

Preminghana

HEALTHY COUNTRY PLAN 2015



TABLE OF CONTENTS

| | | | |
|--|----|---|----|
| Table of Contents..... | 1 | Goals and Objectives (What We Want To Achieve) | 25 |
| Figures and Tables | 1 | Projects and Strategies (Jobs to do) | 28 |
| Acknowledgements..... | 2 | Implementation (actions) | 30 |
| Introduction | 3 | Learning as we go (monitoring, reporting and improvement) | 31 |
| Scope..... | 3 | References | 35 |
| Using the Plan | 5 | Appendix 1: Important Fauna and Flora..... | 37 |
| Our Vision..... | 7 | Appendix 2: Vegetation communities | 39 |
| Targets (Building Blocks of Healthy Country) . | 8 | | |
| Threats (Problems we face) | 18 | | |

FIGURES AND TABLES

| | | | |
|---|----|--|----|
| Figure 1: Preminghana in Tasmania..... | 3 | Table 1: Preminghana Healthy Country Targets and their Health rating | 8 |
| Figure 2: Preminghana | 4 | Table 2: Table of the Threats and how we see them. | 19 |
| Figure 3: How the plan fits together | 5 | Table 3: Goals for the Preminghana plan | 26 |
| Figure 4: Cultural heritage places on Preminghana | 10 | Table 4: Objective for the Preminghana plan | 27 |
| Figure 5: fauna of conservation significance..... | 12 | Table 5: Projects and their related Goals and Objectives | 28 |
| Figure 6: flora of conservation significance | 14 | Table 6: Project strategies and priority .. | 29 |
| Figure 7: Waterways on Preminghana.... | 17 | Table 7: Fauna of conservation significance for the Preminghana IPA (from Johnson et al. [2008]) | 38 |
| Figure 8: Relationship between Projects, Strategies, Objectives and Goals | 25 | Table 8: Flora of conservation significance for the Preminghana IPA (from Johnson et al. [2008])..... | 38 |
| Figure 9: Annual work planning and review cycle..... | 30 | Table 9: Vegetation communities mapped for the Preminghana IPA (from Johnson et al. [2008])..... | 39 |
| Figure 10: How the different monitoring fits together to tell us what we are achieving | 31 | Table 10: Vegetation communities mapped for the Preminghana IPA (from Johnson et al. [2008]) | 40 |
| Figure 11: Calendar showing times for each type of review and reporting | 33 | | |
| Figure 12: Example folder structure for storing information on projects for later reporting and analysis..... | 33 | | |
| Figure 13: Regular reporting feeds into full and mid-term plan reviews | 34 | | |

ACKNOWLEDGEMENTS

This plan was developed by representatives of the Tasmanian Aboriginal community, supported by the Tasmanian Aboriginal Centre (TAC).

A small working group was formed to develop the plan for Preminghana (and trawtha makuminya at the same time)

- Adam Thompson
- Allison Cann
- Andry Sculthorpe
- Graeme Gardner
- Raylene Foster
- Rebecca Digney
- Tim Brown

We would like to thank all community members and TAC staff for their help in preparing the plan.



INTRODUCTION

Preminghana is a property of great significance to the Tasmanian Aboriginal community. Preminghana is situated on the coast located in the far North West corner of Tasmania (Figure 1), and contains many sites of significance for Tasmanian Aboriginal people, including some of the most significant petroglyphs (huge rock engravings) in the world.

The significance of Preminghana for the Aboriginal community reaches back to the dawn of time, and community ownership and management was only briefly interrupted by recent colonisation.

Prior to its return to the Aboriginal community the land was used for sheep and cattle grazing, and large areas were damaged and had become overgrown with weeds. There was also damage to middens and sand dunes.

Nevertheless, Preminghana retained its significant natural and cultural values. For example, although relatively small (540 hectares) it is also home to a number of Threatened plant and animal species. In addition to the engravings a further 53 sites have been recorded at Preminghana including middens, artefacts scatters and quarries where stone tool materials were sourced.

In recognition of its significance Preminghana was declared an Indigenous Protected Area (IPA) in 1999 and the Aboriginal Community implemented a Management Plan for Preminghana to reduce the impact of visitors, protect significant sites and provide access for Aboriginal people to practice their culture.

This new Plan continues to support traditional and sustainable resource management practice.

SCOPE

The scope of this plan is the Preminghana IPA (Figure 2). Preminghana is bordered to the east by the Woolnorth property, a conservation area to the north, private land to the south and ocean to the west.

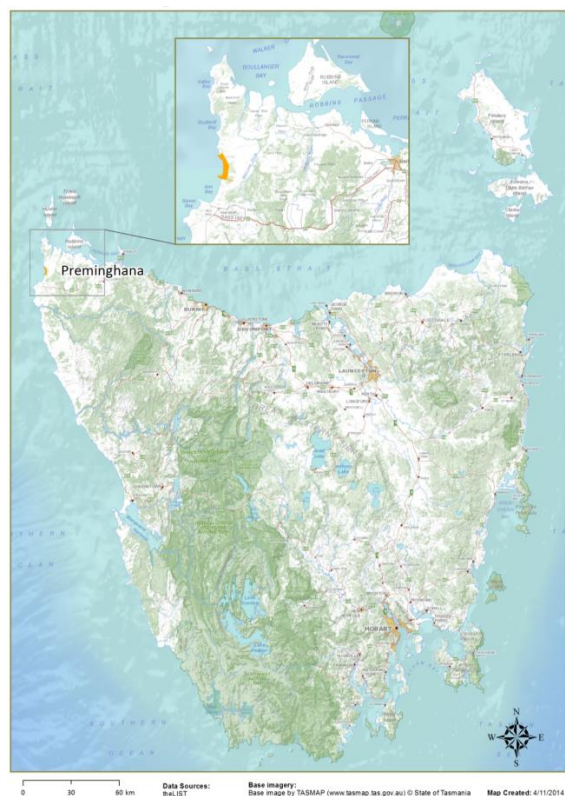


Figure 1: Preminghana in Tasmania

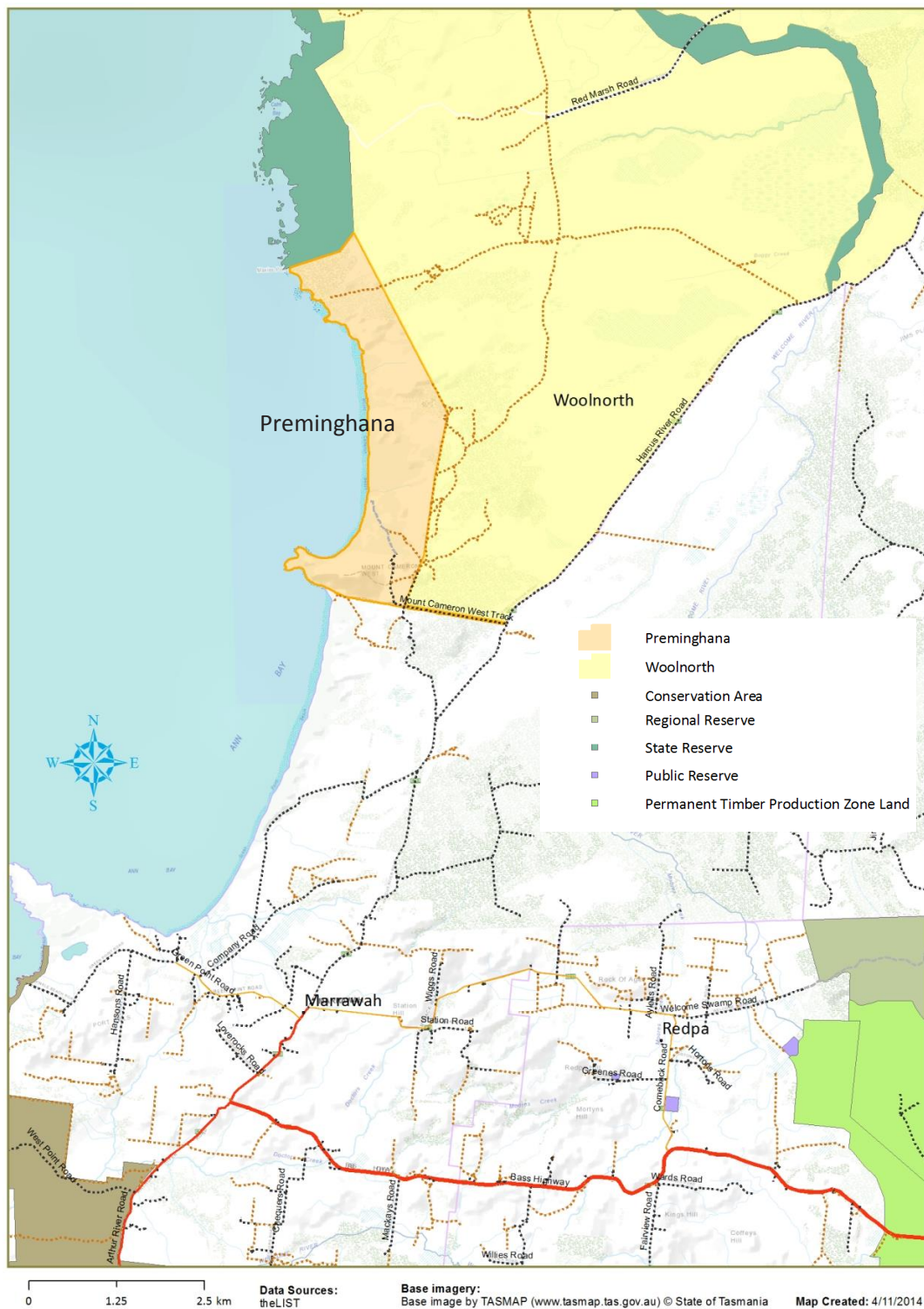


Figure 2: Preminghana

USING THE PLAN

The Preminghana Healthy Country Plan will help achieve the Tasmanian Aboriginal peoples' vision and goals for how their country might be managed into the future.

