ORFORD FORESHORE MASTER PLAN
Draft Report

inspiring place

in association with North Barker Ecosystem Services

Prepared for Steering Committee involving Glamorgan Spring Bay Council and Tasmania Parks and Wildlife Service

MARCH 2022

DRAFT ORFORD FORESHORE MASTER PLAN

Prepared for Glamorgan Spring Bay Council and Tasmanian Parks and Wildlife Service

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17.12.21	Draft report to Steering Committee for review
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24.03.22	Final report for public review and comment

Inspiring Place Project No. 21-45

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SECTION 1
INTRODUCTION

1.1 BACKGROUND

Orford, located 78kms to the north of Hobart, has become the southern visitor gateway to the East Coast and the Great Eastern Drive in Tasmania. The coastal settlement is a highly desirable location for holiday makers with the population swelling over the summer months and other peak times of the year.

The coastal foreshore extending from Raspins Beach south to the end of Millingtons Beach, has been a popular place that attracts high levels of use and recreational activity by locals and visitors. The foreshore has also been a popular area used for a range of recreational activities including walking, bike riding, running, sailing, fishing, swimming, kayaking, boating, surf lifesaving, dog walking, picnicking and bird watching.

The foreshore has significant bio-conservation values with the mouth of the Prosser River, being recognised by BirdLife International as being an Important Bird Area (IBA) for seabirds and shorebirds.

The foreshore has been largely modified in response to coastal hazards and threats. Coastal erosion led to the loss of significant foreshore land and the need to install rock wall barriers along Raspins Beach. The flooding of the Prosser River after heavy rainfalls caused foreshore erosion and led to the installation of major rock walls to limit coastal damage. The State Government undertook major works to dredge the mouth of the Prosser River and install large sandbags to manage river flows and sand deposits so as to allow safe boat access.

The dynamic nature of the coastline and the influences resulting from climate change will continue to create littoral drift, coastal erosion and impose impacts on the seabird, shorebird and wildlife habitat.

There have also been ongoing conservation efforts along the foreshore to reduce weeds, re-establish local coastal vegetation, manage coastal access and to educate/inform users of the natural values.

These works and other improvements to the foreshore have largely been done in the absence of an agreed master plan for the whole foreshore. The Orford Foreshore master plan provides the opportunity for developing strong policy guidance and to resolve issues at these sites in a sustainable manner through well-considered master planning. The Project Brief referred to issues such as:

> increasing complexity of managing increasing visitation in conjunction with protecting and conserving significant natural and cultural values;
>
> responding to the diversity of user groups and their competing interests and how best to cater for their interests and manage possible conflicts e.g., conflict between dogs and protecting seabird and shorebird habitat;
>
> understanding the economic and social values of the foreshore to local businesses, tourism, residents and ratepayers and any potential implications resulting from recommended management actions;
>
> provision of facilities and infrastructure for appropriate recreational pursuits and where these facilities should be located;
>
> management of bird habitat in the IBA and the differing community views about the management of access within the area;
>
> management of other natural and cultural values within the foreshore;
>
> maintenance of important view fields and landscapes; and
>
> identification of management responsibilities given the multiple land titles tenures.

The values inherent in the foreshore landscape, the energetic character of the coast and human use of it are not necessarily incompatible. People can access coastal areas provided their values are understood and development is sensitively sited and constructed to avoid or mitigate potential impacts and to account for change.

The Orford Foreshore master plan provides the opportunity for developing strong policy guidance and to resolve the identified issues at these sites in a sustainable manner through well-considered master planning.

1.2 Purpose

The purpose of this project was to prepare a master plan for the Orford Foreshore area, to assist land managers and the community to:

better understand, conserve and manage natural and cultural values, in particular the IBA;

improve community and visitor experience;

improve the provision of appropriate recreational facilities; and

enhance community connectivity between the Orford foreshore and the town centre.

