PRELIMINARY VISITOR ACTIVITY MANAGEMENT PLAN:
LONG ISLAND TOURIST RESORT
ABROLHOS ISLANDS, WESTERN AUSTRALIA

JULY 2006

PREPARED FOR

HUMFREY LAND DEVELOPMENTS

BY

MBS ENVIRONMENTAL
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1. INTRODUCTION

This Preliminary Visitor Activity Management Plan (VAMP) forms part of the Public Environmental Review (PER) assessment carried out by the Western Australian Environmental Protection Agency (EPA) under a bilateral agreement with the Commonwealth Department of Environment and Heritage. The Visitor Activity Management Plan represents the commitments made by Humfrey Land Developments (HLD) in relation to minimising potential environmental impacts that may result from guest activities associated with the Long Island Tourist Resort (‘the Resort’) at the Houtman Abrolhos Islands (‘the Abrolhos’).

The Abrolhos have a long history of tourism and recreation activities. The Abrolhos are popular with recreational fishers, snorkellers and scuba divers alike. They are also of national and international importance for bird watching. Other activities that occur in the region include aquatic animal watching (such as whale watching), charter fishing expeditions, visiting heritage sites, surfing, windsurfing, sailing and cruising.

The VAMP aims to ensure the ecological and recreational carrying capacity of the local and regional environment is not exceeded by the proposed development and that existing and planned recreational uses of the environment are not compromised. The resort will raise awareness of all visitors on ways to minimise the impact of their activities on the environment of Long Island and the surrounding area.

It should be noted that this VAMP is a preliminary document and may be updated prior to operation of the Resort, once activity planning by the Resort Operator is in a further advanced state.
2. **PURPOSE AND OBJECTIVES**

The objective of this VAMP is to describe the procedures to be adopted by the Resort Operator to manage guest activities in accordance with the commitments set forth in the Long Island Tourist Development PER (MBS Environmental 2006) and statutory requirements pertaining to preserving environmental and cultural aspects of Long Island and other islands in the Wallabi Group.
3. **RESORT DETAILS**

3.1 **RESORT OPERATOR**

Broadwater (‘the Resort Operator’) was founded in Western Australia in 1990 and operates seven landmark resort properties throughout regional and metropolitan WA.

Broadwater has extensive experience, infrastructure, resources, and a proven track-record in (greenfield) development, management and operation of resort-style properties in regional locations. In addition, Broadwater’s senior management team has extensive experience and expertise in the development and operation of island based and remotely sited resorts - particularly resorts located in ecologically sensitive (Marine Park) environments.

3.2 **TOUR OPERATORS**

Licensed tour operators will operate many of the activities, particularly those occurring away from Long Island. These operators will be contracted by the resort under strict contract conditions, which shall incorporate environmental performance standards. Expressions of Interest will be called for charter operators once the PER has been approved and the WA Minister for Fisheries has granted the Tourism Licence. Charter operators will then be controlled by the Resort Operator.

Charter boat operators will handle all aspects of the diving and boat related activities at the Islands. It is important to note that the operators of the development will dictate the controls and on-site management for all activities undertaken by the charter operators.

3.3 **RESORT VISITORS**

3.3.1 **Resort Guests**

HLD will operate the Resort under a Tourism Licence granted by the Minister for Fisheries and the Tourism Licence will permit a maximum of 60 guests to stay overnight at the Resort. Resort guests will be able to take part in a variety of activities as listed in section 3.3 below.

All Resort guests will take part in the short day visitor induction on arrival and a longer guest induction during their first evening at the Resort.

3.3.2 **Day Visitors**

The Resort will attract day visitors who may use add-on services such as food and beverage facilities, island tours, glass bottom boat tours, recreational activities such as kayaking, diving and snorkelling. These visitors will be welcomed into the day visitor pavilion, which will include a kiosk, toilet facilities and interpretive material showcasing the natural and historical values of Long Island.
All day visitors to Long Island will be required to register at reception and undertake an induction on arrival.

### 3.3.3 Guest Facilities

Resort guests will be provided with accommodation (30 guest lodges), a multi-function room, shop, restaurant with barbecue deck, lounge bar and external deck area with swimming pool and spa. Two beach gazebos and swimming platforms will be provided on the north western side of the island.

The day visitor pavilion provides both guests and day visitors with a separate lounge bar with dive-shop.

### 3.4 Management and Education Tools

To manage and minimise the potential impacts, the Resort Operator is required to conform to all environmental regulatory requirements and commitments. In order to achieve this, the Resort Operator must be aware of relevant legislation and guidelines, and carry out operations in line with the procedures listed in each management plan that has been developed to manage potential issues relating to weed and vermin introduction, visiting heritage sites, avifauna disturbance and use of the marine environment. The visitor activity management plan relates to the management of potential environmental impacts resulting directly from visitor activities.

#### 3.4.1 Visitor Activity Management Plan

This VAMP is the primary management and education tool used to minimise guest activities’ impacts on Long Island and the surrounding environment. It outlines specific procedures (please refer to Section 4 of this document) that are to be followed by relevant staff, contractors (including tour operators) and guests. The Resort Manager will ensure that this VAMP is freely available to all relevant persons.

#### 3.4.2 Visitor Induction

Prior to visiting Long Island, all guests will be encouraged to visit the WA Museum in Geraldton. An introductory talk will be developed and given by the Museum (in collaboration with the Resort Operator) and this will provide guests with an enhanced appreciation of the region, particularly the story of the *Batavia* and the heritage values of Long Island.

Immediately upon arrival at Long Island all guests and day visitors shall be required to go through a short (approximately ten minute) induction. Appendix A provides the outline of the content for this induction. This will focus on the major environmental and heritage issues relating to Long Island to ensure visitors are aware of the potential impacts they may have on Long Island and the surrounding environment during their day visit.

For resort guests a full induction to the Abrolhos Islands is planned to take place during their first evening at the resort. The induction will include a code of conduct for visitors,
information about the protection of the environment from human activity, an educational programme about the heritage sites and their history and how to enjoy the islands while assisting in their protection. The outline of the induction programme content for resort guests is provided at Appendix B.

A briefing will be provided prior to any tours. This will include information about the sites to be visited including history and minimising environmental impacts.

3.4.3 Brochures

Information brochures will be available on the environmental risks for each specific activity to inform the visitor of environmental consequences and promote understanding of the potential impact the activity could have on the environment. Visitors will be requested to abide by the information provided in the induction whilst visiting the islands and to ‘take nothing but photographs and leave nothing but footprints’.

3.4.4 Interpretive Signage

Signs will be an important tool for education and are used to outline a range of information for visitors. Signs will be used to reinforce areas to which access is restricted to visitors, including the southern part of the island.

As visitors will be required to remain on the designated pathways at all times, appropriate signage will be located around the boardwalks to enhance visitors’ knowledge and understanding of the historic, cultural, flora, fauna and marine values of the islands and surrounding region.
4. VISITOR ACTIVITIES AND PROPOSED MANAGEMENT

4.1 GENERAL ACCESS AROUND LONG ISLAND

4.1.1 Potential Issues

Long Island is an important seabird nesting site with many species breeding on the island at various times of the year. Long Island is also a site of European heritage value due to its place in the Batavia story. Therefore, to avoid potential disruption to seabirds and their habitat and any heritage sites, it is vital that as much of the island as possible remains undisturbed.

4.1.2 Management and Mitigation Measures

4.1.2.1 Boardwalks
Access to the island will be limited to formalised access pathways. An elevated walkway will be constructed to the north of the island to provide access to swimming areas and give guests the opportunity to walk around the northern portion of Long Island. The ‘beach trail’ will be established from the end of the northern boardwalk enabling guests to return to the resort along the beach on the eastern side of Long Island, ultimately connecting up with the boardwalk again at a point approximately 400 metres walk along the beach. A southern boardwalk will provide access for visitors and staff to the jetty and helipad to the south of the resort and allow for general servicing of the resort. The route of the boardwalk is shown in Figure 4 of the main PER document. An elevated boardwalk design is to be used as it will minimise ground disturbance and will also minimise disturbance to any surface water flow and allow access for maintenance. The raised boardwalk will also allow birds to pass underneath.

The establishment of a boardwalk will formalise access on the island and will therefore minimise uncontrolled access and unauthorised disturbance. One section of boardwalk will be raised to avoid possible contact between people and Australian sea lions that have been known to haul-out in the area near the northern end of the development area, near Tidal Pond 503. The area will be raised to a level to allow sea lions to safely pass beneath. This area will have handrails for guest and staff safety.

4.1.2.2 Visitor Induction

Immediately upon arrival at Long Island all guests and day visitors shall be required to go through a short (approximately ten minute) induction. This will focus on the major environmental and heritage issues relating to Long Island to ensure no damage is done to the Island. The induction will include a code of conduct for visitors, including the importance of not trampling vegetation and staying well clear of the bird nesting areas (Appendix A). Guests will be informed of the importance of staying on the designated access paths at all times. For resort guests a full induction to the Abrolhos Islands is planned to take place during their first evening at the resort (Appendix B).
4.1.2.3 Interpretive Signage
Appropriate signage will be located around the boardwalks to enhance visitors’ knowledge and understanding of the historic and cultural values of the islands and surrounding region and to remind visitors of the importance of remaining within the designated areas of the resort.

Signage will also be installed at the jetty area explaining the HLD lease area and encouraging non-resort associated day visitors to avoid trampling over the island. Day visitors will be directed to the resort’s day visitor pavilion area.

Table 1 presents a summary of the procedures that aim to minimise the potential impacts of the general movement of guests and day visitors around Long Island.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to guest access around the island.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>All day visitors and guests must attend the visitor induction upon arrival at the Resort, prior to taking part in any activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>Take active and reasonable steps to ensure that visitors stay on the boardwalks and not walk on the surface of the island except where designated.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>4.</td>
<td>Highlight the restriction of visitors’ access to tidal ponds and the southern area of Long Island (south of the termination of the southern boardwalk).</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>5.</td>
<td>Ensure that appropriate signs are correctly placed and seasonal closures are imposed at the correct times.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>6.</td>
<td>Ensure all guests are aware of the location of the sea lion haul out (resting) area on the west side of the island (near Tidal Pond 503) and follow the sea lion code of conduct outlined in the induction.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>7.</td>
<td>Highlight the occurrence on Long Island of Priority 4 flora species <em>Lepidium puberulum</em>.</td>
<td>Resort Manager</td>
</tr>
</tbody>
</table>

4.2 BIRD OBSERVATION

4.2.1 Potential Issues
There are many opportunities for nature observation activities at Long Island, with bird watching expected to be one of the main draw-cards for visitors. Guided island tours providing an environmental interpretation of the natural values of the island will be available and these tours will naturally have an emphasis on the seabirds of the area. In addition, it is expected that many guests will wish to conduct their own bird-watching activities. Guests may wish to walk along boardwalks or observe nesting colonies at night and this may disturb birds.
Within the Wallabi Group, Long Island is the third most significant seabird breeding island in terms of biomass after West Wallabi and Beacon Islands. It has significant breeding populations of the White-faced Storm Petrel, Bridled Tern and Little Shearwater (Surman 2006).