The Plan talks about the important things that we want to look after on Preminghana – our Targets. For each target, we give a rating that describes how healthy we think it is. This will help us to see whether our Healthy Country Plan is working over time.

The Plan then lists the “Problems” (Threats) facing our country. For each problem, we give a rating that describes how bad the problem is, and this helps us to see if our Plan is helping to reduce the problems.

The Plan then lists the projects we want to set up to help care for and improve the targets and to get rid of or reduce the threats. For each project we talk about the targets and threats that the project is trying to help. Each project also has a clear objective that tells us exactly what we want the project to achieve.

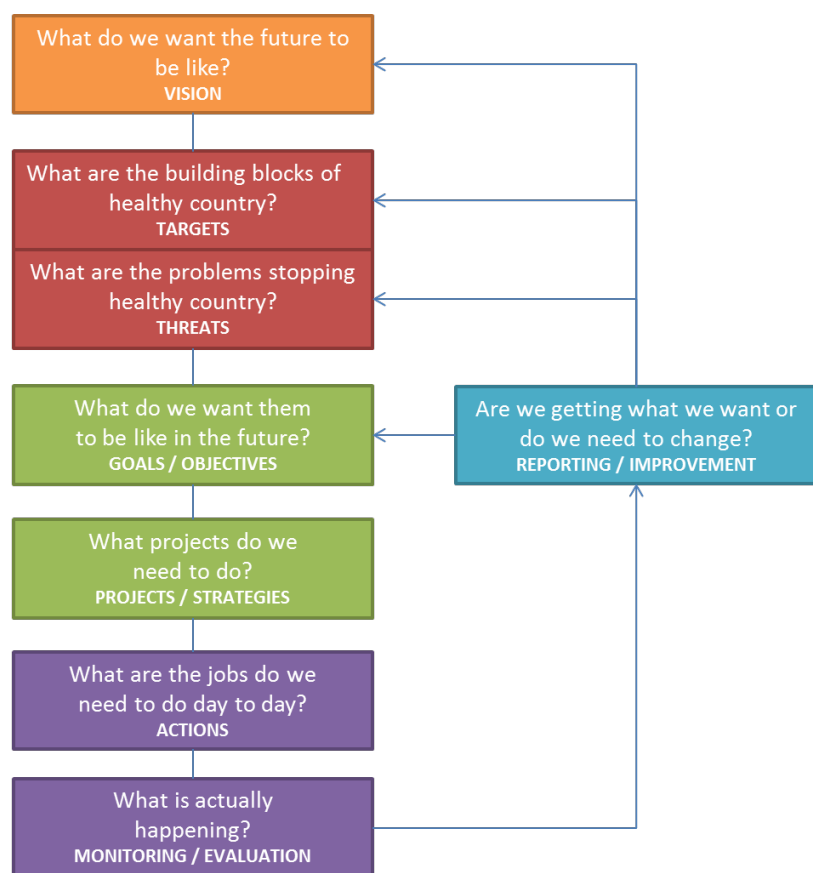
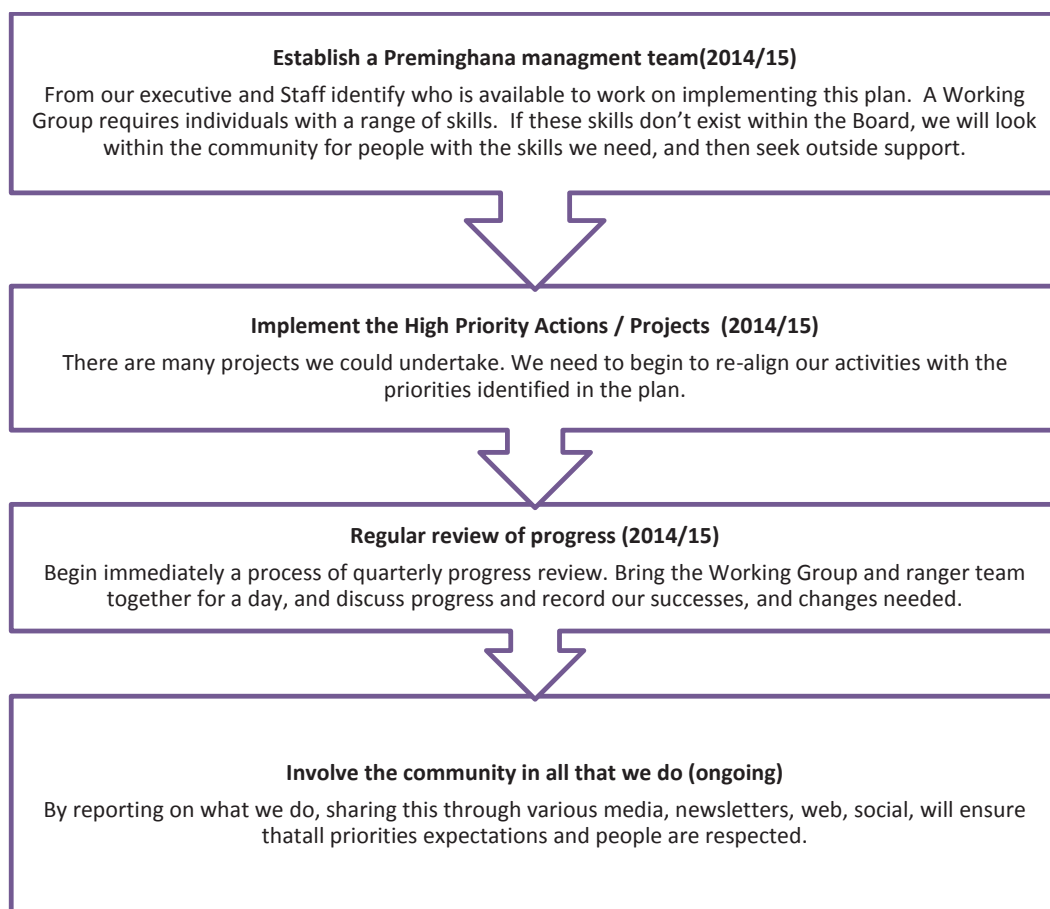


Figure 3: How the plan fits together

An important part of our Plan is that it helps us to monitor how the Plan is implemented, how effective each project is, and the status of each of the targets and threats. This tells us whether the Plan is being put into practice and whether it is working for us and our country.

What do we do first?

This plan is all about achieving our vision on all our country, but we need to set out what we need to do first. This Plan will be put in place through eight Projects, detailed in this plan. To guide those projects, we need to start with the following:



OUR VISION

Our Vision guides us to where we want to go with this plan and all our work. If this plan is successful it will move us closer to achieving our vision.

Aboriginal people can use Preminghana
as we want to
for the betterment of Aboriginal people
in line with community values



TARGETS (BUILDING BLOCKS OF HEALTHY COUNTRY)

To Tasmanian Aboriginal people, all of our country is important, and there are lots of things about our country that we value: the animals and plants; the landscape; the water; and our connection and culture. All these things have great cultural and spiritual importance for us.

In order to create a plan that will enable us to focus our resources on key issues, seven targets have been identified. In order for our country to be healthy, these seven targets need to be healthy. The targets are listed here and described in detail below. We will work on all our targets, but focus our work in the following order of priority:

| | |
|-----------|-----------------------------|
| Very Good | As healthy as it can be |
| Good | Might need a bit of support |
| Fair | Needs a lot of support |
| Poor | Needs urgent attention |

| Item | Indicators | Status |
|--|---|--------|
| Community Use | <ul style="list-style-type: none"> Community satisfaction Level of visitation Number of community events | Fair |
| Cultural places and heritage | <ul style="list-style-type: none"> Sites checked and maintained Site condition | Fair |
| Fauna of Conservation Significance | <ul style="list-style-type: none"> Abundance / diversity Presence / absence Palawa kani names used | Fair |
| Financial Opportunity | <ul style="list-style-type: none"> Income through property Number of Aboriginal people employed Number of funded projects at Preminghana | Poor |
| Flora of conservation significance | <ul style="list-style-type: none"> Diversity of vegetation communities Vegetation condition Palawa kani Names identified (monitoring) | Fair |
| Landscape values and wetlands | <ul style="list-style-type: none"> Aesthetic appearance Diversity of flora and fauna landscape change Wetland condition / water quality | Good |
| Preminghana tunapri (including kipli) | <ul style="list-style-type: none"> Activities undertaken to gain and share knowledge Knowledge of cultural heritage id increased or transferred | Fair |

Table 1: Preminghana Healthy Country Targets and their Health rating

COMMUNITY USE

| HEALTH | FAIR |
|------------------|---|
| INDICATORS | <ul style="list-style-type: none"> Community satisfaction Level of visitation Number of community events |
| PRIORITY THREATS | <ul style="list-style-type: none"> Theft and vandalism Community / organisational lack of interest Inappropriate fire management Sea spurge |

Community Use of Preminghana is an essential asset.