The Project Brief set out a number of specific objectives to be addressed in the master plan. These objectives were:

natural and cultural values, with special attention given to the IBA:

a) identify options to protect the IBA and recognise the international significance of the sanctuary,

b) provide an options analysis to manage visitation in a way that is consistent with the area's natural and cultural values,

c) identify options to provide contemporary presentation and interpretation of these values, and

d) recommend preferred options to protect the natural and cultural values of the area, in particular the IBA.

visitors and their recreational pursuits:

a) Prepare an options analysis for the provision of suitable recreational pursuits for the area, and the appropriate locations for these activities, whilst considering existing public use, vistas and key views lines, current recreational users and with regard to the natural and cultural values of the area,

b) Provide an overall contemporary plan to improve visitor parking, amenities and opportunities for recreational activities that are

consistent with the management recommendations determined for the area's natural and cultural values,

c) Include design parameters or concept designs that factor in the above considerations, and

d) Identify public works options to support the recreational pursuits identified above and to improve the appearance, amenity and use of the area.

Community

a) Improve community awareness and understanding of the natural and cultural values of the Orford foreshore,

b) Improve pedestrian and vehicular connectivity and wayfinding between the town centre and the adjoining foreshore, and

c) Ensure the area remains a space for local residents to enjoy;

Ongoing maintenance and management responsibilities:

a) identify the responsible management authority, or authorities, for delivering the recommended outcomes and ongoing maintenance of facilities and infrastructure.

1.3 Process

The project was undertaken in five stages:

Stage 1 provide a briefing for the project and establish a working relationship for bringing together the knowledge of Steering Committee and the consultant team;

Stage 2 involved consultation and site walks with a wide range of stakeholder and community including Council, PWS, MAST, Natural and Cultural Heritage Division DPIPWE, Aboriginal Heritage Tasmania, Friends of Orford Bird Sanctuary, TasWater, Orford Primary School, Orford Golf Club and representatives of Orford Community Group, Orford Golf Club, Raspins Beach Surf Lifesaving Association, Raspins Beach Sailing Club Association, shack owners near the Orford Bird Sanctuary and Millingtons Beach;

Stage 3 identified a range of options and indicative site plans for the master plan based on an understanding of the values and issues arising from Stages 1 and 2;

Stage 4 was the preparation of the draft master plan for review by the Steering Committee; and

Stage 5 was the release of the draft master plan for public review and comment before finalisation of the plan.

A Steering Committee was established to oversee the Orford Foreshore Master Plan project with representatives from Council and PWS, being the two main contributors to funding the project.

The project commenced in September 2021 and is planned to be completed by Mid 2022.

SECTION 2
PLANNING CONTEXT

2.1 Land Tenure and Management Responsibilities

Map 2.1 shows the existing land tenure of the Orford foreshore included in the master plan.

Raspins Beach is Crown Land dedicated as the Raspins Beach Conservation Area under the *Nature Conservation Act 2002* with a Crown Lease delegating Council with management responsibility (the approval of PWS is required for works and development). This lease requires renewal.

A narrow parcel of land along the eastern side of the Tasman Highway at Raspins Beach which is shown in ListMap as being owned by the Orford Golf Club (possibly as a consequence of the road alignment).

Public Reserve dedicated under the *Crown Lands Act 1976* which extends from the southern part of Raspins Beach Conservation Area to the Prosser River bridge and is Crown Land with a Crown Lease delegating Council with management responsibility. The current lease area requires review against on-ground assets with consideration being made for the area to be varied to include the existing Council managed car and boat trailer parking and community park. A lease or licence would be recommended to provide management authority to the IBA however any future lease of licence assessment process will ultimately determine the best instrument for the management of the values in this area.

Unallocated Crown Land which includes the sand spit formed in recent years with the recent works and alteration to the Prosser River mouth. Part of the IBA is made up of unallocated Crown Land. The existing Council lease area requires review with consideration being made to vary the lease area to include the entire sand spit.

Millingtons Beach is Crown Land dedicated as the Millingtons Beach Conservation Area under the *Nature Conservation Act 2002* currently under PWS management (excluding the public toilet facility which is managed by the Council subject to a Crown Licence).

Crown licences have been issued for the use and operation of private jetties along the Prosser River foreshore. Council built infrastructure along the southern section of the Prosser River on Millingtons Beach Conservation Area should be considered and incorporated into recreational licences subject to PWS process.

Our Park on the western side of Millingtons Beach Conservation Area that is Council owned and managed land.