Seabirds are subject to a wide variety of disturbances including human traffic, trampling, boat traffic, fixed and rotary aircraft, and fishing activities.

The general effects of disturbance to seabird colonies may include

- Desertion of colonies.
- Shifts in colony distribution.
- Delayed breeding.
- Predation of eggs and young.
- Exposure of eggs and young.
- Stampedes.
- Interruption to feeding events.
- Stress related behavioural changes.
- Injury from collision with structures.
- Disorientation due to lighting impacts.
- A decrease in reproductive output.

For these reasons it is essential that activities conducted by the resort are aimed at minimising impacts on seabirds.

### 4.2.2 Management and Mitigation Measures

#### 4.2.2.1 Access Restrictions

Guests will be restricted to the boardwalks and designated access routes as described in section 4.1.1 above.

#### 4.2.2.2 Seasonal Night Closures

At certain times of year, guests may wish to observe the after-dark activities of nesting seabirds, and this may be done with a well-informed guide. Similarly, at times, some particularly sensitive surface-nesting species (i.e. Roseate Tern) may breed on Long Island, and possibly adjacent to the boardwalks. During the initial stages of nesting these species may desert colonies if disturbed. When the burrow-nesting species (Little Shearwaters and White-Faced Storm-petrels) nest between July and late-January (with some overlap), torch-lights across colonies is inappropriate, especially during their return times (about from dusk to 2 hours after dusk depending upon the night). These birds may fly towards bright lights or into the torch bearer. To reduce impacts upon seabirds, restrictions will apply.
The “resort ranger” (staff member that has received special training in the natural values of the island) will monitor nesting activity and seasonally gate off areas of the boardwalk at night, as required.

Walks will be seasonally restricted at night. Walks will only be permitted 2 hours after sunset to 2 hours before sunrise between July and January.

Guests will be provided with low-wattage red coloured torches, if torches are needed.

4.2.2.3 Light Management
Lighting is one of the largest contributors to seabird mortality in developed areas. Fallout caused by poorly designed lighting occurs as a result of the collision of birds with unseen objects (buildings, telegraph poles, guy wires etc), and may lead to injury, disorientation, regurgitation of meal, desertion of breeding attempt and death. At the Houtman Abrolhos, shearwaters regularly collide with buildings on Little Pigeon and Big Pigeon Island. There has also been anecdotal evidence of disorientation of both Little Shearwaters and White-faced Storm-petrels due to the lights of vessels moored adjacent to breeding islands.

Most actions taken by the resort to minimise lighting impacts is not related to Visitor Activities. However, visitors will be asked to extinguish non-essential lighting, especially during peak fledging periods for Little Shearwaters, Wedge-tailed Shearwaters and White-faced Storm-Petrels.

4.2.2.4 Visitor Induction
Part of the inductions for day visitors and resort guests will be focussed on the importance of protecting the island’s seabirds. Measures to be covered in the induction include:

- Observing access restrictions to the island and staying on boardwalks
- Adhering to guidelines for night access around the island
- Minimising light overspill from guest rooms at night
- Following instructions of guides when visiting other islands and conducting marine activities such as jet-ski or fishing tours
- Appropriate and careful disposal of rubbish and food scraps
- Reporting any sightings of vermin or pest species.

4.2.2.5 Interpretive Signage
Appropriate signage will be located around the boardwalks to enhance visitors’ knowledge and understanding of the bird life of the islands and surrounding region and to remind visitors of the importance of remaining within the designated areas of the resort.

Table 2 presents a summary of the procedures that aim to minimise the potential impacts on seabirds associated with guests and day visitors around Long Island.
Table 2: Seabird Observation Management Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to bird observation.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>Ensure that all Tour Operators and Tour Leaders operating seabird tours have read and understand the Avifauna Management Plan.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any seabird observation activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>4.</td>
<td>All visitors taking part in seabird observation activities must be briefed on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>5.</td>
<td>Ensure that seabird breeding seasonal closures on Long Island and neighbouring islands are strictly observed at all times.</td>
<td>Resort Manager/Tour Leader</td>
</tr>
<tr>
<td>6.</td>
<td>Seasonally restrict seabird watching tours on Long Island at night to only be permitted between February and June.</td>
<td>Resort Manager/Tour Leader</td>
</tr>
<tr>
<td>7.</td>
<td>Appropriate limits to be imposed on guest numbers taking part in a tour at any time.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>8.</td>
<td>Ensure that guests observe species-appropriate Critical Approach Distances for seabirds at all times.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>9.</td>
<td>Ensure guests never try to touch birds, chicks or eggs.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>10.</td>
<td>If seabirds or shorebirds exhibit stressed behaviour (for example, raucous calling, swooping or ‘dive bombing’) back away and leave the area immediately.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>11.</td>
<td>If nesting seabirds are observed on an island to be visited, retreat quietly.</td>
<td>Tour Leader</td>
</tr>
</tbody>
</table>

4.3 SEA LION OBSERVATION

4.3.1 Potential Issues

Increased presence of humans at Long Island may disturb any Australian Sea Lions attempting to use the island as a haul-out area. One point in particular is known to be a haul-out site (near tidal pond 503). In addition to disturbance of Sea Lions, there is potential for humans to be injured through interaction with Sea Lions.

4.3.2 Management and Mitigation Measures

4.3.2.1 Raised Boardwalk

In the area near Pong 503 that is a known haul-out area the boardwalk will be raised to a height of two metres to avoid the known site. Sea lions will be able to pass under the boardwalk to access the interior of the island and hand-rails will be installed for public safety.
4.3.2.2 **Induction and Signage**

Resort guests and staff will receive information about Sea Lions as part of their inductions. This information will be re-iterated in signage on the boardwalk near the haul-out site. The information will include the following information:

- All guests to be made aware of the location of the sea lion haul out area north of the main development site on the west side of the island (near Tidal Pond 503).
- Do not attempt to move within 10 metres of the sea lion(s).
- Do not walk between the sea lion(s) and the water.
- Do not feed the sea lions(s).
- Move away calmly and immediately if a sea lion approaches.

4.3.2.3 **Restrictions on Other Island Visits**

No resort-associated tours will land on islands where Sea Lions are resting at that time. See section 4.11.

Table 3 sets out the management procedure for land observations of sea lions to ensure that impacts on sea lions are minimised.

Australian sea lions may also be observed by kayak or jet ski. Divers, snorkellers and swimmers may also inadvertently come in close contact with sea lions. Potential interactions with sea lions while carrying out these activities are covered in Tables 5, 6 and 8.

**Table 3: Land-Based Australian Sea Lion Observation Management Procedure**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to sea lion observation.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any sea lion observation activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All visitors taking part in sea lion observation activities must be briefed by the Tour Leader on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>4.</td>
<td>Ensure that all persons do not violate the Critical Approach Distance for sea lions, which must not be approached closer than 10 metres whether they are on land or in the water.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>5.</td>
<td>Do not walk between the sea lion(s) and the water.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>6.</td>
<td>Do not feed the sea lions(s).</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>7.</td>
<td>Move away calmly and immediately if a sea lion approaches.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>8.</td>
<td>Any interaction that disturbs sea lions (causing a change in behaviour) during any activity shall be reported in a detailed log and communicated to the Resort Manager.</td>
<td>Tour Leader</td>
</tr>
</tbody>
</table>
4.4 **OBSERVATION OF OTHER MARINE MAMMALS**

4.4.1 **Potential Issues**

Observing marine mammals has become very popular within the marine tourism sector in Western Australia. Humpback whales are often observed off the coast between August to November as they migrate south to feed in Antarctic waters following breeding in tropical waters. Dolphins can also be observed in the waters of the Abrolhos.

Nature observation-based tourism can have potential impacts on marine mammals including:

- Vessel strikes by hull or propeller
- Evasive or changes in behaviour for whales including prolonged diving, increases in breathing rate and direction changes
- Ceasing/changing current behaviour (feeding, breeding, playing)

4.4.2 **Management and Mitigation Measures**

Marine mammals such as Cetaceans (whales and dolphins) and Pinnipeds (seals and sea lions) are protected by State, National and International legislation. Appropriately licensed tour operators would conduct any whale/dolphin watching tours that may be conducted from the resort. Commercial marine mammal charter licenses require operators to work within particular guidelines. Table 4 sets out the management procedure to be followed by any tour operators that may be contracted by the Resort to carry out marine mammal observations.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that contracts with marine mammal tour operators are current and applicable.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>Ensure that marine mammal tour operators are aware of the content contained in this VAMP as it relates to the observation of marine mammals.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>Ensure that marine mammal tour operators are appropriately licensed and carry out tours under CALM requirements, the <em>Environmental Protection and Biodiversity Conservation Regulations 2000</em>, and <em>Australian National Guidelines for Whale and Dolphin Watching 2005</em>.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>4.</td>
<td>Whales, dolphins and sea lions should not be approached closer than 100m in the water.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>5.</td>
<td>Within 300m of whales, vessels should keep to speeds less than 5 knots</td>
<td>Tour Leader</td>
</tr>
</tbody>
</table>
4.5  **SWIMMING, SNORKELLING AND DIVING FROM THE SHORE**

This issue is fully addressed in the “Long Island Resort Dive and Snorkel Site Management Plan”, Appendix A of the Marine Management and Monitoring Plan of the main PER document.

4.5.1  Potential Issues

Activities such as swimming, snorkelling and diving from the shore will be one of the main attractions for visitors to the Long Island Resort. These activities also have the potential to damage marine habitat such as corals and at the same time cause injury to guests.

4.5.2  Management and Mitigation Measures

4.5.2.1  Designated Swim, Snorkel and Dive Sites

Two swimming, snorkelling and dive sites have been selected on the north-western side of the island (see Marine Management and Monitoring Plan). Snorkel sites will obviously be restricted to areas shallower than 4-5 m. Sites have been selected based on their access, aesthetics and safety considerations. Reefs prone to strong currents are undesirable for novice divers and snorkelers and Goss Passage sites have been avoided for this reason. Many sites fringing Long Island are bordered by dense fragile corals, making access impossible without coral damage – sites selected avoid this problem.

