

# Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan 1999-2009

## Ten Year Assessment Report

July 2014



**MPRA**  
MARINE PARKS &  
RESERVES AUTHORITY

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## Acknowledgement

The Marine Parks and Reserves Authority would like to thank the Department of Parks and Wildlife (Swan Coastal District and Planning Branch) and the Department of Fisheries for all the assistance provided in this assessment process.

The MPRA would also like to acknowledge the many stakeholders (listed in Appendix 1) who contributed to the ten year assessment and gave their time to provide information and feedback, attend workshops, conference calls and/or meet with the MPRA in person.

## Summary

This report presents the findings of the Marine Parks and Reserves Authority (MPRA) ten year assessment of the implementation of the management plan for the Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan 1999-2009 (SEMP). The assessment was undertaken in accordance with the MPRA Audit Policy (2008) and Audit Guidance Statement (2012) and is consistent with the MPRA functions under the *Conservation and Land Management Act 1984* (CALM Act).

The assessment specifically aimed to address the ten year assessment questions in the MPRA Audit process (Appendix 2), including;

- Review all key ecological and social values (KPIs) identified in the management plan;
- Consider progress in achieving strategic objectives in the management plan; and
- Identify management plan implementation issues.

It is acknowledged that pressures on the values of the Swan Estuary Marine Park lie both within and outside the control of the Department of Parks and Wildlife (DPaW). In addressing the assessment questions, the MPRA considered pressures that occur within the marine park.

The assessment highlighted that the management system is operating effectively and that the DPaW are progressively meeting management objectives through the implementation of strategies in the Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan 1999-2009.

Key findings included:

- A large proportion (95%) of management strategies have been implemented (either completed or partially completed) since the management plan's inception in 1999.
- Despite the urban setting of the marine park and subsequent pressures acting upon it, the Park is generally in good condition (all 'surrogate' KPIs both ecological and social are reported in satisfactory condition) and the amount of quantitative data available to make these assessments has greatly improved with the work of the DPaW Marine Science Program (MSP). No KPIs or any key values were assessed as unsatisfactory or poor condition. The pressure on seabirds/migratory birds and water quality was recognised as high.
- A number of key management issues need to be addressed in the near future in order for DPaW to continue to manage the marine park in an efficient and effective manner, including: addressing the increasing pressure from population and development; increase in motorised water sports; climate change; foreshore erosion; weed infestation and dogs. These all have potential to impact on migratory birds.
- There is strong community support and stewardship for the marine park through key community groups such as Swan Estuary Reserves Action Group (SERAG). The relationship between DPaW and the majority of key stakeholders is strong resulting in positive outcomes for the marine park.
- A number of stakeholder groups reported a shift in the use of the park from conservation to active recreational activities.

- Management by DPaW appears to be efficient and effective within the limits of the allocated resources, however further funding is required to extend the existing programs in the reserve. Budget constraints and limited resources have restricted the completion of a number of strategies.
- No targeted government funding is allocated to the Department of Fisheries (DoF) to undertake marine park specific management activities. DoF undertakes patrol and enforcement activities within the Swan River generally, and these focus on the recreational and commercial blue swimmer crab and finfish fisheries.

As a result of the assessment review process the MPRA have made a number of recommendations below.

## Recommendations

The Marine Parks and Reserves Authority provide the following recommendations that:

Recommendation	
1	Research relevant to management by volunteer organisations, educational institutions and government agencies is encouraged and supported.
2	DPaW combine existing monitoring with other organisations e.g. partner with Rottneest Island bird surveys.
3	More signage is provided at additional access points to the marine park. For example, a sign on the Narrows Bridge to notify people they are entering a marine park.
4	As part of the next review of the management plan, give priority to achieving re-zoning strategies and gazettal of reserve areas (Pelican Point and Alfred Cove) to extend the marine park boundaries and designate wildlife protection zones.
5	Priority be given to implementing relevant management strategies that have not yet been completed (refer to section 5, Table 1).
6	With regard to water quality, sediment quality, seagrass meadows (intertidal), seabirds/migratory birds and non-targeted invertebrates: <ul style="list-style-type: none"> <li>a) until a new management plan for Swan Estuary Marine Park is prepared, these values of the park should be addressed as a key performance indicators in assessing; and</li> <li>b) these values should be included as a key performance indicators when the management plan is reviewed.</li> </ul>
7	Management strategies that are no longer relevant be disregarded in subsequent Annual Performance Assessments.
8	The role of the Swan River Trust (SRT) in managing the SEMP Marine Park as part of the broader river park to be reviewed once the SRT is amalgamated into DPaW.
9	DPaW continue to manage pressures on the park, particularly increased visitation to ensure that key ecological values remain stable and do not decline further.
10	DPaW investigate the opportunity to access data from existing fixed cameras at Milyu Reserve to monitor visitor numbers to the park.
11	DPaW consider and implement adaptive management strategies to assist in mitigating the impacts of climate change on the values of the reserves.
12	A remote camera is erected at Pelican Point to monitor kite surfers.
13	The speed limit through the marine park is reviewed with Department of Transport (DoT).
14	DPaW determine methods for measuring seascape value and undertake a quantitative assessment of the condition of this value for the marine park.

# 1. Introduction

## 1.1 Management plan history

The Swan Estuary Marine Park (A Class marine reserve number 4) was gazetted on 25 May 1990 without a management plan. The Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan 1999-2009 was gazetted on 7 April 2000.

## 1.2 Legislative context and MPRA role

The statutory function of the MPRA is established under section 54 of the CALM Act which requires the MPRA to be responsible, in relation to all land which is vested in it whether solely or jointly with an associated body, for (a) the preparation of proposed management plans; and (b) the assessment of expiring plans and preparation for further management plans. Expiring plans do not lapse until they are formally revoked by the Minister and replaced with a new plan.