2.2 Review of Past Plans

The following plans were reviewed as part of the background research for the project:

GSBC Orford Area Reserves – Native Flora and Fauna Management Plan 2014-2019;

Lynne Sparrow Bandicoots at the Beach Coastcare Project Millingtons Beach Coastal Reserve Management Strategy 1998;

AECOM Local Area Report Triabunna and Orford – part of the Communities and Coastal Hazards Local Area Report;

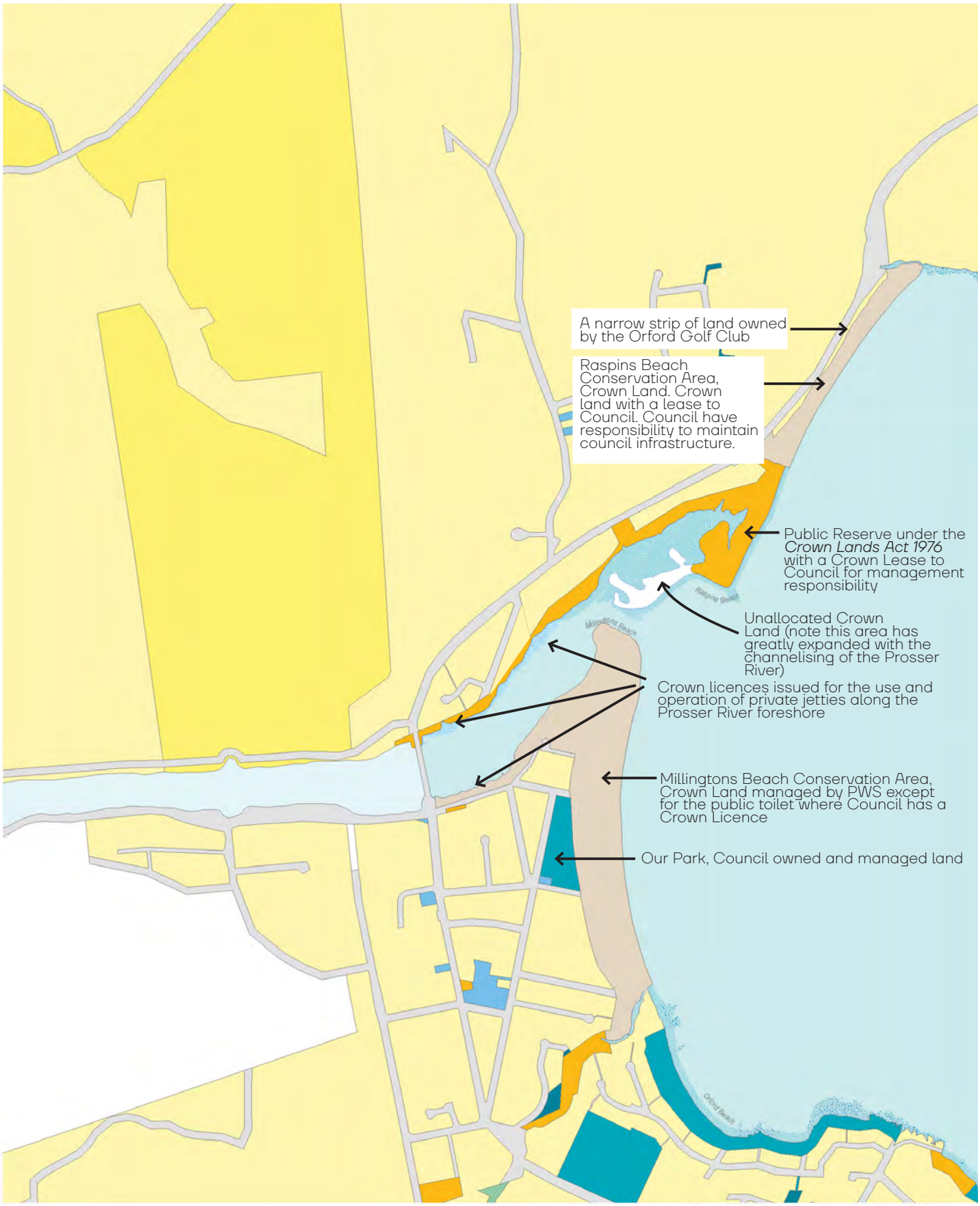
Burbury Consulting 2014 Glamorgan Spring Bay Council Prosser River Stabilisation and Maintenance Plan;

Gilby + Brewin Architects / Urban Design early draft Master Plan map of core Prosser River mouth area, 2019;

GHD Draft *Concept Plan for the Esplanade*, Orford 2007;

GHD *Prosser Bay Foreshore Management Plan* 2007;

Woehler,E, BirdLife Tasmania *Shorebird and tern populations, Prosser River 2017/18*;



www.thelist.tas.gov.au

Map 2.1 Land Tenure

Orford Foreshore Master Plan | PREPARED FOR GSBC AND PWS

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NORTH

Date 24/03/2022

Woehler, E., 2016: *Impact of sea-level rise on coastal natural values in Tasmania. Case Study for CoastAdapt*, National Climate Change Adaptation Research Facility, Gold Coast.

