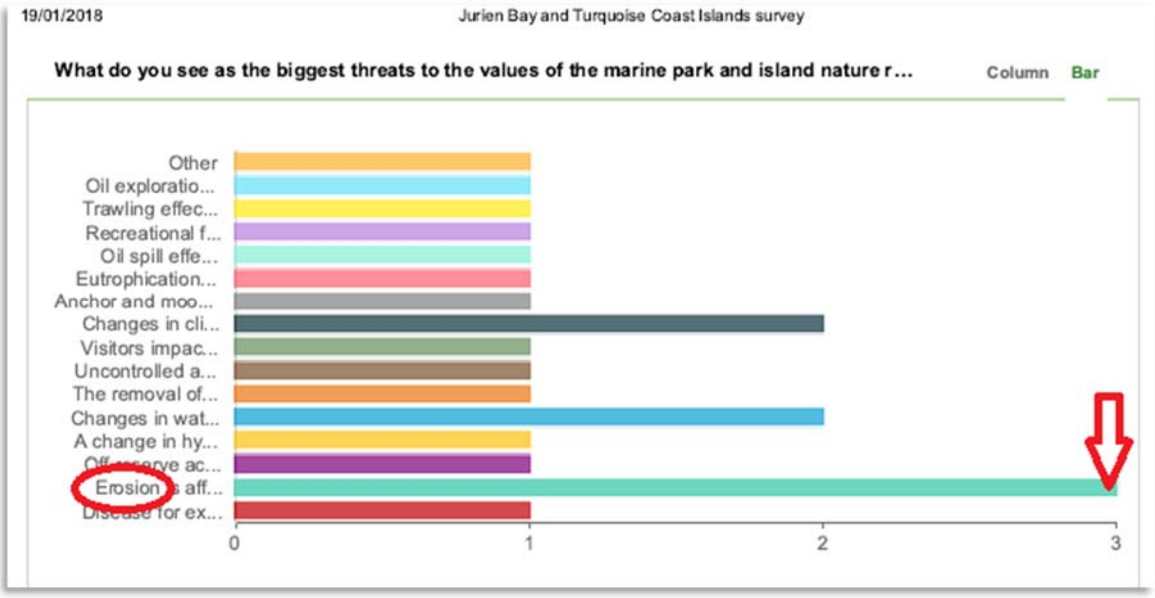


Figure 8. Summary statistics from the survey of stakeholders

The Geomorphology KPI also mentions the following in relation to beaches - *Coastal facilities such as groynes and marinas have the potential to significantly affect sedimentation patterns resulting in major changes to beaches.* Jurien Bay Marine Park Management Plan 2005 -2015 (page 14). Given this statement and the coastal erosion being experienced along the Mid-West coastline, it is not clear why there has been no formal measurement of erosion of the beaches within the marine park and surrounds.

Figure 9. Coastal erosion in Cervantes resulted in the demolition of a Dandaragan Shire shower block and car park in 2013. (Supplied: Shire of Dandaragan)

Finding 3

There has been no formal measurement of erosion of the beaches within the marine park and surrounds.

Recommendation 3

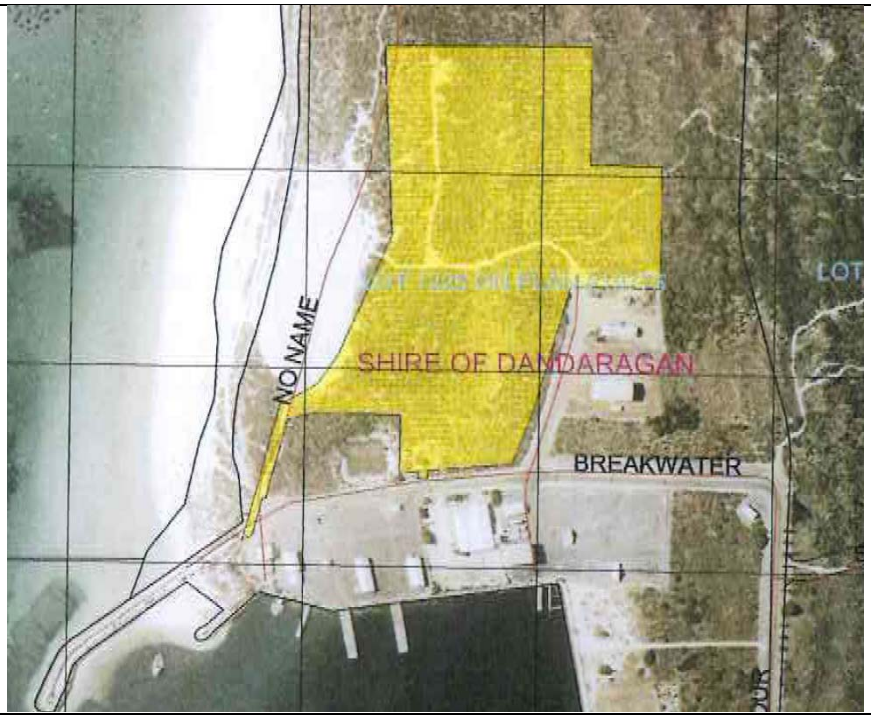
It is recommended that the DBCA monitor the threat of coastal erosion on the ecological and social values of the marine park.

3.1.6 Dredging in Jurien Bay Boat Harbour

In September 2016 the Commission endorsed a maintenance dredging campaign for Jurien Bay boat harbour. The primary aim of the campaign was to remove wrack and sand from the Boat Harbour entrance to reduce the risk of further deterioration of water quality that had previously led to fish kill events. The dredge footprint overlapped with the Marine Park exclusion zone and involved the removal of material from the Marine Park.

Seasonal accumulation of wrack occurs in the Boat Harbour entrance channel and in the area surrounding the Boat Harbour, resulting in a change in the shoreline position seaward compared to its location at time of construction of the Boat Harbour in 1986. Wrack accumulation in the entrance channel has resulted in episodes of low dissolved oxygen leading to fish kills.

The dredge material was disposed of in an existing approved onshore disposal area cleared for disposal of dredged sediments. (Reserve 39419, Jurien Bay, Shire of Dandaragan, maintenance dredging in Jurien Bay Boat Harbour, 7.998ha, permit duration 4 October 2014 to 4 October 2019, (CPS 6181/1).



Area of clearing permit CPS 6181/1 (September 2014) for disposal of dredged sediments

August 2012 aerial photograph

Figure 10 Aerial photo of the area of clearing permit for disposal of sea wrack

Figure 11 January 2016 showing the dredging and disposal area cleared for wrack disposal

In reviewing the documentation for this report it was noted that part of the preliminary studies into the dredging campaign did flag the potential for future preventative works outside the boat harbour, presumably in the Marine Park as follows: "Because wrack has been confirmed as the major driver of oxygen consumption in the JBBH, it is recommended that DoT investigate approaches to reduce wrack input to the harbour, including investigating the feasibility of creating dredged channels/basins outside the JBBH to intercept wrack before it can enter the harbour, analogous to sediment traps." (Oldham C, McMahon K, Hipsey M, Huang K, Huang P and Lavery P. (2017) *The impact of marine wrack degradation on the water quality of Jurien Bay Boat Harbour. Report to Western Australian Department of Transport, Project 306815*).

Ongoing dredging is expected and as the dredging and disposal area reaches capacity, further terrestrial vegetation clearing may be required. The possibility also exists that future proposals will be brought before the Commission for the wrack to be disposed directly into the marine park.

Finding 4

Rather than the current intermittent approach to managing the issue of dredging in and around the Jurien Bay Boat Harbour, a medium-to-long term strategy needs to be considered which balances the overall cumulative impacts (both terrestrial and marine) on this location.

Recommendation 4

It is recommended that the DBCA advise the Commission on medium-to-long term strategic solutions to dredging (and disposal of dredge material) from in and around the Jurien Bay Boat Harbour.