The assessment function of the Marine Parks and Reserves Authority (MPRA) is specified under section 26B (f) of the Conservation and Land Management Act 1984 (CALM Act) which states that in relation to management plans for lands and waters vested in it, that the MPRA is:

- i. to develop guidelines for monitoring;
- ii. to set performance criteria for evaluating;
- iii. to conduct periodic assessments of the implementation of management plans.

The MPRA has established an Audit Policy (2008) and endorsed a performance assessment framework to give effect to the assessment function. The assessment process was reviewed in 2012 and a set of assessment and review guidelines produced. These documents are part of an integrated system of DPaW management that also includes outcome based management plans, annual marine work plans, a comprehensive marine monitoring and reporting system and annual performance assessment reports, as well as the periodic and ten-year assessments.

## 1.3 DPaW Performance Assessment Framework

The performance assessment framework encompasses several assessment components, including: input measures such as staff and financial resources; activity/output assessment against the annual 'marine work plans'; and outcomes in relation to the strategic objectives of marine reserves specified in the relevant management plan.

Input and activity/output components are dealt with through assessment against annual marine work plans that are prepared for each reserve. The annual marine work plans reflect the annual set of planned actions to progressively implement the prioritised strategies contained in the management plan. The actions that are identified as High-Key Management Strategies (H-KMS) in the management plan are particularly important for MPRA assessment as completion of these strategies should: contribute greatly to implementing best-practice management systems and processes; help to alleviate identified major pressures on ecological and social values; and result in delivery of outputs that contribute to achieving the desired strategic outcomes over the life of the management plan.



The management plans also list key performance indicators (KPIs) that relate specifically to the management targets for key ecological and social values and reflect the highest conservation (from biodiversity and ecosystem integrity perspectives) and social priority desired outcomes.

The Swan Estuary Marine Park and Adjacent Reserves Management Plan is an old management plan without prioritised management strategies (i.e. H-KMS, H, M and L strategies) and without specific KPIs. 'Surrogate' KPIs have been assigned based on Walpole and Nornalup Inlets Marine Park 2009-2019. The condition of 'surrogate' KPIs is summarised in this document under Section 5, Question c). Preparation of a new outcome-based management plan is required for Swan Estuary Marine Park, to maintain the assets of the marine park in the face of new and increasing pressures on the values.

## **2. Objectives**

The objective of the assessment is to conduct a ten year review and report on the implementation of the management plan for the Swan Estuary Marine Park and Adjacent Nature Reserves 1999-2009. The present management plan contains objectives, strategies and actions but no performance indicators.

Specifically the aim is to address the 'Ten year assessment questions' in the MPRA assessment process (Appendix 2), including:

- reviewing all key ecological and social values (KPIs) identified in the management plan;
- considering progress in achieving strategic objectives in the management plan; and
- identifying management plan implementation issues.

This document provides recommendations and priorities for the remaining period the management plan is in effect. It is intended to meet the obligations under the CALM Act, and be consistent with the MPRA Audit Policy (MPRA 2008, 2012).

## **3. Ten Year Assessment Process – Swan Estuary Marine Park and Adjacent Nature Reserves**

The ten year assessment was undertaken by the MPRA Audit Subcommittee, under delegation from the full authority. The MPRA Audit Subcommittee members who conducted the assessment were Emeritus Professor Diana Walker (MPRA Subcommittee chair), Dr Kellie Pendoley, Jeff Cooper and Ida Holt.

### **3.1 Scoping and pre-assessment**

- The MPRA liaised with DPaW (Planning Branch, Swan Coastal District & Marine Science Program) as well as DoF to initially scope out the likely key issues and approach to the assessment.
- DPaW engaged a consultant to assist with the assessment process. The consultant collated existing information, facilitated the assessment workshop, and assisted with synthesising all information collected to write the assessment report.

### 3.2 Consultation

As part of the assessment the MPRA consulted with DPaW staff, stakeholders and the local community. Letters were sent to relevant stakeholders, including other government agencies notifying them of the assessment and of a stakeholder consultation session that was planned as an opportunity to meet with the MPRA. Stakeholders were invited to comment on the implementation of strategies within the management plan and they were also given the opportunity to comment on the MPRA 'ten year assessment questions'. A full list of stakeholders is provided in Appendix 1 and a summary of the key consultation undertaken are provided below:

- The MPRA consulted with DPaW the lead government agency responsible for the implementation of the management plan through meetings and interviews with key staff.
- The MPRA wrote to other State and Commonwealth government departments directly mentioned in the management plan and feedback was received from Department of Fisheries, Department of Transport, Department of Mines and Petroleum, Department of Water, Department of Aboriginal Affairs, Landgate, Main Roads WA Metropolitan Region, Tourism WA, Western Australian Maritime Museum, Swan River Trust, and the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).
- The MPRA contacted all other key stakeholders including the oil and gas industry, indigenous groups, conservation groups, commercial and recreational fishing, local government authorities and commercial operators. Feedback was received from Swan Estuary Reserve Action Group (SERAG), Pelican Point Bird Group, Chevron, BPH Billiton, Apache, WAFIC, Department of Aboriginal Affairs, City of Melville Council and City of Subiaco Council.

### 3.3 Site visit, assessment workshop and stakeholder consultation session

- The MPRA Audit Subcommittee travelled to Swan Estuary Marine Park and Adjacent Reserves on 26 March 2014 to undertake an onsite inspection for verification of the park's management issues and achievements. The MPRA Audit Subcommittee members visited Attadale foreshore, Alfred Cove, Milyu Reserve and Pelican Point.
- An assessment workshop was also conducted on the same day at the DPaW offices in Crawley, with a presentation given by DPaW on the implementation of relevant strategies within the management plan. This was also an opportunity to showcase achievements within the park and highlight challenges and management issues.
- DoF gave an earlier presentation on 24 April 2014 as part of the Shoalwater Islands Marine Park Periodic review, as Swan Estuary Marine Park and Adjacent Reserves falls within the same Metropolitan District.
- The workshop was also an opportunity for the MPRA Audit Subcommittee to discuss written submissions received and synthesise the key issues arising from stakeholder feedback.
- In the evening an open stakeholder consultation session was held, where stakeholders had the opportunity to speak with the MPRA. This forum was run as an informal Q&A session and generated discussions on a variety of topics. Members from Swan River Trust (SRT), Swan Estuary Reserve Action Group (SERAG),

Pelican Point Bird Group and an observer from the Office of the Auditor General attended this session.

