Melaleuca – Cox Bight
SOUTHWEST NATIONAL PARK

Department of Primary Industries, Parks, Water and Environment
Melaleuca–Cox Bight Management Statement

Southwest National Park
Tasmanian Wilderness World Heritage Area
Melaleuca–Cox Bight Management Statement
(part of Southwest National Park)

This non-statutory management statement applies to the section of Southwest National Park that lies between Melaleuca and Cox Bight. It is part of the Tasmanian Wilderness World Heritage Area and is managed under the National Parks and Reserves Management Act 2002.

Many people have assisted in the preparation of this plan with ideas, feedback and information. Their time and effort is gratefully acknowledged.

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Abbreviations and terminology

ASS  acid sulfate soils
CFEV  Conservation of Freshwater Ecosystem Values
chytrid  amphibian chytrid fungus
ha  hectares
FSOA  Fuel Stove Only Area (an area where campfires are not permitted and only fuel stoves can be used)
Landing Area  Bathurst Harbour Landing Area
NES  National Environmental Significance
ICOMOS  International Council on Monuments and Sites
IUCN  International Union for Conservation of Nature
OUV  Outstanding Universal Value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. (Definition from the ‘Operational Guidelines for the Implementation of the World Heritage Convention’).
PBFD  Psittacine Beak and Feather Disease
PWS  Tasmania Parks and Wildlife Service
RSF  The Reserve Standards Framework is a PWS policy approach for risk management and sets standards for acceptable levels of visitor risk. It also facilitates the targeted provision of services that are appropriate for specific areas.
THPI  Tasmanian Heritage Places Inventory
TWWHA  Tasmanian Wilderness World Heritage Area
UNESCO  United Nations Educational, Scientific and Cultural Organisation
VSZ  Visitor Services Zone
Summary

The land covered by this non-statutory plan is part of the Southwest National Park in remote south-west Tasmania. The plan area covers a 3 823 ha section of the national park between Melaleuca and Cox Bight (see Map 1).

The plan area was first reserved in April 1966 as part of the Southwest Conservation Area. Although the surrounding area became Southwest National Park in 1990, the plan area continued to be a section of the Southwest Conservation Area to allow for the Cox Bight–Melaleuca tin field to remain open for mining and exploration. After mining formally ceased the area was included in the Tasmanian Wilderness World Heritage Area (TWWHA) in June 2012, thereby fulfilling a World Heritage Committee recommendation from 2008. It became part of the Southwest National Park in December 2012. The addition of the plan area to the Southwest National Park provides consistency and management continuity for the whole of the south-west.

The critically endangered orange-bellied parrot (*Neophema chrysogaster*) is the most high profile value and the parrot’s survival is the most pressing conservation issue. The plan area is considered to be the focus of orange-bellied parrot breeding and foraging habitat and is therefore the focus of activities aimed at conservation of the parrot. Other important values include the Aboriginal heritage of the Needwonne people, prominent geoheritage features such as the peat mounds, and the more recent historic heritage associated with alluvial tin mining.

The plan area also needs to be managed to protect its characteristic remote south-west setting – a key value that is a great attraction for visitors. Bushwalkers pass through the area on the wild South Coast Track. Development within the plan area requires particular care to ensure that significant values are protected while providing for visitors.

The main threats to the plan area are biosecurity risks and potential impacts from uncontrolled bushfire. The former include infestations of *Phytophthora cinnamomi* (‘Phytophthora’) and the potential introduction of weeds and pests, such as amphibian chytrid fungus (‘chytrid’). A number of strategies are proposed to mitigate these threats including the development and implementation of a biosecurity plan, the provision of washdown stations and education around their use, increased awareness of existing Phytophthora infestations, and avoidance of further ground disturbance.

The unique features of the area, and a relatively low level of human interference, also provide researchers with an opportunity to observe, measure and document responses to sea-level rise and climate change.

It is intended that this plan will provide management guidance over a ten year period and will be used by the community, the residential lessees, Parks and Wildlife Service (PWS) staff and other stakeholders. Now that it is part of the TWWHA, the Melaleuca–Cox Bight area will be protected by the statutory provisions of the new statutory TWWHA management plan. Where any provisions of this plan and the new TWWHA management plan are in conflict, the statutory TWWHA management plan will take precedence.
1. Introduction

1.1 Location and tenure

Plan area: 3 823 ha
Location: Southwest National Park
Plan reference: LM148
Map details: Cox, 4218
Centroid (GDA): 437300, 5186400
IUCN category: National Park (IUCN category I)
First reserved: 13 April 1966 (as Southwest Conservation Area)
Current status: 26 December 2012 (Southwest National Park)

This non-statutory plan covers a 3 823 ha section of Southwest National Park between Melaleuca and Cox Bight (“the plan area”). The Southwest National Park covers the majority of south-west Tasmania and is the largest national park in Tasmania (approximately 622 864 ha).

The plan area is mostly accessed by light plane (using the airstrip at Melaleuca), by boat through Melaleuca Inlet from Bathurst Harbour, or by walking from Cockle Creek on the South Coast Track or Lake Pedder/Scotts Peak Dam on the Port Davey Track.

1.2 Plan purpose and boundary

This document is a non-statutory management statement that provides management guidance for the area between Melaleuca and Cox Bight that was formerly part of the Southwest Conservation Area. It briefly describes the reserve and its values and provides strategies to protect the area’s natural and cultural values. The purpose of the plan is to improve conservation outcomes and visitor experiences in the area and document known values, risks and threats. It is a plan for the community, the residential lessees, PWS staff and other stakeholders.

The plan will be primarily implemented by PWS and through partnerships with stakeholders. Management actions from the plan have been listed in the Implementation Plan (Appendix 2), along with indicative priorities.

The plan is also part of a PWS commitment to the ‘Cessation of Mining in the TWWHA’ project funded by the Australian Government. The preparation of a management statement to cover this area was required following the permanent cessation of mining in the plan area and its inclusion in the TWWHA.

The plan area follows the boundary of the former ‘Melaleuca to Cox Bight corridor’ section of the Southwest Conservation Area (see Map 1).
1.3 Relationship to other plans

The Melaleuca Site and Rehabilitation Plan 2014
The Melaleuca Site and Rehabilitation Plan has been prepared at the same time as this plan to provide more detailed guidance for the Melaleuca area, the most developed and frequently visited location in Tasmania’s remote south-west. Some information relevant to the wider area, as well as Melaleuca, is detailed in this plan to avoid unwarranted duplication, such as information about climate change, fire management and acid sulfate soils.

The Tasmanian Wilderness World Heritage Area Management Plan 1999 and new TWWHA Management Plan
Now that it is part of the TWWHA, the Melaleuca–Cox Bight area will be covered by the new statutory TWWHA management plan. This non-statutory management statement has been prepared in addition to the statutory TWWHA plan because it includes greater detail for the Melaleuca–Cox Bight area. Where any provisions of this plan and the new TWWHA management plan are in conflict, the statutory TWWHA management plan will take precedence.

The plan area was not covered by the statutory component of the 1999 TWWHA management plan because it was not part of the TWWHA at that time. However, general policy advice was provided for the Melaleuca–Cox Bight area in the non-statutory ‘Adjacent Areas’ section of the plan.

Other plans
A management plan has not previously been prepared specifically for this area. Draft site plans and the Melaleuca–Port Davey Area Plan (2003) have been prepared for the Melaleuca area in the past. Where any provision of this plan and the approved Area Plan are in conflict in relation to Melaleuca, this plan takes precedence. Addressing issues in the Port Davey Marine Reserve and Bathurst Harbour is beyond the scope of this plan and will be covered by a separate plan.
1.4 Reservation and management history

The plan area was initially proclaimed as part of the Southwest Conservation Area in April 1966 under the *Animals and Birds Protection Act 1928* (Statutory Rule 1966, No. 68). The original proclamation covered a parcel of land comprising a large part of Tasmania’s south-west. The Southwest Conservation Area was reduced in size following the declaration of a large central section as the Southwest National Park in 1981. The plan area continued to be reserved as conservation area due to the small-scale alluvial tin mining and prospecting that occurred there.

The plan area has long been considered for inclusion in the TWWHA due to the values present and to provide continuity with the management of the surrounding Southwest National Park and the TWWHA. For example, the ‘Appropriate Boundaries of a World Heritage Area in Western Tasmania’ report, prepared by the (then) Department of Parks, Wildlife and Heritage in June 1990, concluded that “the integrity of the World Heritage Area, in terms of both values and management, would be improved by the addition of the Melaleuca–Cox Bight area.” In 1999 the TWWHA management plan signalled the intent to cancel the mining lease at Melaleuca once the existing lessee ceased mining. The intention to change the status of the plan area from conservation area to national park was identified in the Melaleuca–Port Davey Area Plan 2003. Both plans had been subject to public consultation.

Following a recommendation from the World Heritage Committee in 2008, the Tasmanian and Australian Governments committed to working together towards the cessation of mining at Melaleuca and the preparation of the former Rallinga Mine area and surrounding Melaleuca–Cox Bight area for world heritage status. See the *Melaleuca Site and Rehabilitation Plan* for more information about the decisions and events that led to the inclusion of the plan area in the TWWHA.

Following the cessation of mining at Melaleuca, the area was incorporated into the TWWHA in June 2012 (World Heritage Committee Decision 36 COM 8B.45).

On 26 December 2012 the plan area was incorporated into the Southwest National Park (Statutory Rule 135 of 2012, CPR plan 9515).

1.5 Management challenges

The plan area presents some management challenges which have been considered during the preparation of this plan. These include:

- Providing for visitor use and enjoyment in a way that does not cause overcrowding or threaten or degrade the values of the area, including the character of the area and the sense of isolation and remoteness.

- Managing a remote area that is difficult to access and where there is a limited management presence to monitor impacts and ensure visitors follow recommended biosecurity measures.
• Maintaining the habitat condition for some values without degrading others (eg the use of fire to enhance orange-bellied parrot foraging areas without degrading significant peat values or promoting Phytophthora).

• Providing for the appropriate, sustainable and compatible management and use of the plan area for natural and cultural heritage conservation, visitors, commercial visitor services and scientific purposes, as well as operational activities undertaken by staff.
2. Reserve management framework

The reserve management framework includes legislation, strategic policies and processes that apply across Tasmania’s public reserve system. Within this framework specific provisions have been developed for the Melaleuca–Cox Bight section of the Southwest National Park.

2.1 Reserve significance

The Melaleuca–Cox Bight area is part of the Southwest National Park and has important natural, cultural and recreational values. Many of these features are recognised as being significant at the world heritage level and contribute to the Outstanding Universal Value of the TWWHA. Significant features include archaeological sites of the Needwonnee, rare peat mounds, essential foraging and nesting habitat of the critically endangered orange-bellied parrot, *Kings lomatia* (*Lomatia tasmanica*) which has a Gondwanan link, and other sites of exceptional beauty such as the wild south coast. Melaleuca also provides an important place for visitors to access the TWWHA and present information about these special features. Other features are described below.

The plan area is significant as a remote, but accessible, relatively undisturbed landscape that includes and is surrounded by high quality wilderness.

The area is significant for the conservation of natural values (biological and geological), Aboriginal cultural values and historic heritage values.

Most of the plan area is covered by the largely undisturbed Western Tasmanian Blanket Bog, part of an extensive western Tasmanian feature which is the most extensive organosol terrain in Australia and the Southern Hemisphere. Of particular note are the peat mound features located along the buttongrass moorland which are globally rare, having been described in only Scotland and western Tasmania. Various plant fossils found in the plan area are a valuable scientific resource that contributes to the understanding of the evolution of Tasmanian flora, its response to climate and other environmental changes.

Cox Bight has great natural beauty and the Cox Bight dune formations are an integral component of the barrier beach and dune systems of the TWWHA coastline, part of a
rare unmodified coast considered to be part of the most extensive or, comparable to the most extensive, suite of undisturbed temperate zone sandy coastal geomorphic process systems in the world. The lowland dune-dammed lakes Freney Lagoon and Miller Lagoon are also important features of the Cox Bight coast.

The ecosystems included in the plan area provide habitat for threatened and endemic flora and fauna species. The critically endangered orange-bellied parrot \((Neophema chrysogaster)\)\(^1\), with a wild population of less than 50 individuals, is one of the world’s rarest and most threatened species of parrot. The Melaleuca–Cox Bight area and the adjacent landscape contain a significant proportion of the known breeding and foraging habitats of the species. Successful recovery of the species is reliant on protection and enhancement of the habitats.

Other significant natural values that occur in the area include \(Lomatia tasmanica\), thought to be the oldest plant clone globally, as well as endemic Tasmanian frog species, such as the Tasmanian froglet \((Crinia tasmaniensis)\) and Tasmanian tree frog \((Litoria burrowsae)\).