3.1.7 Zoning review

As the marine park was gazetted as a Class A reserve, any amendment of the purpose and boundary of the reserve requires the tabling of an order in both Houses of Parliament. Either House can resolve to disallow an order; Class A vesting therefore provides high security of tenure. By contrast, the zoning scheme and the management plan can be amended through a formal public consultation process in accordance with the CALM Act and does not require Parliamentary consideration. This provides the flexibility to amend management approaches where appropriate in response to changing priorities, community aspirations and new information. Recommendations for a review of the zoning scheme were made in 2008 by the former MPRA as transcribed below: -

(a) DEC to request the MAC (the JBMPCAC) to advise on the form and content of a consultative process that should be undertaken in order for a review of the zoning scheme to be conducted with a view to expanding the existing area of sanctuary zones while simultaneously reducing their total number and increasing their enforceability (fewer larger sanctuary zones with simple boundaries);

(b) taking account of the consultative process proposed by the MAC, DEC should review the zoning scheme for the reserve (taking account of the stakeholder views from the consultative process), to provide for more comprehensive representation of all habitat types in sanctuary zones; increase the total sanctuary zone area to be more consistent with world's best practice; increase compactness and enforceability of sanctuary zones through larger areas with straight boundaries aligned with prominent shore markers and simple GPS positions; and provide for more practical zones for recreational shore-based fishing. This should lead to a formal rezoning process to be conducted and completed by 2010, unless the consultative process determines that the rezoning should be completed earlier or there is a rapid escalation in fishing pressure over the next 2 years, in which case the review and rezoning should be completed as quickly as possible. (Jurien Bay Marine Park Periodic Audit Report, Marine Parkas and Reserves Authority, July 2008)

Annual reports indicate that there has been consideration of strategies to support a zoning review, but no formal process of zoning review appears to have been initiated.

Finding 5

The former Marine Parks and Reserves Authority recommended zoning reviews in its 2008 assessments but no formal process has been initiated.

Recommendation 5

DBCA to advise the Commission on the proposed scheduling of the new marine park management plan and intensions to review the zoning scheme.

4 Turquoise Coast Islands KPIs

4.1 Summary Dashboard - Turquoise Coast Island Nature Reserves Management Plan

As highlighted earlier in this report, while the marine planning's consistent values-based approach has yielded reporting of formal indicators in a consistent format for many years, the performance indicators within the terrestrial management plan for the Island Nature Reserves of the Turquoise Coast, has followed the less consistent approach common to many terrestrial management plans. In order to collate the KPIs into a format which can provide comparable reporting, the KPIs have been grouped as described in APPENDIX E. Also borrowing from the performance assessment approach of marine planning, the Commission requested that the response to the KPIs from DBCA also follow the Condition-Pressure-Response (C-P-R) method of evaluating management effectiveness where possible. The results of this C-P-R approach for the grouped KPIs is depicted in Figure 9 (below).

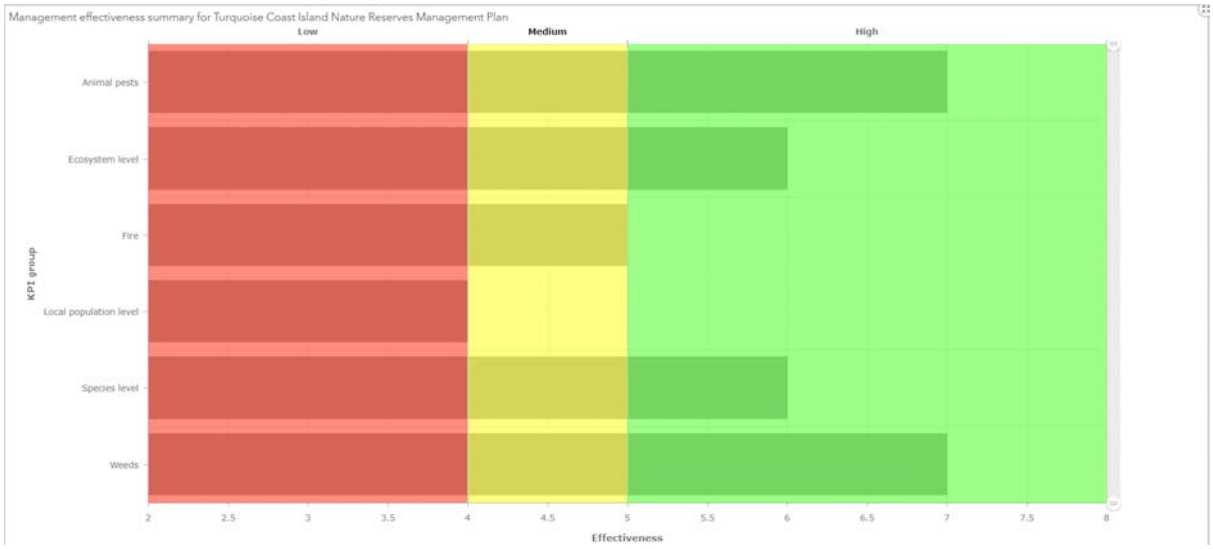


Figure 12 Management effectiveness summary for Island Nature Reserves of the Turquoise Coast Management Plan KPIs

The KPIs for the Turquoise Coast Island Nature Reserves Management Plan do not indicate specific areas for concern although there is an apparent lack of monitoring information available to evaluate the nesting success of beach-nesting seabirds. The systematic C-P-R approach for evaluating the KPIs and grouping the KPIs according to common values and issues, provides a more systematic evaluation approach to support the qualitative mid-term evaluation information from 2008. Furthermore, it

provides consistency with the marine evaluation process and in time will allow reporting capability similar to that available in marine performance evaluation.

Finding 6

The Condition-Pressure-Response method of evaluating management effectiveness was used for the Turquoise Coast Island Nature Reserves Management Plan KPIs.

Recommendation 6

It is recommended that where scientific information is available to support terrestrial KPIs, that the Condition-Pressure-Response approach is utilised for evaluating KPIs and management effectiveness.

4.1.1 Evaluation of the KPIs

The wording of the KPI relevant to weeds, specifies weed control measures specifically for the African boxthorn and no other weeds. Structuring a KPI in this way is very limiting as a measure of effort and success in combatting weeds on the islands as a KPI structured in this way does not allow for changes in priority actions over time or the emergence of a new priority weed operation as foreshadowed in the management plan below in relation to the tree mallow: -

*"Successive recovery of vegetation structure and composition relies upon indigenous plants, such as Australian hollyhock, that prefer guano-rich environments (ornithocoprophiles). The introduced tree mallow (*Malva dendromorpha*) is also an ornithocoprophile and has replaced the indigenous Australian hollyhock on islands off the metropolitan coast. Unlike Australian hollyhock, which plays an important role in the natural detoxification of seabird colony areas, the tree mallow does not give way to indigenous shrub cover (Dunlop and Rippey 2000). Although tree mallow has yet to be recorded on the Turquoise Coast islands, monitoring for this species is crucial as islands particularly at risk from invasion appear to be those on which the indigenous Australian hollyhock grows (32 of the Turquoise Coast islands)."*

In the process of collating information for this report on the implementation of the management plan, DBCA district staff have indicated that there is now a weed management program on Lancelin & Edward Island Nature Reserves for *Malva dendomorpha* (tree mallow).

Finding 7

The weed-related KPI measure references a singular species and does not include reference to any other weed species although there are more than 40 weed species occurring on the islands (now inclusive of the invasive tree mallow).

Recommendation 7

It is recommended that formal measures such as KPIs should be structured to enable measurement of the management of emerging priority weed species.

4.1.2 Dibblers

Dibbler is the common name for *Parantechinus apicalis*, which is an endangered species of marsupial which inhabits Boullanger ond Whitlock Islands. The Turquoise Coast Island Nature Reserves Management Plan includes the following KPI measure for Dibblers: -

KPI measure:Changes in the population levels of dibbler on Boullanger and Whitlock Islands

In response to this KPI, DBCA has provided the following response in relation to Dibblers: -

The population on the Turquoise Coast Islands varies greatly with rainfall and food availability but appears to be stable over the longer term. Boullanger Is: 1998- 35 individuals recorded, 2017- 57 individuals Whitlock Is: 1999- 37 individuals recorded, 2017- 38 individuals. Escape Island: 1999- 7 individuals, 2000- 24 indiviudals, 2014- 26 individuals.

