Concept Plan SP 2014-005

Access and human use at Penguin Island and related implications for management of Marine Park assets and visitor risk

Marine Science

Project Core Team

Supervising Scientist	George Shedrawi
Data Custodian	George Shedrawi
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Project status as of Nov. 27, 2017, 3:41 p.m.

Approved and active

Document endorsements and approvals as of Nov. 27, 2017, 3:41 p.m.

Project Team	granted
Program Leader	granted
Directorate	granted

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Science and Conservation Division Program

Marine Science

Parks and Wildlife Service

Service 2: Conserving Habitats, Species and Ecological Communities

Aims

Penguin Island (PI) and the surrounding shallow waters of Shoalwater Islands Marine Park (SIMP) are a popular destination for Perth locals, national and international tourists. In managing the marine bio-physical assets of SIMP the Department of Parks and Wildlife (DPaW) also has a responsibility for providing, managing and maintaining appropriate access opportunities and protection for visitors who are involved in visitation and appreciation of the natural environment.

PI is also an important habitat for coastal birds, including the EPBC listed little penguin, Eudyptula minor whose largest WA colony is found nesting on the island. In 1996, this colony of genetically distinct penguins was given the highest conservation status of all colonies in Australia, and these penguins remain a key performance indicator for management in the Shoalwater Islands Marine Park.

As part of the visitor management process, DPaW measures change in visitor participation. In the case of PI, visitation (visitor participation) is predominantly measured through counts of people arriving on commercial tourist operator vessels. Although the majority of visitors reach PI on these vessels, other visitors intermittently arrive by crossing a sand bar that joins the Island to the mainland. To monitor these arrivals, the use of remote cameras offers DPaW the opportunity of making more informed choices of how to manage visitor risk. This is needed, as at low tide the sandbar may be partially exposed from the water for much of its length which can make the journey seem secure, when in fact rising tides and wind driven currents can make the trip hazardous. Although warning signs are present both on the mainland and Penguin Island advising visitors of the risks inherent in the sandbar crossing, these are regularly ignored and staff often spend many hours assisting and rescuing visitors who have run into difficulties.

The same remote camera set-up can also be used to inform marine park managers on the condition of the little penguin colony. The number of little penguins counted from nightly imagery (infrared) provides an early indication of behavioural changes that may occur as a result of increased pressures on little penguins during the breeding season. This is particularly important as the period of highest visitor participation on PI coincides with breeding and moulting of little penguins, both periods when little penguins are at their most vulnerable.

In order to effectively and efficiently limit visitor risk and manage little penguin colony, this project will:

- Visitor Risk Management
- Establish a remote camera system which records visitor movements across the sand bar;
- Assess the abundance (number), characteristics (age, gender) and timing of visitor movements across the sand bar;
- Assess the reliability of current estimates of visitor sand bar use by DPaW and Surf Lifesaving; and
- Determine factors (people and environmental conditions) that predict periods of high use of the sand bar crossing.
- Penguin Condition Monitoring
- Refine the process for recording beach arrivals to PI of little penguins; and
- Assess the numbers of returning penguins to PI at strategically placed locations.

The specific outputs of this program will be:

A briefing paper to the Shoalwater Island Marine Park Coordinator reporting key findings from the project including recommendations on changes that may be considered to enhance the current risk management program;

Project recommendations for the long term monitoring of little penguins as part of the WA Marine Monitoring Program (WAMMP); and

Recommendations for future research.

Expected outcome

This research will deliver methods that effectively and efficiently inform managers on visitor participation. With a better understanding of participation at Penguin Island, and more importantly of people crossing the sand bar, visitor risk management strategies will be better targeted to ensure greater visitor safety. This information will feed directly into the management programs and governance structures and will support the existing public awareness program. The overall implications from this project are that DPaW will be able to provide improved visitor safety and greater conservation and management of Little Penguins.

Strategic context

This project fits under the strategies outlined for 2007-2009 Corporate Plan, including:

1.5, 1.6, 8.4.

This project fits under the strategies outlined for 2008-2017 Strategic Plan for Biodiversity Conservation, including:

G.2.24, G4.8, 4.9.

This project fits under the strategies outlined for 2013-14, including:

Review and evaluation of nature conservation programs to enhance conservation outcomes and addresses key strategies in Wildlife Management Program No. 57.

A recent Coroners Committee that followed a sand bar related death recommended that an aquatic coastal risk assessment be under taken for the Mersey Point Penguin Island area. This project will provide valuable information for this assessment.

Expected collaborations

This project will be a collaborative effort between Shoalwater Island Marine Park staff (and related PI Parks and Visitor Services Staff) and Marine Science Program staff. MSP staff will provide project leadership for the collection, analysis, interpretation and presentation of the findings, while DPaW Regional staff will contribute to guiding the project intent and providing advice and input into project outputs. An external expert may be consulted to advise on data analysis. The project will also be critically reviewed by Dr Amanda Smith from Policy and Tourism Branch (PVS), who is also the social science coordinator for DPaW.

Proposed period of the project

Dec. 1, 2013 – March 31, 2015

Staff time allocation

	Year 1	Year 2	Year 3
Scientist (SC2) (MSP)	0.05 FTE	0.05 FTE	
Technical officer (Region/MSP)	0.2 FTE	0.2 FTE	
	Year 1	Year 2	Year 3
Scientist (SC2) (MSP)	0.05 FTE	0.05 FTE	

Indicative operating budget

	Year 1 (2013-2014 FY)	Year 2 (2014-2015 FY)	Year 3
Consolidated funds MSP			
Consolidated funds			