The area has great significance for the Tasmanian Aboriginal community, particularly as it relates to their Creation Story, which is set at Cox Bight. Melaleuca has become an important site for interpreting the significance of the area for Tasmanian Aboriginal people.

Important cultural heritage sites associated with alluvial tin mining occur at Melaleuca and Cox Bight. Some sites are of state significance from a heritage point of view as well as having ongoing significance for the family and friends of the former tin miners.

The remote area is a popular destination for visitors of many types including bushwalkers, bird-watchers, naturalists, researchers and other visitors. Commercial operators run eco-tourism businesses in the area. The area also attracts several volunteer programs that are well supported and make a valuable contribution to the conservation of the orange-bellied parrot population and the maintenance of historic heritage.

\(^1\) See the \textit{Melaleuca Site and Rehabilitation Plan} for additional information about orange-bellied parrots. More detail is provided in that plan due to Melaleuca being the parrot’s primary known breeding and foraging habitat.
2.2 Vision

The vision for the Melaleuca–Cox Bight area is a place where:

- The world heritage values and other significant natural and cultural features and processes are protected and conserved, consistent with Article 4 of the World Heritage Convention.
- Aboriginal heritage values are protected, interpreted and promoted through an ongoing partnership between the Tasmanian Aboriginal community and PWS.
- The historic heritage values associated with alluvial tin mining are respected and interpreted.
- Wilderness quality is maintained or enhanced.
- Visitors appreciate and enjoy their time in the area, understand the important values and how they can help to protect them.
- The community and volunteers continue to engage with the area and make valuable contributions towards conservation outcomes.
- Melaleuca continues to provide a place for visitors to access and experience an otherwise remote part of the TWHA.

2.3 Legislation and management objectives

Legislation

Tasmanian national parks are proclaimed under the Nature Conservation Act 2002 and are protected and managed under the National Parks and Reserves Management Act 2002.

Threatened plants and animals are protected under the Threatened Species Protection Act 1995. All items of Aboriginal heritage in Tasmania are protected under the Aboriginal Relicts Act 1975.

Values associated with the ‘Melaleuca Historic Tin Mining Area’ listing on the Tasmanian Heritage Register are protected under the Historic Cultural Heritage Act 1995.

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides protection for matters of National Environmental Significance (NES). The NES matters that are relevant to the plan area include the world heritage values and nationally listed threatened species. Any activities that may have a significant impact on matters of NES need to be referred for assessment under the Act. The EPBC Act also sets out requirements for state-managed world heritage areas, such as the preparation and implementation of plans, and the Australian World Heritage Management Principles. The principles promote national standards of management, planning, environmental impact assessment, community involvement and monitoring for all of Australia’s world heritage
properties in a way that is consistent with Australia’s obligations under the World Heritage Convention.

National park management objectives

The management objectives which apply to national parks are prescribed under Schedule 1 of the National Parks and Reserves Management Act 2002. The management objectives applicable to the Southwest National Park are as follows:

- to conserve natural biological diversity;
- to conserve geological diversity;
- to preserve the quality of water and protect catchments;
- to conserve sites or areas of cultural significance;
- to encourage education based on the purposes of reservation and the natural or cultural values of the national park, or both;
- to encourage research, particularly that which furthers the purposes of reservation;
- to protect the national park against, and rehabilitate the national park following, adverse impacts such as those of fire, introduced species, diseases and soil erosion on the national park’s natural and cultural values and on assets within and adjacent to the national park;
- to encourage and provide for tourism, recreational use and enjoyment consistent with the conservation of the national park’s natural and cultural values;
- to encourage cooperative management programs with Aboriginal people in areas of significance to them in a manner consistent with the purposes of reservation and the other management objectives; and
- to preserve the natural, primitive and remote character of wilderness areas.
3. Conservation of reserve values

3.1 World heritage values

Many natural and cultural features in the Melaleuca–Cox Bight area are considered to be world heritage values that contribute to the Outstanding Universal Value of the TWWHA. The following examples are listed based on the relevant world heritage criteria:

**Outstanding examples representing the major stages of the earth's evolutionary history** such as the peatlands, relict biota such as the orange-bellied parrot, ground parrot, *Lomatia tasmanica* and indigenous frog species with Gondwanan origins (e.g. Tasmanian froglet and Tasmanian tree frog).

**Outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment** such as the development of peat soils and blanket bogs, ecosystems which are relatively free of introduced plant and animal species and species whose habitat elsewhere is under threat (e.g. ground parrot, spotted-tail quoll and swamp antechinus).

**Contain superlative natural phenomena, formations or features, for instance outstanding examples of the most important ecosystems, areas of exceptional natural beauty or exceptional combinations of natural and cultural elements** such as viewfields and sites of exceptional natural beauty associated with flowering heaths of the coastline, relatively undisturbed landscapes, steep headlands interspersed with sweeping beaches, and buttongrass, heath and moorland extending over vast plains.

**Contain the most important and significant habitats where threatened species of plants and animals of outstanding universal value from the point of view of science and conservation still thrive** such as endemic plant and animal taxa and habitats of conservation significance including the south-west moorland, riparian and lacustrine communities, orange-bellied parrot, ground parrot, spotted-tail quoll, swamp antechinus and other threatened endemic species.

**Bear a unique or at least exceptional testimony to a civilisation which has disappeared** such as Pleistocene archaeological sites that are unique, of great antiquity and exceptional in nature, demonstrating the sequence of human occupation at high southern latitudes during the last ice age.

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3 The TWWHA is listed as a world heritage site based on the following cultural and natural criteria: (iii)(iv)(v)(vi)(vii)(ix)(x). The criteria are explained in the ‘Operational Guidelines for the Implementation of the World Heritage Convention’ (World Heritage Centre 2013).
An outstanding example of a traditional human settlement which is representative of a culture which has become vulnerable under the impact of irreversible change such as archaeological sites which provide important examples of the hunting and gathering way of life, showing how people practised this way of life over long time periods, during often extreme climatic conditions and in contexts where it came under the impact of irreversible socio-cultural and economic change.

Directly or tangibly associated with events or with ideas or beliefs of outstanding universal significance such as archaeological sites including Pleistocene sites, which demonstrate the adaptation and survival of human societies to glacial climatic cycles and periods of long isolation from other communities (e.g. the human societies in this region were the most southerly known peoples on earth during the last ice age).

3.2 Landscape and wilderness values

Renowned for its scenic beauty, the broad valley between Melaleuca and Cox Bight is dominated by extensive lowland buttongrass plains bordered by mountain ranges to the east and west and the picturesque Cox Bight coastline to the south. The natural beauty of the landscape is a prime attraction for visitors to the area.

Part of the plan area has been affected by over a century of alluvial tin mining activities at Cox Bight and Melaleuca, as well as the construction of access infrastructure and structures. Some mine workings are still visible, particularly in exposed quartzite areas, but are relatively small in area and when viewed from the air are less prominent compared to the airstrip (the ‘Landing Area’).

The TWWHA contains the largest tracts of high quality wilderness in southeastern Australia. Wilderness is not a world heritage criterion but it supports the integrity of the natural world heritage values of the TWWHA. Wilderness quality mapping of the TWWHA was conducted by PWS in 2005 (see Figure 1) using a modified version of the...
methodology used for the National Wilderness Inventory mapping undertaken in 1995\(^4\). Wilderness quality was determined as a function of the following variables: remoteness from settlement, time remoteness, apparent naturalness and biophysical naturalness (see Hawes 2005, Lesslie and Maslen 1995). The wilderness quality scores range from 0 (no wilderness quality) to 20 (highest level of wilderness quality).

The northern part of the plan area has a relatively low wilderness quality score (ranging between approximately 6 and 11) compared to the surrounding area. Wilderness quality increases southward from the former mined areas at Melaleuca, moving through a band of marginal wilderness quality to high wilderness quality (12 to 15+) in the southern part of the area, with the highest quality associated with elevated areas around Moinee Ridge to the north of Point Eric. Cox Bight (approx. 11 to 12) was assessed to have a lower wilderness quality than the surrounding plan area due to the impact of former mining activity in that area. While the Melaleuca vicinity has a low wilderness quality score (approx. 6 to 7) due to factors such as the mechanised access and the presence of the Landing Area and structures, it is an important location for interpreting the values of the more remote parts of the TWWHA with higher wilderness quality.

**Management considerations**

Practical ways to minimise the impact on landscape and wilderness values within and beyond the plan area should be identified as part of the consideration of any proposed infrastructure that would be visually prominent. Some features are particularly prominent, such as the Landing Area, slashed fire breaks, tracks, former mine workings and some structures but are generally located in the Melaleuca Visitor Services Zone vicinity (see the ‘Management zones’ section). The potential visual impact and design of proposals, including the scale and location, should be considered in conjunction with the functional requirements.

While it is not practical to ameliorate the visual prominence of the Landing Area, the visibility of some structures at ground level may be lessened through the use of vegetation or other screening materials. The visual impact of some parts of the mine will be reduced through rehabilitation and natural revegetation (refer to the *Melaleuca Site and Rehabilitation Plan* for more information).

**Desired outcome**

- Landscape and wilderness values within and beyond the plan area have been maintained or enhanced.

\(^4\) The 1995 mapping process used nationally-agreed thresholds and indicator values, whereas the 2005 mapping process was a PWS project that used revised methodologies and variables that were considered to be more appropriate for Tasmania. It was based on the 1995 process but considered estimates of travelling times from points of mechanised access (eg walking track grades and walking conditions). See Hawes (2005) and Lesslie and Maslen (1995) for more information.
**Management response**

- Consider the potential impact on landscape and wilderness values within and beyond the plan area when assessing proposals for new activities or facilities.

- Consider removing structures and visually prominent items that are not required and are not of heritage significance.

- Manage the plan area in a manner that is consistent with zoning prescriptions.

### 3.3 Geoheritage values

The plan area includes ten sites, or part thereof, considered to have significant geoheritage values.

#### Listed geoheritage values

*(Tasmanian Geoconservation Database)*

<table>
<thead>
<tr>
<th>Name</th>
<th>Geosite ID</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Heritage Area Sandy Coasts*</td>
<td>2929</td>
<td>Global</td>
</tr>
<tr>
<td>Western Tasmania Blanket Bogs</td>
<td>2527</td>
<td>Global</td>
</tr>
<tr>
<td>Southwest Tasmanian Peat Mounds*</td>
<td>3184</td>
<td>Global</td>
</tr>
<tr>
<td>Cenozoic Plant Macrofossils of Tasmania*</td>
<td>3173</td>
<td>Global</td>
</tr>
<tr>
<td>Cox Bight Dunes</td>
<td>3157</td>
<td>National</td>
</tr>
<tr>
<td>Melaleuca Peat Mounds</td>
<td>2794</td>
<td>National</td>
</tr>
<tr>
<td>Western Arthur Range Glaciated Terrain</td>
<td>2788</td>
<td>National</td>
</tr>
<tr>
<td>Cox Bight Fossil Trees</td>
<td>3165</td>
<td>Regional</td>
</tr>
<tr>
<td>Tyennan Region</td>
<td>3080</td>
<td>Regional</td>
</tr>
<tr>
<td>Melaleuca Fossil Flora</td>
<td>2786</td>
<td>Regional</td>
</tr>
</tbody>
</table>

* These geosites are collective parent sites that cover other sites listed in the table due to the collective significance of features. Cox Bight Dunes is part of Geosite 2929; Cox Bight Fossil Trees and Melaleuca Fossil Flora are part of Geosite 3173; and Melaleuca Peat Mounds is part of Geosite 3184.

The majority of the Cox Bight coastline comprises part of a site with globally significant geomorphological values. The ‘World Heritage Area Sandy Coasts (2929)’ geosite includes all the barrier beach and dune systems of the TWWHA. The barrier beach and dune features at Cox Bight enclose the shallow lowland dune lakes known as Freney Lagoon and Miller Lagoon (Bowling et al 1993). It has been suggested that the barrier beaches are the “most extensive, or comparable to the most extensive, suite of undisturbed temperate zone sandy coastal geomorphic process systems globally, and are thus of world level significance for their intrinsic and scientific (benchmark) value as undisturbed sandy coastal process systems” (Sharples 2003). As well as the site’s collective listing as part of site 2929, its individual significance has been recognised through the listing of the ‘Cox Bight Dunes (3157)’ geosite.
The ‘Western Tasmania Blanket Bogs (2527)’ geosite refers to the peat soils associated with buttongrass moorland vegetation. Unlike many organic soils, blanket bogs are found on slopes as well as poorly drained areas. They develop in response to high precipitation, high humidity and low evaporation. The Western Tasmania Blanket Bogs site is the most extensive organosol terrain in the Southern Hemisphere. It is a spatially complex site located throughout western Tasmania. With the exception of a few patches of forest and scrub along the drainage lines, the entire plan area falls within the blanket bog feature.