DBCA has also provide the following charts for the Dibbler populations located on the two islands: -

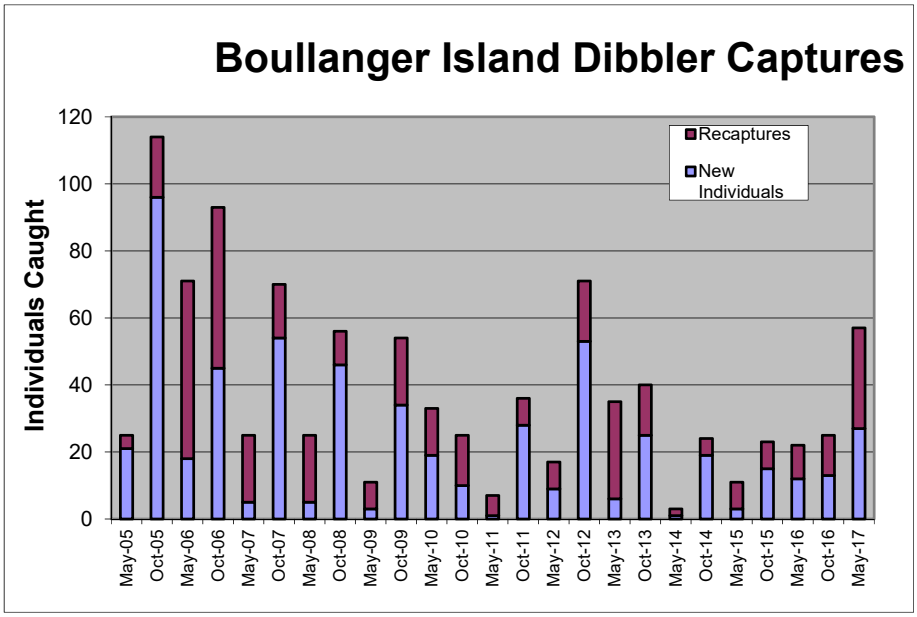


Figure 13 Numbers of dibblers captured on Boullanger Island in monitoring sessions since 2005(extract from DBCA Animal Science Report - Dibbler Recovery Team meeting 41)

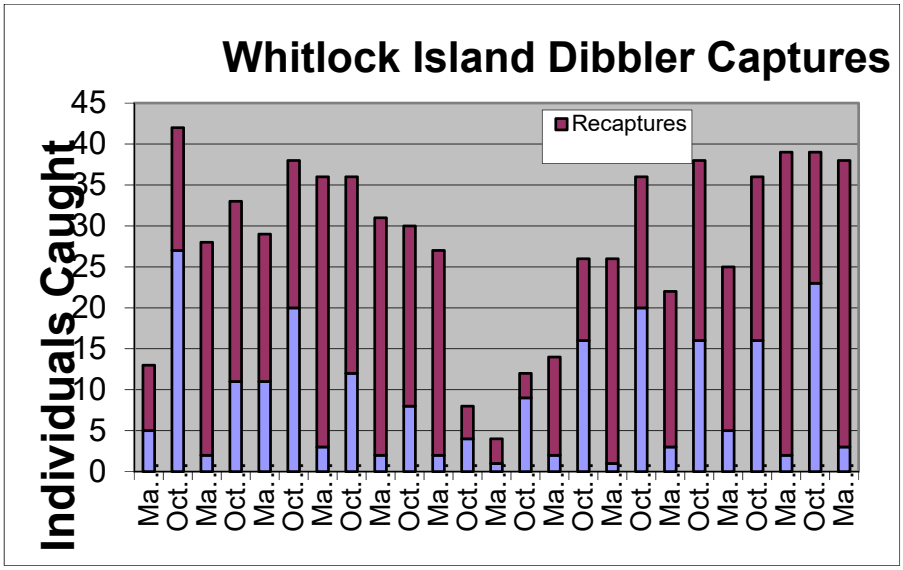


Figure 14 Numbers of dibblers captured on Whitlock Island in monitoring sessions since 2005(extract from DBCA Animal Science Report - Dibbler Recovery Team meeting 41)

4.1.3 Lancelin Island Skink

Sixteen reptile species are found on the islands, including the Lancelin Island skink (Ctenotus lancelini), of which the only viable population is known from Lancelin Island.

The Turquoise Coast Island Nature Reserves Management Plan includes the following KPI measure for the Lancelin Island Skink: -

KPI measure:Changes to population size of Lancelin Island skink.

The management plan details that "*17 reptile species have been recorded from the islands, comprising four gecko and 13 skink species. All species of reptile found on the islands have extensive populations on the adjacent mainland, exceptions being a distinct subspecies of the skink* Egernia pulchra longicauda *(located on islands in the vicinity of Jurien Bay) and the endemic Lancelin Island skink. The latter species has one of the most restricted distributions of any reptile in Western Australia.*

In response to the KPI, DBCA has provided the following response in relation to the Lancelin Island Skink: -

The translocation to Favorite Island was boosted by another 42 skinks in March 2004. Successful breeding has been confirmed on Favorite Island, with skinks now occupying all suitable habitats. In March 2016 monitoring on Favorite Island recording 7 Lancelin Island skinks and 41 skinks of other species including Ctenotus fallens, C. australis and Egernia pulchra longicauda. There is no indication that the translcation of C. lancelini had negativly impacted the other skink species. - Recent monitoring has been focused on Favorite Island as the Lancelin Island population is considered to be more secure. Further monitoring is not covered by recurrent funding.

Please note that the name change for the Jurien Bay Skink from *Egernia pulchra longicauda* as listed in the management plan above to *Liopholis pulchra longicauda* as referenced below*:* -

Jurien Bay Skink (*Liopholis pulchra longicauda*)

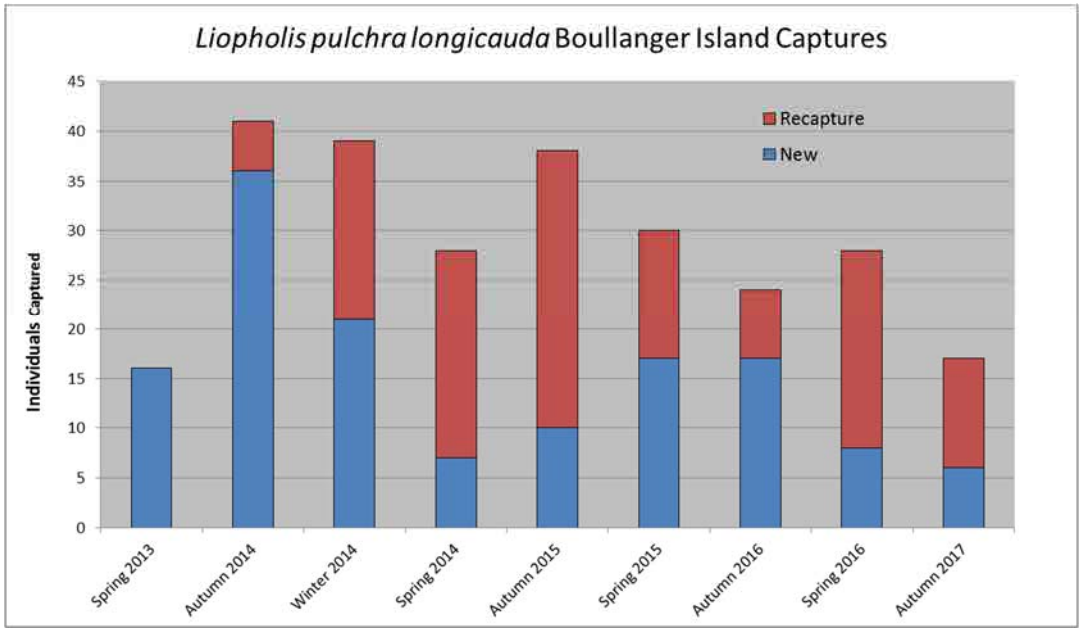


Figure 15 Numbers of Jurien Bay skinks captured on Boullanger Island in monitoring sessions since spring 2013 (extract from DBCA Animal Science Report - Dibbler Recovery Team meeting 41)

Lower numbers of Jurien Bay skinks were recorded in May 2017 (17 compared with 24 in May 2016).