Snorkellers and divers will be encouraged to remain on designated trails. The Long Island Dive Trail is located just inside the Beacon Island Reef Observation Area to the north of Long Island. The huge diversity of life along the Long Island Dive Trail can be appreciated equally well by scuba or snorkel.

4.5.2.2  Entry Points to Sites

Entry to the dive and snorkeling sites will be from coral rubble beaches at the northern end of Long Island. Guests will not be permitted to access deep water by walking over reef flats supporting living corals and other fragile organisms – access points avoid such habitats. Entry to the beaches will be by short boardwalks leading from the Resort.

4.5.2.3  Gazebos and Swimming Platforms

Guests will be directed to use boardwalks and small beach shelters (gazebos) will be placed at boardwalk entries to focus use. The gazebos will provide guests with sheltered pavilions to enjoy private lunches/dinners, cocktails at sunset and to enjoy views across the islands. Presently two gazebos are proposed to be positioned off the northern boardwalk. Short swimming platforms will be provided to facilitate entry and exit to the water.

4.5.2.4  Zoning and Induction

Prior to the use of these dive/snorkel sites by guests, each site will be surveyed by competent marine scientists and zoned into sensitive and robust areas. Guests will be provided with a plan of each dive site and directed to avoid as far as possible any sensitive areas. Plans and
zoning will form part of the Dive Trail information pack. Guests will not be permitted to dive or snorkel until they receive a briefing from the Dive Supervisor and a copy of the Diving/Snorkeling Rules. As well as informing Guests on diving safety hazards, briefings will provide information on the Island’s fragile coral communities and their protection.

4.5.2.5 Site Monitoring

Marine monitoring will be conducted on a regular basis including around the dive and snorkel sites, including the status of the coral communities in the area. The results will be reported to the Department of Fisheries and the Department of Environment. Should any of the pre-determined trigger values be breached, action will be taken to remedy the situation. See the Marine Management and Monitoring Plan for further details.

Table 5 sets out the procedure to be carried out for the management of Scuba Diving and Snorkelling from the shore.

Table 5: Shore based Scuba/Snorkelling Activity Management Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to shore-based snorkelling and diving.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any shore-based snorkelling and diving.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All visitors taking part in shore-based snorkelling and diving activities must be briefed on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>4.</td>
<td>Always use designated entry and exit points and the designated swim/snorkel/dive sites.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>5.</td>
<td>A clear ‘no touch, no take’ message must be provided for guests before taking part in the activities.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>6.</td>
<td>If you are in the water and a marine mammal (whale, dolphin, sea lion) approaches, you must endeavour to keep a minimum of 30 metres distance between yourself and the marine mammal.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>7.</td>
<td>Don’t swim towards or touch marine mammal, move slowly away.</td>
<td>Tour Leader</td>
</tr>
</tbody>
</table>

4.6 SNORKELLING AND DIVING TOURS FROM BOATS

4.6.1 Potential Issues

The Abrolhos offers some of the best snorkelling and diving opportunities in the world. The Batavia wreck site and Fish Point off Turtle Bay (East Wallabi Island) are also popular dive sites. It is vital that the marine environment and the important heritage values of these snorkel and dive sites are maintained for the future.
4.6.2 Management and Mitigation Measures

4.6.2.1 Licensed Operators
Appropriately licensed operators that are permitted to work in the area will conduct all diving and snorkel activities that are to be conducted from boats. It is expected that these operators will have a system of communication between themselves to prevent over-crowding of popular dive sites.

4.6.2.2 Fixed Moorings
Dive boats will utilise fixed moorings where possible. Where moorings are not installed, dive operators will use either a “live” boat to drop divers off and collect them, or vessels will be anchored a safe distance away from the site over an area of sandy bottom. Masters and skippers will follow these procedures to ensure anchoring causes no damage to historic sites.

4.6.2.3 Dive Briefings
Diving on historic wrecks and sensitive sites will be strictly controlled by dive operators. All divers will be given an environmental briefing including ways in which to prevent damage to historic sites and corals. Divers will be informed that the Batavia and other historic wrecks are protected by legislation. Divers will be informed of the requirements of and penalties associated with breaching the Commonwealth Historic Shipwrecks Act 1976 and the State Maritime Archaeology Act 1973. Briefings will follow a similar format to that described in the Marine Management and Monitoring Plan.

Table 6 sets out the procedure to be carried out for the management of boat based Scuba Diving and Snorkelling.

Table 6: Boat based SCUBA Diving and Snorkelling Activity Management Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Contractors have undergone an induction and are aware of the content contained in this VAMP as it relates to diving and snorkelling.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>Ensure that only approved licensed tour operators with current contracts are used to facilitate diving and snorkelling activities for Resort guests.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any diving and snorkelling activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>4.</td>
<td>All visitors taking part in diving and snorkelling activities must be given an environmental briefing including ways in which to prevent damage to historic sites, marine fauna and benthic habitat.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>5.</td>
<td>Divers and snorkellers will be informed of the requirements of and penalties associated with breaching the Commonwealth Historic Shipwrecks Act 1976 and the State Maritime Archaeology Act 1973.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>6.</td>
<td>A clear ‘no touch, no take’ message for all marine life and</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>Step</td>
<td>Description</td>
<td>Responsibility</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td>Heritage sites must be provided for guests before taking part in diving and snorkelling activities.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Diving and snorkelling groups will be strictly limited to an appropriate number of guests, depending on the activity and sensitivity of the site.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>8.</td>
<td>Ensure all divers take part in a buoyancy check and educate divers to avoid gauges, regulator and fin contact with benthic habitat and wrecks.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>9.</td>
<td>Do not approach closer than 30 metres to a whale or dolphin if in the water and move slowly away, do not touch or swim towards it.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>10.</td>
<td>Any interaction that disturbs a marine mammal during diving and snorkelling activities shall be reported in a detailed log and communicated to the Resort Manager.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>11.</td>
<td>Dive/snorkel boats will utilise fixed moorings where possible. Where moorings are not installed, diving and snorkelling operators will use either a “live” boat to drop divers off and collect them, or vessels will be anchored a safe distance away from the site over an area of sandy bottom.</td>
<td>Tour Operator</td>
</tr>
</tbody>
</table>

4.7 GLASS-BOTTOMED BOAT TOURS

4.7.1 Potential Issues
Glass-bottomed boat tours are an excellent way for tourists to appreciate the marine environment of the Abrolhos, particularly for those not able or inclined to snorkel or dive. There is potential for the use of the boat to damage coral through propeller or wash damage due to it traversing waters that are too shallow. There is also potential for noise impacts on bird colonies on the island.

4.7.2 Management and Mitigation Measures

4.7.2.1 Designated Boat Tour Route
A safe route will be determined for the glass-bottomed boat to follow on each trip. This route will be designed to provide guests with a diverse experience of the coral reef environment whilst still having enough water clearance to ensure no collisions with the reef, even on the lowest tides.

4.7.2.2 Low Speed
As with all other vessels, the glass-bottomed boat will be restricted to a 5 knot limit when within 200m of the island. It is envisaged that slow speeds will be preferable for coral viewing in any case. This is anticipated to prevent significant disturbance to nearby bird colonies.
Table 7 sets out the procedure to be carried out for the management of glass-bottomed boat tours.

**Table 7: Glass-Bottomed Boat Activity Management Procedure**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in</td>
<td>Resort Manager</td>
</tr>
<tr>
<td></td>
<td>this VAMP as it relates to glass-bottom boat tours.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Determine an appropriate route for glass-bottom boat tours that will</td>
<td>Resort Manager/Boat Skipper</td>
</tr>
<tr>
<td></td>
<td>minimise impacts to nesting seabirds and the marine environment.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Ensure that skipper of glass-bottom boat maintains low speeds and adheres</td>
<td>Resort Manager/Boat Skipper</td>
</tr>
<tr>
<td></td>
<td>to the designated routes.</td>
<td></td>
</tr>
</tbody>
</table>

### 4.8 Sea-Kayak, Jet-Ski and Jet Boat Tours

#### 4.8.1 Potential Issues

Guided sea kayak tours will be operated from the resort. These tours will visit islands such as Dick Island and Second Sister. First Sister may be a good island to paddle past to view wildlife, as sea lions have been known to haul out on the beach here. Escorted jet-ski tours will also be operated for those wanting an active day on the water. The tours will be a half or full day tour incorporating a picnic lunch. Islands to be visited will be the same as those for the sea kayak tours, Dick Island and Second Sister. Jet boat tours of the islands surrounding Long Island will also be operated.

The main issue identified for these activities is the impact on wildlife caused by increased human presence and with respect to the motorised activities, the noise impacts on birds and sea lions.

#### 4.8.2 Management and Mitigation Measures

**4.8.2.1 Island Visitation Restrictions**

Dick Island and Second Sister Islands will not be visited during seasons when surface nesting birds and Osprey are not nesting. In addition, if sea lions are present on a beach, guests will not be permitted to land on that beach in order to minimise disturbance to sea lions and to maintain personal safety.

See section 4.11 for further details on visiting other islands.

**4.8.2.2 Escorted Tours**

Numbers of guests on the tours will be strictly limited. On visits to sensitive sites, visitor numbers are likely to be restricted to a maximum of 6-12 guests. Tandem jet skis will be used and the jet skis will only be used in the presence of a guide. No independent Jet Ski use will
be permitted. When jet skis or jet boats are within 200m of islands they will be required keep their speed below 5 knots. This measure is to reduce noise impacts on birds and sea lions.

Education packages will be provided to visitors who participate in water sports, which will highlight both safety and environmental aspects associated with their chosen activity.

Table 8 sets out the procedure to be carried out for the management of Sea Kayak, Jet Ski and Jet Boat tours.