Peat mounds are roughly circular features found on flat plains where the mound is formed from organic soil. They are globally rare, having been described in only Scotland and western Tasmania. The ‘Melaleuca Peat Mounds (2794)’ are the best described of the peat mounds in Tasmania and form part of the ‘Southwest Tasmanian Peat Mounds (3184)’. They are located on the buttongrass plains between Melaleuca and Cox Bight. Good examples can be seen immediately to the south of the Landing Area.

The plan area contains important fossil sites that are listed as part of the ‘Cenozoic Plant Macrofossils of Tasmania (3173)’ geosite. This fossil record is crucial to the understanding of the evolution of the flora of Tasmania and its response to climatic and other environmental changes.

Management considerations

The coastal values, including the dunes and sandy beaches, are likely to be affected by sea-level rise and other variations linked to climate change. They are also vulnerable to a variety of threats that include weed invasion, fire and trampling.

Peat mounds are vulnerable to fire damage, as well as changes to vegetation and hydrology. Some mounds at Melaleuca have been damaged by past mining activities and/or have incurred some fire damage. Fire also has the potential to lead to soil erosion of the mounds.

Fossil values are vulnerable to damage, collection and concealment (eg loss of access for scientific research).

For more information see the ‘Fire management’, ‘Introduced species’ and ‘Facilities and access for visitors’ sections.

Desired outcomes

- Geodiversity values are protected and the values and impacts are better understood.
**Management response**

- Undertake periodic site inspections of significant geoheritage values to monitor for change or damage.

- Undertake management activities to help protect geoheritage values where threats can be ameliorated.

- Ensure that information about geodiversity values is available to inform management decisions, including the extent and threats.

### 3.4 Water values

The valley landscape of the plan area is dominated by buttongrass moorlands with water features such as streams, peaty bogs and lagoons. The waterways in the Melaleuca area are typical of the Bathurst Harbour estuary with dark, tannin colouration and a small tidal range.

Freney Lagoon and Miller Lagoon are the main features at Cox Bight and are fed primarily from Breakspeare and Race Creeks, as well as several minor tributaries. Freney and Miller Lagoons are habitat for unique and rich freshwater algae flora (Bowling et al 1993, Balmer et al 2004). The algae of Freney Lagoon has been described as having special significance and being particularly rich in dinoflagellates and being 'scenically splendid' (Fulton and Tyler 1993, Tyler 1994).

Both Bathurst Harbour and Freney Lagoon score 'High for Naturalness' in the naturalness assessment of the Conservation of Freshwater Ecosystem Values Project (CFEV 2005) that takes into account catchment-based activities upstream, physical characteristics and level of biodiversity.

Small-scale alluvial tin mining occurred at Melaleuca for approximately 75 years and permanently ceased in 2011. Water quality around the former Rallinga Mine, the last area to be mined, was tested as part of an environmental site assessment in the same year. It was concluded that there was no notable evidence of impacts from the mine on the quality of surface water in the main receiving environment (Moth Creek).

**Management considerations**

Two threats to the hydrology and fluvial geomorphology of the plan area are fire and sea-level rise. Inappropriate bushfire regimes are a particular threat that may lead to impacts such as increased erosion. Refer to the ‘Climate change’ and ‘Fire management’ sections.

Due to its location and level of use, it is unlikely that the use of the nearby camping area will have an adverse effect on the water values of the lagoons. The values associated with their ‘high naturalness’ values may be impacted by recreational activities occurring on or near the lagoons or tributaries.
**Desired outcomes**

- The ‘high naturalness’ values of Freney Lagoon and Miller Lagoon have been maintained.

**Management response**

- Continue to prohibit the use of vessels and other activities that are likely to affect the ‘high naturalness’ and phycological values of Freney Lagoon and Miller Lagoon.

### 3.5 Flora and fauna values

#### Flora

The plan area contains a mosaic of vegetation types, dominated by western lowland sedgeland and buttongrass moorland communities. *Melaleuca squarrosa* scrub occurs in the plan area due to its distribution being associated with drainage features. Coastal scrub is the main community found along the Cox Bight coast, along with pockets of other vegetation types such as the coastal rainforest vegetation near Point Eric. The vegetation within the plan area is considered to be in good condition with minimal weeds, with Melaleuca being the only location known where very limited distributions of exotic garden plant species occur (associated with the gardens within the two residential leases – see the ‘Historic heritage values’ section for more information about the leases).

The plan area provides habitat for threatened flora species, most notably the iconic species Kings lomatia (*Lomatia tasmanica*). It is endemic to Tasmania and is restricted to one extant population which extends over 1.2 kilometres in a single patch of mixed forest (containing eucalypts and rainforest species) on the margin of the plan area. Several hundred stems occur within this population (estimated at 500). Genetic studies (allozyme analysis and chromosome counts) indicate that the ‘population’ of *Lomatia tasmanica* is a clone and is possibly the oldest known living plant individual at approximately 43,600 years old (Lynch et al 1998). It is listed as endangered in Tasmania and listed nationally as critically endangered. The major threats to this species include its limited extent, frequent firing and Phytophthora.

Other threatened flora species include Mueller’s geebung (*Persoonia muelleri* subsp. *angustifolia*), a shrub endemic to Tasmania; creeping geebung (*Persoonia moscalii*), a shrub endemic to south-west Tasmania; the endemic coastal herbs coast speedwell (*Veronica novae-hollandiae*) and dune buttercup (*Ranunculus acaulis*); another endemic shrub, roundleaf broomheath (*Monotoca submutica* var. *autumnalis*) found in heathy vegetation; and, rough blowanggrass (*Lachnagrostis scabra* subsp. *scabra*) which grows in damp coastal habitats. Species of conservation significance include the paleo-endemics *Campynema lineare* and dwarf leatherwood (*Eucryphia milliganii*).

As noted earlier, Freney and Miller Lagoons both have rich freshwater algae flora.
Threatened flora species recorded in the plan area

<table>
<thead>
<tr>
<th>Species name</th>
<th>Preferred common name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Persoonia muelleri</em> subsp.</td>
<td>narrowleaf geebung or Mueller's geebung</td>
<td></td>
</tr>
<tr>
<td><em>angustifolia</em></td>
<td></td>
<td>r</td>
</tr>
<tr>
<td><em>Persoonia moscalii</em></td>
<td>creeping geebung</td>
<td>r</td>
</tr>
<tr>
<td><em>Lachnagrostis scabra</em> subsp.</td>
<td>rough blowngrass</td>
<td>r</td>
</tr>
<tr>
<td><em>scabra</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Veronica novaehollandiae</em></td>
<td>coast speedwell</td>
<td>v</td>
</tr>
<tr>
<td><em>Monotoca submutica</em> var.</td>
<td>roundleaf broomheath</td>
<td>r</td>
</tr>
<tr>
<td><em>autumnalis</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ranunculus acaulis</em></td>
<td>dune buttercup</td>
<td>r</td>
</tr>
<tr>
<td><em>Lomatia tasmanica</em></td>
<td>Kings lomatia or Kings holly</td>
<td>e, CR</td>
</tr>
</tbody>
</table>

* The *L. tasmanica* population is known to be located in the vicinity of the plan area and may be impacted by threats that originate within the plan area, such as Phytophthora or fire.

**KEY**

<table>
<thead>
<tr>
<th>Threatened Species Protection Act 1995</th>
<th>Environment Protection and Biodiversity Conservation Act 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>r = rare in Tasmania</td>
<td>CR = critically endangered</td>
</tr>
<tr>
<td>v = vulnerable in Tasmania</td>
<td></td>
</tr>
<tr>
<td>e = endangered in Tasmania</td>
<td></td>
</tr>
</tbody>
</table>

**Fauna**

The orange-bellied parrot forages in low-lying buttongrass moorland habitat and nests in the isolated pockets of forest. It feeds on the seeds of a range of plants including *Lepyrodictum tasmanica*, *Eurychorda complanata*, *Boronia citriodora*, *Boronia parvifolia*, *Actinotus bellidoides* and *Helichrysum pumilum*. The Melaleuca area is the centre of the current known breeding habitat and, potentially, the last breeding refuge for this critically endangered species. See the *Melaleuca Site and Rehabilitation Plan* for more information about orange-bellied parrot conservation.

The ground parrot, one of only three ground-dwelling parrots in the world, is very common at Melaleuca. The Cox Bight beaches are important habitat for shorebird species that include pied oystercatchers (*Haematopus longirostris*), sooty oystercatchers (*Haematopus fuliginosus*) and hooded plovers (*Thinornis rubricollis*). Wedge-tailed eagles (*Aquila audax subsp. fleayi*), white-bellied sea-eagles (*Haliaeetus leucogaster*), the Tasmanian masked owl (*Tyto novaehollandiae*) and many other bird species have also been recorded in the plan area.

The buttongrass moorland also provides habitat for native mammals, including wallabies and wombats, swamp antechinus (*Antechinus minimus*) and the broad-toothed mouse (*Mastacomys focus*).

The scrub provides habitat for the rare spotted-tailed quoll (*Dasyurus maculatus*), pygmy (*Cercartetus* spp.) and ringtail possums (*Pseudocheirus peregrinus*), the endemic long-tailed mouse (*Pseudomys higginsi*) and some bat species. Peat mounds within buttongrass moorlands provide important nesting habitat and shelter for a range of species as they are
well drained and provide greater cover than the surrounding moorlands. Reptiles and amphibians are common in the buttongrass moorland, including endemic frogs, such as the Tasmanian tree frog. Fish and invertebrate species are also present, including lamprey and burrowing crayfish, a keystone species that affects the movement of water through moorlands.

One of the reasons that burrowing crayfish are a keystone species is because their burrows influence soil conditions and vegetation. The burrows aerate and drain the soils. In summer, burrows represent the only available water for aquatic species. Two species of burrowing crayfish occur in the plan area, *Spinastacoides inermis* and *Spinastacoides insignis*.

Tasmanian devils (*Sarcophilus harrisii*) are present at low densities throughout the area but are more frequently encountered in the Cox Bight sector where they forage in the beach and dune zones.

**Threatened fauna species recorded in the plan area**

<table>
<thead>
<tr>
<th>Species name</th>
<th>Preferred common name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Neophema chrysogaster</em></td>
<td>orange-bellied parrot</td>
<td>e, CR</td>
</tr>
<tr>
<td><em>Aquila audax</em> subsp. <em>fleayi</em></td>
<td>Tasmanian wedge-tailed eagle</td>
<td>e, EN</td>
</tr>
<tr>
<td><em>Haliaeetus leucogaster</em></td>
<td>white-bellied sea-eagle</td>
<td>v</td>
</tr>
<tr>
<td><em>Lathamus discolor</em></td>
<td>swift parrot</td>
<td>e, EN</td>
</tr>
<tr>
<td><em>Dasypus maculatus</em> subsp. <em>maculatus</em></td>
<td>spotted-tailed quoll</td>
<td>r, VU</td>
</tr>
<tr>
<td><em>Ceyz azureu</em></td>
<td>azure kingfish</td>
<td>e, EN</td>
</tr>
<tr>
<td><em>Tyto novaehollandiae</em></td>
<td>masked owl</td>
<td>e, VU</td>
</tr>
<tr>
<td><em>Sarcophilus harrisii</em></td>
<td>Tasmanian devil</td>
<td>e, EN</td>
</tr>
</tbody>
</table>

**KEY**

- Threatened Species Protection Act 1995
- Environment Protection and Biodiversity Conservation Act 1999
- r = rare in Tasmania
- v = vulnerable in Tasmania
- e = endangered in Tasmania
- VU = vulnerable
- EN = endangered
- CR = critically endangered

For more information about flora and flora species, including observation records, refer to the Natural Values Atlas (available online).