### 3.4 Reporting

- The MPRA Audit Subcommittee reviewed the presentations by DPaW and DoF together with the accompanying written material. Feedback that was provided by stakeholders, either in writing or in person, was also summarised.
- An assessment report was produced (this report) which includes;
  - major achievements
  - a response to assessment questions
  - a summary of key management issues
  - stakeholder contributions; and
  - recommendations.

## 4. Findings - Achievements

The ten year assessment, as well as the recurrent annual performance assessment of the management plan, has highlighted a number of achievements since the inception of the management plan. These include:

- Fencing of significant proportions of the foreshore of Alfred Cove and Milyu Nature Reserves which provides better protection for birds and bird habitat from dogs. Black Swan recovery has been seen at Alfred Cove and Osprey recovery at Milyu Reserve.
- Installation of boardwalks, viewing platforms and seating areas in a number of locations which allow the public to observe and appreciate the aesthetic value of the park and reserves.
- Installation of Osprey poles at Alfred Cove and Pelican Point, to support Osprey breeding and recovery.
- Vegetation restoration along the foreshore at Attadale and Pelican Point.
- Interpretive signage and information within all three reserves, providing education and awareness of the marine park and reserve boundaries and of the permitted activities.
- A five year revegetation plan for Milyu Reserve is underway, with funding provided by SRT and Main Roads (\$80,000 per year).
- Collaboration with SRT and surrounding councils to develop policies in relation to commercial kite surfing schools operating within or in proximity of the marine park.
- Exclusion of jet skis from the marine park, reducing disturbance of birds at Pelican Point.
- High level of volunteer and community organisation involvement in park management in particular SERAG, Friends of Attadale Foreshore (FOAF) and Pelican Point Bird Group. Volunteers assist with planting, weeding and rubbish collection within the reserves
- Collaboration between Melville Council, SRT and DPaW to revegetate Attadale Foreshore.
- Outstanding scientific study and passive recreational opportunities as a result of successful management.
- Greater use of the park and reserves by the public. They provide aesthetic value and intrinsic worth to the public.



- An increase in the amount of quantitative data available for adaptive management, particularly through the work of DPaW Marine Science Program and the WA Marine Monitoring Program (WAMMP).
- Satisfactory condition of key ecological and social values (KPIs). No KPIs or any key values were assessed as being in an unsatisfactory or poor condition.
- A high percentage of strategies that have been implemented (128 out of 134 strategies or 95%) since the management plan was gazetted in 2000.
- The successful delivery of marine education programs which have resulted in a positive shift in community stewardship of the marine park.
- Increased data available for adaptive management.

The performance assessment reporting has been implemented since 2003 and initial reports were populated mainly with anecdotal information. Since the Marine Science Program and DPaW regions began establishing a systematic process for Monitoring, Evaluation and Reporting (MER) through the development and implementation of the Western Australian Marine Monitoring Program (WAMMP), more data has been used in assessments. Since late 2008 when the WAMMP was established, more robust quantitative data on the condition, pressure and management response (CPR) related to assets, has been used in reserve management planning, delivery and internal and third party reporting. The WAMMP program has worked hard to define the CPR indicators that are required for long term monitoring, and to obtain and deliver quantitative information relevant to the assets and strategies listed within marine park and reserve management plans. In this regard there has been considerable progress in the last 3 years, in providing evidence to facilitate and guide effective and efficient management of DPaW marine conservation estate (MPRA 2012).

In 2012-2013 there was new data available on the condition of the water quality surrogate KPI, new pressure and response data for the sediment surrogate KPI and new response data on the seabird/migratory birds surrogate KPI for the Swan Estuary Marine Park and Adjacent Reserves. It is reassuring to know that current information is being used to inform management.

#### 4.1 DPaW/DoF Collaboration

It is recognised that both DPaW and DoF have significant responsibilities committed to the protection and management of the State's marine reserves and it is essential that both departments work together in a collaborative way to ensure cost effective outcomes. Given its small size, Swan Estuary Marine Park and Adjacent Reserves does not have a formal collaborative arrangement in place between DPaW and DoF and collaboration within this marine park is ad hoc.

#### 4.2 Education and Community stewardship

DPaW have a strong relationship with community groups working within the park. DPaW collaborated effectively with stakeholder groups such as SERAG, FOAF and the Pelican Point Bird Group. Over 3,000 volunteer hours have gone into revegetation at Attadale foreshore alone. SERAG have also applied for grants and they have spent \$250,000 in the park and reserves since 2010. They have matched this value with volunteer labour.

The assessment identified that all the generic education and interpretation objectives, strategies and targets are being implemented and the result has been a positive shift in public perception and community stewardship of the marine park in recent years. Interpretive

signs at each of the reserves allow the public to learn about the area, identify its boundaries and activities permitted within the park and reserves.

***Recommendation 1: Research relevant to management by volunteer organisations, educational institutions and government agencies is encouraged and supported***

***Recommendation 2: DPaW combine existing monitoring with other organisations e.g. partner with Rottnest Island bird surveys***

***Recommendation 3: More signage is provided at access points to the marine park. For example, a sign on the Narrows Bridge to notify people they are entering a marine park***

The MPRA and DPaW would particularly like to acknowledge the work community groups (such as SERAG, FOAF and Pelican Point Bird Group) have put into managing the marine park and reserves. The support from community groups is vital, and without the hard work of these groups planting, weeding and collecting rubbish the reserves would be in a poorer condition. It should be noted that groups such as SERAG apply for government grants to revegetate the reserves and match these grants with volunteer hours working in the reserves.