Table 8: Sea Kayak, Jet Ski and Jet Boat Activity Management Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to sea kayaking, jet skiing and jet boating.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any sea kayaking, jet skiing and jet boating activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All visitors taking part in sea kayaking, jet skiing and jet boating activities must be briefed on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>4.</td>
<td>Ensure that sea kayaking, jet skiing and jet boating activities do not occur near islands during the breeding seasons of surface nesting birds and Osprey.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>5.</td>
<td>Land and launch kayaks or jet skis well away from any seabirds or shorebirds.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>6.</td>
<td>Ensure that no landing will be permitted on a beach where a sea lion is present.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>7.</td>
<td>If nesting seabirds are observed on an island to be visited, retreat quietly and abort landing.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>8.</td>
<td>When jet skis and jet boats are within 200m of islands they will be required keep their speed below 5 knots.</td>
<td>Tour leader</td>
</tr>
<tr>
<td>9.</td>
<td>Islands that are “closed” should not be approached closer than 200m at all times.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>10.</td>
<td>Whales, dolphins and sea lions should not be approached closer than 100m in the water.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>11.</td>
<td>Within 300m of whales, vessels should keep to speeds less than 5 knots</td>
<td>Tour Leader</td>
</tr>
</tbody>
</table>
4.9 HERITAGE ACTIVITIES

4.9.1 Potential Issues

The Abrolhos is famous for historic shipwrecks, the best known of which is the *Batavia* (1629), wrecked on Morning Reef near Beacon Island. The area of the Abrolhos that includes Long Island is registered on the National Heritage List. Cultural heritage activities will include:

- *Batavia* shipwreck history interpretive session (on Long Island)
- Diving/Snorkelling on the *Batavia* with licensed tour operator
- Long Island tours and the history of the surrounding area
- Guided visit to Beacon Island
- Museum interpretative sessions pre/post Long Island stay (Geraldton)

Potential issues resulting from visits to the *Batavia* include damage to the historic wreck site from divers, careless anchoring, or souveniring/vandalism by divers.

Potential issues from heritage tours on Long Island or Beacon Island could potentially result in damage to the environment of heritage sites.

4.9.2 Management and Mitigation Measures

Diving activities on the *Batavia* or any other wreck will be managed as above in section 4.6.

4.9.2.1 Guided Tours

All visits to Beacon Island will be conducted by a knowledgeable guide who will supervise the actions of guests whilst on the island. The numbers of guests on each tour will be strictly limited. No visits will be made to Beacon Island on an independent basis by resort-associated guests.

4.9.2.2 Induction, Interpretive Signage and Artefacts

All guests to Long Island will undergo an induction that will incorporate heritage information. This information will include procedures for the chance find of any artefact during their stay on the island. Guests will also be informed of the importance of staying on the boardwalks and not straying into the unsurveyed southern section of the island. Interpretative signage will be located at strategic points to further enhance the visitor’s understanding of the heritage values of the island.

The Western Australian Maritime Museum (WAMM) has offered to supply some original artefacts associated with the *Batavia* shipwreck story. These will be on display in the day visitors pavilion and the resort reception area for the further education of guests and day visitors.

The following procedure (Table 9) is designed to manage potential heritage issues associated with guest activities.
Table 9: Heritage Activity Management Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to heritage on the island and surrounding environment.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>Ensure that the Heritage Management Plan is available for all relevant Resort staff.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any heritage activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>4.</td>
<td>Where a tour is undertaken by an independent tour operator, he or she must undergo the staff induction prior to providing any tours.</td>
<td>Resort Manager/Tour Operator</td>
</tr>
<tr>
<td>5.</td>
<td>All visitors taking part in heritage site visits must be briefed on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>6.</td>
<td>Staff and guests of the Resort are not to remove any artefacts if found, but will leave them in situ and immediately report them to the Resort Manager. Resort manager will consult the appointed consultant archaeologist for appropriate action to be taken.</td>
<td>All staff and guests</td>
</tr>
<tr>
<td>7.</td>
<td>Any unusual metal, timber or ceramic materials found on Long Island or in the surrounding waters will be considered to be artefacts until proven otherwise by an archaeologist.</td>
<td>Resort Manager/Archaeologist</td>
</tr>
<tr>
<td>8.</td>
<td>All persons will be prohibited from traversing the unsurveyed southern area of Long Island (south of the termination of the southern boardwalk) to avoid damage to potential heritage areas. Access to the island will be confirmed to the designated pathways and boardwalks.</td>
<td>Resort Manager</td>
</tr>
</tbody>
</table>

4.10 FISHING TOURS

4.10.1 Potential Issues

The opportunity of enjoying some of the best deep-sea fishing areas in Australia will ensure the popularity of charter fishing with guests. Unless managed, some guests may catch more fish than may be sustainable, thus contributing to a depletion of stocks at the Abrolhos.

There will also be the opportunity for guests to take part on excursions to discover what happens on a commercial rock lobster fishing boat.
4.10.2 Management and Mitigation Measures

4.10.2.1 Licensed Tour Operators
Fishing would be undertaken through tour operators that are appropriately licensed by the Department of Fisheries. These operators would be subject to operating under the resort’s guidelines. No fishing will be permitted from the shore of Long Island as this is not considered in keeping with the nature-based ethos of the resort. The resort developer wishes to preserve the fish stocks in the immediate vicinity of the island for the enjoyment of guests and passive observation or snorkellers and divers.

4.10.2.2 Catch and Release
A policy of catch and release will be operated on all resort-associated tours. Each guest may retain only one fish for consumption that day, which the restaurant chef will prepare for their meal. No recreationally caught fish will be stored on the island. Normal Department of Fisheries legislation will apply, including size limits.

The following procedure (Table 10) is designed to manage potential issues associated with fishing activities.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to fishing.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any fishing activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All visitors taking part in fishing activities must be briefed on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>4.</td>
<td>Ensure that only approved tour operators with current contracts are used to facilitate diving activities for Resort guests.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>5.</td>
<td>All bait and fish offal will be suitably contained and not disposed at sea as this may attract and impact on seabirds.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>6.</td>
<td>Charter fishing activities will be conducted on a ‘catch-and-release’ basis with the exception of 1 fish per person for personal consumption.</td>
<td>Tour Operator</td>
</tr>
<tr>
<td>7.</td>
<td>Contractors operating fishing vessels will be inducted in methods to avoid capture of seabirds with baited hooks.</td>
<td>Tour Operator</td>
</tr>
</tbody>
</table>
4.11 WINDSURFING

4.11.1 Potential Issues
Some studies and anecdotal evidence suggest that windsurfing may have a serious impact on seabirds. The mast and sail present a tall, moving object, and unset sails flap and generate loud, sharp noise. Management measures are needed to ensure that this activity is not a threat to nesting species. More recently, kite-surfing has become a popular water sport. However, the extended height (15 m) of the kite presents a major disturbance to avifauna, and is inappropriate adjacent to any islands with seabirds, migratory waders or raptors. As such kite-surfing will not be permitted from Long Island.

4.11.2 Management and Mitigation Measures

4.11.2.1 Designated Windsurfing Area
A rigging and setting-off area will be established on Long Island away from nesting birds. Windsurfing will be permitted in designated areas only and may depend on tides, bird breeding and wind conditions. A map will be issued to windsurfers showing the designated areas for the activity. This activity may be subject to seasonal closures.

4.11.2.2 Other Islands Off-limits
Due to the potential to disturb seabirds, windsurfers from Long Island will not be permitted to approach other nearby islands to protect the nesting species on those islands.

The following procedure (Table 11) is designed to manage potential issues associated with windsurfing activities.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to windsurfing.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any windsurfing activities.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All visitors taking part in windsurfing activities must be briefed on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>4.</td>
<td>Windsurfing will be permitted in designated areas only as set out on map.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>5.</td>
<td>A rigging and setting-off area will be established on Long Island away from nesting birds.</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>6.</td>
<td>Windsurfers will not be permitted to approach other islands</td>
<td>Tour Leader</td>
</tr>
<tr>
<td>7.</td>
<td>Depending on the circumstances, this activity may not be available during certain bird breeding seasons.</td>
<td>Tour Leader Avifauna Specialist</td>
</tr>
</tbody>
</table>

Table 11: Windsurfing Activity Management Procedure
4.12 VISITS TO OTHER ISLANDS

4.12.1 Potential Issues

Guided visits to other islands nearby to Long Island will be available and guests can take part in heritage tours, escorted kayak and tandem jet-ski trips. Jet boat tours of the islands surrounding Long Island will also be operated. These tours will operate under the same rules outlined for the guided jet-ski tours. Windsurfing will be permitted in designated areas only and may be subject to seasonal closures. Surfing and day or extended cruising around the islands are other activities that could be provided by the Resort for its guests.

Potential issues relate to the disturbance of wildlife, particularly seabirds and sea lions, and heritage values on these other islands of the Abrolhos.

4.12.2 Management and Mitigation Measures

4.12.2.1 Designated Islands for Visits

As part of the process of assessing impacts, several islands have been identified as suitable for day visits, based on the sensitivity of avifauna, as well as the proximity to Long Island (Figure 1). West Wallabi Island was originally earmarked as a potential island of interest for day visitors, due to its high historical and biological values. However, due to the difficulty in landing, and the presence of high density breeding White-breasted Sea Eagles, this island will not be included as part of day tours.

4.12.2.2 Seasonal Closures

In some cases it may be appropriate to prohibit access to certain islands during particular times of the year dependent upon nesting seabirds and marine raptors.

Table 12 sets out the islands that may be visited by resort guests, activities that are to take place and the closed seasons that are to apply.

<table>
<thead>
<tr>
<th>Island</th>
<th>Activity</th>
<th>Closed Season</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Sister</td>
<td>Kayak, jet ski, sea lion observation, beach swimming and snorkelling</td>
<td>December-March</td>
<td>Roseate Tern breeding</td>
</tr>
<tr>
<td>Second Sister</td>
<td>Surf</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Third Sister</td>
<td>Kayak, jet ski, sea lion observation, beach swimming and snorkelling</td>
<td>July - November</td>
<td>Osprey breeding</td>
</tr>
<tr>
<td>Beacon Island</td>
<td>Historical site visits</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Dick Island</td>
<td>Kayak, jet ski, swimming, beach visits, surf, seabird observation</td>
<td>July - November</td>
<td>Osprey breeding</td>
</tr>
<tr>
<td>Eastern Island</td>
<td>Swimming, beach visits, seabird observation</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>East Wallabi Island</td>
<td>Swimming, beach visits (Turtle Bay), snorkelling</td>
<td>None</td>
<td>N/A</td>
</tr>
</tbody>
</table>
4.12.2.3 Escorted Tours

While guests will be permitted to land on these islands, all day trip activities will be escorted by knowledgeable guides at all times. The tours will have strictly limited numbers of people, depending on the tour and the sensitivity of the destination. On visits to sensitive sites, visitor numbers are likely to be restricted to a maximum of 6-12 guests. Restrictions on general access on these islands will be observed to reduce impacts on the landforms, flora and fauna. Approach islands by sea at low speed (less than 5 knots within 200m of an island), and from one direction.