**Management considerations**

Fire can create a range of habitat compositions, types and ages, and has an important influence on species diversity. In particular, fire is essential for the maintenance of quality orange-bellied parrot foraging habitat critical for their survival. Ecological burns are undertaken by PWS at Melaleuca to maintain orange-bellied parrot habitat values. Conversely, uncontrolled fire can threaten orange-bellied parrot nesting habitat, fire-sensitive values such as *Lomatia tasmanica* or burn dense vegetation cover necessary for species such as striated fieldwrens (*Calamanthus fuliginosus*) and broad-toothed mice. For more information see the ‘Fire management’ section.
Disease poses a major threat to the specific biodiversity values of the plan area. The diseases likely to have the most serious impacts are Phytophthora and chytridiomycosis. The presence of Phytophthora has been confirmed in the plan area. Where the disease is extensive and prolonged, it results in change to the flora composition and structure of buttongrass communities. It is also a major threat to *Lomatia tasmanica* and is known to already occur in the vicinity of the only extant population. Visitation for collection, research and management purposes increases the risk of introducing Phytophthora and other threats and is therefore strictly controlled. Chytrid (which causes the disease chytridiomycosis) has not been identified in the plan area but occurs widely in areas from which Melaleuca is likely to be accessed, including Hobart. Chytrid has been identified as a very high risk to the Tasmanian tree frog (Tasmanian Chytrid Management Plan 2010) and may be introduced in the plan area unless visitors follow strict biosecurity measures. For more information see the ‘Biosecurity’ section.

Visitors may cause disturbance to shorebirds on the beaches at Cox Bight, particularly during the summer shorebird breeding season.

**Desired outcomes**

- Native plant and animal populations and communities are healthy.
- Native species diversity is maintained.

**Management response**

- Support and implement actions consistent with the Orange-bellied Parrot Recovery Plan.
- Conduct planned burns in buttongrass vegetation to maintain diversity and habitat values.
- Maintain facilities to assist and support approved research and monitoring activities based at Melaleuca.
- Ensure that an adequate buffer area is maintained to reduce the threat of disturbance and harmful activities in the vicinity of *Lomatia tasmanica*, particularly the exclusion of fire and Phytophthora infection.
- Continue to ensure that preliminary quarantine procedures are followed when the area is accessed, including the hygiene guidelines related to fire fighting and helicopter use (see the *Kings Lomatia Flora Recovery Plan 2006–2010*).
- Follow relevant biosecurity procedures to minimise risk of introduction of Phytophthora and chytrid.
- Install a small interpretive sign at the end of the track at Cox Bight about beach-nesting shorebirds and how visitors can minimise disturbance, particularly during the summer breeding season.
• Support research and monitoring priorities that have been identified in the TWWHA Research and Monitoring Priorities 2013–2018, as well as research and monitoring of rare or threatened species, such as the critically endangered *Lomatia tasmanica* and the documentation of fauna associated with peat mounds.

### 3.6 Aboriginal heritage values

The Melaleuca–Cox Bight landscape and Aboriginal heritage values are of great significance for the Tasmanian Aboriginal community. Cox Bight has particular social and spiritual connections for Tasmanian Aboriginal people as it is closely associated with their Creation Story. As noted by Green and Painter (1997) the Cox Bight–Melaleuca area is "highly significant to the Aboriginal community... and contains spiritual associations and traditional resources which are used by the present day Aboriginal community. The Aboriginal community see it as a priority to keep cultural links to the land through Aboriginal land management and the continuation of traditional practices."

Aboriginal heritage values in the area are also considered to be of world heritage significance.

These highly significant Aboriginal sites require protection and conservation, particularly in the coastal zone at Cox Bight where some values have previously been identified.

The area covered by this plan was the homeland of the Needwonnee people who were part of the South West tribe that also included the Ninene, the Lowreenne and the Mimegin. They lived in local villages in beehive-shaped huts and are also known to have occupied rock shelters.

The Needwonnee used the plentiful resources of the Melaleuca–Cox Bight area across the coast and coastal plains including obtaining ochre at Cox Bight, visiting nearby Maatsuyker and De Witt Islands (to hunt seals) during the summer, and occasionally visited the South East people of Bruny Island in winter. Other than seals, major food sources included shellfish, crayfish, swan eggs, macropods, roots and berries (Ryan 1996).

Although it is likely that Aboriginal burning regimes ceased to occur in the area by around 1830, the legacy of such burning remains in the landscape of the Melaleuca–Cox Bight area. The buttongrass plains were burnt to make walking easier and to assist with hunting because animals returned to feed on new plant shoots after fires. Repeated burning prevented forested areas from developing and created a mosaic of buttongrass which is considered to be an Aboriginal-created landscape.

The Needwonnee Walk is a short walk and interpretive installation at Melaleuca that was developed through a partnership between PWS and the Tasmanian Aboriginal community. See the ‘Information and interpretation’ section in the *Melaleuca Site and Rehabilitation Plan* for more information.
Management considerations

There are several known Aboriginal sites in the Cox Bight area, however the associated records should be updated and enhanced. It is likely that additional sites are present that have not previously been recorded. The detection of sites is problematic in most parts of the plan area due to the dense vegetation which reduces ground surface visibility and therefore a strategy of undertaking surveys following fires in the area may be useful.

Some coastal sites may be affected by sea-level rise or other impacts associated with climate change or visitation. Improved understanding of the extent of threats to sites, as well as conservation or recording options, is required.

There is generally a lack of understanding of the significance of the Tasmanian Aboriginal community’s spiritual and social connection to the Melaleuca–Cox Bight landscape.

In 2008 the World Heritage Committee requested that the State Party (the Australian Government) “maintain and improve the resourcing for the research, documentation, protection, monitoring and effective management for archaeological and Aboriginal cultural sites… that reflect the wider context of Aboriginal land-use practices and are of potential Outstanding Universal Value.” 5

Broad management approaches regarding traditional resource use and collaboration with the Tasmanian Aboriginal community are provided in the TWWHA management plan.

Desired outcomes

- Surveys in the Melaleuca–Cox Bight area have been undertaken to identify Aboriginal heritage values, values have been recorded, and the values are appropriately managed and monitored.

- The Tasmanian Aboriginal community is involved in the identification, conservation and monitoring of Aboriginal heritage values in the Melaleuca–Cox Bight area, particularly the coastal areas where sites may be vulnerable to sea-level rise or other significant impacts associated with climate change or visitation.

Management response

- Conduct surveys for Aboriginal heritage values at places within the plan area where the Tasmanian Aboriginal community considers the identification of values to be desirable.

- Ensure that coastal areas with known or potential sites with Aboriginal heritage values that may be vulnerable to sea-level rise, or other significant impacts associated with climate change or visitation, are surveyed and recorded in partnership with the Tasmanian Aboriginal community.

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In partnership with the Tasmanian Aboriginal community, ensure that values are recorded, threats are understood and appropriate management and monitoring occurs for sites where Aboriginal heritage values have been identified. Conservation plans may be required for some sites.

Through collaboration with the Tasmanian Aboriginal community, improve understanding of their spiritual and social connection to the Melaleuca–Cox Bight area and the significance of the landscape to enhance both appreciation of the less tangible Aboriginal heritage values and the knowledge of PWS.

3.7 Historic heritage values

The most long-lasting European involvement in the area was associated with small-scale alluvial tin mining following the discovery of deposits near Point Eric at Cox Bight in 1891. The mining activities continued until the 1940s, followed by sporadic use until the 1970s. Mining activities in Cox Bight were made difficult by the isolated location, high cost of transport and harsh winter conditions.

Relatively widespread remnants of the mine workings can still be seen in the area, including races, retaining walls, tailings and artefacts related to mining. The remains are significant as they are generally well preserved and are from what is thought to have been the most isolated mining field in Tasmania; and the first in south-west Tasmania. The artefacts demonstrate lifestyle and work practices associated with historic alluvial tin mining enterprises in remote areas. The following Cox Bight sites are listed on the Tasmanian Heritage Places Inventory (THPI): ‘Cox Bight Camp’; ‘Cox Bight Hut’; and ‘Cox Bight Tin Field’. The Cox Bight Hut has gradually collapsed over time.

Tin mining commenced at Melaleuca in the 1930s when the New Harbour Tin Company started mining operations (King and Fenton 1979). Many different miners worked at Melaleuca and there is visible evidence of various mining operations from the 1930s. 1941 marked the start of the King family’s long association with Melaleuca when Charles King moved from workings at Cox Bight to start mining at Melaleuca. His son, Deny King, mined the area from 1945 until 1985.

Charles Denison ‘Deny’ King, a notable resident of the isolated area, lived at Melaleuca with his wife Margaret and their children Mary and Janet. They built a house at Moth Creek, as well as a garden and several structures associated with their tin mining activity. Deny King also constructed the airstrip and led the building of the two historic walkers’ huts. Deny was a popular figure and is the main focus of historic interest in the area. His home and mine, the bushwalker huts he constructed with volunteers from bushwalking clubs, and other
associated items are significant due to their association with his isolated pioneer way of life.

Deny lived at Melaleuca for 55 years until his death in 1991. His descendants continue to have an important connection with the area and hold a residential lease over the house and outbuildings associated with the King residence. They undertake essential maintenance activities with other long-time friends and visitors who formed the Friends of Melaleuca (Wildcare Inc.) in 2009. The ‘Melaleuca Historic Tin Mining Area’ is listed on the Tasmanian Heritage Register under the **Historic Cultural Heritage Act 1995** and covers parts of the former King mining lease, homestead and garden.

Peter and Barbara Willson also undertook small-scale mining from the mid-1970s until the lease was relinquished in 2011. The Willsons used ingenious methods to process the mined materials on site and undertook extensive rehabilitation of the worked areas as the mining progressed. In recognition of the Willson’s 40-year association with Melaleuca, Mrs Barbara Willson retains a residential lease within the former Rallinga mining leasehold. The smelter and processing plant components of the Rallinga Mine are considered to have heritage value.

**Walking track history**

Tracks in the area were developed over time and have had numerous realignments. The Aboriginal people of Tasmania used routes around the south coast, as documented by George Augustus Robinson in 1830. It is not known how close their routes aligned with the current alignment of the South Coast Track but they probably maximised use of the buttongrass plains.

From around 1900 tracks were cut in the plan area as part of a wider scheme to facilitate prospecting in south-west Tasmania, and in particular to service the Cox Bight tin field. In 1902 Thomas Bather Moore, under the auspices of the Land and Survey Department, cut a branch track from the Hastings–Port Davey track from Old River to Cox Bight. In 1906 a ‘flying survey’ was made for a route between Recherche Bay and Cox Bight by Tyler and Harper, but the track was not cut until 1915.

Milford Fletcher and Walter Adams cut a track between Cox Bight and Port Davey in the 1940s, though the route would have been well trodden by miners by this time. The most recent iteration of the South Coast Track was cut by Fletcher in 1966 and probably followed a different route to the track sections that had been worked on in 1915, 1930 and 1946.

**Management considerations**

The old mine sites at Cox Bight are listed on the THPI but have not been assessed for eligibility for listing on the Tasmanian Heritage Register. Site information on the three THPI sites was last recorded in the 1990s, including photographic slides. The heritage sites are checked on an opportunistic basis by PWS staff when they are in the area.
The heritage values associated with the Tasmanian Heritage Register site (at Melaleuca) are largely maintained by the residential leaseholders, their family and volunteers. Values that lie outside the residential lease are maintained by volunteers, in partnership with PWS, including the bushwalker huts and the two nissen sheds near Moth Creek.

At present the historic heritage values of the plan area are largely not interpreted. This is proposed to change, see the Melaleuca Site and Rehabilitation Plan for details.

**Desired outcomes**

- Heritage values with recognised cultural significance are identified and conserved, in partnership with community stakeholders.

- Visitors are offered information about the pioneer mining history of the Melaleuca–Cox Bight area.

**Management response**

- Continue to work with and support the Friends of Melaleuca (Wildcare Inc.) and other community groups in conserving and presenting historic cultural heritage values at Melaleuca. (See the Melaleuca Site and Rehabilitation Plan for details).

- Continue to monitor sites at Cox Bight for detrimental impacts.

- Update records of Cox Bight sites on the Tasmanian Heritage Places Inventory.

- Undertake a heritage assessment of the Cox Bight mine workings to identify the extent and condition of the remaining features and, as necessary, recommend an appropriate heritage listing and/or management actions.
4. Reserve protection

4.1 Climate change

It is likely that the ecosystems and natural values of Melaleuca, as well as throughout Tasmania, will be affected by predicted climatic changes. Probable changes include increased temperatures, changes to temporal rainfall patterns (drier summers and wetter winters and springs), slight increases in average wind speeds and a projected sea-level rise above present levels of 0.2 metres by 2050 and 0.8 metres by 2100.

Climate change will result in the modification of existing ecosystems and biodiversity (Mallick 2013). It is not likely to be practical to attempt to prevent or significantly mitigate changes to values in the TWWHA caused by climate change (Sharples 2011).