Use of places is essential in giving them significance – whether that use is for utility and function (kipli, recreation, aesthetic enjoyment), or culture and identity (ceremony, tunapri, events)

Contemporary use of Preminghana for cultural camps provides a space for community members to create and share stories and knowledge.

Community use of Preminghana reinforces many of the other targets, and ensures the maintenance of those other targets.



CULTURAL PLACES AND HERITAGE

| HEALTH | FAIR |
|------------------|---|
| INDICATORS | <ul style="list-style-type: none"> Sites checked and maintained Site condition |
| PRIORITY THREATS | <ul style="list-style-type: none"> Theft and vandalism Knowledge loss Sea level rise Gorse Inappropriate fire management Sea spurge |

Preminghana IPA is richly endowed with cultural places and heritage. There are middens found all along the bay, and many scattered artefacts throughout the property (Macfarlane 2001).

Several world-class examples of rock engravings occur around Mt. Preminghana at the northern end of the IPA (Macfarlane 2011), and burial areas occur near the northern boundary.

Also at the northern end is a prominent quartzite outcrop, a small area of which has been used as a raw material source, or procurement site which is commonly referred to as a quarry (Macfarlane 2001).

The cultural places on Preminghana are of enormous significance to the Aboriginal community. All places are vulnerable to many sorts of damage, such as uncontrolled fire and vandalism, while the coastal middens are potentially vulnerable to sea level rise and erosion. Of critical concern is the need to build and maintain the community's knowledge of this cultural heritage

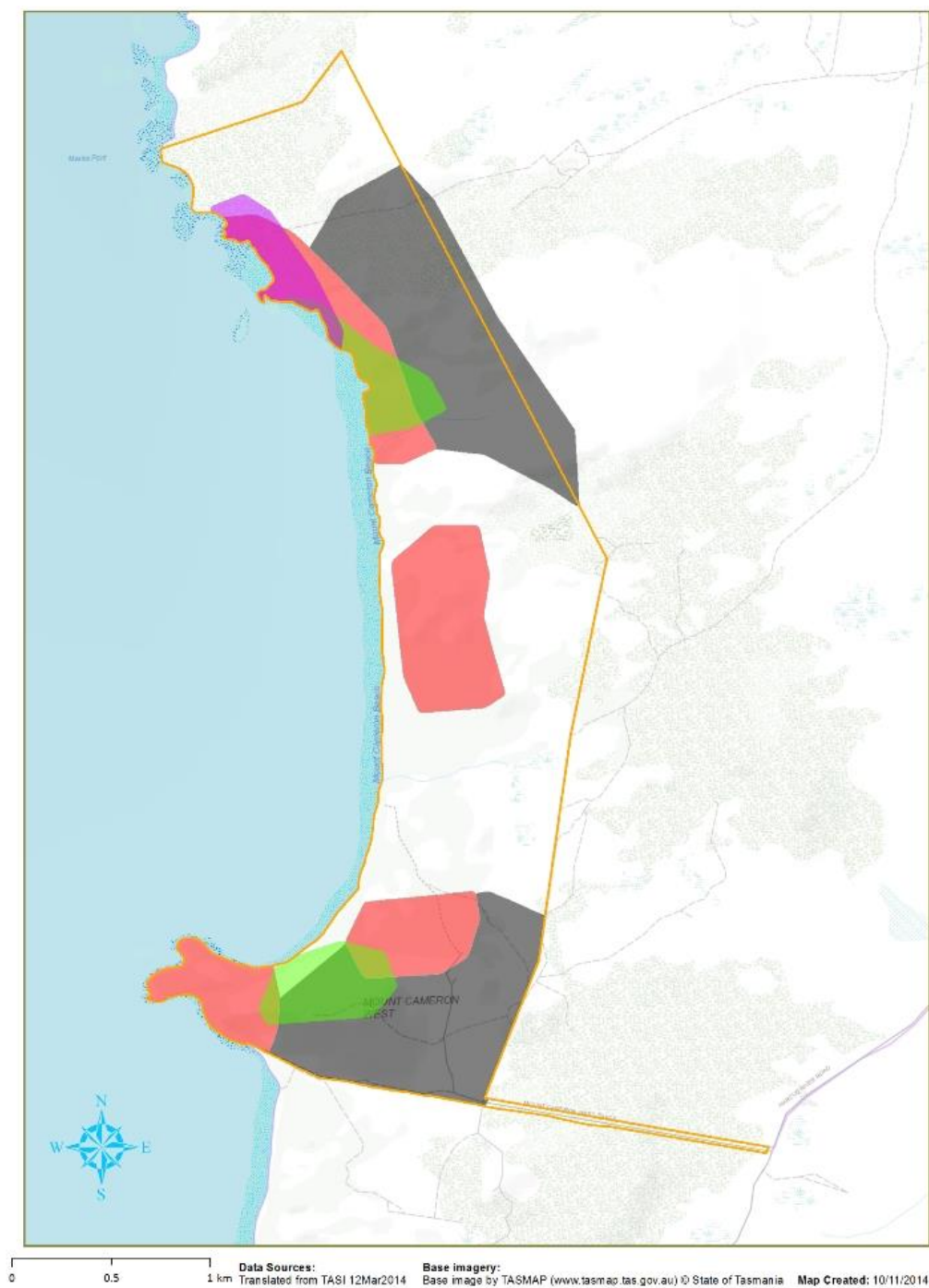


Figure 4: Cultural heritage places on Preminghana

FAUNA OF CONSERVATION SIGNIFICANCE

| HEALTH | FAIR |
|------------------|---|
| INDICATORS | <ul style="list-style-type: none"> • Abundance / diversity • Presence / absence • Palawa kani names used |
| PRIORITY THREATS | <ul style="list-style-type: none"> • Knowledge loss • Disease (DFTD) • Cats and Foxes |

Preminghana contains a number of fauna species considered to be important not only to the Aboriginal community but to the Australian community as a whole.

Johnson et al (2008) conducted a comprehensive fauna survey of Preminghana and recorded:

The **Spotted-tailed quoll** (*Dasyurus maculatus maculatus*) ranges through all plant communities in the area;

The nationally endangered **Orange-bellied parrot** (*Neophema chrysogaster*) population migrates as a whole through the site twice annually, most likely feeding in the coastal saltmarsh, grasslands, heath and moorlands;

A pair of **White-bellied sea-eagles** (*Haliaeetus leucogaster*) is possibly nesting near Mt. Preminghana in eucalypt forest; and

The endangered **Marrawah skipper butterfly** (*Oreisplanus muniongalarana*) has been recorded within the IPA, and feeds on tall sedge (*Carex apressa*) which occurs adjacent to freshwater aquatic herbland and rushland and in coastal paperbark swamp forest.

Several other threatened species may also occur at the site. This includes the nationally threatened and endemic Tasmanian devil, and the striped marsh frog (*Limnodynastes peronii*) which like the Marrawah skipper is found in the freshwater aquatic habitat within the IPA. The endangered Wedge-tailed Eagle (*Aquila audax subsp. fleayi*) is also likely to hunt over the IPA, with a known nest site on the adjacent property to the east (Johnson et al. 2008).

Preminghana is an important location for the endangered Marrawah skipper, which has now been recorded from about 10 sites between Temma and Woolnorth along the west coast, the Welcome River and Montagu River. Preminghana is likely to play an important role in ensuring the long-term conservation of this species in Tasmania. Conservation of Marrawah skipper at Preminghana requires ongoing management that excludes grazing by cattle, and monitoring of known sites over time to detect changes in abundance of butterflies, and condition and extent of habitat (Johnson et al. 2008).