## 5. Findings - Response to Ten Year Assessment Questions

DPaW is the lead agency responsible for the implementation of the management strategies listed in the management plan. The Department of Fisheries (DoF) also has a key role in the implementation of some strategies in the management plan relating to the management of fishing in the marine park. Both DPaW and DoF provided a response to the ten year assessment questions, which are summarised below.

### 5.1 What strategies or actions of the management plan (ecological, social, and cultural) have not been implemented or are not being addressed? Are there any concerns in relation to delivering the plan strategies within ten years?

A very high percentage of management strategies have been implemented (128 out of 134 or 95%) at various degrees (underway, partially completed or completed). Only 5% of strategies have *not* been implemented to date. These are summarised in the table below.

Table 1: Summary of management strategies not yet implemented

Strategy number	Strategy	Status
5.3	Change the tenure and purpose of the Pelican Point Reserve to 'A' Class nature reserve and extend the land based nature reserve to include any low lying vegetation	At this point any amendments are on hold because such amendments will require an Act of Parliament to complete. The legislative basis to amend Alfred Cove Nature Reserve is contained within the Land Administration Act 1997, refer s45(3)
5.4	Add Reserve 35486 and a portion of the Burke Drive Road Reserve to the Alfred Cove Nature Reserve	At this point any amendments are on hold because such amendments will require an Act of Parliament to complete. The legislative basis to amend Alfred Cove Nature Reserve is contained

Strategy number	Strategy	Status
		within the Land Administration Act 1997, refer s45(3)
5.5	Amend the Alfred Cove Nature Reserve boundaries between areas of grass and native vegetation to better align them with local and State Government management responsibilities	At this point any amendments are on hold because such amendments will require an Act of Parliament to complete. The legislative basis to amend Pelican Point Nature Reserve is contained within the Land Administration Act 1997, refer s45(3)
9.1	Identify important geomorphological features within or near the reserve system that are valuable and vulnerable to damage, including the sand and mud flats in each of the three areas and the fossil sites at Point Waylen and Alfred Cove	No study has commenced due to staffing and budget constraints
28.8	Investigate developing an interpretive centre at Atwell House	Not commenced, management strategy should be removed from the management plan
43.2	Review or amend the Plan, if necessary, in the light of new information	Plan will be amended as government priorities permit.

Concerns in relation to achieving these strategies are in relation to the re-zoning and gazettal of areas such as Pelican Point and Alfred Cove. It is a difficult and lengthy process for re-zoning and gazettal to be approved and requires an Act of Parliament. There is currently no gazettal of any zones within the marine park and this should be a priority going forward. Mechanisms to provide wildlife protection zones and enable enforcement of kite surfer activities should also be investigated.

#### 5.1.1 Advice from DoF

DoF has implemented management strategies relating to patrol and enforcement and education and interpretation activities. DoF recognise that there is limited educational material on the DoF website regarding SEMP fishing rules. DoF is currently undertaking to update its website to provide information on fishing and fishing rules in all CALM Act marine reserves.

At present DoF has no specific funding to implement strategies that involve monitoring fish populations at the marine park scale. DoF is currently considering options for reporting on estimates of key species caught by recreational fishers at a scale that would be more relevant to the marine park.

***Recommendation 4: As part of the next review of the management plan, give priority to achieving re-zoning strategies and gazettal of reserve areas (Pelican Point and Alfred Cove) to extend the marine park boundaries and designate wildlife protection zones***

**Recommendation 5: Priority be given to implementing relevant management strategies that have not yet been completed**

**5.2 If the prioritisation identified in the management plan is not being adhered to, why?**

The Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan 1999-2009 does not specify any H-KMS, H, M, L strategies in the plan. For the purpose of reporting strategies were grouped under the generic management frameworks rather than by priority. It is recommended that the management plan is updated to include prioritised management strategies. The following recommended priorities are assigned to strategies that have not yet been implemented:

- Strategies 5.3, 5.4 and 5.5 (detailed in Question a) should be a *high priority*. Rezoning and gazettal of these areas is required. DPaW are already managing these areas and areas where there is a potential threat i.e. kite surfers disrupting birds at Pelican Point need to be gazetted.
- Strategy 9.1 is a *low priority*.
- Strategy 28.8 is a *low priority* and should be removed from the management plan.
- Strategy 43.2 is currently being completed through the ten year assessment process.

Some other strategies in the plan that were recognised as needing to be a high priority include:

- *Strategy 13.1 Liaise with local Aboriginal and community groups and relevant agencies concerning the protection of significant heritage sites in the reserves.*
- *Strategy 13.2 Liaise with local historical societies and establish an archive of visual and written cultural history, and make this information available for interpretive displays.*

To date these strategies have not been well implemented and further focus needs to go into them in the future. Native Title determination will make it is easier to achieve these strategies.

- *7.1 Develop a Memorandum of Understanding between the Swan River Trust (SRT) and CALM that sets down guidelines and procedures for management responsibilities in the Marine Park area.*

This strategy will be progressed further with the integration of SRT into DPaW in the next year. It is recognised that a good relationship between DPaW and SRT currently exists and this needs to be maintained and built on in the future.

**Recommendation 6: With regard to water quality, sediment quality, seagrass meadows (intertidal), seabirds/migratory birds and non-targeted invertebrates:**

- a) until a new management plan for Swan Estuary Marine Park is prepared, these values of the park should be addressed as a key performance indicators in assessing; and**

***b) these values should be included as a key performance indicators when the management plan is reviewed.***

**Recommendation 7: Management strategies that are no longer relevant be disregarded in subsequent Annual Performance Assessments**

**Recommendation 8: The role of the Swan River Trust (SRT) in managing the SEMP Marine Park as part of the broader river park to be reviewed once the SRT is amalgamated into DPaW**

### 5.3 What is the current status of the ecological and social values in the management plan?

Both DPaW and DoF presented to the MPRA on the implementation of strategies and the condition of KPIs they are responsible for. These presentations as well as the DPaW Performance Assessment Reports, and DoF 2012/13 State of the Fisheries Annual Report were used to determine the condition of KPIs.