South-west Tasmania is characterised by a temperate maritime climate influenced by the surrounding oceans. Weather moves from west to east over the state with the western regions receiving the highest average annual rainfall ranging from 1 250mm to over 2 500mm. Summers in the area are generally cool with the average monthly mean maximum temperature at Melaleuca approximately 19°C in January, falling to a monthly mean minimum temperature of 3.9°C in June and July. At Scotts Peak Dam, the nearest mountain weather station, the mean monthly maximum in January is approximately 20°C, with a mean monthly minimum of 3.2–3.9°C in June–July (BOM Climate Data Online).

Currently there is a strong focus on the risks from climate change with special regard to sea-level rise and storm events impacting coasts, coastal features and infrastructure. Coastal erosion, inundation and changes to sediment budgets on beaches threaten features such as the Cox Bight dunes, Melaleuca Inlet, the moorlands and the hydrological processes necessary to maintain them (Sharples 2011). Changes to geological, geomorphological and soil features and processes are more likely to be evident as well as altered fire regimes during longer summers.

Management considerations

Sea-level rise and storm events are expected to affect the condition and erosion rate of the Cox Bight coastline and the waterway banks around Melaleuca. Some coastal Aboriginal heritage sites may be vulnerable to sea-level rise.

Changes to temperatures and temporal rainfall patterns are likely to affect fluvial flows in the moorlands, as well as alter natural fire regimes. Remote ignitions by lightning strikes are also likely to increase.

Expected impacts of climate change on fauna species were recently documented by Mallick (2013) who recommended management actions that are relevant to the plan area. The list of species at a high level of risk from climate change is extensive and includes orange-bellied parrot (ie loss of moorland habitat and impacts on coastal saltmarsh),


Tasmanian tree frog (ie loss of moorland habitat and exacerbated threat from chytrid) and shorebirds (ie loss of coastal breeding habitat due to sea-level rise).

Buttongrass moorland, a prominent habitat and vegetation type in the plan area, has been determined to be at high risk from the various effects of climate change. Higher temperatures, reduced rainfall and increased evaporation are likely to affect rates of peat accumulation and oxidation, as well as fire frequencies (ignited by lightning strikes) and intensities. There is also a medium risk of the increased spread of Phytophthora. Changes to temperatures and temporal rainfall patterns are also likely to affect fluvial flows in buttongrass moorland.

The plan area currently has low levels of infestations and impacts from invasive species and diseases however some may be introduced (eg chytrid) or become more prevalent or spread further (eg Phytophthora).

The limited size and extent of the population of *Lomatia tasmanica* and its sensitivity to changes in moisture and humidity make it a high risk from the direct effects of climate change. It is also vulnerable to increased threats of fire and diseases such as Phytophthora. The rare Muellers geebung and creeping geebung are also likely to be at risk from increased fire frequency and/or intensity associated with climate change.

It is important that any management decisions or investment in the area considers the likely impacts of climate change.

See the ‘Aboriginal heritage values’ section regarding the potential impacts of sea-level rise on Aboriginal heritage sites and the ‘Fire management’ section for climate change implications regarding fire.

**Desired outcomes**

- Research and monitoring has improved understanding of the impacts of climatic changes.

- Management practices have increased the ability of natural systems to cope with climate change.

**Management response**

- Encourage appropriate research and monitoring to improve understanding of the impacts of climatic change on vulnerable values.

- Review and adapt management practices and tools, such as fire management and biosecurity to minimise impacts to values that are more vulnerable to climate change.

- Monitor for infrastructure and visitor access problems that are caused by climate change-related impacts, such as coastal erosion.
4.2 Fire management

Fire is an important component of the environment and has significantly influenced the landscape and the development of animal and plant communities in the plan area over thousands of years, particularly buttongrass moorland. Despite this, many significant geomorphological and flora values are susceptible to damage caused by inappropriate fire regimes, particularly alpine vegetation, relict rainforest areas, *Lomatia tasmanica*, Mueller’s geebung, creeping geebung, peat soils and blanket bogs. Historic heritage values are also vulnerable to damage caused by fire, as well as the nesting trees and nesting boxes of orange-bellied parrots. The development of an emergency response plan for orange-bellied parrots in the event of a wildfire has been identified as an action in the National Recovery Plan.

Although the frequency of Aboriginal burning is unknown, it had an important role in maintaining the buttongrass vegetation of the moorland plains. Bridle et al (2003) note that such fires are likely to have had an impact on the distribution of blanket bogs and the development of organic soils in south-west Tasmania.

Track-cutters, prospectors and fishermen frequently lit fires in the south-west. Fires were lit as part of the mining activity that occurred at Cox Bight from the 1890s and at Melaleuca from 1935.

After 1970, some planned burns were used to maintain the moorlands of Melaleuca and the Cox Bight area, as well as other sites in south-west Tasmania, but there was generally a fire exclusion policy for the south-west (Marsden-Smedley 1998, Bridle et al 2003). Some fires were lit in the Melaleuca area as part of mining activities there.

Fire management activities primarily occur in the area around Melaleuca and are undertaken to manage fuel loads to avoid wildfire, to protect infrastructure and to maintain habitat for the orange-bellied parrot population. Burns have been relatively small-scale and over time have contributed to the diversity of vegetation communities in the area.

Small-scale planned burns have been undertaken specifically to manage habitat for orange-bellied parrots at Melaleuca since the 1990s. The most recent patch burns occurred in 2000, 2006 and 2011.

Larger burns include a planned 214 ha fire at Cox Bight in 1996 and a 4 729 ha fire that burnt most of the central part of the plan area in 2000 through an escaped ecological burn for orange-bellied parrots. Ecological burns of 463 ha and 4 ha were conducted in April 2011 for the maintenance of orange-bellied parrot foraging habitat (picture on the right). A large burn close to the Bathurst Harbour Landing
Area resulted from a lightning strike in 2002. Another lightning strike started a fire at Foleys Pimple at Cox Bight in the 1990s.

**Management considerations**

Planned burning is undertaken in the Melaleuca area for ecological reasons and to protect natural and built assets from fire, including orange-bellied parrot breeding habitat and associated infrastructure. Slashing is also undertaken to protect built assets from fire. Burns are planned to minimise risks to vulnerable values, including peat mounds. Planned burns are problematic to conduct in the plan area due to the lack of natural boundaries to burn to, the presence of vulnerable assets such as walking tracks, the number of visitors to the area, fuel continuity and weather conditions.

While some values benefit, other significant values within the plan area can be degraded through inappropriate fire intensity or frequency, particularly blanket bogs and peat mounds.

Predicted climate change impacts are likely to cause an increase in the number of dry lightning strikes resulting in fire ignitions and higher-intensity bushfires.

Consistent with the policy for the TWWHA, the plan area is a Fuel Stove Only Area (FSOA) to minimise environmental impacts. The only exceptions to this are the fireplaces that exist in the two residential leases at Melaleuca.

A FSOA was declared in 1998 over the TWWHA and the area covered by this plan (which was then outside the TWWHA). The purpose of the FSOA is to minimise the potential for fire ignitions. It is currently identified on old signage at Melaleuca and various sites along the South Coast Track.

Fires within fireplaces within residential leases are authorised through the lease agreements. No other fires are permitted, including fires in the bushwalker huts.

**Desired outcomes**

- The foraging habitat of the orange-bellied parrot is enhanced through ecological burning.

- Suitable fire management regimes ensure that wildfire risks are reduced, habitat values are improved and assets are protected.

- No campfires have been lit within the plan area.

- The condition of organic soils including the blanket bogs and peat mounds have not been impacted by planned burning.

- Visitors understand the reasons why the plan area is designated as a Fuel Stove Only Area and are encouraged to comply with the requirement.
Management response

- Conduct planned burns in accordance with approved burn plans that take into account orange-bellied parrot requirements, values that are vulnerable to fire, asset protection and visitor considerations.

- Develop appropriate ecological burning units, asset protection zones, burn frequencies and monitoring programs, in consultation with specialists from the orange-bellied parrot recovery program and include them in the PWS fire management zoning system.

- Liaise with the DPIPWE Orange-bellied Parrot Management Group regarding the development of an emergency response plan for orange-bellied parrots in the event of a wildfire.

- Develop an emergency fire response plan for Melaleuca to be used when the area is threatened by wildfire. Consider asset protection measures, including an equipment cache. Provide information about the fire response plan at key areas at Melaleuca, disseminate to relevant commercial operators and include in the PWS fire management zoning system.

- Continue to prohibit the use of fires in the plan area through the redeclaration of the Fuel Stove Only Area in the statutory TWWHA management plan or through the National Parks and Reserved Land Regulations 2009, except for designated fireplaces within buildings in the residential leases.

- Update relevant signs and other relevant interpretive information following the redeclaration of the Fuel Stove Only Area.

4.3 Introduced species

The plan area is relatively free of introduced plant and animal species. This is largely the result of its remoteness and because the environment is not generally conducive to invasion by common exotic species. However, some introduced species are known to occur around Melaleuca and Cox Bight due to the human (habitation) disturbance that has occurred there in the past, natural incursions or range expansions. Introduced rodents pose a significant threat to many values including the orange-bellied parrot. Feral cats (*Felis catus*) are sighted regularly, particularly in the Cox Bight area. Non-native birds such as starlings (*Sturnus vulgaris*) are present and may also pose a threat. European wasps and bumble bees have been recorded recently.

The majority of the weeds that have been recorded in the reserve are found at Melaleuca. Low-level and isolated infestations of many weeds, such as canary broom (*Genista monspessulana*) and English broom (*Cytisus scoparius*) have been removed (recorded in the 1980s). Blackberries (*Rubus fruticosus*) have been recorded near Point Eric where additional control activities may need to be undertaken.
Other weeds that have previously been recorded in the Cox Bight area include gorse (Ulex europaeus), spear thistle (Cirsium vulgare) and hawkbit (Leontodon taraxacoides). It is possible that marram grass (Ammophila arenaria) and sea spurge (Euphorbia paralias) will become established in the Cox Bight coastal environment from sea-transported seeds. The coast is part of a Wildcare volunteer group’s (Sea Spurge Remote Area Team) sea spurge eradication zone, with germinated sea spurge plants removed every couple of years. Rice grass (Spartina anglica) may also become a threat if introduced to the plan area.

Additional exotic species, such as daffodils, azaleas, various berry plants and fruit trees occur within the gardens of Deny King and the Willsons (current residential lease areas) but are not generally considered to pose a serious risk of invasion into surrounding native vegetation. Some of these species are of cultural value where they are associated with the historically significant ‘Melaleuca Historic Tin Mining Area’ site (Tasmanian Heritage Register).

**Management considerations**

Plants with potential cultural heritage value should not be removed from within the listed site. If removal is deemed desirable from an environmental point of view, this should be discussed with the leaseholders and with Heritage Tasmania and may require approval.

Cats are sighted regularly in the plan area and may have an impact on orange-bellied parrots. Starlings are shot and their nests are destroyed in orange-bellied parrot breeding areas at Melaleuca as part of an ongoing control program to protect nests.

As noted in the Melaleuca Site and Rehabilitation Plan, at least two outbreaks of introduced rats have been detected and eradicated. The most recent incursion was possibly from a vessel and posed a threat to many natural values, in particular the orange-bellied parrot. It is thought that prompt action resulted in the eradication of the rats, however continued monitoring and use of poisoned baits within buildings will be maintained. Tree protection also helps protect parrot nests from potential cat or rodent predation.

Biosecurity is crucial in the prevention of new incursions of invasive species.

See the ‘Climate change’ and ‘Biosecurity’ sections for more information.

**Desired outcomes**

- No new introduced species have become established.
- Existing levels of introduced species remain low and where possible are eradicated, except for heritage plantings and residential gardens.

**Management response**

- Monitor for the incursion of geomorphologically significant weeds, such as sea spurge, marram grass and rice grass.
• Remove introduced species or undertake localised control actions where they are threatening values and where control is considered practical, such as cats or blackberries at Point Eric and sea spurge along Cox Bight.

• Monitor for weeds spreading from gardens in the residential leases at Melaleuca.

• Continue to record sightings to monitor the type and distribution of introduced species in the plan area and inform control programs.

• Monitor for the presence of introduced species, especially rodents, cats and starlings, and if detected undertake control or eradication programs, particularly if it will protect orange-bellied parrots and other vulnerable values.

4.4 Biosecurity and diseases

Biosecurity measures are essential to help prevent the introduction and/or spread of weeds, pests and diseases within and beyond the Melaleuca area. Phytophthora is already widespread in the area. Other significant threats include chytrid fungus and invasive plants and animals.

Once pest pathogens are present in the area, it is possible that the eradication of some species will not be feasible. The control or eradication of pests is expensive, resource-intensive and may impact upon other values.