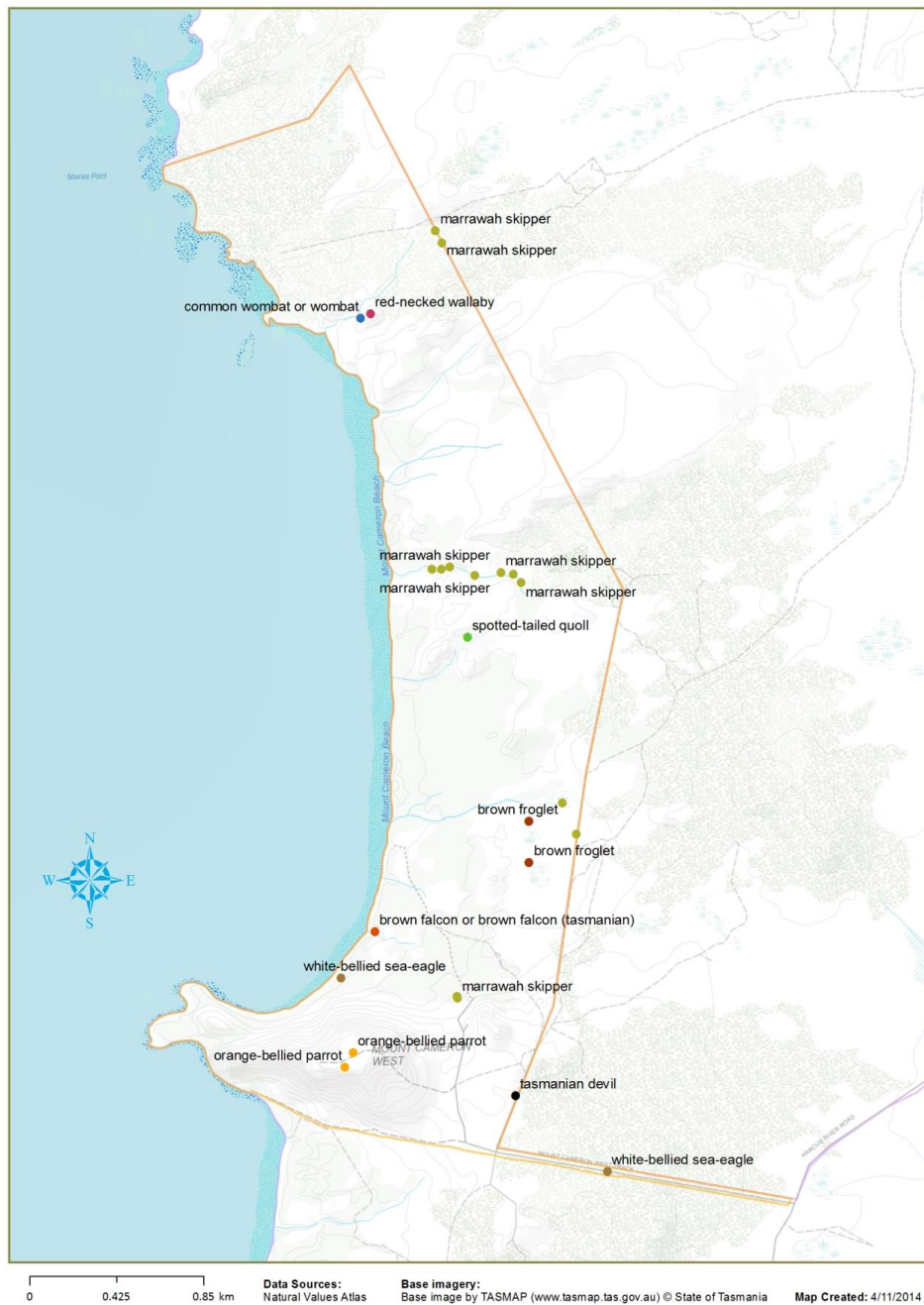


Figure 5: fauna of conservation significance

FINANCIAL OPPORTUNITY

| HEALTH | POOR |
|------------------|---|
| INDICATORS | <ul style="list-style-type: none"> Income through property Number of Aboriginal people employed Number of funded projects at Preminghana |
| PRIORITY THREATS | <ul style="list-style-type: none"> Theft and vandalism Sea level rise Gorse |

The development of financial opportunities for Aboriginal people and the Aboriginal community is acknowledged as an important area for achieving community aspirations for self-sufficiency and self-determination. For long term viability, economic development activities must not harm other important values such as the care and respect for natural and cultural values and the formulation of agreed policies for organisations and individuals aiming to undertake economic activities.

A number of areas of opportunity have been identified by the community for more investigation:

- Community and other use of cultural resources of the sea including kelp, birds, shellfish
- Opportunities for sustainable tourism, linked to the West Coast
- Management of the important conservation values, including wetlands.

FLORA OF CONSERVATION SIGNIFICANCE

| HEALTH | FAIR |
|------------------|--|
| INDICATORS | <ul style="list-style-type: none"> Diversity of vegetation communities Vegetation condition Palawa kani Names identified (monitoring) |
| PRIORITY THREATS | <ul style="list-style-type: none"> Gorse Inappropriate fire management |

Preminghana supports a mix of native grassland, wind-pruned scrubs, eucalypt woodland and forest. A survey conducted in November 2007 identified 19 native plant communities made up of three grassland communities, four wetland communities, one saltmarsh, six scrub and five forest and woodland communities (Appendix 1). This is a lot for a small area, and many of them are listed as important by the State and Australian government.

Of particular importance are the wetland and saltmarsh communities within Preminghana, which are extremely significant as potential feeding habitat for the nationally endangered orange-bellied parrot. The coast paperbark swamp forest and the white gum-blue gum coastal forest and woodland are also considered to be important to protect as they are now quite rare, and have been cleared from other parts of the State (Johnson et al. 2008).

LANDSCAPE VALUES AND WETLANDS

| HEALTH | GOOD |
|------------------|---|
| INDICATORS | <ul style="list-style-type: none"> • Aesthetic appearance • Diversity of flora and fauna • landscape change • Wetland condition / water quality |
| PRIORITY THREATS | <ul style="list-style-type: none"> • Sea level rise • Gorse • Inappropriate fire management • Wind turbines • Sea spurge |

Preminghana is 524 hectares of coastal country on the west coast of Tasmania near the northwest tip of the island. The IPA is entirely surrounded by sea to the west and private land elsewhere.

The landscape of Preminghana is more than just the physical elements of the property, and includes the relationship the community has to those elements - the interaction between the community, the cultural, physical, and aesthetic elements of the landscape. Many of the other Targets (eg Cultural Places and Heritage and tunapri) are essential elements of the Landscape Values and have 'formed' the Preminghana landscape.

Physically, Preminghana extends for approximately 5 km along the coastline and around 1 km inland. The reserve takes in an entire bay, with rocky headlands at either end (Macfarlane 2001). The northern half of Preminghana is dominated by a large stabilised sand blow. To its north and south are undulating sand

dunes, covered with a variety of vegetation. At the northern end of the reserve, a series of rock outcrops form numerous rock platforms (Macfarlane 2001)

To the south of the dune country the land climbs steeply and becomes more rocky in a low ridge which then rises sharply to the hills of Mt. Preminghana and Little Mountain.

Of particular interest are the wetlands and lagoons of Preminghana. In the lowest parts of the dune country are several seasonal lagoons and at least one permanent lagoon (Johnson et al. 2008). A number of creeks run through the dunes and run to the coast forming wetland systems. Beds of wetland vegetation are present in the lagoons (Johnson et al. 2008).

It is important that the aesthetic appearance of Preminghana be retained as that is critical landscape feature for the community, and helps to define the relationship between the place and the community.



PREMINGHANA TUNAPRI (INCLUDING KIPLI)

| HEALTH | FAIR |
|------------------|---|
| INDICATORS | <ul style="list-style-type: none"> Activities undertaken to gain and share knowledge Knowledge of cultural heritage id increased or transferred |
| PRIORITY THREATS | <ul style="list-style-type: none"> Knowledge loss Community / organisational lack of interest |

Preminghana is a cultural place, a place which has a deep history of Aboriginal connection and use. The continuation and reinvigoration of connection and

knowledge within the Aboriginal community for Preminghana is seen as one of the key management priorities.

tunapri is a palawa kani word meaning 'to understand'. For Preminghana, tunapri encompasses knowledge and understanding that provides for a holistic understanding of the country and peoples connections to it. This is derived from knowledge on traditional activities and places, important elements of country that require care, the pursuit of further knowledge of ancestral use of the land and the continuation and sharing of existing knowledge held within the Aboriginal community.

Understanding the importance of tunapri will ensure that essential knowledge and information is continually transferred within the Aboriginal community.





Figure 7: Waterways on Preminghana

THREATS (PROBLEMS WE FACE)

Problems (Threats) on our country are things which damage our targets. They include things which might damage or offend our traditional cultural beliefs and sacred sites. Many of the issues on our country come from things that were done in the past, like creating bores for water or introducing feral animals. Other issues are things that might happen in the future, like climate change or too many careless visitors.

Thinking carefully about the things that threaten our country helps us to decide which problems are the most serious and which ones are not so important. Giving a rating to each threat helps us to focus our activities so that the things we do can have the greatest benefit on the ground. We have thought a lot about which things are damaging our country. The problems we will focus on are:

- Sea level rise
- Gorse
- Knowledge loss
- Theft and vandalism
- Inappropriate fire management
- Disease (DFTD)
- Wind turbines
- Community / organisational lack of interest
- Sea spurge
- Cats and Foxes
- Phytophthora
- Rats
- Rabbits

We have rated the seriousness of each issue for each of the targets (Very High: red, High: yellow, Medium: light green, Low: dark green). One of the aims of our Healthy Country Plan is to convert as many of the yellow boxes (High threat) to green (Medium and Low threat) as we can.

| Threats \ Targets | Landscape values and wetlands | Preminghana tunapri (including kipli) | Financial Opportunity | Community Use | Cultural places and heritage | Flora of conservation significance | Fauna of Conservation Significance | Summary Threat Rating |
|-------------------------------|-------------------------------|---------------------------------------|-----------------------|---------------|------------------------------|------------------------------------|------------------------------------|-----------------------|
| Sea level rise | Very High | | High | | High | | | High |
| Gorse | High | | Medium | | High | Medium | | |
| tunapri loss | | High | | | High | | Medium | |
| Theft and vandalism | | | High | Low | High | | | |
| Inappropriate fire management | High | | | Low | Medium | Low | | Medium |
| Disease (DFTD) | | | | | | | High | |
| Wind turbines | High | | | | | | | |
| Inadequate engagement | | Medium | Low | Medium | | | | |
| Sea spurge | Medium | | | Low | Low | | | Low |
| Cats and Foxes | | | | | | | Medium | |
| Phytophthora | Low | | | | | Low | | |
| Rats | | | | | | Low | Low | |
| Rabbits | | | | | | Low | | |

Table 2: Table of the Threats and how we see them.

SEA LEVEL RISE

Climate change poses significant threats to all of Australia, but its effect may be particularly severe in coastal areas. The principal impacts of climate change on coastal habitats are likely to be sea level rise and inundation of large areas of the coastline, increase storm surges, leading to erosion, and possibly the destabilising effect of more frequent fires on dune vegetation (Mallick2013).