Swan Estuary Marine Park and Adjacent Reserves does not have specific KPIs. 'Surrogate' KPIs have been assigned based on the Walpole Nornalup Inlets Marine Park management plan.

The 'surrogate' KPIs for the Swan Estuary and Adjacent Reserves are:

- Water Quality
- Sediment Quality
- Seagrass meadows (intertidal)
- Seabirds/Migratory birds
- Non-targeted invertebrates.

The condition of key values (including 'surrogate' KPIs) in the marine park were all assessed as being in 'Satisfactory' condition. Although the condition of these values remains relatively stable, the pressures on them remain moderate or in some cases are increasing. A 'high' pressure rating was given to water quality and seabirds/migratory birds, giving these two KPIs an overall effectiveness rating of 'medium', a decrease from management effectiveness in 2011/12 when they were rated 'high'. DPaW will need to continue to manage these pressures, particularly increased visitation to ensure that these key ecological values remain stable into the future and don't decline further. A 'high' effectiveness rating was assigned to sediment quality, seagrass meadows and non-targeted invertebrates.

The status and condition of 'surrogate' KPIs for Swan Estuary Marine Park and Adjacent Reserves was provided in the DPaW Annual Performance Assessment Report 2012/13 submitted to the MPRA in November 2013. A summary of the report card for 2012/13 is at Appendix 3.

#### 5.3.1 Advice from DoF

The advice from DoF on the status of KPIs and key ecological and social values they have responsibility for (i.e. Finfish, Invertebrates, Recreational Fishing and Commercial Fishing) was provided on a broad bioregional scale, consistent with DoF's Ecosystem Based Fisheries Management (EBFM) framework.



#### **5.3.1.1 Finfish**

The estuarine finfish suite was assessed as at significant risk in the latest State of the Fisheries Report 2012/13. This was mainly due to external (non-fishing) factors (e.g. poor water quality). Assessments of black bream suggest a stable population in the Swan-Canning Estuary.

#### **5.3.1.2 Invertebrates**

Estuarine crustaceans were assessed as moderate risk in the latest State of the Fisheries Report 2012/13. Research on the stocks of blue swimmer crabs in this region has been completed and the stocks are all considered to be in an adequate state and fishing levels are acceptable.

#### **5.3.1.3 Recreational Fishing**

Recreational catch and effort levels in the Swan River are likely to have increased significantly since the 1970's, in proportion to Perth's population growth, as well as an increase in boat ownership and gains in fishing efficiency through technology. Recreational catches in the Swan River now exceed commercial catches of the same species.

Blue Swimmer Crabs are currently the largest component of recreational fishery landings in the Swan Estuary (and state-wide). Black bream is the most common finfish species retained by recreational line fishers. Other common finfish species include Australian herring, tailor, whiting, mulloway, flathead and mullet. Minimum legal size and daily bag limits apply. School and western king prawns are also caught using hand-trawl or hand-scoop nets in the shallow waters of the middle estuary during summer.

#### **5.3.1.4 Commercial Fishing**

There is currently only one commercial operator in the Swan River and no capacity for additional operators to enter the fishery under current management arrangements for the West Coast Estuarine Interim Managed Fishery. The breeding stock levels of blue swimmer crabs, the stock level of black bream and the fishing level is assessed as acceptable.

It continues to be a challenge for DPaW and MPRA to make assessments of targeted finfish and invertebrates at a park level based on assessments conducted at a bioregional scale. DoF are currently working with DPaW to resolve this issue for marine park scale reporting for other parks that are specifically funded.

***Recommendation 9: DPaW continue to manage pressures on the park, particularly increased visitation to ensure that key ecological values remain stable and do not decline further***

### **5.4 Are there any concerning trends in any of the ecological assets (condition-pressure-response)**

*Increasing population = increased pressure*

Population increases within the Perth metropolitan area have contributed to an increase in the number of people wishing to have access to the Swan River for a variety of leisure, recreational and commercial opportunities. This has also resulted in an increase in the number of vessels using the Swan and Canning Rivers. The increase in human use and vessels in the marine park is resulting in increased fishing pressure, water pollution and disturbance of seabirds/migratory birds.

The graph below shows visitor numbers have increased from approximately 60,000 in 2002/2003 to approximately 85,000 in 2011/12 (no new data has been collected or collated for 2012/13).

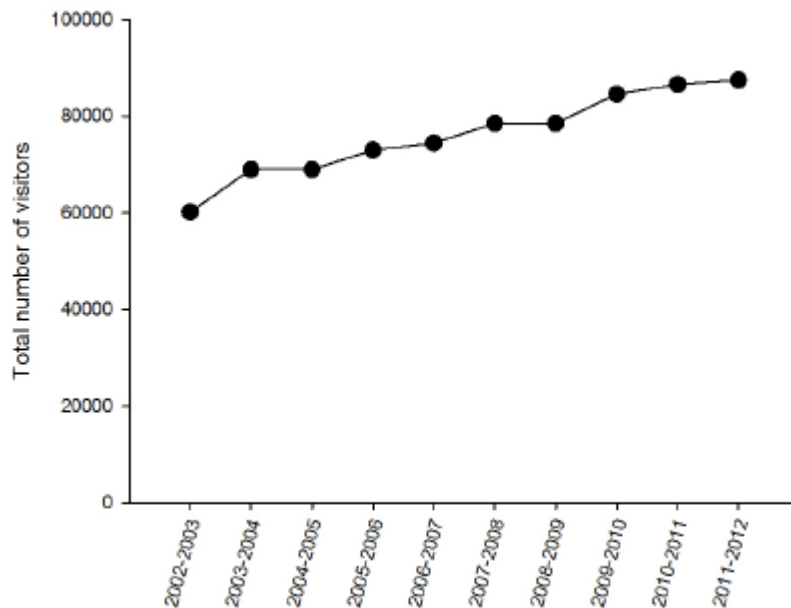


Figure 1: Number of visitors to the Swan Estuary Marine Park and Adjacent Reserves

MSP currently use visitation data for a measure of the number of visitors to the Swan Estuary marine park and will continue to use this data in the future. Opportunities may exist to remotely monitor visitor use/pressures, as there are a number of new remote cameras bordering Milyu that could be periodically checked. If these cameras (and potentially other new remote cameras installed by main roads and councils) are utilised, data on visitor access can be acquired at little cost to DPaW.