The following procedure (Table 13) is designed to manage potential issues associated with visits to other islands.

**Table 13: Visits to Other Islands Activity Management Procedure**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ensure that all relevant Resort staff are aware of the content contained in this VAMP as it relates to visits to other islands.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>2.</td>
<td>All day visitors and guests must attend the visitor activity induction upon arrival at the Resort, prior to taking part in any visits to other islands.</td>
<td>Resort Manager</td>
</tr>
<tr>
<td>3.</td>
<td>All visitors taking part in visits to other islands must be briefed on behavioural conduct specific to that activity prior to taking part.</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>4.</td>
<td>Visits to other islands will be permitted to seasonally designated islands as set out in Figure 1 and Table 12.</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>5.</td>
<td>Keep noise to a minimum by talking normally and being mindful of anchor and chain noise. Do not rev engines.</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>6.</td>
<td>Jet skis and Jet boats are not to exceed 5 knots when within 200m of islands.</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>7.</td>
<td>Keep to the edges of the island at all times.</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>8.</td>
<td>Aside from the beaches, avoid other sandy areas at all times</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>9.</td>
<td>If nesting seabirds are observed, retreat quietly and abort landing</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>10.</td>
<td>Remove all waste</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>11.</td>
<td>Keep your profile low by sticking to the beach, the taller you are the bigger the threat to nesting birds</td>
<td>Tour Leader/Tour Operator</td>
</tr>
<tr>
<td>12.</td>
<td>If a sea lion is observed on the beach, abort landing to avoid disturbance of the sea lion and potential threat to visitors.</td>
<td>Tour Leader/Tour Operator</td>
</tr>
</tbody>
</table>
4.13 **INCLEMENT WEATHER AND PASSIVE ACTIVITIES**

Wet or inclement weather activities will be provided for the entertainment of guests during those times when outdoor activities are not available or desirable. In addition, some guests may seek out some passive activities as a change from outdoor pursuits. For example, these inclement weather activities may include the following:

- Indoor environmental interpretation sessions (seabirds, marine environment, climate, topography, rainfall, wind, ocean currents)
- DVD and book library containing relevant information on the environmental and heritage values of the Abrolhos
- Movies on DVD available for guests to watch
- Video presentations in the main guest lounge area on various topics of interest
- Aqua aerobics in resort swimming pool
- Board games
- Sunset cocktails, poolside events
- Tai Chi, yoga, massage
- Board games, Chess, Monopoly, etc.
- Gourmet cooking lesson with Executive Chef

There are no potential environmental issues associated with these activities and hence no management and mitigation measures have been identified.
5. **IMPLEMENTATION AND RESPONSIBILITIES**

The Resort Manager is the primary person responsible for implementation of this VAMP through the supervision and education of Resort staff and the administration of the tour operator contract(s).

Table 14 outlines the responsibilities relevant to the VAMP throughout the resort operation.

**Table 14: Responsibilities for Implementation of VAMP**

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| Lead Environmental Consultant   | • Prepare a VAMP and environmental induction content for the project.  
• Ensure VAMP is developed in compliance with PER commitments and the requirements of relevant regulatory conditions.  
• Provide advice in relation to operational environmental issues and management. |
| HLD Project Manager              | Liaise with Resort Operator to ensure that all visitor activities are carried out in line with PER commitments, this VAMP and the requirements of relevant environmental regulatory conditions. |
| Resort Operator                  | Liaise with Resort Manager to ensure that all visitor activities are carried out in line with PER commitments, this VAMP and the requirements of relevant environmental regulatory conditions. |
| Resort Manager                   | • Be aware of all visitor activity procedures that require action or supervision by person acting in Resort Manager position.  
• Ensure management and mitigation measures outlined in the VAMP and other regulatory requirements are implemented.  
• Liaise with Resort Operator, staff and experts on visitor activity impact issues and minimisation/management.  
• Ensure appropriate corrective or remedial action is taken to address all issues and incidents reported by staff, contractors or visitors.  
• Ensure that contracts with tour operators are current and applicable.  
• Participate in compliance inspections undertaken by HLD or regulatory authorities.  
• Notify relevant regulatory authorities if serious environmental incidents occur as soon as practicable.  
• Ensure all day visitors and guests undergo an induction upon arrival.  
• Ensure all staff are aware of the commitments and procedures outlined in the VAMP.  
• Conduct staff meetings regularly to discuss operational and environmental issues arising from guest activities. |
| Tour Leader                      | • Read VAMP and follow correct VAMP procedures.  
• Report any environmental or safety incidents to the Resort Manager.  
• Provide assistance in implementing and maintaining impact |
<table>
<thead>
<tr>
<th>Personnel</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>minimisation programs.</td>
</tr>
<tr>
<td>Tour Operator</td>
<td>• Read VAMP and follow correct VAMP procedures.</td>
</tr>
<tr>
<td></td>
<td>• Report any environmental or safety incidents to the Resort Manager</td>
</tr>
<tr>
<td></td>
<td>• Provide assistance in implementing and maintaining impact minimisation programs.</td>
</tr>
<tr>
<td>All Relevant Resort Staff</td>
<td>• Read VAMP and follow correct VAMP procedures.</td>
</tr>
<tr>
<td></td>
<td>• Report any environmental incidents to the Resort Manager.</td>
</tr>
<tr>
<td></td>
<td>• Provide assistance in implementing and maintaining impact minimisation programs.</td>
</tr>
<tr>
<td>Consultant Archaeologist</td>
<td>Provide advice as required in relation to heritage issues.</td>
</tr>
<tr>
<td>Avifauna Specialist</td>
<td>Provide advice as required in relation to seabird behaviour and breeding and impact minimisation.</td>
</tr>
</tbody>
</table>

The Resort Operator will be responsible for the safety of guests and staff taking part in Resort activities and will provide its own guidelines and briefings on this issue.
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APPENDIX A

DAY VISITOR INDUCTION CONTENT
LONG ISLAND TOURISM DEVELOPMENT, VISITOR ACTIVITY MANAGEMENT PLAN:

APPENDIX A

DAY VISITOR INDUCTION PROGRAMME OUTLINE

JULY 2006

PREPARED FOR

HUMFREY LAND DEVELOPMENTS

BY

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1. **INTRODUCTION**

1.1 **PURPOSE OF DOCUMENT**

Upon arrival at the Long Island Resort, all day visitors and resort guests will undergo a short induction on the environment and cultural heritage of Long Island to increase their awareness of the island and allow them enjoy their stay on the island in a way that will minimise impact on the environment. For the purposes of this document, this induction shall be known as the “Day Visitor Induction Programme”.

This document outlines the points that will be included in the Day Visitor Induction Programme. This document is not designed to be the actual induction to be delivered to visitors, but will form the basis of the final induction to be adopted by resort staff.

1.2 **LEGAL COMPLIANCE**

Key legislation of particular relevance to the day visitors includes:

- *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). This legislation protects the environment with regard to matters of National Environmental Significance. The proposed tourist resort on Long Island is subject to approval under the Act.

- *Historic Shipwrecks Act 1976* (Commonwealth). Provides for the protection of historic shipwrecks and all associated artefacts. The *Batavia* wreck and associated relics as well as other wrecks in the Abrolhos are protected by this Act.

- *Fish Resources Management Act 1994*. Provides for management and regulation of the Abrolhos Islands reserve and for the establishment and management of Fish Habitat Protection Areas. Includes the management of land and waters of the Abrolhos.
2. **REGIONAL SETTING AND CONSERVATION STATUS**

**Reef Observation Areas (ROAs)**
All species of fish including molluscs, algae, coral and fish are totally protected in the ROAs, with the exception of western rock lobster, which may be taken by recreational and commercial fishers using pots during the season. The ROA at Beacon Island includes some of the coral areas to the north of Long Island.

**National Heritage List (NHL)**
An area of the Wallabi Group (including Long Island) is now included on the National Heritage List (NHL) under the ‘*Batavia* Shipwreck Site and Survivor Camps Area 1629 - Houtman Abrolhos’ notice. The inclusion of the site on the NHL means that the values as identified by the Australian Heritage Council must be protected, and these values are protected through the *EPBC Act 1999*. 
3. **HERITAGE AND ENVIRONMENTAL VALUES**

3.1 **SHIPWRECKS AND HERITAGE**

There are a number of shipwrecks scattered throughout the Abrolhos Islands. Those that have been found include the *Batavia* (1629), *Zeewijk* (1727), *Hadda* (1877), *Marten* (1878), *Ben Ledi* (1879), *Ocean Queen* (1842) and the *Windsor* (1908). The *Batavia* is situated close to Long Island.

The history of the *Batavia* shipwreck and mutiny is one of the best-known stories in Australian maritime history. On 4 June 1629, the VOC ship *Batavia* struck Morning Reef, south of Beacon Island. Four days after the wreck the ship’s captain (Pelsaert) and a company of mainly officers and soldiers set out in a ship's boat to seek help from Indonesia. This left 268 people marooned on the islands of the Wallabi Group. A week later the senior officer amongst the survivors and the leader of the impending mutiny, Officer Jeronimus Cornelisz, sent soldier Weibbe Hayes and a group consisting primarily of soldiers to the High (Wallabi) Islands in search of water. At the same time he shifted 45 people from Beacon Island to nearby Long Island.

By the time Captain Pelsaert returned in the rescue vessel, a total of 125 people had been the victims of the mutineer’s murders.

Long Island, Beacon Island, Traitors Island and East and West Wallabi Islands are all of high historical value due to their association with the *Batavia* wreck and mutiny.

Long Island was the location of the second largest slaughter of the mutiny. Approximately 41 people were murdered here. On Captain Pelsart’s return from Batavia (now Indonesia) with the rescue boat, the mutineers were imprisoned (except Cornelisz who was imprisoned on Beacon Island), tried and several subsequently hanged on Long Island. The exact slaughter and gallows sites have never been located despite several surveys of the Island.

Further information is available on the Heritage Values of the area in the Day Visitors Pavilion and a visit to the Geraldton Museum is highly recommended.