A sea level rise of up to 1 m has been predicted under a worst-case scenario for climate change in Australia. A rise in sea level of this magnitude has the potential to inundate coastal habitats for up to 1 km inland for gently shelving Coast land (Mallick 2013), and also poses a significant threat to coastal cultural sites at Preminghana and elsewhere in Tasmania (Johnson et al. 2008).

GORSE

Gorse (*Ulexeuropaeus*) is a 'declared weed' under the Tasmanian Weed Management Act 1999. Gorse is widespread in the southern part of the Preminghana IPA, particularly on and in the vicinity of Mt Preminghana in the southern end of the IPA (Johnson et al. 2008). Significant infestations consisting of several large patches occur on both the western and eastern sides of Mt Cameron Road beyond the caretakers hut and storage sheds. Where the gorse has established it has full canopy closure and is steadily spreading (Walker 2012).

Gorse infestation on the IPA poses a significant risk on a number of levels, particularly degradation of native vegetation and threatened species

habitats, and significantly increasing the potential for and severity of wildfire due to the weeds flammability. Any fire in the current course infestations on Preminghana in the next 50 years could result in the germination of gorse seed in the soil, leading to the severe worsening of the problem into the future.

TUNAPRI LOSS

tunapri is an essential element that ties the values of Preminghana together with the community. The loss of tunapri undermines the significance of all parts of Preminghana for Aboriginal people.

tunapri is lost when the people who hold that knowledge are not able to pass it on, and the tunapri is no longer available to the community.

While Preminghana may retain the physical values into the future, if the tunapri connected to those physical things is lost then they are diminished to the community.

THEFT AND VANDALISM

Preminghana is a very accessible property, and has, in the past, faced many of the issues facing the broader region from people going where it is not considered appropriate for the to go.

Physically taking or damaging important cultural items represents the most extreme threat to the health of Preminghana as a living cultural landscape.

Although the incidence of theft and vandalism has reduced in recent years, it

remains a real and important threat to be managed.

INAPPROPRIATE FIRE MANAGEMENT

Fire is a natural part of the Tasmanian environment and an important part of the community's relationship to the landscape. However, the positives and negatives of fire vary greatly between different vegetation communities and habitats. In some cases even small and cool fires have the potential to severely damage fire sensitive habitats. In others the absence of fire can also be a problem, for example, resulting in a build-up of fuels or loss of productive capacity.

Traditionally Aboriginal people conducted burns in many coastal areas in Tasmania to maintain easy access and promote grassland regrowth for wallabies, thus improving hunting.

Using fire on Preminghana would have taken account of fire-sensitive habitats which would be damaged by fire, specifically the wetlands and herbfields which occur in small patches surrounded by more fire prone coastal scrub. Poorly managed fire in the coastal grasslands on the dunes would also be a potential threat, as it may result in the dunes becoming less stable, similar to the major sand-blow on the property.

There are also plants considered particularly important from a conservation perspective that might also be at risk from poorly managed fire – the small-leafed glycine on the east slope of Mt. Preminghana and billybuttons on the south cliff.

Inappropriate fire management on Preminghana should be thought of as

both the total exclusion of fire, and the risk of damaging wildfire, and should be managed for both the use of fire for the maintenance of species and communities and protection from wildfire.

DISEASE (DFTD)

Devil Facial Tumour Disease (DFTD) is a very rare form of cancer that is spread when Tasmanian devils bite one another while they are fighting or mating. It is a type of cancer affecting mainly adult devils. Devil's with this cancer usually have problems eating food. This makes them weaker, because they can't get their share of the food. Once they show signs of the disease, devils usually die in about three to six months. Since the early 1990s, the devil population has declined by 90 percent (McCallum et al. 2007).

While DFTD is spread over large parts of Tasmania, some areas, most notably the west/Southwest and far north west, remain free of the disease. The current most westerly point of confirmed disease is just to the east of the Murchison Highway, Northwest Tasmania (Save the Devil website: <http://www.tassiedevil.com.au/tasdevil.nsf>).

The Preminghana IPA and surrounding areas of the far north west corner of Tasmania are therefore one of the few areas currently free of this devastating disease. While the disease may eventually spread further west and into Preminghana, it is important to avoid increasing the risk at speed of this. For example, dead devils picked up from the roadside should not be transported into the IPA as these may be infected with the disease.

INADEQUATE ENGAGEMENT

The cultural and ecological values on Preminghana will only be healthy to the extent that the community, both individuals and organisations, maintain an active interest and presence.

Losing that interest will make many of the other problems worse, by allowing them to go unmanaged.

Inadequate Engagement reduces the capacity of the Aboriginal community to maintain the health of these Targets.

Inadequate engagement describes both the need for the broader Aboriginal community to engage with the needs of *trawtha makuminya*, and community organisations to support that engagement.

SEA SPURGE

Sea spurge (*Euphorbia paralias*) is well established along the eastern and northern coasts of Tasmania and has been steadily gaining a foothold in Tasmania's isolated west coast. This weed is a specifically coastal species which grows on beaches and in dune systems, and which spreads by seeds that can remain viable in sea water for long periods to spread enormous distances on the ocean currents.

Sea spurge currently occurs along the entire length of the coast of the Preminghana IPA, with the densest infestations between 50-hundred metres of the shoreline (Preminghana Weed Management Plan 2014-2019; Johnson et al. 2008). Due to the extent and density of the weed, full eradication of the species

from the IPA is not considered feasible. Another complicating factor is that while sea spurge is a serious weed, it is also assisting to stabilise the more vulnerable dunes within the IPA, particularly during the high tide events (Preminghana Weed Management Plan 2014-2019).

CATS AND FOXES

Feral cats have established in most habitats in Tasmania including undisturbed native vegetation from the coast to subalpine areas. Feral cats are known to prey on a diverse array of small to medium sized mammals and birds. Despite the relatively high public profile is an exotic species threatening native wildlife, there is relatively little documented evidence for their having been the primary cause of native species extinctions in Australia, with a few exceptions (Dickman 1996). However, while feral cats may not necessarily threaten native species with extinction, they can have significant impacts on the abundance and population structure of their prey (Mallick and Driessen 2010).

Feral cats have been seen and trapped semi-regularly on Preminghana. The eradication of feral cats is generally not feasible except in exceptional circumstances (for example, on offshore islands), and would only be advisable where there is a specific natural value (for example, a population of the threatened species at risk from predation) to be protected. At the present time, they do not appear to be any natural values at high risk from feral cats on the Preminghana IPA.

The European red fox is a relatively recent arrival in Tasmania with the species apparently having been introduced intentionally in the 1990s (DPIPWE 2001;

Saunders et al.2006). Predation by foxes represents an ongoing threat to the survival of more than 100 terrestrial species on mainland Australia (Coutts-Smith et al. 2007) and the fox is now listed as a Key Threatening Process under Australia's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

Sightings of the Fox have now been reported from most areas of Tasmania, although sightings from the West and South West remain relatively low. Foxes have been sighted in the far north-western Tasmania the vicinity of the Preminghana IPA (Sarre et al. 2012) and this coastal area would provide high-quality habitat for this predator.

PHYTOPHTHORA

The Phytophthora root rot fungus (*Phytophthora cinamomi*) causes dieback in native plants, particularly heathland species, and can result in substantial loss of native vegetation and changes to vegetation composition. There are very few environments containing heath plants in Tasmania that are not currently under threat from root rot fungus.

Phytophthora is widespread in Tasmania and is known from the coast in the vicinity of Preminghana, but has not yet been reported from the IPA (Johnson et al. 2008). Dieback is therefore not currently threatening the vegetation of Preminghana. However, there is always the risk that this disease will be introduced into the area.

Spores of Phytophthora can be spread by overland water flow and by the physical transport of soil by vehicles, hand tools and footwear (Rudman 2005). Spread of Phytophthora is exacerbated where there

has been mechanical disturbance to a site, alteration to drainage, and recent fires.

A number of simple precautions can be taken to assist in preventing the spread of Phytophthora into Preminghana. For example, keeping camping gear clean, washing mud from boots and gear before moving around on the property and keeping all machinery and vehicles clean. Ideally vehicles entering Preminghana to do work should be properly washed first, and all works involving disturbance to the soil and/or import of materials (e.g. sand, soil, gravel etc) should follow standard wash down procedures provided in the Department of Primary Industries, Parks, Water and Environment (DPIPWE)) booklet 'Tasmanian Wash-down Guidelines', available on the Department's website.

RATS

There are two species of introduced rats in Tasmania: the black rat (*Rattus rattus*), and the brown or Norway rat (*Rattus norvegicus*). Brown rats tend to be confined to areas of human habitation and seldom penetrate into native habitat. In contrast, the black rat is able to establish in native vegetation at some distance from habitations, particularly in disturbed areas (Mallick and Driessen 2009). The impacts of black rats on natural values appears to be relatively limited, although black rats have the potential to impact on bird and skink populations, particularly on offshore islands (Mallick and Driessen 2009). Black rats occur on the Preminghana IPA in small numbers, particularly in areas surrounding the house. Impacts of black rats are likely to be minimal and management of black rats on the IPA is relatively low priority in relation to other impacts such as fire, grazing and weeds.