5 Assessment conclusion

The periodic assessment of the implementation of these two management plans has presented the first opportunity to integrate the reporting process for marine and terrestrial management plans. The process has highlighted the differing approaches between marine and terrestrial planning and while both plans have formal measures in terms of Key Performance Indicators (KPIs), the structure of the KPIs and the differences in reporting frequency has dictated the use of differing types of analyses for the available marine and terrestrial data. A comparison of the two approaches to planning and planning review has highlighted the benefits from a monitoring perspective of marine planning's consistent values-based approach which has yielded formal indicators in a consistent format for many years.

The Key Performance Indicators (KPIs) for the Jurien Bay Marine Park Management Plan do not indicate specific areas for concern. Reporting for the 'Finfish KPI' has indicated a medium-low effectiveness rating for several years. From the limited stakeholder engagement undertaken for this assessment, there are also some indications that more effective stakeholder engagement strategies should be considered.

As described in previous reports for the Jurien Bay Marine Park Management Plan, there is a longstanding recommendation to review the adequacy of the marine park sanctuary zones however no formal process of zoning review has been initiated. A proposal for a new management plan could be explored for this location including provisions to enable the joint management of reserves already managed under the CALM Act and vested in the Commission.

The KPIs for the Turquoise Coast Island Nature Reserves Management Plan do not indicate specific areas for concern. Monitoring of the endangered species of fauna which inhabit some islands has been consistently undertaken over the life of the management plan.

GOVERNMENT OF WESTERN AUSTRALIA

Department of Biodiversity, Conservation and Attractions
Office of the Director General

Your ref: CPC2018/00006
Our ref: CEO293/18
Enquiries:
Phone:
Email:

Ms Marion Fulker
Chair
Conservation and Parks Commission
Block 11
17 Dick Perry Avenue
KENSINGTON WA 6151

Dear Ms Fulker Marion

DRAFT PERIODIC ASSESSMENT – JURIEN BAY MARINE PARK AND TURQUOISE COAST ISLAND NATURE RESERVES

Thank you for the opportunity to provide comment on the findings and recommendations included in the draft periodic assessment report on the Jurien Bay Marine Park and Turquoise Coast Island Nature Reserves management plans. Please find below the Department of Biodiversity, Conservation and Attractions' (DBCA) response to the recommendations.

1. *It is recommended that the Commission explore ways of broadening the periodic assessment stakeholder survey process to increase the number of potential respondents.*

   Noted. The department acknowledges the comments regarding the relevance of the small sample size of stakeholders who responded.

2. *It is recommended that DBCA investigate the potential for reforming the Management Advisory Committee or similar as means of facilitating community engagement.*

   As noted in previous annual assessment reports, the department does not support this recommendation as the current project specific consultation arrangements are functioning well with the intended result, for example the Marina Steering Committee.

3. *It is recommended that DBCA monitor the threat of coastal erosion on the ecological and social values of the marine park.*

   There have been several studies that have examined coastal processes around the Jurien Bay Marine Park. These studies have highlighted that natural coastal processes of erosion and deposition are highly variable. Monitoring has been completed by local government and Department of Transport (DoT) contractors around key infrastructure. Additionally, the Northern Agricultural Catchments Council has initiated a LIDAR study which will monitor the effects of inundation on island nature reserves within the marine park.

4. *It is recommended that the department advise the Commission medium-to-long term strategic solutions to dredging (and disposal of dredge material) from in and around the Jurien Bay Boat Harbour.*

   DoT environmental contractors have advised that they are in the process of preparing a long-term management strategy to address the issues of water quality and seawrack/sand accumulation in the marina. Once the department is advised of their plans they will be provided to the Conservation and Parks Commission for consideration. The department will continue to seek a long-term solution, noting that the boat harbor and its immediate surrounds lies outside the marine park and that DoT is the decision-making authority.

5. *DBCA to advise the Commission on the proposed scheduling of the new marine park management plan and intensions to review the zoning scheme.*

   The review of the Jurien Bay Marine Park Management Plan is not a current Government priority. The Commission and the department undertook a prioritisation of management plan reviews and Shark Bay, Swan Estuary and Marmion marine park management plans were found to be higher priorities for review when resources permit. Although the 2008 performance assessment of this plan called for a review of the zoning scheme, the Commission's recent report on KPIs did not identify specific areas of management concern.

6. *It is recommended that where scientific information is available to support terrestrial KPIs, that the Condition-Pressure-Response approach is utilised for evaluating KPIs and management effectiveness.*

   Noted. The department will engage with the Secretariat to discuss potential approaches.

7. *It is recommended that formal measures such as KPIs should be structured to enable measurement of the management of emerging priority weed species.*

   Agreed. This is the current approach and aligns with the department's *Corporate Policy Statement No. 14 Weeds management*. Rather than identifying a single species to act as a proxy indicator of management success, in contemporary management plans, KPIs are structured to allow for the monitoring, review and prioritisation of weed control based on 'species-led' and 'asset-protection-based' approaches, and other management considerations over the life of the plan.

I would like to acknowledge the efforts of the Commission in providing valuable information on the implementation and review of both the Jurien Bay Marine Park and Turquoise Coast Island Nature Reserves management plans.

Yours sincerely

Mark Webb
DIRECTOR GENERAL

8 June 2018

APPENDIX B - Explanation of the ratings for management effectiveness

Numerical ratings were applied to the standard DBCA decision rules matrix for Condition-Pressure-Response as depicted below: -

	Condition	Pressure	Response[1]
High Effectiveness	Excellent, Good or Satisfactory	Low, moderate or high	Good or satisfactory
Medium Effectiveness	Satisfactory OR	Low, moderate or high	Unsatisfactory
	Unsatisfactory	Low, moderate or high	Good or satisfactory
Low Effectiveness	Unsatisfactory, or poor	Low, moderate or high	Unsatisfactory

1. The decision rules used to assess the overall status of each of the Key Values is provided below. There are a number of qualifiers that need to be noted;

I. Older management plans have less well-defined targets that are inferred with reference to newer style management plans;

II. Condition could be influenced by pressures out of DEC control and beyond the requirement of management plan targets;

III. The theoretical understanding of the condition, pressures and response is correct;

IV. Response is unsatisfactory when either theoretical understanding or operational activity is in-sufficiently serviced;

V. Ideally only quantitative information would inform this process. In the initial years for the WAMMP, qualitative information will also be used to inform these assessments; and

VI. Thresholds for changes between levels described here are currently being further defined through the collection of long-term datasets and the retrieval of historical data. This refinement process is likely to be on-going for the WAMMP as we gain better understanding of local and State-wide asset responses.

Detailed assessment of each asset or value is provided in the individual report cards within in the park specific MPRA Annual Assessment. These clarify the level of qualitative and quantitative data, and assessment confidence used to make these assessments.

The following numeric values were assigned to the Condition-Pressure-Response ratings: -

Condition	5	Excellent
Condition	4	Good
Condition	3	Satisfactory
Condition	2	Unsatisfactory
Condition	1	Poor

Pressure	3	High
Pressure	2	Moderate
Pressure	1	Low
Response	3	Good
Response	2	Satisfactory
Response	1	Unsatisfactory

Resulting in the following potential effectiveness scores: -

Condition + Response	**Total**	**Effectiveness**
Excellent (Condition) + Good (Response)	= 8	High
Excellent (Condition) + Satisfactory (Response)	= 7	High
Good (Condition) + Good (Response)	= 7	High
Good (Condition) + Satisfactory (Response)	= 6	High
Satisfactory (Condition) + Good (Response)	= 6	High
Satisfactory (Condition) + Satisfactory (Response)	= 5	Medium
Unsatisfactory (Condition) + Good (Response)	= 5	Medium
Unsatisfactory (Condition) + Satisfactory (Response)	= 4	Medium
Satisfactory (Condition) + Unsatisfactory (Response)	= 4	Medium
Unsatisfactory (Condition) + Unsatisfactory (Response)	= 3	Low
Poor (Condition) + Unsatisfactory (Response)	= 2	Low

So, a total combining the Condition and Response values results in: -

- less than 4 - Low effectiveness;
- between 4 and 5 - Medium effectiveness;
- and greater than 5 - High effectiveness.

Jurien Bay and Turquoise Coast Islands stakeholder survey

The Conservation and Parks Commission is currently undertaking a periodic assessment of the implementation of the Jurien Bay Marine Park Management Plan 2005-2015 and the Turquoise Coast Island Nature Reserve Management Plan 2004. This survey has been prepared to provide stakeholder input to the assessment process.