Birdlife Tasmania Technical Report and data;

Prosser River Advisory Group Section 24 Committee proposal release for public comment in 2019;

Consultant review of the community feedback from the Prosser River Advisory Group Section 24 Committee proposal;

Bird monitoring data by GSBC/Friends of Orford Bird Sanctuary;

Ironbark Environmental Arbiculture + Ryder *Tree Risk Habitat Assessment Raspins* Orford, 2017;

TasWater initial site layout drawings for upgrades to the Orford sewage pumping stations;

Aboriginal Heritage Assessment reports for Millingtons Beach Conservation Areas dated 2016; and

various Council planning permits and associated documentation within the project area.

In addition to these sources, the preparation of the natural values and weeds report also reviewed a range of data sources and information including:

Tasmanian Natural Values Atlas;

Glamorgan Spring Bay Weed Management Plan 2015-2020;

https://dpipwe.tas.gov.au/Documents/Coastal-Weed-of-Tasmania-booklet.pdf

https://dpipwe.tas.gov.au/Documents/Tasmanian_Coastal_Works_Manual.pdf

BirdLife International (2021) Important Bird Areas factsheet: Orford (Tasmania). Downloaded from http://www.birdlife.org.

https://dpipwe.tas.gov.au/Documents/Beach-Weed-Strategy.pdf?details=true

https://nrmsouth.org.au/wp-content/uploads/2014/10/Native_Gardens_Guide.pdf

https://dpipwe.tas.gov.au/Documents/Tasmanian_Coastal_Works_Manual.pdf

https://maps.thelist.tas.gov.au/listmap/app/list/map

http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

McDonald and Geard (2020), Orford Fairy Tern breeding colony 2020.

Orford Bird Sanctuary monitoring results 25-7-2019 to 24-8-2021 – supplied by BirdLife Tasmania 1/9/2021

Woehler (2018), Shorebird and tern populations, Prosser River 2017/18, Report to Marine and Safety Tasmania (MAST), Glamorgan Spring Bay Council (GSBC) and Parks & Wildlife Service Tasmania (PWS), July 2018.

2.3 Natural Values

Our coastlines are rich in natural values representing valuable and irreplaceable natural assets. They are diverse landscapes ranging from sandy beaches, spits and dune systems, to saltmarshes, lagoons and foreshore forest remnants. Many of these habitats contain sensitive natural values including threatened vegetation communities and wildlife habitat, particularly for coastal obligate birds, including threatened migratory and resident shorebirds. Given the concentrated nodes of human development associated with much of our coastline, the sensitive natural values have in many areas been subject to modification and clearance, with vestigial remnants in many situations confined to suboptimal niches with very little to buffer them from the effects of human use, and little scope for the migration of habitats when required due to coastal dynamics (such as erosion) and rising sea levels.

The juxtaposition of private land with coastal environments can also lead to conflict when desired land uses or particular aesthetics are incompatible with conservation significant natural values, leading to resistance to conservation directives when they are seen to be an imposition on the liberty of local residents, and direct actions that can be equivalent to environmental vandalism from a legal perspective (such as illegal tree removal within Crown Land and reserves when coastal views are obstructed), but which, from the perspective of the responsible adjacent landowners, have outcomes that are desirable enough to break the law. Conversely, the juxtaposition of development with coastal environments creates opportunities for

reconciliation, appreciation and stewardship of nature, in a balance where conservation significant natural values can persist or even flourish within human modified areas.