3.2 **HERITAGE PROTECTION**

The following procedures should be adopted by day visitors to protect heritage values:

- Do not traverse the island other than on the designated pathways and boardwalks. This will avoid disturbance of the ground and any potential heritage sites.
- Do not remove any potential historical artefacts found during your day on the island. Leave them where they are and report the find to the resort manager.
- If diving or snorkelling on historic shipwrecks, be sure to adhere to the pre-dive briefing given by your tour operator.
- A clear ‘no touch, no take’ message for heritage sites will be provided for visitors before taking part in diving and snorkelling activities.
3.3 **BIRDS**

The Abrolhos Islands are among the most important seabird breeding islands in Australia and support significant breeding colonies of some species. As such, the islands are of international and national significance for bird watchers. Birds are the most significant terrestrial vertebrate fauna present on Long Island.

Twenty-eight species of birds have been recorded on Long Island. Of these, 12 species have been confirmed as breeding regularly: White-breasted Sea Eagle, Osprey, Pacific Gull, Silver Gull, Caspian Tern, Crested Tern, Bridled Tern,Eastern Reef Egret, Pied Oystercatcher, Grey Breasted White Eye, Little Shearwater and White-faced Storm-petrel.

Three species of bird that occur at the Abrolhos and potentially Long Island are specially protected; these are the:
- Brush Bronzewing,
- Lesser Noddy, and
- Abrolhos Painted Button Quail.

3.4 **BIRD PROTECTION**

The following procedures will be adopted by day visitors with respect to birds:

- Always remain on the boardwalks and designated access pathways. This will prevent damage to bird burrows and habitats.
- Report any injured birds to the Resort Manager or appropriate staff member.
- Do not feed the birds as this will encourage “nuisance species” which can impact the balance of other species of the island.
- Please do not leave food scraps unattended and dispose of in the rubbish bins provided.
- When participating in fishing activities, adhere to advice from skipper on avoiding capture of seabirds with baited hooks.
- Minimise noise at all times.

3.5 **AUSTRALIAN SEA LIONS**

Although not breeding in the Wallabi Group of islands, Australian Sea Lions (*Neophoca cinerea*) are recorded to use Long Island as a haul-out site. A haul-out site is an area of beach where sea lions rest, socialise and regulate body temperature. On Long Island, sea lions have been known to use the areas on the northern narrow neck of the island adjacent to Tidal Pond 503. Sea lions are a protected species.
3.6 **SEA LION PROTECTION**

The following procedures will be adopted by day visitors with respect to Sea Lions:

- Maintain a minimum 10-metre distance from Sea Lions at all times. This will avoid stress to the sea lion and potential injury to the guest, as sea lions can be aggressive.
- Move away calmly and immediately if a sea lion approaches.
- Do not walk between the Sea Lion(s) and the water.
- Do not feed the Sea Lions(s).

3.7 **VEGETATION AND RARE FLORA**

A total of 38 flora species have been recorded on Long Island, comprising 14 families. One protected species, *Lepidium puberulum*, was recorded within the development zone, adjacent to Tidal Pond 504. A total of 14 weed species are present across Long Island.

3.8 **VEGETATION PROTECTION**

To prevent impacts on vegetation of Long Island and further introductions of weeds on Long Island, the following procedures will be implemented:

- Stay on the boardwalks and designated pathways at all times to avoid vegetation trampling.
- Minimise weed spread by checking their person (especially shoes and socks) and any belongings are free of visible weed seeds prior to entering or leaving Long Island.
- Upon arrival guests will be requested to stand on a large mat that has been doused with antiseptic solution to kill weed seeds. This will be on the jetty and could be adjacent to interpretive signage.

3.9 **MARINE ENVIRONMENT AND FAUNA**

The most widespread habitat surrounding Long Island is deep *Acropora* spp. (staghorn coral) ‘stands’, found surrounding and at the bottom of the several deep basins on the western side of the island.

Marine mammal species known to occur around the Abrolhos are the Humpback Whale, Bryde’s Whale, Minke Whale, Bottlenose Dolphin and Striped Dolphin. In addition to these a number of other protected marine mammals may occur such as the Southern Right Whale, Blue Whale, Dugong, Dusky Dolphin and Killer Whale.

The marine Green Turtle and Loggerhead Turtle are reported to be found in low numbers at the Abrolhos although there are no records of turtles breeding in the area. The Leatherback Turtle is a protected species potentially occurring in the area.
The fish fauna species composition at the Abrolhos comprises 389 species. This includes three species of protected sharks.

3.10 **MARINE ENVIRONMENT AND FAUNA PROTECTION**

Procedures to minimise impacts from day visitor activities on the marine environment and fauna are as follows:

- Visitors will only be permitted to swim, dive and snorkel from the shore of Long Island in the designated areas. Information will be provided on snorkel/dive trails to follow and all visitors will be briefed prior to snorkelling or diving from the shore on ways to avoid damage to sensitive corals.

- Appropriately licensed tour operators will conduct all boat based dive and snorkel activities. These operators will provide pre dive/snorkel briefings to guests and information to ensure the marine environment is protected. Guides will supervise these activities.

- Visitors must adhere to the ‘no touch, no take’ message when taking part in the activities.

- If you are in the water and a marine mammal (whale, dolphin, sea lion) approaches, you must endeavour to keep a minimum of 30 metres distance between yourself and the marine mammal.

- Visitors will not be permitted to independently operate motorised boats. Jet-ski activities will be only be conducted on an escorted tour basis.

- Visitors will not be permitted to fish from the shores of Long Island.

- Appropriately licensed tour operators will conduct boat based fishing activities and will provide information to guests that will ensure no rubbish or wastes of any kind is disposed of at sea. Fishing will be on a catch and release basis and will be conducted within the normal fisheries legislation.

3.11 **LANDFORMS AND TIDAL PONDS**

Long Island is a small island covering approximately 10.5 hectares. There are seven tidal ponds scattered across the island. Tidal Pond 504 is located within the resort development zone and Tidal Pond 503 is north and adjacent to the development zone.
3.12 LANDFORM PROTECTION

Procedures to minimise impacts on the island environment are as follows:

- Boardwalks and other fixed routes are to be strictly adhered to by visitors to minimise erosion and compaction as well as other environmental impacts.
- Do not enter any area that is marked off for no entry without authority Resort Manager.
- Beach access is restricted to designated areas to minimise erosion and other impacts.
- Do not enter exclusion zones surrounding all tidal ponds.
- The southern section of the island will be off-limits to all visitors to prevent disturbance of possible heritage sites and other environmental impacts.
APPENDIX B

RESORT GUEST INDUCTION CONTENT
LONG ISLAND TOURISM DEVELOPMENT, VISITOR ACTIVITY MANAGEMENT PLAN:

APPENDIX B

RESORT GUEST INDUCTION PROGRAMME OUTLINE

JULY 2006

PREPARED FOR

HUMFREY LAND DEVELOPMENTS

BY

MBS ENVIRONMENTAL
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1. **INTRODUCTION**

1.1 **PURPOSE OF DOCUMENT**

All guests will be educated and inducted in the environment and cultural heritage of both Long Island and the wider Abrolhos Islands to increase their awareness of the islands and allow them enjoy their stay on the island in a way that will minimise impact on the local environment.

This document outlines the points that will be included in the Resort Guest Induction Programme. This document is not designed to be the actual induction to be delivered to guests, but will form the basis of the final induction to be adopted by resort staff.

1.2 **LEGAL COMPLIANCE**

A full list of relevant legislation is supplied in Chapter 2 of the PER main document. Key legislation of particular relevance to the resort guests includes:

- *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). This legislation protects the environment with regard to matters of National Environmental Significance. The proposed tourist resort on Long Island is subject to approval under the Act.

- *Historic Shipwrecks Act 1976* (Commonwealth). Provides for the protection of historic shipwrecks and all associated artefacts. Both the *Hadda* and the *Batavia* wrecks and associated relics as well as other wrecks in the Abrolhos are protected by this Act.

- *Environmental Protection Act 1986*. The proposed Long Island tourism development is being assessed under this Act.


- *Wildlife Conservation Act 1950*. Applies to the protection of wildlife in Western Australia. Within the Abrolhos this primarily relates to the native flora and fauna including seabirds, Sea Lions and reptiles.

- *Fish Resources Management Act 1994*. Provides for management and regulation of the Abrolhos Islands reserve and for the establishment and management of Fish Habitat Protection Areas. Includes the management of land and waters of the Abrolhos.
1.3 **VISITOR ACTIVITY ENVIRONMENTAL COMMITMENTS**

To manage and minimise the potential impacts of guest activities upon the environment and heritage values of Long Island and surrounding environment through adhering to the Visitor Activity Management Plan. Humfrey Land Developments (HLD) has committed to the following activities:

- Induction of resort guests and day visitors and the provision of interpretive information to enhance the understanding of guests and day visitors.
- Management of guest activities to minimise impacts to avifauna, other fauna, priority flora species, the marine environment, marine fauna and heritage sites.
- Provision of control measures and seasonal closures of sensitive areas.
2. **Regional Setting and Conservation Status**

The Abrolhos Islands are an archipelago of 122 low-lying islands and reefs located approximately 60 kilometres offshore from Geraldton. The Abrolhos are divided into three major groups of islands: the Wallabi, Easter and Southern Groups. Long Island is situated within the Wallabi Group of islands. East Wallabi and West Wallabi Islands, the two largest islands of the Wallabi Group, are located approximately five kilometres to the north-west and seven kilometres to the west of Long Island, respectively. The nearest islands are Beacon Island (one kilometre east), Traitors Island (one kilometre south-east) and Dick Island (two kilometres south).

**Class A Reserve**

The waters of the Abrolhos Islands are a Class A Reserve set aside for the purposes of conservation of flora and fauna, tourism and purposes associated with the fishing industry.

**Fish Habitat Protection Area (FHPA)**

The State Territorial Waters of the Abrolhos Islands are a gazetted Fish Habitat Protection Area (FHPA) for the following purposes:

- The conservation and protection of fish, fish breeding areas, fish fossils or the aquatic eco-system.
- Aquaculture activities.
- The management of fish and activities relating to the appreciation or observation of fish.

**Reef Observation Areas (ROAs)**

All species of fish including molluscs, algae, coral and fish are totally protected in the ROAs, with the exception of western rock lobster, which may be taken by recreational and commercial fishers using pots during the season. Four ROAs have been declared at the Abrolhos. The ROA at Beacon Island includes some of the coral areas to the north of Long Island.

**Register of the National Estate (RNE)**

The Houtman Abrolhos Islands Reserve is listed on the Register of the National Estate (RNE) because of the significance of the shipwrecks in the area, the importance of the marine environment and the bird life of the islands. There are seven shipwrecks and several other areas in the Abrolhos that are all listed separately in the RNE.