Phytophthora

Phytophthora, the root-rot soil pathogen, is known to be relatively widespread within the plan area. Confirmed incidences of Phytophthora based on soil sampling occur around Melaleuca, Cox Bight and along walking track corridors, continuing beyond the plan area (see Figure 2 – it is possible that it has spread since the data was collected). Relatively extensive areas of suspected infestation also occur beyond the plan area.
Dieback caused by Phytophthora is listed as a 'key threatening process' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The widespread confirmed and suspected incidence of Phytophthora throughout the plan area is a concern.

**Chytridiomycosis**

Chytridiomycosis is an infectious amphibian disease caused by the chytrid fungal pathogen *Batrachochytrium dendrobatidis*. The fungus infects the skin of frogs destroying its structure and function, and can ultimately cause death. It has caused significant declines and extinctions in amphibian populations throughout the world and is a significant disease threat to the biodiversity of native amphibians in Tasmania.

Chytridiomycosis is listed as a 'key threatening process' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The Tasmanian Chytrid Management Plan (2010) has identified the Tasmanian tree frog as being at very high risk from chytridiomycosis. Melaleuca and the surrounding areas provide important habitat for this endemic frog species and preventing the spread of chytrid to these areas is a very high priority. Once an area is infected, there is no known practical way to eliminate the disease.

**Other diseases**

A number of other diseases may affect fauna species that live in the plan area or surrounding region, such as:

- Psittacine Beak and Feather Disease (PBFD) – a disease in the orange-bellied parrot population that can cause feather deformity and loss, beak deformities and eventual death (PBFD is managed through the Orange-bellied Parrot Recovery Program);

- Devil Facial Tumour Disease – a contagious condition in Tasmanian devils which is characterised by facial cancers;

- Mucormycosis – a fungal disease that affects platypus (it is considered highly unlikely that this disease occurs in the area but it could potentially spread there); and

- Sarcoptic mange – an endemic disease primarily affecting wombats.

**Management considerations**

Human-related activities are the key pathways of entry into the area. Visitors and staff can spread weeds, pests and pathogens to new areas when contaminated water, soil or other infected materials are moved between sites. More widespread movement of contaminants is associated with bushwalkers and the use of machinery at multiple sites, such as helicopters. Changes to visitation levels and patterns may increase the risk of introduction and spread of pests and diseases to new areas.
Preventing the spread of diseases predominantly involves minimising the movement of soil and water by people. Information about hygiene procedures is provided on signs at Melaleuca and in other interpretive material.

Visitors are generally not checked when it comes to following hygiene procedures, particularly boat-based visitors.

Often the most remote areas are accessed only by researchers and staff, who can pose the greatest threat to these areas.

Due to the Landing Area being the place where the majority of visitors arrive and therefore a key potential entry point for incursions of pests into the plan area, a washdown station for boot cleaning has been provided at the departure airport at Cambridge. Pilots also explain about biosecurity measures to passengers. Other washdown stations may be installed at Melaleuca if considered necessary.

Areas which are remote, intact and have vulnerable values are being identified to inform the planning of biosecurity measures, including zoning.

Refer to the *Melaleuca Site and Rehabilitation Plan* regarding helicopter landings.

**Phytophthora**

Buttongrass moorland vegetation is particularly vulnerable to Phytophthora, which reduces floristic diversity by causing the death of susceptible species. Further spread of the disease through the plan area and surrounding reserved land increases the threat of infection of threatened species, such as *Lomatia tasmanica*. Climate change is likely to affect the incidence of the disease, particularly changes in rainfall and temperature.

The spread of Phytophthora may be reduced by encouraging visitors to keep to designated tracks and follow basic hygiene practices such as keeping boots and equipment clean.

The highest priority should be given to reducing the likelihood of spreading Phytophthora into two ‘Phytophthora Management Areas’, which are areas that are currently free from Phytophthora but have susceptible vegetation types and are highly likely to be accessed by walkers starting from Melaleuca. Both areas, SR6 (South Cape Range area) and W5 (South West Cape), were established to protect species and ecological communities most threatened by Phytophthora.

**Chytridiomycosis**

Chytrid fungus has not been detected with the plan area. Humans are likely to be the main way that chytrid fungus will be introduced to the plan area. The movement of infected frogs and tadpoles, moist soil and water are known to be the key agents that spread chytrid. The spread may be facilitated by visitors, such as on boots and equipment or in drinking water. It may also be spread as part of management activities, such as the movement of water for fire fighting.

Monitoring results suggest that the plan area, as well as most of south-west Tasmania, remains free of chytrid. Biosecurity measures must be followed to minimise the likelihood
of the fungus being introduced. The Tasmanian tree frog is highly susceptible to chytrid fungus and is known to inhabit the plan area. The Tasmanian froglet may also be highly susceptible, while the brown tree frog (*Litoria ewingi*) and common froglet (*Crinia signifera*) can act as reservoir species that can spread the fungus to susceptible species. Refer to the *Melaleuca Site and Rehabilitation Plan* for more information, including a proposed ‘Chytrid Exclusion Area’.

**Desired outcomes**

- No new pests or pathogens are introduced into the plan area and current pests and pathogens are controlled or eradicated where it is feasible to do so.
- Frog populations remain healthy.
- Visitors know how they can help prevent the introduction and/or control the spread of disease.

**Management response**

- Develop a biosecurity plan for the plan area to manage biosecurity threats.
- Ensure that strict field biosecurity planning and hygiene protocols are in place for remote area work and research.
- Ensure that all visitors (by plane, boat and on foot) are informed about biosecurity requirements before departing for the area and on arrival through website information, the installation of signs with simple instructions, and the targeted distribution of information to key organisations such as Par Avion and the Cruising Yacht Club of Tasmania and boat operators who are known to visit Melaleuca.
- Encourage visitors to help prevent the spread of Phytophthora into the ‘Phytophthora Management Areas’ (beyond the plan area) through the provision of interpretive information at Melaleuca and on the website.
- Install and maintain washdown stations for boot cleaning and other biosecurity facilities.
- Ensure that measures are in place for the maintenance of biosecurity facilities, particularly the washdown station at Cambridge airport.
- Continue to monitor for evidence of Phytophthora, chytrid and other diseases and the status of frogs.
- Ensure that imported materials, such as building and maintenance supplies, undergo appropriate biosecurity measures and are not stored on Phytophthora-infected sites.
4.5 Acid sulfate soils

Predictive modelling and mapping, based on knowledge of similar soils in similar environments, has indicated that it is unlikely that the majority of the area covered by this plan has soils that contain iron sulfides and therefore have the potential to become Acid Sulfate Soils (ASS). However, there are two locations that are considered to have a high potential (>70%) to become ASS in the Melaleuca vicinity – east of Moth Creek and south of the junction of Alexander and Melaleuca Creeks, as well as subtidal and intertidal parts of Melaleuca Inlet and Melaleuca Lagoon (see Figure 3 – indicative map below showing areas with the potential of containing acid sulfate soils). While these locations mostly occur outside the plan area, a significant release of sulfuric acid has the potential to affect values where contaminated water may drain into the plan area.

The disturbance of high potential ASS within the plan area may cause significant environmental impacts. ASS form naturally but iron sulfides can oxidise if disturbed or exposed, which can then cause sulfuric acid to be released into the environment. The subsequent acidic conditions and toxic acidic runoff can result in significant impacts including biodiversity decline and vegetation dieback.

Soils at Melaleuca have not been tested for potential ASS and no impacts are known to have occurred, including any ASS-related impacts through disturbance by mining activity. It is considered unlikely that high risk activities of a sufficient scale will occur. Refer to the Tasmanian Acid Sulfate Soil Management Guidelines for more information.

Management situation

Avoiding the disturbance or exposure of soils that have the potential to become ASS will prevent the possible release of sulfuric acid and subsequent impacts. Unless a major excavation-related activity occurs (more than 100m³ of soil or sediment), it is unlikely that a sufficient disturbance of ASS will occur that would result in the release of sulfuric acid. However, the significance of the potential environmental damage means that major excavation activities should not be undertaken in high risk areas without tests being undertaken to determine whether soils that contain iron sulfides are present.

Other changes that may result in the disturbance or exposure of potential ASS, although unlikely to occur to a sufficient level within the plan area, include high intensity wildfires, the substantial erosion of creek beds and lowering of groundwater tables. Fires that occur
when the peat is not sufficiently saturated may destroy the vegetation and peat cover and therefore expose potential ASS which may be further eroded by wind and other factors.

**Desired outcomes**

- Potential acid sulfate soils have not been disturbed by relevant high-risk activities or events without tests being undertaken.

**Management response**

- Ensure that the risk of exposing or disturbing acid sulfate soils is considered before excavation-related activities commence in areas predicted to have a high potential to contain acid sulfate soils.

- Activities should not be undertaken that will disturb or expose large amounts of vegetation, soil or sediment (more than 100m³) within or near areas predicted to have a high potential of containing acid sulfate soils.

- If disturbance is considered necessary, undertake tests to determine whether soils that contain iron sulfides are present.
5. Visitor facilities and activities

5.1 Visitor Experience Statement

The Melaleuca–Cox Bight area is a special and spectacular place to visit in the remote south-west. The following statement aims to convey the intended core experiences that visitors will have when visiting the area and reflects what is in this plan.

Although it is one of the most remote parts of mainland Tasmania and beyond the road network, Melaleuca is relatively accessible for many visitors. Visitors arrive by air, sea or foot, with a sense of excitement and awe after their journey. Melaleuca is a gateway to explore the more remote parts of Tasmania's rugged wilderness. It can also be experienced on relaxing day trips, combined with a scenic flight.

As visitors arrive they are made aware of opportunities to explore the Melaleuca vicinity on short walks or boat trips on the winding waterways. They take time to experience the Needwonnee Walk and see aspects of the unique Tasmanian Aboriginal culture first-hand, including the Creation Story. The remnant mining artefacts remind visitors of the long history of mining in the area and the ingenuity of the miners.

Many visitors seek to observe the critically-endangered orange-bellied parrot. Melaleuca is the only location to view this species in the wild in Tasmania.

Those who venture to the more remote coastal areas are rewarded by the mountains of the New Harbour and Bathurst Ranges, pristine coastal lagoons and the spectacular Cox Bight coastline. Delicate wildflowers and parrots, or signs of other animals amongst the extensive buttongrass plains, add to their journey.

Down at the coast, visitors enjoy the isolation while watching oystercatchers and other shorebirds or looking for interesting things that have been washed up from the ocean. Walkers can stay overnight at peaceful coastal campsites with
basic facilities (consistent with the PWS Reserve Standards Framework) before returning to Melaleuca. The more intrepid continue their journey along the South Coast Track, one of the most challenging but rewarding long bushwalks in Australia.

5.2 Management zones

Zoning provides a framework for management and is designed to ensure that the management objectives for the TWWHA are fulfilled. The zoning described in this plan is based on the main zone types in the TWWHA management plan (Visitor Services Zone, Recreation Zone, Self-Reliant Recreation Zone and Wilderness Zone). The Visitor Services Zone is based on the zoning in the Melaleuca–Port Davey Area Plan 2003.

It is intended that the zoning in this plan will provide a guide for the management of the area until updated zoning is provided in an approved new statutory TWWHA management plan.

The zoning reflects desirable patterns of use within the plan area and is largely based on existing use patterns:

- The Melaleuca vicinity is designated as a Visitor Service Zone. It includes the Bathurst Harbour Landing Area, the Needwonnee Walk and the majority of the visitor facilities.

- The Port Davey Track, the South Coast Track, the waterways at Melaleuca, some other small areas at Melaleuca and remote campsites and beaches at Cox Bight are covered by Recreation Zone corridors. Linear sections of Recreation Zone that follow track routes are 20m wide (10m on each side of the track).

- The section of track that branches off the South Coast Track to New Harbour is contained by a Self-Reliant Recreation Zone corridor.

- The majority of the plan area has been designated as Wilderness Zone, consistent and contiguous with the existing zoning of the surrounding TWWHA.

More detailed zoning for Melaleuca, including management overlays (Remote Area Management Sites and Motorised Boating Areas), are described in the *Melaleuca Site and Rehabilitation Plan*.

**Melaleuca Visitor Services Zone**

The core part of Melaleuca, where the majority of visitor facilities/services in the plan area are located, is a Visitor Services Zone (VSZ). The VSZ includes the Bathurst Harbour Landing Area, tracks and boat access points at Melaleuca Inlet, as well as infrastructure including the toilets and bushwalker huts.

Existing visitor facilities at Melaleuca include a basic campground, two heritage-listed bushwalker huts, toilets, a pontoon and a shelter (Troedel Shelter). The shelter provides limited and very outdated interpretation, seating, storage space and drinking water...
collection. Most tracks that lie within the VSZ are hardened or elevated. Small tracks link the visitor facilities with the airstrip and the places where Melaleuca Inlet can be accessed. The interpretive Needwonnee Walk is also located in the VSZ and provides a short walking opportunity for day visitors.