RABBITS

The European rabbit is widespread throughout Tasmania and can occur in high numbers in coastal areas such as Preminghana. Rabbits can impact heavily on the environment through overgrazing of native plants, particularly palatable grassland and shrub species, and causing significant soil erosion. The abundance of

Rabbits in the Preminghana IPA has not been estimated, however the species is likely to be having some impact on the vegetation through the long-term effects of browsing. There do not appear to be any threatened plant species at specific risk from rabbits within the Preminghana IPA



GOALS AND OBJECTIVES (WHAT WE WANT TO ACHIEVE)

Goals, Objectives and Projects set out the way we will reduce threats and improve targets:

1. A Goal is how we want our Targets to be, and is a statement of what we should see in the health of the target (ie a shift from yellow to green in the health table)
2. An Objective is what we want to do about our threats, as part of reaching our Goal, and is a statement of what we should see in the threat ranking (ie a shift from yellow to green in the threat table)
3. A Project is made up of Strategies and Actions we will do to help us

reach our Objectives and Goals.

There are seven (7) goals for the Preminghana Plan. That is, there are seven areas we would like to improve our Targets, mainly focusing on the Targets with only Fair health, but some with Good are also to be improved. We should measure progress toward the Goal by measuring the health of the Target, and revisiting the health table above.

There are then eight (8) Objectives across the Threats, and these mostly focus on the high-ranked threats. Achieving the Objectives should see the threats reduce, and we should measure this by revisiting the threat table, after we measure how many and where the threats are.

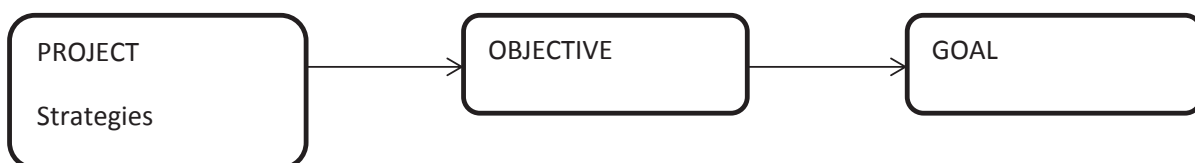


Figure 8: Relationship between Projects, Strategies, Objectives and Goals




| GOALS for Targets | TARGETS supported | 2015 HEALTH 2020 | |
|--|---------------------------------------|---|------|
| | |  | |
| 1. At least one TAC organised trip from Hobart and Launceston to Preminghana every year and at least 3 from Burnie, outside festivals, for at least five years | Community Use | FAIR | GOOD |
| 2. In 10 years' time (2024) cultural places and heritage values are not deteriorating further or have stabilised | Cultural places and heritage | FAIR | GOOD |
| 3. In 2025 all Fauna of Conservation significance are still present at Preminghana | Fauna of Conservation Significance | FAIR | FAIR |
| 4. Knowledge of the cultural values of Preminghana is increased in the Aboriginal community | Preminghana tunapri (including kipli) | FAIR | GOOD |
| 5. Landscape values and wetlands are in as good condition in 2020 as they are in 2015 | Landscape values and wetlands | GOOD | GOOD |
| 6. The Aboriginal community financial position is improved through business opportunities involving Preminghana | Financial Opportunity | POOR | FAIR |
| 7. Vegetation communities are diverse, and in good condition by 2020 | Flora of conservation significance | FAIR | FAIR |

Table 3: Goals for the Preminghana plan

| OBJECTIVES for Threats | THREATS reduced | 2015 THREAT 2020 | |
|---|---|---|--------|
| | |  | |
| 1. Permanently (no reinfestation's / new growth in clean areas) decrease the area of gorse by 80% in 10 years | Gorse | HIGH | MEDIUM |
| 2. By 2020 knowledge loss no longer impacts the future of Preminghana | Knowledge loss | HIGH | MEDIUM |
| 3. Theft and vandalism does not impact on cultural values at Preminghana | Theft and vandalism | HIGH | MEDIUM |
| 4. Understand the impact of sea level rise on cultural places and heritage at Preminghana within 5 years | Climate change | HIGH | MEDIUM |
| 5. Reduce the risk and impact of destructive fire on Preminghana | Fire | MEDIUM | LOW |
| 6. By 2020 demand for and participation in Preminghana activities has significantly increased | Community / organisational lack of interest | MEDIUM | LOW |
| 7. Every year we have the funds to fulfil high priority aspects of the plan and maximise employment | Community / organisational lack of interest | MEDIUM | LOW |
| 8. Control Sea Spurge near heritage sites and protect sites from further expansion | Sea Spurge | LOW | LOW |

Table 4: Objective for the Preminghana plan

PROJECTS AND STRATEGIES (JOBS TO DO)

The Preminghana Healthy Country Plan will be implemented through ten (10) Projects that strengthen our targets and weaken the threats, moving us toward our vision.

There are many things we would like to do to help our country and to keep it healthy. But because of limitations in the number of people to do the work and constraints in funding we have to prioritise our work.

There are many strategies that we will implement to help achieve our Goals and Objectives. These are the jobs we all have to do.

The Strategies, Objectives and Goals have been arranged into operational Projects which help the things we value most (the targets) and address the most serious issues (the threats). We also want to carry out projects which have the most chance of making a real difference to the health of our country.

Each project focuses on supporting a number of targets and their goals, an objective, and on a strategy or strategies to achieve that objective.

There are ten Projects listed in Table 5

The strategies that make up each project are listed below. A detailed workplan for each project is provided in a separate document.

| PROJECT | OBJECTIVES | GOALS |
|--------------------------------------|------------|----------------|
| 1. Gorse management | 01 | 02,05, 06, 07 |
| 2. Fire Plan | 05 | 01, 02, 05, 07 |
| 3. Community Access | 06 | 01, 04, 06 |
| 4. Financial Opportunity | 07 | 06 |
| 5. Cultural places | NA | 02 |
| 6. Climate change | 04 | 02, 05, 06 |
| 7. Stopping Theft and Vandalism | 03 | 01, 02, 06 |
| 8. Integrated approach to operations | NA | All |
| 9. Building the Knowledge Base | 02 | 02, 03, 04 |
| 10. Sea Spurge | 08 | 01, 02, 05 |

Table 5: Projects and their related Goals and Objectives

The Goals and Objectives linked to each Project help monitor our progress and are shown in the table above. We will continue to adjust our Strategies if we are not achieving the expected results.

Projects, Strategies and their priority

| Project | Strategy | Rating | Priority |
|--------------------------------------|---|----------------|----------|
| 1. Gorse management | Actively prevent gorse spread through mechanical means | Effective | High |
| | Implement gorse control in strategic areas - landscape values, cultural places, flora of significance | Effective | High |
| | Multi-tenure approach working with neighbours | Effective | Medium |
| 2. Fire Plan | Active Fire lighting for fuel reduction and ecological benefit | Effective | High |
| | Infrastructure protection | Effective | High |
| | Managed access / campfire policy developed and implemented | Less Effective | Medium |
| 3. Community Access | Multi-tenure approach working with neighbours | Effective | Medium |
| | Facilitated cultural visits to Preminghana | Effective | High |
| | Promote available facilities in the community | Less Effective | Medium |
| 4. Financial Opportunity | Establish process that will allow appropriate business development on Preminghana | Effective | Medium |
| | Look at other income streams - eg non environmental funds | Less Effective | High |
| | Maintain existing funding sources (Government, non-government) | Effective | High |
| 5. Cultural places | Identify and assess the condition of cultural and heritage places in 5 years | Effective | High |
| 6. Climate change | Understand the impact of sea level rise on cultural places and heritage at Preminghana | Less Effective | High |
| 7. Stopping Theft and Vandalism | Increase awareness of property ownership and significance | Effective | Medium |
| | Physical prevention of unauthorised visitors and vehicles to beach and elsewhere | Less Effective | High |
| | Actively prevent gorse spread through mechanical means | Effective | High |
| 8. Integrated approach to operations | Build overall TAC fire management capacity over 10 years | Less Effective | Medium |
| | Establish and maintain Preminghana Leadership Team to guide and lead implementation of the plan | Effective | High |
| | Establish caretaker 'office' at Preminghana | Effective | High |
| 9. Building the Knowledge Base | Increase awareness of property ownership and significance | Effective | Medium |
| | Multi-tenure approach working with neighbours | Effective | Medium |
| | Build the knowledge base of Targets at Preminghana | Less Effective | Medium |
| 10. Sea Spurge | Control sea spurge to protect cultural heritage assets | Less Effective | Low |

Table 6: Project strategies and priority

IMPLEMENTATION (ACTIONS)

This Plan will be implemented by TAC using a detailed Operational Plan specifying what we will do, when we will do it, and how we will accomplish it. The Operational Plan is a separate document to this one.

GOVERNANCE

The Preminghana plan covers a period of 5 years, and overall responsibility for its implementation rests with TAC Directors supported by an Operational team of employed staff (Coordinator / Supervisor and others), as well as the broader Tasmanian Aboriginal community.

To make the Plan work will need coordination of annual work programs and reporting on what has been done and what has been achieved.

A Plan Coordinator will ideally be appointed and work in conjunction with a Management Committee and together they will complete an annual Project Work Plan that implements the Projects set out in the Plan.

An Operational Team will produce Quarterly Work Plans that reflect, on a month by month basis, the aims and objectives of the years' Annual Work Plan.

To make sure that the actions and achievements of the Plan are properly documented and to help the Operations team monitor progress, they will also complete annual, and mid-term reports (see section below).

On the ground

The operational team rangers will now be able to annually prioritise activities – what we do first. With the necessary resources, these activities will be implemented and the results monitored to track the desired improvements to the health of our identified targets.



Figure 9: Annual work planning and review cycle

LEARNING AS WE GO (MONITORING, REPORTING AND IMPROVEMENT)

The fundamental question facing any team is: "Are our strategies working?" To answer this question, we will periodically collect data on a number of indicators that gauge how well our strategies are keeping the critical threats in check and, in turn, whether the health of our targets is improving.