What do you most value about the Jurien Bay Marine Park and the Turquoise Coast Island Nature Reserves?

Select one of more values:-

- [ ] Biological habitat
- [ ] Education
- [ ] European history
- [ ] Fishing
- [ ] Indigenous heritage
- [ ] Landscapes
- [ ] Marine animals
- [ ] Recreation
- [ ] Seabirds
- [ ] Seascapes
- [ ] Tourism
- [ ] Other

How would you rate the progress in the implementation of management plan actions?

What do you see as the key achievements over the last 10 years of implementation and what are the key areas that require increased effort?

Please input 0 - 500 characters

How would you rate the condition of the environmental values in the marine park and island nature reserves?

You might like to consider marine water quality, habitats such as island landscapes, limestone reefs and seagrass, and wildlife of the such as marine mammals, finfish and sea-birds. Is the condition the same as ten years ago in your view?

How would you rate the quality of the social and recreational values of the marine park?

You might like to consider the quality of experiences such as fishing, diving and snorkeling, marine mammal interaction, surface water sports and boating. Is the condition/quality the same as ten years ago in your view?

What do you see as the biggest threats to the values of the marine park and island nature reserves, if any?

- [ ] Animal pests
- [ ] Weeds
- [ ] Disease for example dieback and other pathogens
- [ ] Changed fire regimes for example frequent wildfires are impacting this reserves key values
- [ ] Erosion is affecting this reserves key values
- [ ] The size, shape or locality of this reserve is affecting the values present
- [ ] Off reserve activities are affecting a value(s) within this reserve
- [ ] A change in hydrology for example salinity is affecting a key value(s) of this reserve
- [ ] Changes in water quality are affecting the key value(s) of this reserve
- [ ] The removal of resources for example mineral extraction is affecting the key value(s) of this reserve
- [ ] Uncontrolled access to the reserve leading to inappropriate recreational use e.g 4 wheel drives and motorbikes is affecting the key values
- [ ] Visitors impacting on this reserves key values e.g. environmental and aesthetic values
- [ ] Changes in climate are impacting on this reserves key values
- [ ] Anchor and mooring damage to reefs
- [ ] Eutrophication - nutrients into body of water effecting ecosystem
- [ ] Oil spill effects on wildlife and vegetation
- [ ] Recreational fishing effects on fish populations
- [ ] Trawling effects on seafloor such as soft sediment communities
- [ ] Oil exploration and its effect on habitat
- [ ] Other

Do you have any comments on community liaison, public education, and/or compliance with marine park and island nature reserve rules provided by the Department of Biodiversity, Conservation and Attractions and Department of Fisheries?

Do you have any recommendations to improve management for the marine park and island nature reserves, that could be included in a future management plan?

Please input 0 - 500 characters

What do you see as the key management challenges or issues you would like to see addressed?

Please input 0 - 500 characters

Any final comments?

Please input 0 - 500 characters

Please feel free to leave your name or your organisation name

OPTIONAL

Submit

APPENDIX D - Results from the stakeholder survey

Jurien Bay and Turquoise Coast Islands survey

Submitted Time: 11/28/17 9:01 AM

What do you most value about the Jurien Bay Marine Park and the Turquoise Coast Island Nature Reserves?

- **Biological habitat**
- **Fishing**
- **Indigenous heritage**
- **Marine animals**
- **Seabirds**
- **Seascapes**

How would you rate the progress in the implementation of management plan actions?

What do you see as the key achievements over the last 10 years of implementation and what are the key areas that require increased effort?

Aboriginal engagement of management of marine Parks

How would you rate the condition of the environmental values in the marine park and island nature reserves?

How would you rate the quality of the social and recreational values of the marine park?

What do you see as the biggest threats to the values of the marine park and island nature reserves, if any?

- **Disease for example dieback and other pathogens**
- **Erosion is affecting this reserves key values**
- **Off reserve activities are affecting a value(s) within this reserve**
- **A change in hydrology for example salinity is affecting a key value(s) of this reserve**
- **Changes in water quality are affecting the key value(s) of this reserve**
- **The removal of resources for example mineral extraction is affecting the key value(s) of this reserve**
- **Uncontrolled access to the reserve leading to inappropriate recreational use e.g 4 wheel drives and mot orbikes is affecting the key values**
- **Changes in climate are impacting on this reserves key values**
- **Anchor and mooring damage to reefs**
- **Eutrophication - nutrients into body of water effecting ecosystem**
- **Oil spill effects on wildlife and vegetation**
- **Trawling effects on seafloor such as soft sediment communities**
- **Oil exploration and its effect on habitat**

APPENDIX D - Results from the stakeholder survey

Do you have any comments on community liaison, public education, and/or compliance with marine park and island nature reserve rules provided by the Department of Biodiversity, Conservation and Attractions and Department of Fisheries?

Not enough regulation of Authority. Having marine parks and not being policed is your biggest Impact---

Do you have any recommendations to improve management for the marine park and island nature reserves, that could be included in a future management plan?

Future management plan should have more resources in policing and Aboriginal Engagement

What do you see as the key management challenges or issues you would like to see addressed?

AS above marine Park (Turquoise Coast) is an extensive are without Management----

Any final comments?

As above

Please feel free to leave your name or your organisation name

KMAC Kwelena Mambakort Wedge Island Aboriginal Corporation

APPENDIX D - Results from the stakeholder survey

Jurien Bay and Turquoise Coast Islands survey

Submitted Time: 11/27/17 12:01 PM

What do you most value about the Jurien Bay Marine Park and the Turquoise Coast Island Nature Reserves?

- **Biological habitat**
- **Fishing**
- **Recreation**
- **Tourism**

How would you rate the progress in the implementation of management plan actions?

What do you see as the key achievements over the last 10 years of implementation and what are the key areas that require increased effort?

Protection of the environment and increase in localised marine life has been great. However, we need to all ow more tourism/recreation pursuits in the area with less red tape to allow eco tourism ventures. Ie: more s ea lion tours, interaction, island tours etc.

How would you rate the condition of the environmental values in the marine park and island nature reserves?

How would you rate the quality of the social and recreational values of the marine park?

What do you see as the biggest threats to the values of the marine park and island nature reserves, if any?

- **Recreational fishing effects on fish populations**

Do you have any comments on community liaison, public education, and/or compliance with marine park and island nature reserve rules provided by the Department of Biodiversity, Conservation and Attractions and Department of Fisheries?

no

Do you have any recommendations to improve management for the marine park and island nature reserves, that could be included in a future management plan?

no

APPENDIX D - Results from the stakeholder survey

What do you see as the key management challenges or issues you would like to see addressed?

Recreation and Tourism encouragement but continuing to manage the environment.

APPENDIX D - Results from the stakeholder survey

Jurien Bay and Turquoise Coast Islands survey

Submitted Time: 11/30/17 11:10 AM

What do you most value about the Jurien Bay Marine Park and the Turquoise Coast Island Nature Reserves?

- **Fishing**
- **Landscapes**
- **Recreation**
- **Tourism**

How would you rate the progress in the implementation of management plan actions?

What do you see as the key achievements over the last 10 years of implementation and what are the key areas that require increased effort?

Department of Transport, as the manager of the Jurien Bay boat harbour and many other recreational boating facilities, sees the key achievement of this plan is the steady increase of tourists and recreational use of the well protected environment. DoT's role is strategic planning,managing and maintaining boating facilities and maritime infrastructure. We appreciate the close working relationship with the Conservation and Parks Commission and MPRA.

How would you rate the condition of the environmental values in the marine park and island nature reserves?

How would you rate the quality of the social and recreational values of the marine park?

What do you see as the biggest threats to the values of the marine park and island nature reserves, if any?

- **Erosion is affecting this reserves key values**
- **Changes in water quality are affecting the key value(s) of this reserve**
- **Changes in climate are impacting on this reserves key values**

What do you see as the key management challenges or issues you would like to see addressed?

Seagrass wracks trapped in Jurien bay boat harbour causing frequent fish kills. DoT would like to work together with your department to develop a viable long term solution.