See the Melaleuca Site and Rehabilitation Plan for more detailed information about the management of the Melaleuca area.

Recreation and Self-Reliant Recreation Zones

Three main tracks traverse the plan area. The South Coast Track is one of the more popular long distance walks in Tasmania. Melaleuca can be the start or end point for walkers. Most walkers start at Melaleuca and take approximately six to eight days to walk to Cockle Creek. Some walkers arrive at Melaleuca after walking the Port Davey Track for four days from Scotts Peak Dam, with some continuing on along the South Coast Track. Other walks accessed from Melaleuca include the south-west coast (New Harbour to Wilson Bight) and the remote Southwest Cape circuit.

A short section (approx. 2.5 km) of the Port Davey Track⁶ lies within the north-west corner of the plan area. PWS rerouted the end of the track in 2011 to reduce the hazard of walkers crossing the Bathurst Harbour Landing Area.

There are two long-established remote coastal campsites that are used by bushwalkers at Cox Bight (Point Eric and Freney Lagoon). Both campsites are essentially unimproved but do have basic toilet facilities.

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⁶ The ‘Old Port Davey Track’ is the official name recognised by the Nomenclature Board of Tasmania.
Linear sections of zones follow track routes (20m wide)

indicative Recreation Zone extension to allow for potential track reroute at Black Cliff

Point Eric

COX BIGHT

Map 2 - Zoning
Melaleuca-Cox Bight Management Statement
### Zone and overlay objectives

<table>
<thead>
<tr>
<th>Zone</th>
<th>Purpose</th>
<th>Zone and overlay objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor Services Zone</td>
<td>High-use areas and boat/aircraft access points</td>
<td>• To provide a range of appropriate facilities strategically located to facilitate visits to the plan area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To maintain, as far as possible, a natural setting and cultural integrity and to minimise the environmental, aesthetic and social impacts of facilities and visitor use.</td>
</tr>
<tr>
<td></td>
<td>Major walking and boating areas</td>
<td>• To provide a range of recreational experiences in a moderately challenging, largely natural setting that suitably equipped people can use for recreation purposes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To enable relatively high levels of active day and overnight recreation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To improve access for a wide range of visitors and enable them to gain a rewarding experience in the plan area.</td>
</tr>
<tr>
<td>Self-Reliant Recreation Zone</td>
<td>Challenging walking areas</td>
<td>• To retain a challenging and relatively unmodified natural setting that suitably experience and equipped people can use for recreation purposes.</td>
</tr>
<tr>
<td>Wilderness Zone</td>
<td>Wild country; limited recreation</td>
<td>• To allow natural processes to operate with minimal interference.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To retain a challenging unmodified natural setting that suitably experience and equipped people can visit for wilderness recreation and scientific purposes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To use wilderness as a primary means of managing, protecting and conserving world heritage and other natural and cultural values.</td>
</tr>
<tr>
<td>Motorised Boating Area*</td>
<td>Indicate where motorised boats may be used</td>
<td>• To allow for mechanised boating access consistent with the protection of world heritage and other natural and cultural values and recreational values.</td>
</tr>
<tr>
<td>Remote Area Management Site*</td>
<td>Indicate remote areas for operational use</td>
<td>• To provide for vital infrastructure in an otherwise remote setting.</td>
</tr>
</tbody>
</table>

* The Motorised Boating Area and Remote Area Management Site overlays are detailed in the Melaleuca Site and Rehabilitation Plan.

### 5.3 Facilities and access for visitors

The only ways to access the plan area are by aircraft, boat or walking. The majority of people arrive by small fixed-wing aircraft at Bathurst Harbour Landing Area as part of scenic flights or are bushwalkers being dropped off to start the South Coast Track or other walks. Due to its important role in facilitating access to Melaleuca and the south-west, the Bathurst Harbour Landing Area will continue to be maintained by PWS. Although aircraft once landed on the beach at Cox Bight, this no longer occurs and is not permitted due to the remoteness, the hazards associated with beach landings, and the presence of natural values.
The management of visitor access and facilities in the plan area is important to ensure that the values of the area are protected and the experiences of visitors continue to be positive.

People are attracted to the plan area for a variety of reasons. It is a destination for bushwalkers, passengers on scenic flights, people visiting as part of commercial trips, visitors on holiday on private boats, and those taking part in volunteer programs. The area is of social significance with a number of people taking part in volunteer programs to maintain heritage values or visit residential leaseholders.

There is a high visitation level to the Melaleuca area, relative to its remoteness and the different forms of access (boats and planes), however the number of visitors is much lower than other Visitor Service Sites/Zones in the TWWHA or other Tasmanian national parks. The relative difficulty of accessing the area maintains the sense of remoteness and isolation at Melaleuca – characteristics considered to be a major part of the area’s appeal. It also means that the capacity of the facilities at Melaleuca is rarely exceeded.

It is estimated that approximately 3,000–4,000 visitors arrive at Melaleuca by aircraft each year. Approximately 1,000 people walk the South Coast Track each year, mostly in summer. In addition, it is estimated that approximately several hundred walkers visit Melaleuca and walk to other destinations, such as the South West Cape circuit. It is not known how many people access the plan area by foot or boat due to difficulties in gathering information.

Dedicated volunteers have been working to improve the conservation outcomes of the reserve and maintain heritage values for many decades. Friends of the Orange-bellied Parrot (Wildcare Inc.) volunteers are involved in the activities of the Orange-bellied Parrot Recovery Program during summer months (October–March).

Friends of Melaleuca (Wildcare Inc.) members regularly visit Melaleuca to undertake practical projects involving general maintenance work on heritage-listed buildings and other public assets, as well as undertaking fundraising activities to support their projects. Many members have long-standing knowledge of the area. The remote nature of the site limits the number of volunteers able to access the site and also increases the difficulty and expense of working there. Volunteer work is also undertaken by the ‘Sea Spurge Remote Area Team’ Wildcare group to target sea spurge infestations along the coast, including Cox Bight.

As mentioned earlier, there are two small residential leases at Melaleuca. Both leases were granted by PWS with recognition of the lessees’ long-term association with the area. The lessees are key stakeholders and are actively involved in the conservation programs, including the maintenance of heritage values and orange-bellied parrot monitoring.

A number of commercial operators are licensed to operate in the plan area. All commercial operators have either a lease and/or a licence issued by PWS. They include scenic flights (including a ground and boat-based tour) and guided tours (primarily kayaking and bushwalking). Some commercial operators also operate outside the plan
area, such as at the Forest Lagoon Standing Camp and along the South Coast Track, but may use Melaleuca for access or storage purposes.

**Management considerations**

Unplanned or poorly planned facility development in the plan area is a concern due to the potential for visual impacts on the landscape values and the remote setting.

It is recommended that new structures be built in close proximity to other structures or in previously impacted areas, such as the former Rallinga Mine area, if considered appropriate in relation to other values that may be present.

In some cases, the requirements of specific types of infrastructure may need to be considered against the potential visual impact, such as the positioning of composting toilets. More information is provided in the *Melaleuca Site and Rehabilitation Plan*.

There is a need to improve the condition of tracks to reduce environmental impacts. Much of the South Coast Track surface within the plan area is hardened in some way but requires significant maintenance. Some double planking and unimproved sections display significant erosion and widening. The Port Davey Track, both within the plan area and beyond, is largely unimproved and there are extensive erosion, mud and braiding issues. The New Harbour Track is unimproved and is excessively wide and deteriorating in places. It requires hardening and possible rerouting due to the environmental impacts occurring and has been recognised as a high priority in PWS track management reports.

Part of the South Coast Track that follows the beach on the eastern side of Cox Bight (Black Cliff area) is often inundated by waves. A reroute may be considered necessary however it may be problematic due to the topography of the cliff area.

The remote campsites are considered robust at the current use levels, although some localised impacts have occurred.

The condition of tracks and campsites is monitored by PWS.

A circular walking track from the Bathurst Harbour Landing Area to Kings Knob has been recommended as a short walk option for visitors staying at Melaleuca and could be investigated. However, new tracks will not be considered while existing tracks require significant work and because the Needwonnee Walk was recently constructed. Zoning changes would also need to be considered.
**Desired outcomes**

- Facilities are provided for visitors based on standards and designs that are appropriate for the type of use, location and operational requirements.

- The condition of all tracks is stable and consistent with the relevant classification.

**Management response**

- Continue to manage the Melaleuca Visitor Services Zone as a gateway to the TWWHA and the place where the majority of visitor facilities/services are provided (except for the more remote tracks, campsites and remote pit toilets).

- Aircraft landings on the beach at Cox Bight are not permitted.

- New facilities should generally be built in close proximity to other structures or in previously impacted areas to contain the visual and other potential impacts.

- Undertake a risk assessment of the South Coast Track section at Cox Bight (Black Cliff area) that is often inundated by waves and reroute the track if it is considered necessary and practical.

- Undertake maintenance and repair of walking tracks within the plan area, particularly parts of the South Coast Track and the New Harbour Track.

- Continue to monitor the condition of walking tracks and the campsites at Cox Bight, particularly if use levels increase.
6. Monitoring and evaluation

This non-statutory plan aims to provide management guidance for the Melaleuca–Cox Bight section of the Southwest National Park during the interim period until the plan area is covered by the next statutory TWWHA management plan.

For more information about how this plan relates to the next TWWHA management plan, please see the ‘Relationship to other plans’ section.

Monitoring and evaluation are important parts of management implementation.

The stating of clear, measurable performance indicators against a range of important Key Desired Outcomes is a critical step in this process. It also provides the community and partners in implementation with a means of holding PWS to account.

**Key Desired Outcomes**

Due to a limited allocation of resources to undertake the required monitoring actions, not all Desired Outcomes of this plan will be evaluated to ascertain management effectiveness.

The following Key Desired Outcomes have been selected from this plan as the focus of monitoring:

- The Tasmanian Aboriginal community is involved in the identification, conservation and monitoring of Aboriginal heritage values in the Melaleuca–Cox Bight area, particularly the coastal areas where sites may be vulnerable to sea-level rise or other significant impacts associated with climate change or visitation.
- No campfires have been lit within the plan area.
- The foraging habitat of the orange-bellied parrot is enhanced through ecological burning.
- The condition of all tracks is stable and consistent with the relevant classification.
- Visitors are offered information about the pioneer mining history of the Melaleuca–Cox Bight area.

The Key Desired Outcomes are detailed in Appendix 1.
Melaleuca–Cox Bight Management Statement

Review

This plan is to have an interim evaluation after five years. This evaluation will check the performance indicators by collating relevant data, reviewing progress and making recommendations as appropriate for any adjustments in management.

The plan is intended to apply for a ten-year period at the end of which there is to be a review of its effectiveness and the currency of its objectives and vision. Alternatively, incorporation of the area into updated TWWHA management plans may be considered sufficient.

Management response

- Undertake an interim evaluation of the management plan after five years and a full evaluation after ten years.

- Implement the monitoring actions as described in the operational document ‘Key desired outcomes’ to enable the assessment of management effectiveness in achieving the key desired outcomes.
7. Information sources


### 8. Appendices

**Appendix 1 – Key desired outcomes, indicators and effectiveness monitoring**

<table>
<thead>
<tr>
<th>Outcome 1</th>
<th>The Tasmanian Aboriginal community is involved in the identification, conservation and monitoring of Aboriginal heritage values in the Melaleuca–Cox Bight area, particularly the coastal areas where sites may be vulnerable to sea-level rise or other significant impacts associated with climate change or visitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>The level of Aboriginal community involvement in the identification, conservation and monitoring.</td>
</tr>
<tr>
<td>Monitoring actions</td>
<td>Record community involvement.</td>
</tr>
<tr>
<td>Great result</td>
<td>The community has been involved in the identification, conservation and monitoring of Aboriginal heritage values. Coastal areas with known sites with Aboriginal heritage values have been surveyed and recorded.</td>
</tr>
<tr>
<td>Acceptable result</td>
<td>The community has been involved in the identification, conservation and monitoring of Aboriginal heritage values.</td>
</tr>
<tr>
<td>Unacceptable result</td>
<td>The community has not been involved in the identification, conservation and monitoring of Aboriginal heritage values.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome 2</th>
<th>The foraging habitat of the orange-bellied parrot is enhanced through ecological burning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Number and extent of ecological burning that has been undertaken.</td>
</tr>
<tr>
<td>Monitoring actions</td>
<td>Record extent and other characteristics of ecological burning.</td>
</tr>
<tr>
<td>Great result</td>
<td>Ecological burning has been undertaken with outcomes consistent with planned objectives and enhancement of foraging habitat.</td>
</tr>
<tr>
<td>Acceptable result</td>
<td>Some ecological burning has been undertaken.</td>
</tr>
<tr>
<td>Unacceptable result</td>
<td>Ecological burning has not been undertaken.</td>
</tr>
</tbody>
</table>
## Outcome 3
No campfires have been lit within the plan area.