The area subject to investigation for the Orford Foreshore Master Plan is no exception to these patterns and problems, with several conservation significant natural values present within a matrix of varied human land uses and priorities, resulting in mixed outcomes for values, and mixed perceptions from people. To facilitate improving natural values conservation in the area and reducing conflict and incompatible priorities, the preparation of the master plan has involved reviewing existing natural values data and reports (including vegetation and bird specific studies), engaging with various stakeholders, completing a gap analysis to identify where available data may be a limiting factor in natural values management, and providing a series of recommendations to address gaps, conflicts and improve conservation outcomes in balance with desired local land uses. Key values and some background contexts are summarised in the following text, with more detail provided in Appendix A.

2.3.1 Conservation Significant Fauna Species

The large sandbar on the northern side of the mouth of the Prosser River (enclosing the Radar Beach backwater) comprises the 'Orford (Tasmania) Important Bird Area' (IBA), meeting the requirements for the international listing under multiple criteria (defined by BirdLife International) in relation to the breeding presence of the Fairy Tern (*Sternula nereis* ssp. *nereis*), which is listed as vulnerable (based on small population under continued decline) under both the Tasmanian *Threatened Species Protection Act 1995* (TSPA) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA).

Regular monitoring of the site over many years by BirdLife Tasmania has produced a robust and unquestionable dataset detailing the importance of the area for breeding, feeding, and roosting shorebirds, with the sandbar recognised as being one of the most important sites in Tasmania for the density and diversity of breeding shorebirds.

In addition to the Fairy Tern, threatened species known to utilise the area in relatively recent years include the (Eastern) Hooded Plover *(Thinornis cucullatus cucullatus)* (EPBCA vulnerable), which breeds on the site, and the Little Tern (*Sternula albifrons ssp. sinensis*) (TSPA endangered), which is an irregular visitor to the site but could plausibly breed there at some point.

Resident (non-migratory) shorebirds also breed on site, particularly Red-capped Plover (*Charadrius ruficapillus*) and Australian Pied Oystercatcher (*Haematopus longirostris*). Past observations have included Bar-tailed Godwit (*Limosa lapponica*) (EPBCA vulnerable and migratory), Common Greenshank (*Tringa nebularia*) (migratory), Curlew Sandpiper (*Calidris ferruginea*) (EPBCA critically endangered), and the Double-banded Plover (*Charadrius bicinctus*) (migratory).

In addition to shorebird habitat, the Orford foreshore contains potential habitat trees for additional threatened birds, such as the Forty-spotted Pardalote (*Pardalotus quadragintus*) (TSPA and EPBCA endangered) and the Swift Parrot (*Lathamus discolor*) (TSPA endangered and EPBCA critically endangered). As these species and their potential habitat are less likely to be impacted by the management issues raised within this assessment, they have not been the focus of discussion nor recommendations.

2.3.2 Conservation Significant Flora Species

A 2011 Vegetation Study of Orford foreshore reserves documented in excess of 200 vascular plant taxa in the area – additional work since has been project orientated (such as for impact assessments of local developments1) and has supplemented the broader 2011 study.

2 threatened flora are known to be extant in the local area of Orford, but do not occur within the foreshore area due to a lack of suitable habitat.

Other threatened flora has been reported from relatively near to the Orford foreshore (< 1 km) but with fewer and/or less recent occurrences than the above species. Collectively these species are relatively short-lived and most likely to be recorded following fire or an equivalent disturbance.

The foreshore area has very limited habitat suitability for these species other than *Caladenia filamentosa*, which can occur in near coastal forests on sandy soils; historically, a white gum woodland providing suitable habitat for this species is likely to have dominated the southern edge of Prosser Bay, but the extant remnants have been modified and managed in a way such that there is limited likelihood of the species remaining extant in the area (noting the past records for the area are from the 1960s and 90s).

[1] Including revision of the archives of North Barker Ecosystem Services

2.3.3 Vegetation General

The 2011 Vegetation Study documented vegetation communities within Orford foreshore reserves, including the area subject to the current master plan.

Four communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* were documented in the area applying to the foreshore master plan:

Eucalyptus globulus dry forest and woodland (TASVEG DGL)

Eucalyptus viminalis – Eucalyptus globulus coastal forest and woodland (DVC)

Eucalyptus ovata forest and woodland (DOV)

Freshwater aquatic sedgeland and rushland (ASF)

2.4 Recreation and Social Values

Over many thousands of years, Tasmanian Aborigines settled, sourced resources and traded throughout the East Coast region. Potentially the largest tribe in Tasmania, the Oyster Bay Tribe, was comprised of ten bands and one band, Portmairremener was based around occupation of the Prosser River. While the Orford foreshore and Prosser River yielded shellfish, a variety of vegetable matter and native fauna, seasonal visits to other coastal areas and the more inland areas of eastern Tasmania were regular occurrences[2]. Registered Aboriginal Heritage Sites have been recorded within the foreshore of Raspins Beach Conservation Area and Millingtons Beach Conservation Area.