APPENDIX D - Results from the stakeholder survey

Jurien Bay and Turquoise Coast Islands survey

Submitted Time: 12/4/17 11:50 AM

What do you most value about the Jurien Bay Marine Park and the Turquoise Coast Island Nature Reserves?

- **Biological habitat**
- **Education**
- **Marine animals**
- **Recreation**
- **Seabirds**
- **Tourism**

How would you rate the progress in the implementation of management plan actions?

What do you see as the key achievements over the last 10 years of implementation and what are the key areas that require increased effort?

Implementing sanctuary zones within the marine park and having tour operators only be within or at an are a inhabiting a sea lion colony or haul out area. Tour operators have a good understanding of habits,,feeding and breeding times thus placing less of an impact and disturbance to their way of life

How would you rate the condition of the environmental values in the marine park and island nature reserves?

How would you rate the quality of the social and recreational values of the marine park?

What do you see as the biggest threats to the values of the marine park and island nature reserves, if any?

- **Erosion is affecting this reserves key values**
- **Visitors impacting on this reserves key values e.g. environmental and aesthetic values**

Do you have any recommendations to improve management for the marine park and island nature reserves, that could be included in a future management plan?

consult more often with stakeholders in the region such as annual or bi annual workshops

Please feel free to leave your name or your organisation name

Brendan Payne

APPENDIX D - Results from the stakeholder survey

Jurien Bay and Turquoise Coast Islands survey

Submitted Time: 1/19/18 12:11 PM

What do yo most value about the Jurien Bay Marine Park and the Turquoise Coast Island Nature Reserves?

- **Fishing**
- **Recreation**
- **I value fishing and fishing provides enormous social and economic benefits to the park.**

How would you rate the progress in the implementation of management plan actions?

What do you see as the key achievements over the last 10 years of implementation and what are the key areas that require increased effort?

There is not enough data on the research done since the Parks inception to be able to make an informed as sessment of the key achievements over the last ten years or to assess if the objectives of the park are bein g met. Since the parks inception there has been no compelling evidence to support restrictions on some fo rms of fishing. In addition the continued bias against spear-fishermen in special purpose shore based acti vities and boat fishers in scientific reference zones remains unjustified.

How would you rate the condition of the environmental values in the marine park and island nature reserves?

How would you rate the quality of the social and recreational values of the marine park?

What do you see as the biggest threats to the values of the marine park and island nature reserves, if any?

Do you have any comments on community liaison, public education, and/or compliance with marine park and island nature reserve rules provided by the Department of Biodiversity, Conservation and Attractions and Department of Fisheries?

Yes, Community Liaison should go a lot further than a simply survey once every ten years. This liaison sho uld also show how the community are being kept informed about the research that has been undertaken to assess whether the objectives of the park are being met. Also allowing responses of greater than 500 chara cters will help stakeholders believe the Department are actually interested in the views of stakeholders.

APPENDIX D - Results from the stakeholder survey

Do you have any recommendations to improve management for the marine park and island nature reserves, that could be included in a future management plan?

Talk to the recreational fishing sector and either show them evidence that restricting their access has been effective in increasing biodiversity or restore access to areas of the park they are excluded from. Also rem ove the situation where catching a fish from the shore is acceptable but catching the same fish from a boat is unacceptable.

What do you see as the key management challenges or issues you would like to see addressed?

I would like to see some innovative management that aims to increase recreational access while managing extractive activities at an acceptable level. The concept of Wilderness Conservation zones allowing low im part fishing should aim to replace some current areas fishing is restricted while access consistent with stat e based regulations should be seen as a target for all other areas. Recreational fishing can provide a lot of tourism activity without putting at risk ecological values.

Any final comments?

This survey is a poor substitute for a review of the management plan and feels a lot like a box ticking exerci se. When the Conservation and Parks Commission are creating new management plans further consultatio n with recreational fishers would be appreciated. What should be avoided at all costs is simply rolling over existing management plans for another ten years or continuing to restrict recreational fishing because rese arch questions remain unanswered after 12 years.

Please feel free to leave your name or your organisation name

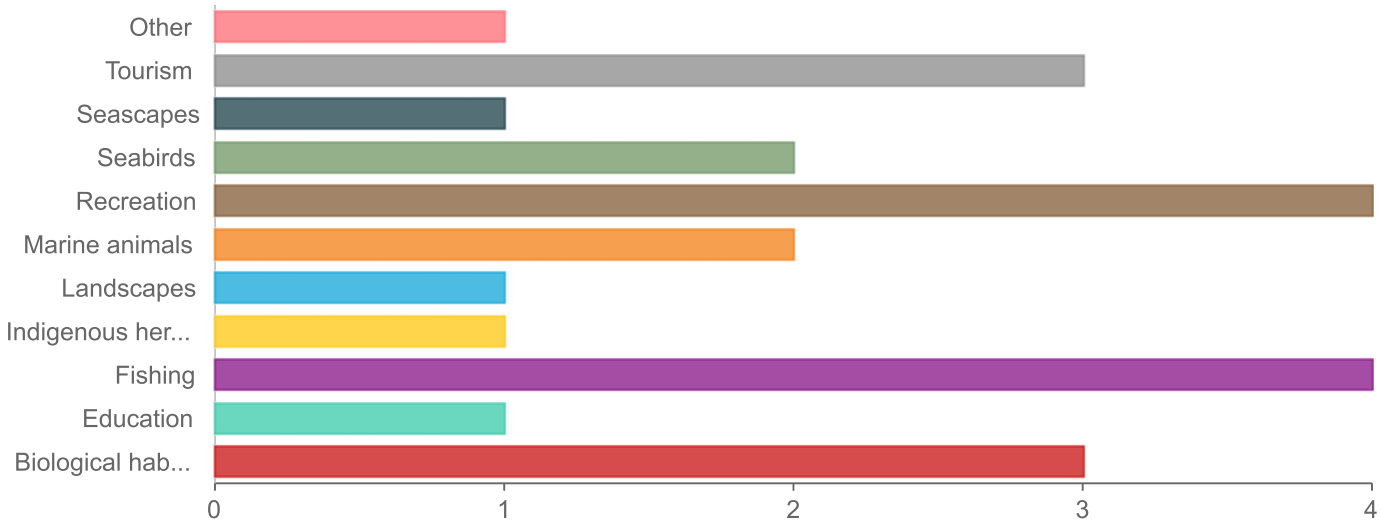
Leyland Campbell, Operations Manager Recfishwest

APPENDIX D - Results from the stakeholder survey

Jurien Bay and Turquoise Coast Islands survey

What do you most value about the Jurien Bay Marine Park and the Turquoise Coast Island …