***Recommendation 10: DPaW Investigate the opportunity to access data from existing fixed cameras at Milyu Reserve to monitor visitor numbers to the park***

#### 5.4.1 Condition of seabirds/migratory birds

The condition and pressure on seabirds/migratory shorebirds is of concern. The condition of their habitat is declining and habitat loss on the East Asian-Australasian Flyway is occurring.

Migratory birds face pressure at locations far removed from Perth. With other locations/habitats on their migration pathways under increased pressure, some bird species are facing extinction within a decade. Declines in their abundance are mostly caused by the fast pace of coastal land reclamation occurring in densely populated regions through which they pass, particularly around key coastal staging areas in the Yellow Sea (Source UNEP).

With habitats being destroyed on the East Asian-Australasian Flyway, it is even more important to preserve the important habitats in the Swan Estuary Marine Park and Adjacent Reserves.

Locally, the abundance of birds in Swan Estuary Marine Park is being impacted by the local visitor pressures; in particular disturbance by walkers and dogs. In addition, impacts from climate change and erosion (see below) are also negatively impacting on bird habitat.

Education of the public on the effect of human activities on Seabirds/migratory birds is crucial and must be continued.



Figure 1 Signage at Pelican Point in the Swan Estuary Marine Park

#### 5.4.2 Advice from DoF

A major challenge for DoF is the continued increase in recreational fishing pressure. Recreational catches in the Swan River now exceed commercial catches of the same species. As the metropolitan population increases, so too does boat ownership and fishing technology.

Decline in water quality, resulting in algal blooms and fish kills are becoming regular events in the Swan River. A Fish Kill Program is in place, with an MOU between DoF and DoW. DoF is the lead agency for marine fish kills and DoW the lead agency for estuarine fish kills. The lead agency is responsible for establishing an Incident Management Team when an event occurs and DoF also provides technical services during fish kills. It should be noted that SRT also provide significant support in the field as part of this program.

Introduced aquatic pests, in particular the Asian paddle crab, the colonial ascidian *Didemnum perlucidum* and pearl cichlids have established in the Swan and Canning Rivers. Several other aquatic pest species have been detected and are being actively managed to contain or eradicate where possible e.g. Platyfish, *Xiphophorus maculatus*, and the snail *Planorbella*, which are both present in Bodkin Park, with links to the Swan, detected by metropolitan region water body surveys in 2013.

In May 2013, DoF launched WA Pestwatch, a smart-phone app to help people report pests and diseases that are discovered in WA's oceans and rivers. Furthermore, a campaign supported by the aquarium industry and retail pet stores, was launched in October 2013 to raise awareness among pet owners, on how to safely and responsibly dispose of unwanted pet fish. The campaign aims to improve the State's aquatic biosecurity defenses.

## 5.5 Are there any assets for which the management targets are not being met – especially those that are key performance indicators (KPIs)?

The Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan 1999-2009 does not have any specific KPIs, however management targets are being progressively met for the 'surrogate' KPIs. The MPRA have made recommendations above regarding 'surrogate' KPIs.

## 5.6 Are management responses appropriate to the concerns in (d or e), is adaptive management occurring? Is DPaW management of these assets effective and efficient?

Pressures on the marine park values remain high or in some cases increasing. These include human visitation, kite surfers, dogs, climate change and foreshore erosion. DPaW has demonstrated good management responses through management activities such as fencing, revegetation and management of the three reserves, installation of viewing platforms, osprey poles and marking specific areas e.g. wildlife conservation area at Pelican Point). Further detail on key pressures on the marine park are provided below.

### 5.6.1 Impacts from Climate change

Impacts from climate change such as an increase in water temperature and increased sea levels are very evident in the Swan Estuary Marine Park and Adjacent Reserves. No buffer zone exists between the reserves and main roads, particularly at Milyu Reserve. In most areas, there is no contingency to prevent effects of sea level rise and foreshore erosion is already occurring. An adaptive management strategy is needed.

***Recommendation 11: DPaW consider and implement adaptive management strategies to assist in mitigating the impacts of climate change on the values of the reserves.***

### 5.6.2 Loss of fringing vegetation through erosion

Loss of fringing vegetation is being seen through the reserves as a result of erosion (see photos below). As mentioned above no buffer zones exist between the reserve and main roads, particularly at Milyu Reserve. The issue of erosion at Milyu was raised again and this has been noticed as an ongoing issue by the MPRA. Main Roads want to put in hard structures to reduce erosion. Discussions are still being undertaken between DPaW and Main Roads.



Figure 2 Erosion at Pelican Point in the Swan Estuary Marine Park

## 5.7 Are there any significant concerns in regards to achieving social and cultural outcomes identified in the management plan?

There are a number of social and cultural outcomes identified in the management plan that have not been completed including for recreational water based sports, recreational fishing, seascapes, commercial fishing and scientific research and education.

### 5.7.1 Increase in recreational water sports

The social value of water sports has a number of management strategies associated with it. Recreational water sports are increasing within the park including new sports like kite surfing, wind surfing and paddle boarding. These activities can disturb the species the marine park was intended to protect and also disturb their habitats at sensitive places like Pelican Point.

Particular uses in the Marine Park are regulated to minimise conflicts between surface water sports and seabirds and migratory shorebirds as well as other users of the park. Jet skis have been prohibited from all waters of the marine park (gazetted 12 May 1998) and the majority of the marine park has an 8 knot speed limit which has been gazetted and enforced. The effectiveness of this speed limit requires review.

It is important that kite surfers are educated on the impacts they are having, particularly to nesting/roosting birds at Pelican Point. Western Australian Kite Boarders and Department of Sport and Recreation are working to develop clear guidelines – zones for launching etc.