**National Heritage List (NHL)**

An area of the Wallabi Group (including Long Island) is now included on the National Heritage List (NHL) under the ‘Batavia Shipwreck Site and Survivor Camps Area 1629 - Houtman Abrolhos’ notice. The inclusion of the site on the NHL means that the values as identified by the Australian Heritage Council must be protected, and these values are protected through the EPBC Act 1999.
3. **HERITAGE VALUES**

3.1 **SHIPWRECKS**

There are a number of shipwrecks scattered throughout the Abrolhos Islands. Those that have been found include the *Batavia* (1629), *Zeewijk* (1727), *Hadda* (1877), *Marten* (1878), *Ben Ledi* (1879), *Ocean Queen* (1842) and the *Windsor* (1908). Both the *Batavia* and the *Hadda* are situated close to Long Island.

All of the above mentioned shipwrecks are gazetted Historic Shipwrecks under the Australian Government’s *Historic Shipwrecks Act 1973*. With the exception of the *Windsor*, these wrecks are also protected under the State *Maritime Archaeology Act 1973*. The State Act provides protection for all ships that were wrecked, lost, abandoned or stranded off the coast of Western Australia prior to 1900.

**Hadda**

The *Hadda*, a three-masted barque of 334-tons under the command of John L. Parker had sailed to the Lacepede Islands (off the Kimberly Coast) to take on a load of guano. However, the captain lacked the necessary license and the ship was forced to return to Fremantle without a cargo. On the return journey, unfavourable currents and stormy conditions forced the *Hadda* aground in the Abrolhos on 30 April 1877. The crew was not able to free her and in two days, after the water level reached the wheelhouse, they had to abandon the ship. Captain Parker and his crew of 11 saved all their personal effects and moved to nearby Beacon Island. They remained there until 7 May when favourable seas enabled them to safely travel to Geraldton in their two small boats.

**Batavia**

The history of the *Batavia* shipwreck and mutiny is one of the best-known stories in Australian maritime history. On 4 June 1629, the VOC ship *Batavia* struck Morning Reef, south of Beacon Island. Four days after the wreck the ship’s captain (Pelsaert) and a company of mainly officers and soldiers set out in a ship’s boat to seek help from Indonesia. This left 268 people marooned on the islands of the Wallabi Group. A week later the senior officer amongst the survivors and the leader of the impending mutiny, Officer Jeronimus Cornelisz, sent soldier Weibbe Hayes and a group consisting primarily of soldiers to the High (Wallabi) Islands in search of water. At the same time he shifted 45 people from Beacon Island to nearby Long Island.

The first murders occurred on Beacon Island and soon spread to Long Island. Some survivors managed to escape to the safety of Hayes’ camp and warn him of the situation. The mutineer’s goal was to capture the rescue vessel and use it as a privateer. On 17 September the mutineers launched an attack on Hayes’ camp, which was located on West Wallabi Island. During the fighting the rescue vessel Sardam appeared. The combatants disengaged and Hayes rowed to the ship to warn Pelsaert of the mutineers’ intention. The conspirators were then apprehended. Cornelisz was detained on Beacon Island and the others held on Long Island. After their trials, which Pelsaert conducted, nine of the leaders, including Cornelisz, were executed on Long Island. Of the 268 people Pelsaert left in the islands, 40 had drowned while swimming from the wreck, 20 had died from illness and disease and 125 had been the victims of the mutineer’s murders.
3.2  **LAND-BASED HERITAGE**

Long Island, Beacon Island, Traitors Island and East and West Wallabi Islands are all of high historical value due to their association with the *Batavia* wreck and mutiny. Beacon Island was the site of the largest slaughter of the mutiny. About 180 people reached the island after the *Batavia* was wrecked on Morning Reef and were subsequently murdered by the mutineer, Cornelisz and his followers. A small group of people had been marooned on Traitors Island and were also murdered by the mutineers. Cornelisz was imprisoned on Beacon Island while awaiting his trial.

Sites of historic value on West Wallabi Island include Weibbe Hayes’ encampment site and two limestone structures or huts that may have been built by Hayes.

Long Island was the location of the second largest slaughter of the mutiny. Approximately 41 people were murdered here. On Captain Pelsart’s return from Batavia (now Indonesia) with the rescue boat, the mutineers were imprisoned (except Cornelisz who was imprisoned on Beacon Island), tried and several subsequently hanged on Long Island. The exact slaughter and gallows sites have never been located despite several surveys of the Island.

Several archaeological surveys have been conducted on Long Island. In 1967 a Rhenish beardman jug shard was recovered from the northern end of the island. In 2001 a metal detector survey was undertaken by the Western Australian Maritime Museum (WAMM) of the northern third of the Island. This survey located a “morning star” which is a piece of lead sheathing that had been moulded into a ball (and could have been used as a weapon) and three iron fastenings. Several items were also located that originated from the Grundy film set during the filming of the *Batavia* story in the early 1990s.

In 2005 personnel from WAMM undertook a surface survey of the main development area on Long Island. During the 2005 survey, four artefacts were recovered from along the central ridge of Long Island. The most notable of these is a ship’s fastening, which was found high on the ridge and buried under some coral rubble. It is likely that it could have been used as a weapon during the *Batavia* mutiny, formed part of the gallows or originated from a piece of ship related driftwood. The other artefacts recovered were a thin square head ferrous nail, a section of twisted ferrous nail and a small piece of nail or wire. There was no conclusive surface evidence found for the location of the gallows or occupation sites. All artefacts found during the survey were relocated to the WAMM in Fremantle.

There are other island-based heritage sites, particularly on West Wallabi Island, which relate to the more recent history of the Abrolhos. West Wallabi Island was the site of guano mining operations during the late 1800s and early 1900s. All that now remains of these operations are the stone foundations of the guano loading jetty on the north side of the island. A rock lobster cannery operated between 1931 and 1933 on West Wallabi Island.

During World War II, an advanced spotting post was maintained on West Wallabi Island. The base was manned by about six aircrew trainees from the Royal Australian Air Force in a round the clock vigil to give radio warning of any enemies approaching the mainland.
4. **ENVIRONMENTAL VALUES**

4.1 **BIRDS**

The Abrolhos Islands are among the most important seabird breeding islands in Australia and support significant breeding colonies of some species. As such, the islands are of international and national significance for bird watchers. Birds are the most significant terrestrial vertebrate fauna present on Long Island.

Twenty-eight species of birds have been recorded on Long Island. Of these, 12 species have been confirmed as breeding regularly: White-breasted Sea Eagle, Osprey, Pacific Gull, Silver Gull, Caspian Tern, Crested Tern, Bridled Tern, Eastern Reef Egret, Pied Oystercatcher, Grey Breast White Eye, Little Shearwater and White-faced Storm-petrel.

Three species of bird that occur at the Houtman Abrolhos are also listed as Priority Fauna on the CALM Threatened and Priority Fauna Database; the Eastern Curlew, Hooded Plover and Brush Bronzewing. Of these only the Brush Bronzewing has been observed on Long Island. No breeding observations of this species are recorded from Long Island, although this species may visit to feed from time to time.

Two EPBC Threatened Species could potentially be encountered on or near to Long Island: the Lesser Noddy (vulnerable) and the Abrolhos Painted Button Quail (vulnerable).

4.2 **AUSTRALIAN SEA LIONS AND SKINKS**

Although not breeding in the Wallabi Group of islands, Australian Sea Lions (*Neophoca cinerea*) are recorded to use Long Island as a haul-out site. A haul-out site is an area of beach where sea lions rest, socialise and regulate body temperature. On Long Island, sea lions have been known to use the areas on the northern narrow neck of the island adjacent to Tidal Pond 503. The Australian Sea Lion is listed under Schedule 4 (other specially protected fauna) of the *Wildlife Conservation Act 1950*. The *Wildlife Conservation (Close Season for Marine Mammals) Notice 1998* prohibits the disturbance and touching of all marine mammals including Australian sea lions.

Only one other species of terrestrial fauna is found on Long Island, the skink *Menetia greyii*. *M. greyii* is known to live under slabs of coral rubble or in vegetation litter.

No amphibians or land mammal species occur on Long Island. There are currently no vermin species on the island.

4.3 **VEGETATION AND RARE FLORA**

A total of 38 flora species have been recorded on Long Island, comprising 14 families. One Priority 4 species, *Lepidium puberulum*, was recorded within the development zone, adjacent to Tidal Pond 504 (Plate 1). A total of 14 weed species are widespread across Long Island and within the proposed tourism development area.
Fifteen vegetation communities have been mapped and recorded on Long Island. The vegetation of the resort development area is mainly sparse scrub of *Myoporum insulare* over an *Atriplex* species heath with a mixed species sparse grassland and *Senecio lautus* [sic] herbfield.

### 4.4 Marine Environment

The most widespread habitat surrounding Long Island was deep *Acropora* spp. (staghorn coral) ‘stands’, found surrounding and at the bottom of the several deep basins on the western side of the island. Shallow *Acropora* spp. reef, found along the east coast extending out from the island to approximately five metres (Chart Datum) were the next most widespread habitat within the area surveyed, followed by sand and coral rubble, found extending offshore from just below mean sea level around much of the island.

### 4.5 Marine Fauna

Other marine mammal species known to occur around the Abrolhos are the Humpback Whale, Bryde’s Whale, Minke Whale, Bottlenose Dolphin and Striped Dolphin. In addition to those listed above, the EPBC Protected Matters database lists a number of other marine mammals that may occur or whose habitat may occur in the area. These are the Southern Right Whale, Blue Whale, Dugong, Dusky Dolphin and Killer Whale. Anecdotal evidence indicates that the Australian Fur Seal and Common Dolphin are also visitors to the Abrolhos Islands.

The marine Green Turtle and Loggerhead Turtle are reported to be found in low numbers at the Abrolhos although there are no records of turtles breeding in the area. The Leatherback Turtle is also recorded on the EPBC Protected Matters database as potentially occurring in the area.

The fish fauna species composition at the Abrolhos comprises 389 species, with 66 percent of these being tropical species, 19 percent of species being warm temperate species and 13 percent being subtropical species. Fifteen fish species of conservation significance have been identified, including three shark species. These sharks may potentially occur in the area and are the Great White Shark, the Grey Nurse Shark (West Coast Population) and the Whale Shark.

### 4.6 Landforms and Tidal Ponds

Long Island is a leeward (eastern) island composed of coral rubble and emergent reef foundations, which are about 5,000 years old.