Column Bar



Show Table

Empty Categories Sort

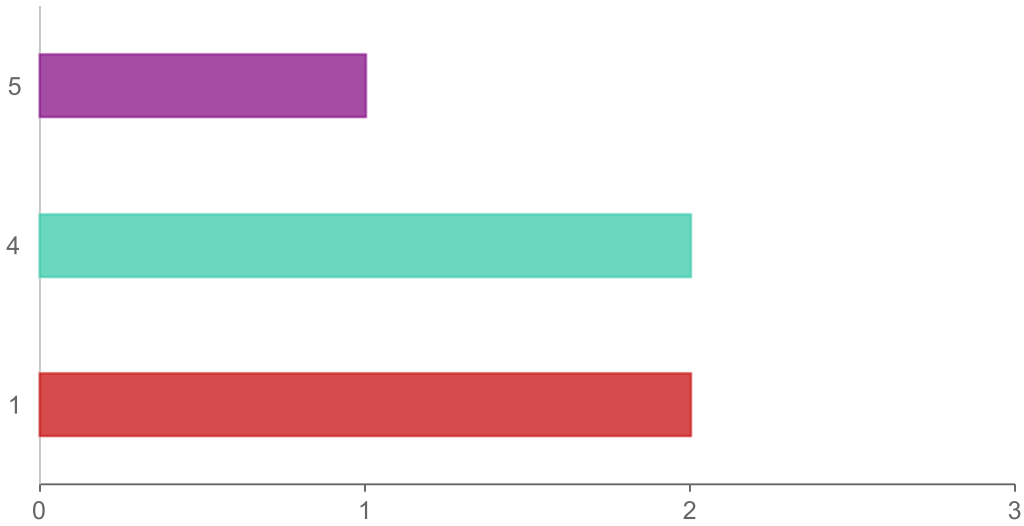
Answered: 5 Skipped: 0

How would you rate the progress in the implementation of management plan act…

Column Bar Pie Map

Average

3.0



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Answered: 5 Skipped: 0

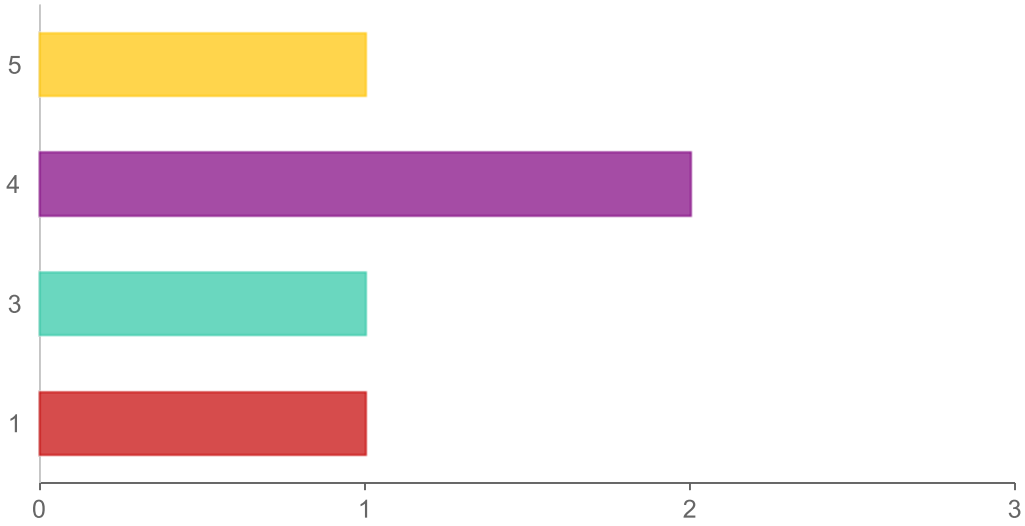
APPENDIX D - Results from the stakeholder survey

How would you rate the condition of the environmental values in the marine par…

Column Bar Pie Map

Average

3.4



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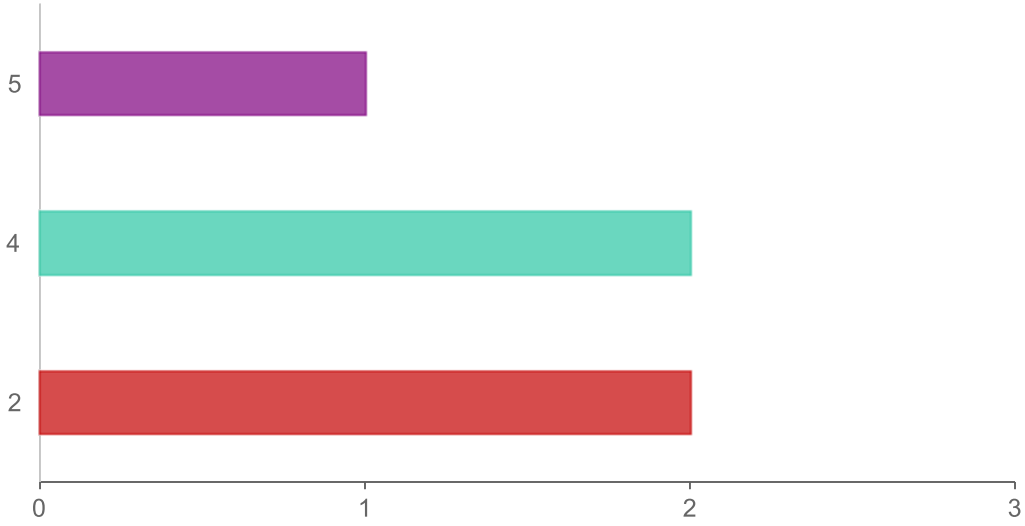
Answered: 5 Skipped: 0

How would you rate the quality of the social and recreational values of the marin…

Column Bar Pie Map

Average

3.4



Show Table

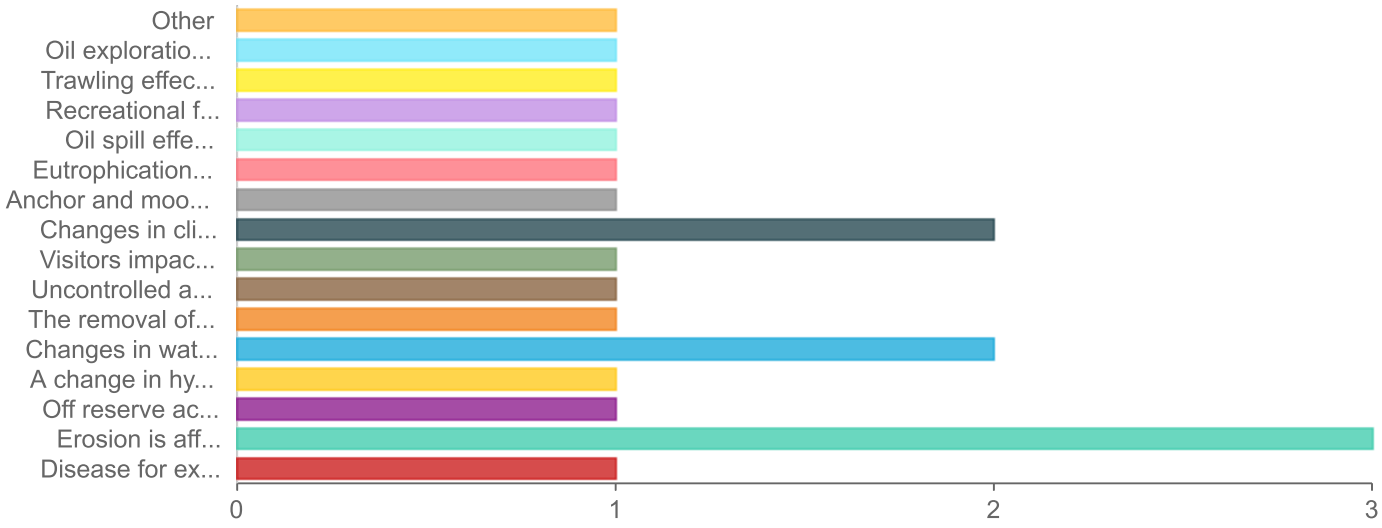
Empty Categories Sort

Answered: 5 Skipped: 0

APPENDIX D - Results from the stakeholder survey

What do you see as the biggest threats to the values of the marine park and island nature r…

Column Bar



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APPENDIX E – Allocation of 'KPI groups' to the KPIs from the Turquoise Coast Island Nature Reserves Management Plan