When we talk about Reporting, we are looking at reporting on 3 things:

- **Implementation** – are we using the plan?
- **Effectiveness** – are the strategies working?
- **Status** – are our targets improving?

Figure 10 shows how these three things are linked together.

Figure 11 provides a general calendar to follow for when these would be done over the life of the plan.

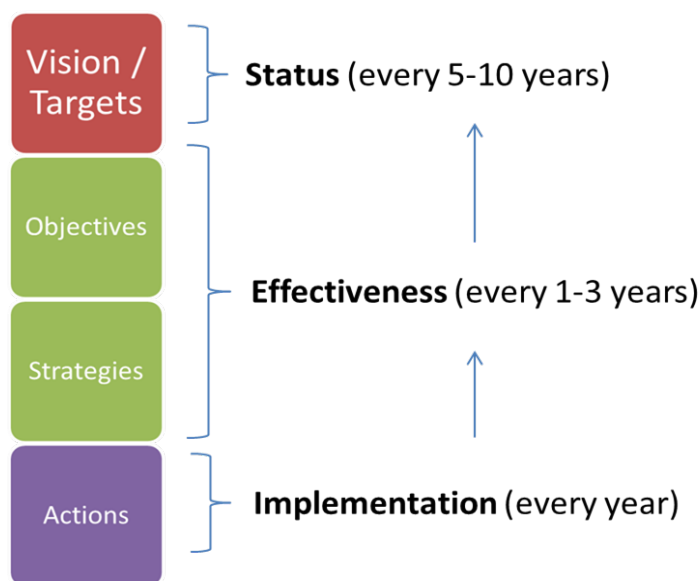


Figure 10: How the different monitoring fits together to tell us what we are achieving

Implementation Monitoring (Activity / Jobs)

Implementation monitoring and reporting is the simplest and most frequently carried out. Implementation monitoring simply answers the question "Are we using the plan?", and is a regular review of the Actions in the work plan to see if they are being done, and check their progress.

When and how should it be done?

For Preminghana it is recommended that a planning team meet **quarterly** and review the work plan, giving each activity one of the following ranks and recording any relevant factors that explain the rating:

- **Scheduled for Future Implementation:** Activity is not yet started
- **Major Issues:** Ongoing, but has major issues that need attention
- **Minor Issues:** Ongoing, but has minor issues that need attention
- **On Track:** Ongoing, generally on track

- **Completed:** Successfully accomplished
- **Abandoned:** No longer relevant or useful

Who will do it?

Implementation monitoring should be done by the Preminghana Ranger Coordinator, ideally with the Manager team.

What happens to the results?

The results should be put together in a report and given to the Board and the Ranger team with any recommendations for change.

Effectiveness Monitoring (Strategy / Objectives)

Effectiveness monitoring focuses on the Strategies and Objectives, and whether we are seeing change that shows we are being successful. Effectiveness monitoring builds on implementation monitoring, but in addition to simply recording activity, we look at all the information we have collected from the work completed and think about what that is showing us (eg more or less weeds)

When and how should it be done?

Objectives should be reviewed every two years, and the results of Strategies looked at to report against progress toward achieving the Objective. Ideally this would happen two months before the TAC Annual General Meeting.

Who will do it?

Effectiveness monitoring should be done by team members guided by outside experts.

What happens to the results?

The results should be put together in a report and given to the Board / AGM and Funders with any recommendations for change.

Status Monitoring

Status monitoring focuses on the Targets and their ongoing health. It tells us whether, with all the activities and successes in our strategies, we are actually seeing an improvement in the targets we are working to make healthy. Status monitoring is typically the most difficult of the three levels of monitoring, and requires the greatest investment in time and resources, both for data capture as well as for analysis.

When and how should it be done?

Status monitoring will often require specialist skills, particularly for analysis. Baseline conditions will need to be established to confirm the health of Targets. Specific monitoring approaches will need to be determined based on each Target, and which agencies are able to provide the data to the TAC.

Who will do it?

Status monitoring will be carried out by management teams supported by other organisations / agencies – the coordinator will need to liaise with others to secure the data or ideally the analysis to report progress.

What happens to the results?

The results should be put together in a report and given to the project team, the community, Board and Funders with any recommendations for change.

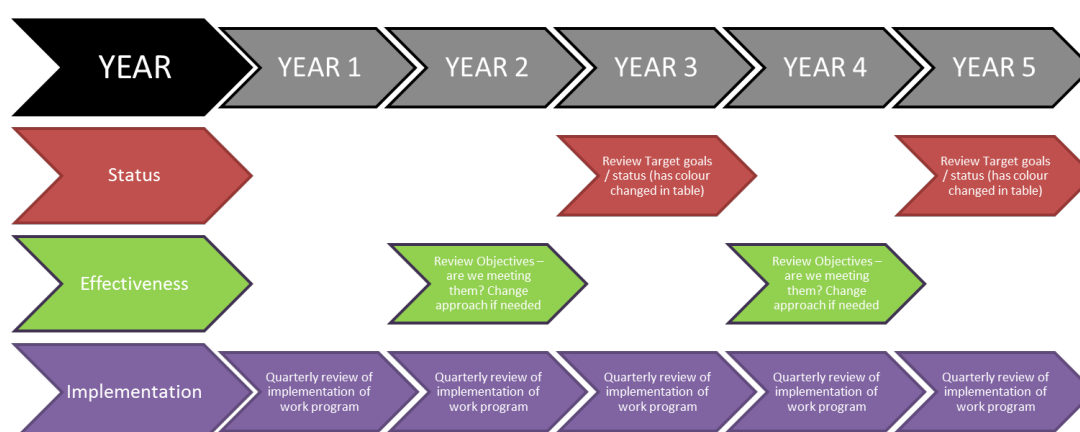


Figure 11: Calendar showing times for each type of review and reporting

Adapting the Plan

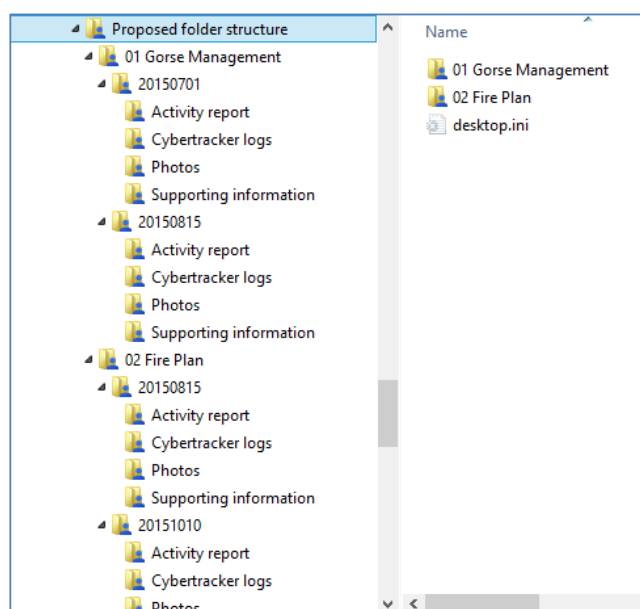


Figure 12: Example folder structure for storing information on projects for later reporting and analysis

Adapting the plan is an ongoing process of regular review, and is not left to the end of the proposed plan time. Creating a 'culture' of review is important to ensure that work being done in the plan is as effective as possible, and requires the following key elements:

1. Regular (quarterly) review of **implementation** by the Operational team
2. Effective learning also depends on being able to review previous work, outcomes and results. It is essential that a simple approach to information be established to keep track of all records relating to

implementing the plan. A simple 'folder' approach is cheap and easy to implement,

storing any materials (reports, photographs, Cyber tracker logs etc) in folders under project or target names (Figure 12).

Supported by simple record keeping the small regular reviews will feed up into larger mid-term and full plan reviews as shown in Figure 13.

It may be helpful to establish an Advisory Committee of experts in various aspects of implementing and monitoring management plans, to help the Directors and the Operations team put the plan in place. An Advisory Committee can have a number of benefits:

- Access to additional skills
- Builds plan credibility to a wider audience
- Keeps the plan and process moving



Figure 13: Regular reporting feeds into full and mid-term plan reviews

An Advisory Committee may need to meet no more than twice per year, and possibly eventually only once per year.

