

Progress Report SP 2014-005

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

Marine Science

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Context

Penguin Island is part of the Shoalwater Islands Marine Park and is the most northern significant breeding location for little penguins, *Eudyptula minor*, in Western Australia. The presence of migrating and resident seabirds and the unspoilt beaches makes Penguin Island an important seabird breeding colony and an attractive destination for residents and tourists, who generally access the island by ferry. A number of visitors choose to wade or swim to the island and Parks and Wildlife managers have identified this activity as a significant risk to visitor safety. Historically, such methods of crossing have resulted in near drownings that required Department staff to rescue people in the water and more recently, a drowning incident. Parks and Wildlife are continuing to implement a range of management strategies to mitigate this risk including recommendations from the Coroners working group. This project has been established at the request from Swan Coastal District to develop a better understanding of visitor crossings to Penguin Island by visitors, thus providing managers with relevant information for the design of mitigation strategies and actions.

Aims

- Determine social and environmental factors that characterise periods of high use of the sand bar crossing.
- Provide information to assist in the development and implementation of new and existing mitigation strategies that minimises visitor risk.
- Establish a system for recording beach arrivals of nesting little penguins, and high risk crossings by visitors to Penguin Island.

Progress

- Installed cameras and a web-based application that enabled Parks and Wildlife staff to view near real-time video footage of people crossing the sandbar spit between Mersey Point and Penguin Island. This system includes the automated conversion, upload and corporate storage of video footage of both little penguin beach arrivals and visitor sandbar crossings.
- Data collected during 2014-15 were analysed to determine the proportion of Penguin Island visitors using the sandbar as an access route instead of the ferry service. This identified peak periods and environmental conditions when visitors used the sandbar as an access point to Penguin Island.
- Data and preliminary findings collected during 2014-15 were summarised and presented to Swan Coastal District and the Coroner's working group.
- A Department-hosted web application was implemented that enabled staff and community volunteers to analyse infrared recordings of little penguin beach arrivals.

Management implications

The monitoring tool provides managers with information to assist the development of visitor risk mitigation strategies aimed at decreasing high risk crossings to Penguin Island. The preliminary information provided to managers indicates that management intervention strategies such as sandbar closures and signage may lower the proportion of visitors using the sandbar to access Penguin Island and indicates the relative value of patrols by Surf Life Saving Association life guards.

Marine park managers now have an improved understanding of the numbers of little penguins landing on two major beaches during the breeding season which can be used to document long-term trends in abundance. This information is used to adapt on-ground management and to support reporting and community education.

Future directions

- Compile a final report on finding related to visitor use of the Penguin Island sandbar.
- Improve the camera system's utility as a monitoring tool by increasing the resolution of imagery.
- Research further options to promote community engagement with little penguin monitoring.
- Integrate this technology and methods into the Department's long-term marine monitoring program for little penguins