***Recommendation 12: A remote camera is erected at Pelican Point to monitor kite surfers***

***Recommendation 13: The speed limit through the marine park is reviewed with Department of Transport (DoT)***

### 5.7.2 Recreational fishing

Recreational fishing in the Swan River has increased significantly since the 1970's. As the metropolitan population increases, so too does boat ownership and fishing technology. Blue Swimmer Crabs make up the largest component of recreational fishing in the Swan Estuary and Australian herring are also a popular recreational species and stocks are currently inadequate in the West Coast Bioregion. Recreational fishing is managed through a series of input and output controls (e.g. minimum legal size, daily bag and boat limits, gear restrictions etc.)



### 5.7.3 Seascapes

The main issues to achieving this outcome are that a) there is currently no mechanism to measure seascapes b) this leads to a lack of quantitative data to assess this value and c) the risks to these values is high and the pressure is continuing to increase (see Section 5 on increasing human pressure).

***Recommendation 14: DPaW determine methods for measuring seascape value and undertake a quantitative assessment of the condition of this value for the marine park***

### 5.7.4 Education

While it is recognised that education about the marine park and reserves is effective, increased education on particular issues was identified during the assessment process as a management issue. Further work is required to educate the public on the boundaries of the marine park and reserves as well as activities permitted within these areas.

It is also important that the research information on the marine park is made available to the community to increase their understanding of the ecological values and processes in the marine park and what impact their behaviour and use may have on these important values.

## 5.8 Are there any major issues that are not being adequately addressed?

The major issues the MPRA consider are not being adequately addressed are:

- 1) the increased pressure on the park from water sports such as kite surfing and wind surfing; and
- 2) the increasing population of people, vessels and pollution – which put more pressure on the park and reserves.

The MPRA have made recommendation earlier in this report in regard to these issues.

An additional issue that has been raised is that of potential leaching of nutrients from septic tanks, which may impact water quality in the marine park. Water quality is considered to be good throughout the park with high pressures on this value. While many residences and industries in the Swan and Canning rivers catchment area have septic tanks, this is being addressed through the State Government's Sewer Infill Program. As such, it is unlikely that any impacts on water quality from septic tank leaching, if any at the present time, would increase.

## 5.9 Are there any changes in management focus/effort required to deliver the expectations of the management plan and its outcomes? What recommendations are made?

DPaW need to focus on formalising the management of recreational activities and development of associated zoning, in particular for water sports.

DPaW also need to focus on improving the perception of management activities undertaken in the Swan Estuary Marine Park and Adjacent Reserves. The assessment process has highlighted the significant achievements by DPaW, councils and community groups such as SERAG, FOAF and the Pelican Point Bird Group.

### 5.10 What are the key lessons learnt from the past ten years or so of implementation and in marine management generally that can contribute to more efficient and effective management of this area in the future?

A number of key lessons have been learnt including:

- There has been an increase in existing pressures and an addition of new pressures on the marine park and reserves in the last ten years;
- Agency responsibilities with respect to implementing management plan strategies need to be explicit within the plan. Collaboration between the agencies responsible is also crucial for these strategies to be implemented;
- Provision of general management services and management strategy implementation (e.g. monitoring of fish populations within the marine park) need to be supported by adequate resources;
- The park needs to include more of the Swan River;
- Focus needs to be on adjacent reserves, not just the marine park. These areas are just as important as the marine park.

### 5.11 What are the recommendations that need to be considered for the formulation of the subsequent statutory management plan?

The Swan Estuary Marine Park and Adjacent Reserves management plan needs to be updated to adopt a best practice management model, including:

- Setting meaningful, measurable and achievable goals to provide an outcome based plan;
- Identifying appropriate key performance indicators;
- Setting clear management targets and prioritise management actions/strategies;
- Establish and gazette a zoning scheme; and
- Clearly identifying agency responsibility.

Establishing a zoning scheme will better recognise the key conservation values of the Swan Estuary Marine Park and Adjacent Reserves, e.g. protection for migratory wading birds and seagrass meadows. Although the management plan currently includes a seagrass habitat protection and wildlife habitat protection zones, these zones were not gazetted and as such the marine park is zoned for general use. This does not send a clear message to the community regarding the park's conservation values. When considering a new zoning scheme, the purpose and objectives of the zones (i.e. what the zones are aiming to protect) should be clear and measurable.

Given the time that has passed since the marine park was established, it would be useful to undertake a review of the key uses and ecological, social and cultural values (e.g. fishing activity has changed significantly in the last 20 years).

A new management plan and the management strategies must be supported with adequate resources to meet the expectations of the management plan and achieve appropriate levels of management, compliance and monitoring service.

## Appendix 1 List of stakeholders

Stakeholder Group	Response Received	Organisation
Oil and Gas Industry	Y	Apache
	Y	BHP Billiton
	N	Woodside Energy Ltd
	Y	Chevron
	Y	NOPSEMA
Conservation	N	Conservation Council
Non-Government	N	Perth Region NRM
Agencies	N	BirdLife Australia
	Y	Friends of Attadale foreshore
	Y	WWF
	Y	Pelican Point Bird Group
	Y	Swan Estuary Reserves Action Group inc.
	N	Conservation Volunteers Australia
Fishing	Y	WAFIC
	N	Recfishwest
Indigenous Groups	N	South West Aboriginal Land and Sea Council
Local Government	Y	City of Melville (Alfred Cove)
	N	City of South Perth (Milyu)
	Y	City of Subiaco (Pelican Point)
Government	Y	Department of Transport
	Y	Department of Fisheries
	Y	Western Australian Maritime Museum
	Y	Department of Aboriginal Affairs
	Y	Department of Water
	N	Department of Environmental Regulation
	N	Department of Lands
	Y	Department of Mines and Petroleum
	Y	Landgate
	N	Water Corporation
	Y	Tourism WA
	N	Environmental Protection Authority
	Y	Department of Parks and Wildlife
	N	Western Australian Planning Commission
	Y	Swan River Trust
	Y	Main Roads
Y	Office of the Director General	
Commonwealth	N	Fed Department of Environment
Tourism operators	N	Stand Up Paddle sports
	N	Western Australian Kite Surfing association
Commerce/Development	N	Melville Cockburn Chamber of Commerce
Scientists	N	AIMS
	N	CSIRO
	N	UWA
	Y	Murdoch
	N	Curtin