Long Island is a small island covering approximately 10.5 hectares. It is generally flat, being about two to three metres above mean sea level, with a small central portion extending slightly over four metres above sea level. There are seven tidal ponds scattered across the island. Tidal Pond 504 is located within the resort development zone and Tidal Pond 503 is north and adjacent to the development zone.
5. **POTENTIAL IMPACTS OF RESORT GUEST ACTIVITIES ON HERITAGE VALUES**

Land-based heritage could potentially be impacted by guest activities in the following ways:

- Heritage sites, particularly in areas not yet surveyed in the south of the island, could be damaged through uncontrolled access of guests around the island.

- Artefacts may be lost or damaged through accidental incidents, souveniring or vandalising.

Marine-based heritage sites (shipwrecks) could potentially be impacted by guest activities in the following ways:

- Scuba divers or snorkellers may inadvertently damage the wreck through fin or other contact.

- Artefacts from wrecks may be lost or damaged through accidental incidents, souveniring or vandalising.

- Historic shipwrecks may be damaged through careless or inappropriate anchoring by dive boat operators.
6. **POTENTIAL IMPACTS OF RESORT GUEST ACTIVITIES ON ENVIRONMENTAL VALUES**

6.1 **BIRDS**
Potential impacts on birds include the following:

- Alteration of bird habitat and feeding grounds.
- Disturbing breeding birds, particularly burrow-nesting species.
- Reducing populations of birds on the island or surrounding islands.
- Impacting specially protected bird species.
- Damaging burrow-nest sites.
- Potential injury, disorientation or death associated with lighting and collision with buildings and infrastructure.
- Attracting birds to poorly contained rubbish.
- Attraction of birds to vessels associated with guest activities.

6.2 **AUSTRALIAN SEA LIONS AND SKINKS**
Impacts on Australian Sea Lions and the skinks of Long Island may include the following:

- Increased presence of humans at Long Island may disturb any Australian Sea Lions attempting to use the island as a haul-out area.
- In addition to disturbance of Sea Lions, there is potential for guests to be injured through interaction with Sea Lions.
- There is potential for habitat of the skink to be trampled through uncontrolled access to the island.

6.3 **NUISANCE SPECIES AND VERMIN**

- Vermin may be introduced through guest activities and may eat bird eggs or chicks leading to reduction in bird numbers on Long Island.
- Development of nuisance species due to additional food and water supply and inappropriate waste storage (e.g. such as Silver Gulls).
6.4 **Vegetation and Rare Flora**

Activities associated with resort guests have the potential to cause:

- Temporary or permanent loss of native vegetation through trampling that may result in the loss of potential rare flora species.
- Increased wind erosion due to wearing of paths through uncontrolled access.
- Degradation of seabird nesting habitat through trampling.
- Weed introduction by guests.
- Loss of vegetation through fire through inappropriate guest activities.

6.5 **Marine Environment and Fauna**

- Disturbance or loss habitats including corals may result through inappropriate diving and snorkelling practices.
- Disturbance may result to marine fauna through guests inappropriately approaching marine animals such as dolphins, whales or turtles.

6.6 **Landforms and Tidal Ponds**

- Over-exploitation of the sandy beaches.
- Potential to increase erosion of the island.
- Compaction of soil and damage to the soil structure.
- Degradation of tidal ponds.
- Disruption to elevated areas potentially associated with *Batavia* mutineer hangings.
7. **MANAGEMENT STRATEGIES**

7.1 **HERITAGE VALUES**

The following procedures should be adopted by resort guests:

- Do not remove any potential historical artefacts found during your stay on the island. Leave them where they are and the resort manager will mark out the area. Resort manager will make a GPS record of the site and report them to the consultant archaeologist for advice.

- Do not traverse the island other than on the designated pathway and boardwalks. This will avoid disturbance of the ground and any potential heritage sites.

- When diving or snorkelling on historic shipwrecks, be sure to adhere to the pre-dive briefing given by your tour operator.

- Divers and snorkellers will be informed of the requirements of and penalties associated with breaching the Commonwealth *Historic Shipwrecks Act 1976* and the State *Maritime Archaeology Act 1973*.

- A clear ‘no touch, no take’ message for all marine life and heritage sites will be provided for guests before taking part in diving and snorkelling activities.

- Scuba divers will take part in a buoyancy check to avoid gauges, regulator and fin contact with wrecks.

7.2 **ENVIRONMENTAL VALUES**

7.2.1 **Birds**

The following procedures will be adopted by resort guests with respect to birds:

- Always remain on the boardwalks and designated access pathways. This will prevent damage to bird burrows and habitats.

- Report any injured birds to the Resort Manager or appropriate staff member.

- Guests will not be permitted to feed the birds as this will encourage “nuisance species” which can impact the balance of other species of the island. All food scraps will be packaged and removed from the island for disposal on the mainland.

- Please do not leave food scraps outside unattended.

- Do not enter exclusion zones around Tidal Pond 504 and other sensitive areas.

- When participating in fishing activities, adhere to advice from skipper on avoiding capture of seabirds with baited hooks.

- Minimise noise at all times, including loud music from guest rooms.

- Extinguish all unnecessary lighting within and outside of guest accommodation. This will help prevent bird disorientation and injury from collision with buildings.
• Adhere to resort guidelines regarding walking the boardwalks at night as this can be a sensitive time for seabirds. Seasonal closures to areas of boardwalks may apply at night.

7.2.2 **Australian Sea Lions**

• When traversing an area where a sea lion has hauled-out on the island, maintain a minimum 10 metre distance from Sea Lions at all times. This will avoid stress to the sea lion and potential injury to the guest as sea lions can be aggressive.
• Move away calmly and immediately if a sea lion approaches.
• Do not walk between the Sea Lion(s) and the water.
• Do not feed the Sea Lions(s).

7.2.3 **Nuisance Species and Vermin**

• If vermin are sighted during your stay, please report sighting to the Resort Manager.
• Guests will not be permitted to feed the birds. All food scraps and wastes will be packaged and removed from the island for disposal on the mainland. Freshwater sources must not be left open on the island, as these will attract nuisance species.
• Please do not leave food or food scraps unattended.
• When food scraps are placed in guest accommodation rubbish bins, please tie the top of the bag to prevent attraction of vermin.

7.2.4 **Weed Management**

To prevent further introductions and spread of weeds on Long Island, the following procedures will be implemented:

• Guests are requested to assist to minimise weed spread by checking their person and any belongings are free of visible weed seeds prior to entering or leaving Long Island
• Upon arrival guests will be requested to stand on a large mat that has been doused with antiseptic solution. This will be on the jetty and could be adjacent to interpretive signage. They will also be requested to brush off the soles of their shoes. These two mechanisms are one of the main ways in which weeds are spread.

7.2.5 **Marine Environment**

Procedures to minimise impacts from guest activities on the marine environment are as follows:

• Guests will only be permitted to swim, dive and snorkel from the shore of Long Island in the designated areas. Information will be provided on snorkel/dive trails to follow and all guests will be briefed prior to snorkelling or diving from the shore on ways to avoid damage to sensitive corals.
- Appropriately licensed tour operators will conduct all boat based dive and snorkel activities. These operators will provide pre dive/snorkel briefings to guests and information to ensure the marine environment is protected. Guides will supervise these activities.
- Guests must adhere to the ‘no touch, no take’ message when taking part in the activities.
- If you are in the water and a marine mammal (whale, dolphin, sea lion) approaches, you must endeavour to keep a minimum of 30 metres distance between yourself and the marine mammal.
- Don’t swim towards or touch any marine mammal, move slowly away.
- Guests will not be permitted to independently operate motorised boats. Jet-ski activities will be only be conducted on an escorted tour basis.
- Guests will not be permitted to fish from the shores of Long Island.
- Appropriately licensed tour operators will conduct boat based fishing activities and will provide information to guests that will ensure no rubbish or wastes of any kind is disposed of at sea. Fishing will be on a catch and release basis and will be conducted within the normal fisheries legislation. Guests will be permitted to retain one fish per person for consumption in the restaurant that day.

### 7.2.6 Landforms and Tidal Ponds

Procedures to minimise impacts on the island environment are as follows:
- Boardwalks and other fixed routes are to be strictly adhered to by guests to minimise erosion and compaction as well as other environmental impacts.
- At times, certain areas may be locked off or closed for environmental rehabilitation. Do not enter any area that is marked off for no entry without authority Resort Manager.
- Beach access is restricted to designated areas to minimise erosion and other impacts.
- Do not enter exclusion zones surrounding all tidal ponds.
- The southern section of the island will be off-limits to all guests to prevent disturbance of possible heritage sites and other environmental impacts.

### 7.2.7 Fire

Procedures to minimise the potential for fire to result from guests activities are as follows:
- All guests to familiarise themselves with:
  - Marshalling areas;
  - How to raise the alarm; and
  - The location and use of fire-fighting equipment.
7.3 POLLUTION

7.3.1 Noise Pollution
Noise will primarily affect the fauna of the island. To minimise noise impacts, guests should not conduct themselves in an overly noisy manner at any time and particularly minimise loud music and other noises at night.

7.3.2 Lighting Pollution
Lighting has the potential to disorientate birds, causing them to collide with objects and cause injuries or fatalities. Lighting must be minimised wherever possible. Guests will be requested to draw their curtains in their rooms at night and extinguish external lights outside their rooms whenever they are not required.

7.3.3 Waste Disposal
Inappropriate waste disposal may have impacts on marine and island fauna and also human health issues. Methods for guests to reduce waste-related impacts are as follows:

- Please always use bins provided for rubbish. Bins will be divided into recyclable and non-recyclable materials.
- Food waste is to be disposed of immediately into bins with attached lids ensuring that it is contained.
- When food scraps are added to guest accommodation bins, please tie the top of the garbage bag to deter vermin or pest species.
- Do not leave any waste uncontained on the island, including cigarette butts and organic waste.
- Do not dump any solid wastes overboard from boats.
8. **Environmental Incidents and Reporting**

Despite best efforts to develop procedures to mitigate or avoid adverse impacts, there is a small risk of incidents occurring during the operation of the resort. These incidents are those that would require immediate response/reporting, and may include:

- Seabird adult or egg injury or death.
- Adverse interaction with sea lions.
- Damage/discovery of heritage artefacts.
- Land or marine spills of hazardous materials.
- Fire.
- Introduction of vermin.
- Unapproved discharge of water/liquid/waste to the environment.

Should any of these, or another incident of concern be noticed by a resort guest, please notify the Resort Manager immediately. The Resort Manager will take the appropriate action required.