REFERENCES

- Brown, M. (1980). The vegetation of the Mt Cameron West Aboriginal site. Papers and Proceedings of the Royal Society of Tasmania. 114: 21-34. Johnson, K., Carter, O., Gilfedder, L., Preminghana Natural Values, an unpublished report to the Tasmanian Land and Sea Council,
- Caring for Our Country (2013). IPA, Investment Advice 2013–18
- Coutts-Smith, A. J., Mahon, P. S., Letnic, M., and Downey, P. O. (2007). The threat posed by pest animals to biodiversity in New South Wales. Invasive Animals Cooperative Research Centre, Canberra.
- Department of Primary Industries and Water, Hobart, Australia.
- Department of Primary Industries, Parks, Water and Environment (DPIPWE) (2001). Fox-free Tasmania: Action Plan to Prevent the European Red Fox entry into Tasmania 2001-2003. (Department of Primary Industries, Water and Environment, Hobart.
- Department of Primary Industries, Water and Environment, Hobart.
- Dickman, C. (1996) Overview of the impacts of feral cats on Australian native fauna. Report for the Australian Nature Conservation Agency, Canberra.
- Disease. Ecohealth 4, 318-325.
- Johnson, K., Carter, O., Gilfedder, L., Schahinger, R., Bell, P., Comfort, M. and Sculthorpe, A. (2008) MacFarlane, I. (2001). A regional Aboriginal Archaeological site survey of north-west Tasmania. Report to the Parks and Wildlife Service DPIWE, Tasmania, and to the Australian Heritage Commission.
- Mallick S.A. (2013). Potential impacts of climate change on the fauna values of the Tasmanian Wilderness World Heritage Area. Nature Conservation Report Series 13/2.
- Mallick, S. A. and Driessen, M. M. (2009). Review, Risk Assessment and Management of Introduced Animals in the Tasmanian Wilderness World Heritage Area. save document Nature Conservation Report 10/01. Department of Primary Industries, Parks, Water and Environment, Tasmania .
- Mallick, S. A. and Driessen, M. M. (2009). Review, Risk Assessment and Management of Introduced Animals in the Tasmanian Wilderness World Heritage Area. save document Nature Conservation Report 10/01. Department of Primary Industries, Parks, Water and Environment, Tasmania .
- Mallick, S. A., Hasler, M., Driessen, M. M. and Hocking, G. J. (1997). Past and present distribution of the eastern barred bandicoot (*Perameles gunnii*)

- in the Midlands, Tasmania. *Pacific Conservation Biology* 3, 397-402.
- McCallum, D., Tompkins, D. M., Jones, M., Lachish, S., Marvanek, S., Lazenby, B., Hocking, G., Wiersma, J. and Hawkins, C. E. (2007). Distribution and Impacts of Tasmanian Devil Facial Tumor
- Rudman, T. (2005). Interim *Phytophthora cinnamomi* Management Guidelines, Nature Conservation Report 05/7, DPIW, Hobart, Tasmania.
- Sarre, S. D., MacDonald, A. J., Barclay, C., Saunders, G. R. and Ramsey, D. S. L. (2012). Foxes are now widespread in Tasmania: DNA detection defines the distribution of this rare but invasive carnivore. *Journal of Applied Ecology* 50, 459–468.
- Saunders, D.L. and Tzaros, C.L. 2011. National Recovery Plan for the Swift Parrot *Lathamus discolor*, Birds Australia, Melbourne.
- Threatened Species and Marine Section (2014c). Listing Statement for *Pterostylis falcata* (sickle greenhood). Department of Primary Industries, Parks, Water and Environment, Tasmania.
- Threatened Species Section (2006). Flora Recovery Plan: Tasmanian Threatened Orchids 2006-2010.
- Threatened Species Section (2010). Listing Statement for *Craspedia preminghana* (Preminghana billybuttons), Department of Primary Industries, Parks, Water and Environment, Tasmania.
- Threatened Species Section (2014a). *Dasyurus maculatus* (Spotted-tailed Quoll): Species Management Profile for Tasmania's Threatened Species Link. <http://www.threatenedspecieslink.tas.gov.au/spotted-tailed-quoll>. Department of Primary Industries, Parks, Water and Environment, Tasmania. Accessed on 8/10/2014.
- Threatened Species Section (2014b). *Sarcophilus harrisii* (Tasmanian Devil): Species Management Profile for Tasmania's Threatened Species Link. <http://www.threatenedspecieslink.tas.gov.au/tasmanian-devil>. Department of Primary Industries, Parks, Water and Environment, Tasmania. Accessed on 8/10/2014.
- Threatened Species Unit (2000). Listing Statement *Swamp diuris Diuris palustris*. Department of Primary Industries, Water and Environment, Tasmania.
- Walker, B. (2013). Gorse Infestation – Preminghana (Mt Cameron West) Issues Review. Unpublished report.

APPENDIX 1: IMPORTANT FAUNA AND FLORA

| Species | Common name | Recorded | Status (EPBC ¹ /TTSPA ²) | Principal threats |
|-------------------------------------|-------------------------|--|--|---|
| <i>Dasyurus maculatus maculatus</i> | Spotted-tailed quoll | Yes, widespread suitable habitat within the IPA | V/r | Clearing of native habitats (TSS 2014a) |
| <i>Haliaeetus leucogaster</i> | White-bellied Sea-eagle | Suspected nesting near Mt Preminghana | MM/v | Loss of nesting habitat, disturbance of breeding birds, and unnatural mortality through shooting, poisoning, electrocution and collisions |
| <i>Neophema chrysogaster</i> | Orange-bellied Parrot | Yes, the entire wild population migrates through or adjacent to Preminghana twice per year on migration, highly likely that the species feeds throughout the area in coastal saltmarsh, grasslands, heath and moorland | E/e | Loss of foraging habitat during migration |
| <i>Oreisplanus unionga larana</i> | Marrawah skipper | Yes, populations recorded adjacent to wetlands and streams on Preminghana | -/e | Loss of habitat (Johnson et al. 2008) |
| <i>Sarcophilus harrisii</i> | Tasmanian devil | No, potential habitat | Devil Facial Tumour Disease (DFTD), loss/fragmentation of foraging and Denning habitat (TSS 2014b) | |

| Species | Common name | Recorded | Status (EPBC ¹ /TTSPA ²) | Principal threats |
|-----------------------------|--------------------|-----------------------|---|-------------------|
| <i>Limnodynastes peroni</i> | Striped marsh frog | No, potential habitat | Restricted distribution in Tasmania, believed to be due to alteration and loss of habitat | |

Table 7: Fauna of conservation significance for the Preminghana IPA (from Johnson et al. [2008])

¹ Commonwealth Biodiversity Protection and Biodiversity Conservation Act 1999

² Tasmanian Threatened Species Protection Act 1995

| Species | Common name | Recorded | Status (EPBC ¹ /TTSPA ²) | Principal threats |
|--------------------------------|--------------------------|---|---|---|
| <i>Craspediapedemina ghana</i> | Preminghana billybuttons | Yes, known from cliff face on the southern side of Mt Preminghana | E/e | Physical disturbance to its cliff-face habitat, invasion by exotic species and stochastic events (TSS 2010) |
| <i>Glycine Microphylla</i> | Small-leaf glycine | Yes, known from the eastern slope of Mt Preminghana | -/v | Overgrazing woodland/forest habitat |
| <i>Pterostylis falcata</i> | Sickle greenhood | Yes, recorded from IPA | -/r | Loss of habitat through historical clearing (TSS 2014c) |
| <i>Cryptostylis robusta</i> | Large gnat orchid | Yes, recorded from IPA | -/r | Loss of habitat (TSS 2006) |
| <i>Diuris palustris</i> | Swamp diuris | No, potential habitat | -/e | Habitat alteration or loss, grazing and trampling, changes to drainage patterns, incorrect fire regime (TSU 2000) |

Table 8: Flora of conservation significance for the Preminghana IPA (from Johnson et al. [2008])

¹ Commonwealth Biodiversity Protection and Biodiversity Conservation Act 1999

² Tasmanian Threatened Species Protection Act 1995

APPENDIX 2: VEGETATION COMMUNITIES

Vegetation communities mapped for Preminghana IPA showing area of each vegetation type.

| Plant community | Area (ha) |
|---|-----------|
| Coast paperbark (<i>Melaleuca ericifolia</i>) swamp forest(| |
| Freshwater aquatic sedgeland and rushland | |
| Lacustrine herbland | |
| Wetland (undifferentiated) | |
| Saline aquatic herbland | |
| White gum (<i>Eucalyptus viminalis</i>) – blue gum (<i>Eucalyptus globulus</i>) coastal forest and woodland | |
| Coastal grass and herbfield /Marram grassland (on sand) | |
| Lowland grassy sedgeland | |
| Freshwater aquatic herbland | |
| Coastal scrub | |
| Coastal scrub on alkaline sands | |
| Coast wattle (<i>Acacia longifolia</i>) coastal scrub | |
| Wet heathland | |
| Coastal heathland | |
| Teatree (<i>Leptospermum</i> species) scrub | |
| Western peppermint (<i>Eucalyptus nitida</i>) wet forest undifferentiated | |
| Western peppermint (<i>Eucalyptus nitida</i>) dry forest and woodland | |
| Lowland silver tussock grass (<i>Poa labillardierei</i>) grassland (on basalt) | |

Table 9: Vegetation communities mapped for the Preminghana IPA (from Johnson et al. [2008]).

| Plant community | Status (TTSPA ¹ / EPBC ²) |
|---|--|
| Coast paperbark (<i>Melaleuca ericifolia</i>) swamp forest(TASVEG NME) | r, e/- |
| Freshwater aquatic sedgeland and rushland (TASVEG ASF) | v/- |
| Lacustrine herbland (TASVEG AHL) | v/- |
| Wetland (undifferentiated) (TASVEG AWU) | v/- |
| Saline aquatic herbland (TASVEG AHS) | v/- |
| White gum (<i>Eucalyptus viminalis</i>) – blue gum (<i>Eucalyptus globulus</i>) coastal forest and woodland (TASVEGDVC) | r, v/- |

Table 10: Vegetation communities mapped for the Preminghana IPA (from Johnson et al. [2008])

1 Tasmanian *Threatened Species Protection Act 1995*

2 Commonwealth *Biodiversity Protection and Biodiversity Conservation Act 1999*

Copyright

Phone: (03) 6234 0700

Email: hobart@tacinc.com.au



CONSERVATION
MANAGEMENT.COM.AU



TASMANIAN
ABORIGINAL
CENTRE INC.