## Appendix 2    Ten year assessment questions

1. *What strategies or actions of the management plan (ecological, social, and cultural) have not been implemented or are not being addressed? Are there any concerns in relation to delivering the plan strategies within ten years?*
2. *If the prioritisation identified in the management plan is not being adhered to, why?*
3. *What is the current status of the ecological and social values in the Management Plan?*
4. *Are there any concerning trends in any of the ecological assets (condition-pressure-response)*
5. *Are there any assets for which the management targets are not being met- especially those that are key performance indicators (KPIs)?*
6. *Are management responses appropriate to the concerns in (d or e), is adaptive management occurring? Is DPW management of these assets effective and efficient?*
7. *Are there any significant concerns in regards to achieving social and cultural outcomes identified in the management plan?*
8. *Are there any major issues that are not being adequately addressed?*
9. *Are there any changes in management focus/ effort required to deliver the expectations of the management plan and its outcomes? What recommendations are made?*
10. *What are the key lessons learnt from the past ten years or so of implementation and in marine management generally that can contribute to more efficient and effective management of this area in the future?*
11. *What are the recommendations that need to be considered for the formulation of the subsequent statutory management plan?*

## Appendix 3 Summary of report cards

Value	Status of KPIs			Effectiveness Rating <sup>1</sup>
	Condition	Pressure	Response	
Sediment Quality	SATISFACTORY	MODERATE	SATISFACTORY	Green
Water Quality	SATISFACTORY	HIGH	SATISFACTORY	Yellow
Seagrass meadows (intertidal)	SATISFACTORY	MODERATE	SATISFACTORY	Green
Seabirds / Migratory Birds	SATISFACTORY	HIGH	SATISFACTORY	Yellow
Non targeted – invertebrate	SATISFACTORY	MODERATE	SATISFACTORY	Green

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 DPaW 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 insufficiently serviced;
- V. Ideally only quantitative information would inform this process. In the initial years for the WAMMP, qualitative information has also been 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.

	Condition	Pressure	Response
<b>High Effectiveness</b>	Excellent, Good or Satisfactory	Low, moderate or high	Good or satisfactory
<b>Medium Effectiveness</b>	Satisfactory OR	Low, moderate or high	Unsatisfactory
	Unsatisfactory	Low, moderate or high	Good or satisfactory
<b>Low Effectiveness</b>	Unsatisfactory, or poor	Low, moderate or high	Unsatisfactory



## Appendix 4 Summary of stakeholder feedback

<b>Stakeholder concerns</b>
Acknowledgement that it is difficult to achieve a balance between recreation and conservation. Concern that the balance has tipped from conservation to recreation. Change in balance in priorities from protecting conservation values to encouraging community access
Importance of passive recreation noted. Importance of the value of 'nature' and natural areas within a city can't be underestimated
Increase in motorised watersports and speed - disturbing nesting birds and having an environmental impact on the marine park
Increase in kite boarding and stand up paddle boarding - placing increased pressure on the park and reserves, in particular disturbing nesting birds (shadow of kite)
Increase in population and development - placing increasing pressure on the park and reserves
Small size of reserves means there is no buffer for impacts of climate change. Erosion as a result of climate change leading to loss of habitat
Weed infestation - taking over reserves and encroaching on bird habitat. Increase in JoJo prickles at Matilda Bay
Decline in water quality due to decreased flushing flows = increase in contaminants and fish kills
Dogs - disturbing nesting birds within reserves and parks. Dogs are often seen within the marine park and reserves boundaries
Increase in prawning/crabbing - increased pressure on marine park and depleting resources
Lack of representation of a range of habitats
Erosion of Milyu Nature reserve - putting Freeway and Principal Shared Path at risk
Concern that SRT joining DPaW will affect the marine park and reserves. SRT were an independent body able to express views - concern this won't be possible under new legislation
Dependence on community groups and grants to implement management plan
Bird watchers have noticed a decline in birds throughout the park and reserves
Competing pressures from tourism and commercial operations (catalinas)
Commercial gain at cost of public enjoyment e.g. Point Walter used to be a popular family picnic area, now taken over by kite surfers, paddle boarders etc.

<b>Stakeholder suggestions</b>
That better/more signage is provided when entering the marine park and reserves/at key access points. Signs should detail activities permitted/prohibited within the marine park and reserves
Greater emphasis on education, in particular about boundaries and extent of marine park and reserves and activities permitted/prohibited within the marine and reserves
Greater enforcement for non-compliances within the marine park and reserves e.g. kite boarding outside demarcated areas

<b>Stakeholder suggestions</b>
Better facilities provided for bird watching - including shelters and permanent binoculars at vantage points
Change tenure of Pelican Point Reserve to A-class nature reserve and extend boundaries
Reserve 35486 added to Alfred Cove A-class nature reserve
Lot 4 added to Pelican Point A-class nature reserve
Structure enhancement projects (e.g. introduction of stone area for birds to sit on) to increase protection for shorebirds. Note: MPRA artificial structures policy may limit this
Feral predator and herbivore control (rats, foxes, rabbits) required
Extension of fence at Pelican Point (fence used to extend into water) to deter public access to limit disturbance to birds Note: MPRA artificial structures policy may limit this
An international and local commitment is needed to protect migratory bird habitat
Significance of the value of the park to indigenous population noted
Clear guidelines developed for launching of kite boarders - involve DoT, Department of Sport and Recreation and Western Australian Kite Boarders Association
Birds returning to revegetated areas such as Alfred Cove riparian vegetation noted