**Indicator**
Number of campfire sites within the plan area.

**Monitoring actions**
Record evidence of fire use in the plan area.

<table>
<thead>
<tr>
<th>Great result</th>
<th>Acceptable result</th>
<th>Unacceptable result</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of campfire use within the plan area.</td>
<td>No evidence of campfire use within the plan area.</td>
<td>Evidence of campfire use within the plan area.</td>
</tr>
</tbody>
</table>

## Outcome 4
The condition of all tracks is stable and consistent with the relevant classification.

**Indicator**
Condition of tracks within the plan area.

**Monitoring actions**
Monitor condition of tracks.

<table>
<thead>
<tr>
<th>Great result</th>
<th>Acceptable result</th>
<th>Unacceptable result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track conditions everywhere are within the prescriptions of the relevant track classes.</td>
<td>Track conditions are generally are within the prescriptions of the relevant track classes.</td>
<td>There is continued deterioration of existing tracks or formation of unplanned tracks.</td>
</tr>
</tbody>
</table>

## Outcome 5
Visitors are offered information about the pioneer mining history of the Melaleuca–Cox Bight area.

**Indicator**
Interpretive displays are provided for visitors.

**Monitoring actions**
Record and photograph interpretation installations about mining.

<table>
<thead>
<tr>
<th>Great result</th>
<th>Acceptable result</th>
<th>Unacceptable result</th>
</tr>
</thead>
<tbody>
<tr>
<td>The mining history is interpreted in high quality and accessible installations.</td>
<td>Some mining history has been interpreted and enhanced installations are planned.</td>
<td>Mining history has not been interpreted.</td>
</tr>
</tbody>
</table>
Appendix 2 – Implementation Plan

The following table shows the prioritised management responses from this plan. The priorities may change over time and will be periodically reviewed.

Implementation priorities: VH: <1 year; H: 2–3 years; M: 4–5 years; L: >5 years

<table>
<thead>
<tr>
<th>MANAGEMENT RESPONSE</th>
<th>PRIORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.2 Landscape and wilderness values</strong></td>
<td></td>
</tr>
<tr>
<td>Consider the potential impact on landscape and wilderness values within and beyond</td>
<td></td>
</tr>
<tr>
<td>the plan area when assessing proposals for new activities or facilities.</td>
<td>ongoing</td>
</tr>
<tr>
<td>Consider removing structures and visually prominent items that are not required and</td>
<td></td>
</tr>
<tr>
<td>are not of heritage significance.</td>
<td>L</td>
</tr>
<tr>
<td>Consider reviewing the wilderness quality assessments for the plan area to provide</td>
<td></td>
</tr>
<tr>
<td>updated information.</td>
<td>L</td>
</tr>
<tr>
<td>Manage the plan area in a manner that is consistent with zoning prescriptions.</td>
<td>ongoing</td>
</tr>
<tr>
<td><strong>3.3 Geoheritage values</strong></td>
<td></td>
</tr>
<tr>
<td>Undertake periodic site inspections of significant geoheritage values to monitor for</td>
<td></td>
</tr>
<tr>
<td>change or damage.</td>
<td>M</td>
</tr>
<tr>
<td>Undertake management activities to help protect geoheritage values where threats can</td>
<td></td>
</tr>
<tr>
<td>be ameliorated.</td>
<td>L</td>
</tr>
<tr>
<td>Ensure that information about geodiversity values is available to inform management</td>
<td></td>
</tr>
<tr>
<td>decisions, including the extent and threats.</td>
<td>M</td>
</tr>
<tr>
<td><strong>3.4 Water values</strong></td>
<td></td>
</tr>
<tr>
<td>Continue to prohibit the use of vessels and other activities that are likely to affect</td>
<td></td>
</tr>
<tr>
<td>‘high naturalness’ and phycological values of Freney Lagoon and Miller Lagoon.</td>
<td>ongoing</td>
</tr>
<tr>
<td><strong>3.5 Flora and fauna values</strong></td>
<td></td>
</tr>
<tr>
<td>Support and implement actions consistent with the Orange-bellied Parrot Recovery</td>
<td>ongoing</td>
</tr>
<tr>
<td>Plan.</td>
<td></td>
</tr>
<tr>
<td>Conduct planned burns in buttongrass vegetation to maintain diversity and habitat</td>
<td>H</td>
</tr>
<tr>
<td>values.</td>
<td></td>
</tr>
<tr>
<td>Maintain facilities to assist and support approved research and monitoring activities</td>
<td></td>
</tr>
<tr>
<td>based at Melaleuca.</td>
<td>ongoing</td>
</tr>
<tr>
<td>Ensure that an adequate buffer area is maintained to reduce the threat of disturbance</td>
<td></td>
</tr>
<tr>
<td>and harmful activities in the vicinity of <em>Lomatia tasmanica</em>, particularly the</td>
<td>H</td>
</tr>
<tr>
<td>exclusion of fire and Phytophthora infection.</td>
<td></td>
</tr>
<tr>
<td>Continue to ensure that preliminary quarantine procedures are followed when the</td>
<td></td>
</tr>
<tr>
<td>area is accessed, including the hygiene guidelines related to fire fighting and</td>
<td>ongoing</td>
</tr>
<tr>
<td>helicopter use (see the <em>Kings Lomatia Flora Recovery Plan 2006–2010</em>).</td>
<td></td>
</tr>
<tr>
<td>Follow relevant biosecurity procedures to minimise risk of introduction of</td>
<td>H</td>
</tr>
<tr>
<td>Phytophthora and chytrid.</td>
<td></td>
</tr>
<tr>
<td>Install a small interpretive sign at the end of the track at Cox Bight about</td>
<td></td>
</tr>
<tr>
<td>beach-nesting shorebirds and how visitors can minimise disturbance, particularly</td>
<td>M</td>
</tr>
<tr>
<td>during the summer breeding season.</td>
<td></td>
</tr>
</tbody>
</table>
Support research and monitoring priorities that have been identified in the TWWHA Research and Monitoring Priorities 2013–2018, as well as research and monitoring of rare or threatened species, such as the critically endangered *Lomatia tasmanica* and the documentation of fauna associated with peat mounds.  

### 3.6 Aboriginal heritage values

Conduct surveys for Aboriginal heritage values at places within the plan area where the Tasmanian Aboriginal community considers the identification of values to be desirable.  

Ensure that coastal areas with known or potential sites with Aboriginal heritage values that may be vulnerable to sea-level rise, or other significant impacts associated with climate change or visitation, are surveyed and recorded in partnership with the Tasmanian Aboriginal community.  

In partnership with the Tasmanian Aboriginal community, ensure that values are recorded, threats are understood and appropriate management and monitoring occurs for sites where Aboriginal heritage values have been identified. Conservation plans may be required for some sites.  

Through collaboration with the Tasmanian Aboriginal community, improve understanding of their spiritual and social connection to the Melaleuca–Cox Bight area and the significance of the landscape to enhance both appreciation of the less tangible Aboriginal heritage values and the knowledge of PWS.

### 3.7 Historic heritage values

Continue to work with and support the Friends of Melaleuca (Wildcare Inc.) and other community groups in conserving and presenting historic cultural heritage values at Melaleuca.

Continue to monitor sites at Cox Bight for detrimental impacts.

Update records of Cox Bight sites on the Tasmanian Heritage Places Inventory.

Undertake a heritage assessment of the Cox Bight mine workings to identify the extent and condition of the remaining features and, as necessary, recommend an appropriate heritage listing and/or management actions.

### 4.1 Climate change

Encourage appropriate research and monitoring to improve understanding of the impacts of climatic change on vulnerable values.

Review and adapt management practices and tools, such as fire management and biosecurity to minimise impacts to values that are more vulnerable to climate change.

Monitor for infrastructure and visitor access problems that are caused by climate change-related impacts, such as coastal erosion.

### 4.2 Fire management

Conduct planned burns in accordance with approved burn plans that take into account orange-bellied parrot requirements, values that are vulnerable to fire, asset protection and visitor considerations.

Develop appropriate ecological burning units, asset protection zones, burn frequencies and monitoring programs, in consultation with specialists from the orange-bellied parrot recovery program and include them in the PWS fire management zoning system.

Liaise with the DPIPWE Orange-bellied Parrot Management Group regarding the development of an emergency response plan for orange-bellied parrots in the event of a wildfire.
Develop an emergency fire response plan for Melaleuca to be used when the area is threatened by wildfire. Consider asset protection measures, including an equipment cache. Provide information about the fire response plan at key areas at Melaleuca, disseminate to relevant commercial operators and include in the PWS fire management zoning system. **M**

Continue to prohibit the use of fires in the plan area through the redeclaration of the Fuel Stove Only Area in the statutory TWWHA management plan or through the National Parks and Reserved Land Regulations 2009, except for designated fireplaces within buildings in the residential leases. **H**

Update relevant signs and other relevant interpretive information following the redeclaration of the Fuel Stove Only Area. **M**

### 4.3 Introduced species

Monitor for the incursion of geomorphologically significant weeds, such as sea spurge, marram grass and rice grass. **L**

Remove introduced species or undertake localised control actions where they are threatening values and where control is considered practical, such as cats or blackberries at Point Eric and sea spurge along Cox Bight. **M**

Monitor for weeds spreading from gardens in the residential leases at Melaleuca. **L**

Continue to record sightings to monitor the type and distribution of introduced species in the plan area and inform control programs. **L**

Monitor for the presence of introduced species, especially rodents, cats and starlings, and if detected undertake control or eradication programs, particularly if it will protect orange-bellied parrots and other vulnerable values. **H**

### 4.4 Biosecurity and diseases

Develop a biosecurity plan for the plan area to manage biosecurity threats. **H**

Ensure that strict field biosecurity planning and hygiene protocols are in place for remote area work and research. **ongoing**

Ensure that all visitors (by plane, boat and on foot) are informed about biosecurity requirements before departing for the area and on arrival through website information, the installation of signs with simple instructions, and the targeted distribution of information to key organisations such as Par Avion and the Cruising Yacht Club of Tasmania and boat operators who are known to visit Melaleuca. **H**

Encourage visitors to help prevent the spread of Phytophthora into the ‘Phytophthora Management Areas’ (beyond the plan area) through the provision of interpretive information at Melaleuca and on the website. **M**

Install and maintain washdown stations for boot cleaning and other biosecurity facilities. **H**

Ensure that measures are in place for the maintenance of biosecurity facilities, particularly the washdown station at Cambridge airport. **H**

Continue to monitor for evidence of Phytophthora, chytrid and other diseases and the status of frogs. **ongoing**

Ensure that imported materials, such as building and maintenance supplies, undergo appropriate biosecurity measures and are not stored on Phytophthora-infected sites. **ongoing**

### 4.5 Acid sulfate soils

Ensure that the risk of exposing or disturbing acid sulfate soils is considered before excavation-related activities commence in areas predicted to have a high potential to contain acid sulfate soils. **ongoing**
Activities should not be undertaken that will disturb or expose large amounts of vegetation, soil or sediment (more than 100m³) within or near areas predicted to have a high potential of containing acid sulfate soils.

If disturbance is considered necessary, undertake tests to determine whether soils that contain iron sulfides are present.

### 5.3 Facilities and access for visitors

- **Continue to manage the Melaleuca Visitor Services Zone as a gateway to the TWWHA and the place where the majority of visitor facilities/services are provided (except for the more remote tracks, campsites and remote pit toilets).**

- **Aircraft landings on the beach at Cox Bight are not permitted.**

- **New facilities should generally be built in close proximity to other structures or in previously impacted areas to contain the visual and other potential impacts.**

- **Undertake a risk assessment of the South Coast Track section at Cox Bight (Black Cliff area) that is often inundated by waves and reroute the track if it is considered necessary and practical.**

- **Undertake maintenance and repair of walking tracks within the plan area, particularly parts of the South Coast Track and the New Harbour Track.**

- **Continue to monitor the condition of walking tracks and the campsites at Cox Bight, particularly if use levels increase.**

### 6 Monitoring and evaluation

- **Undertake an interim evaluation of the management plan after five years and a full evaluation after ten years.**

- **Implement the monitoring actions as described in the operational document ‘Key desired outcomes’ to enable the assessment of management effectiveness in achieving the key desired outcomes.**