KPI_ID	Measure	Target	KPI_group	Description of KPI-group
50001	Changes in the area of native woody and succulent shrubs (preferred seabird nesting habitat) on the islands.	Maintain or increase the area of preferred seabird nesting habitat over the life of the plan.	Ecosystem level	Ecosystem level indicates that the KPI is a measure at the ecosystem level such as a threatened ecosystem or preferred habitat.
50002	Changes to sea-lion pup production in the islands.	No decrease from 1998 (last survey) levels_ or as specified in subsequent management plans for the Jurien Bay Marine Park.	Species level	Species level has been used when the KPI is providing an indictor which has significance for an entire species such as when a species which only occurs in the planning area or in few locations.
50003	Changes in the population levels of dibbler on Boullanger and Whitlock Islands.	Population levels remain at no less than 40% of 1998 numbers within the next 10 years_ or as specified in subsequent updates of the Dibbler Recovery Plan.	Species level	Species level has been used when the KPI is providing an indictor which has significance for an entire species such as when a species which only occurs in the planning area or in few locations.
50004	Changes to population size of Lancelin Island skink.	Number of Lancelin Island skinks to remain within 80% of 1996 population size (Lancelin Island Skink Recovery Plan) _ or as specified in subsequent reviews/updates of the Lancelin Island Skink Recovery Plan.	Species level	Species level has been used when the KPI is providing an indictor which has significance for an entire species such as when a species which only occurs in the planning area or in few locations.
50005	Nesting success of beach-nesting seabirds_ sensitive to human disturbance.	Continuation of successful breeding on Lancelin Island by beach-nesting seabirds_ sensitive to human disturbance. For Fairy Terns_ there should be at least one successful breeding attempt (i.e. eggs that result in fledglings) every five years.	Local population level	Local population has been used as a grouping when the indicator represents a number of species such as 'seabirds' or a local population of a species of significance, but the species occurs in a number of other locations.
50006	Number of wildfires resulting from human activity on the islands.	No wildfire resulting from human activity on the islands.	Fire	Fire-related measures
50007	Changes in the area covered by African boxthorn.	Eradication of African boxthorn from the islands during the life of the plan.	Weeds	Weed-related measures
50008	The presence of introduced animal species on the islands.	No introduction of non-native animal species to the islands.	Animal pests	Animal-pest related measures
50009	Nesting success of beach-nesting seabirds_ sensitive to human disturbance.	Continuation of successful breeding on Lancelin Island by beach-nesting seabirds_ sensitive to human disturbance. For fairy iterns_ there should be at least one successful breeding attempt (i.e. eggs that result in fledglings) every five years.	Local population level	Local population has been used as a grouping when the indicator represents a number of species such as 'seabirds' or a local population of a species of significance, but the species occurs in a number of other locations.
50010	The number of volunteer hours contributed for the islands.	No decrease in the level of volunteer hours contributed over the life of the plan.	Community	Measures of community input
50011	The identification and delivery of research according to DBCAs priorities and Government initiatives.	All DBCAal research conducted on the islands is identified as high priority.	Research	Measures of the delivery of research

Department of
Environment and Conservation

Your ref:
Our ref:
Enquiries:
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Dr John Bailey
Chairman
Conservation Commission of Western Australia
Cnr Hackett and Australia II Drive
CRAWLEY WA 6009

RECEIVED
05 MAR 2009
CONSERVATION COMMISSION OF WA

Dear John

MANAGEMENT PLANNING – KEY PERFORMANCE INDICATORS

I refer to your letter dated 17 December 2008 requesting a report on the implementation of several management plans.

The attached response provides a review of the first batch of management plans that included Key Performance Indicators (KPI) and highlights a number of issues. A comment on the effectiveness of the KPI is in italic font under the column heading 'Status of Monitoring/Reporting.

The *Turquoise Coast Island Nature Reserves Management Plan 2004* was the first plan to include KPIs. In developing the plan, considerable time was spent with the then District Manager, key district and regional staff, and staff from Science Division to develop appropriate KPIs. You might recall that at that time a management plan was also being prepared for the adjacent Jurien Bay Marine Park and KPIs in both plans were aligned as much as possible to avoid duplication. In addition, several meetings were held with you to address the KPIs and finalise the plan.

In the following years, KPIs were included in the Forrestdale Lake Nature Reserve, Thomsons Lake Nature Reserve and Herdsman Lake Regional Park management plans. Several management plans containing KPIs are due for release in 2009.

I trust the attached information provides some guidance on issues relating to KPIs and will help inform the project to review the management planning process.

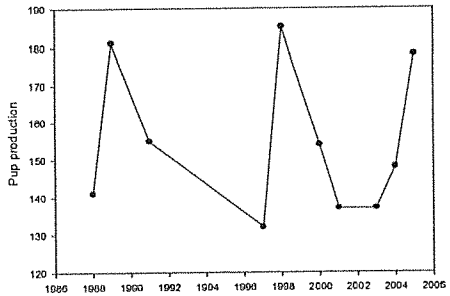
Yours sincerely

Keiran McNamara
DIRECTOR GENERAL

4 March 2009

Att

Turquoise Coast Island Nature Reserves (2004)			
Relevant Section	**Key Performance Indicator**	**Due Date**	**Status of Monitoring/Reporting**
12. Native plants and plant communities.	Changes in the area of native woody and succulent shrubs (preferred seabird nesting habitat) on the islands	March 2007	• There have been no significant changes in the area of native woody and succulent shrubs on the island nature reserves of the Turquoise Coast. Work is being undertaken to manage and protect native plants and plant communities in the reserve. This work is being focused and targeted to islands most susceptible to impact from human access. (Lancelin Is, Wedge Is, Favourite Is etc) • There is an ongoing rehabilitation program on Lancelin Island involving the spraying of invasive annual weeds and the propagation and replanting of woody and succulent shrubs from the island back into bare patches on the island. This program is conducted in association with the local school and the Friends of Lancelin Island Group. Achievements in this program are positive (1/2 ha) but in comparison to the total area of island nature reserves the area is insignificant. • Management is focused on managing human access, and where access is permitted, limiting access to hardened areas or to beaches. • *Observed changes / events resulting in vegetation loss can be captured on the district's reserve database.*
13. Native animals and habitats	Changes to sea-lion pup production on the islands.	Each breeding cycle (approx. 17-18 months) since March 2005	• Pup counts are conducted seasonally in accordance with a standard protocol and reported on annually to the Marine Parks and Reserves Authority in accordance with the KPI's in the Jurien Bay Marine Park Management Plan. Pup production appears stable in the range between 130 and 180 pups per season. DEC Staff work with researchers from the Department of Fisheries in building a better understanding of the Australian sea-lion population using the islands of the Turquoise Coast.

			
	Changes to population size of Lancelin Island skink.	March 2006 March 2007 March 2008	• The conservation and recovery of the Lancelin Island skink is managed through the Lancelin Island Skink Recovery Team in accordance with the species recovery plan. Surveys conducted in 2008 for the natural population on Lancelin Island and for the translocated population on Favourite Island demonstrate that both populations are healthy and stable. • *There are insufficient resources to conduct the quantity of sampling required to provide an accurate determination of population size, and its variability over time in response to natural environmental factors. Reporting on an annual basis is excessive and as such this KPI is not an effective measure.*
	Nesting success of beach–nesting seabirds, sensitive to human disturbance.		• Through signage, education, compliance monitoring and community assistance a significant effort is made in managing access to island nature reserves. • No work has been undertaken on nesting success of beach-nesting seabirds, sensitive to human disturbance, on island nature reserves. • *The resource requirements to conduct baseline surveys and annual monitoring are prohibitive, particularly given the impact of other environmental factors on breeding success. Therefore this KPI is not an effective measure.*
15. Fire	Number of wildfires resulting from human activity on the islands.		• There have been no fires on island nature reserves. • The size, likely cause, response to, time to suppression and other parameters for all wildfires and fire suppression on DEC-managed lands are captured by Fire Management Services on the Oracle based fire system.

			• *Wildfires on island nature reserves are so infrequent that use of numbers of wildfires as an effective KPI is limited. Fire is a risk associated with human activity. The management systems implemented to mitigate this risk are not effectively measured by the occurrence or otherwise of fire.*
16. Environmental weeds	Changes to the area covered by African boxthorn.		• There has been no change to the area covered by African boxthorn. • A plan has been developed to eradicate African boxthorn from the Beagle Island group. A plan was considered as an essential step in the eradication of boxthorn from the islands to ensure that this activity did not impact on sea-lions and seabirds using the island, and to ensure that cleared areas were revegetated with native species in a systematic and staged process. • The plan is ready to be implemented subject to the availability of resources, and will require a significant commitment well into the future if success is to be achieved.
17. Introduced and other problem animals	The presence of introduced animal species on the islands.		• The identification of introduced species on islands is done during routine patrols and surveys for other species. There have been no reports of new introduced species on island nature reserves. • A PhD on the competition of the house mouse with Dibbler, dunnart and skink populations on Whitlock, Boullanger and Essex islands is being concluded. • A feasibility study on the eradication of the house mouse using baits is underway. Further external funding is being sourced for the financial year 09/10 to continue this work. • Information on the presence of introduced species is recorded on the District's reserve database. There have been no additional recordings of introduced species and therefore, nothing added to the database.
27. Working with the community.	The number of volunteer hours contributed on the islands.		• Volunteer hours directly contributed to structured DEC projects are reported on annually and captured by DEC's Community Involvement Unit. There are no structured volunteer projects associated with island nature reserves. Volunteers assist with certain projects subject to the suitability of the project and the availability of volunteers. • Members of the Friends of Lancelin Island assist the ranger with work on the island on