Orford was first settled by Europeans during the 1830's with a land grant to allow farming. It later became a small settlement that serviced convict, farming and industrial activity on Maria Island and the East Coast. During the 1940's a few holiday homes were constructed at Orford. Since then, there was substantial subdivision along the coastline to meet the growing demand for holiday homes. Infrastructure, commercial and community facilities also developed to cater for the needs of increased visitors and local community.

Raspins Beach and Millingtons Beach are popular locations for a range of recreational activities including beach walking, swimming, dog walking, running, fishing, diving/snorkelling, sailing, kayaking, bird observing and other beach

[2] Ryan, L. 1996. The Aboriginal Tasmanians Allen & Unwin Pty Ltd, St Leonards. pp.14-21.

activities. The construction of a gravel path around the foreshore has attracted regular use by bike riders, walkers, dog walkers and runners.

Raspins Beach located along the Tasman Highway, caters for a high level of day use from passing visitors and locals. The public toilets are well used, and the beach attracts a range of recreational activities. The Surf Lifesaving Association has a club building which also provides a base for Triabunna High School outdoor recreation programs and sailing club. Raspins Beach was previously a popular camping and caravan park location, but coastal erosion significantly impacted and reduced the extent of foreshore land. The foreshore (4.7 ha) was declared a coastal reserve in 1981 and is known as the Raspins Beach Conservation Area.

Orford's main public boat ramp and many private jetties are located on the Prosser River. Access to the coastal waters is via the mouth of the Proser River which has been subject to dynamic changes due to river floods, changing river course, coastal erosion and sand bed deposits. In 2017-2018 a project to dredge and channelise the Prosser River[3] was undertaken, involving the installation of large sandbags on either side of the channel entrance, extending into Prosser Bay. The physical changes to the river mouth had significant implications on the Orford Bird Sanctuary, in particular, the areas used for nesting and breeding sites by seabirds and shorebirds. The river also attracts local swimming use with Council installing a floating pontoon.

Millingtons Beach attracts regular use by locals for beach walking and swimming. The sand beds at the mouth of the Prosser River can provide good conditions for surfing. The foreshore (18.62 ha) was declared a coastal reserve in 1983 as is known as the Millingtons Beach Conservation Area. PWS, Orford Community Group, Orford Primary School and local residents have been actively involved with weeding and tree planting in the dunal areas. The University of Tasmania has conducted ongoing research and monitoring of the coastal fauna and flora. Our Park, located behind Millingtons Beach, is Orford's main community park with open space and facilities catering for play, picnic, learn to ride and outdoor recreational activities. The shared path along the coastline links the park to the residential areas and town centre facilities.

Local residents, both permanent and those with holiday homes, have indicated a strong social attachment to the place values at Raspins Beach, Prosser River and Millingtons Beach. This attachment is associated with the history of access and past use, their past and ongoing recreational and social

[3] This work was undertaken by Marine and Safety Tasmania (MAST) together with the Department of State Growth and the Glamorgan Spring Bay Council (GSBC).

experiences, the attractiveness of the coastline and views, viewing the seabirds and shorebirds and that the foreshore has not been over-developed.

2.5 Stakeholder and Community Views

Discussions were held with a range of stakeholders and community members during the initial stages of the project.

Table 2.1 provides a summary of the key points raised in discussion with the stakeholders and community.

Stakeholder/Community	Summary of Key Points Discussed
Steering Committee meeting and site walk	• Outline of community interest and issues between environmental management and recreation • Dog Management Policy being reviewed • Information on bird breeding seasons • Need strong statutory statements • Considerable information about issues and ideas was provided on the site walk and recorded onto aerial images
GSBC	• More of a briefing on progress in the initial stages of the project, key site comments and stakeholder and community consultation • Council do not accept ongoing responsibility or resources for the sand bag entry to the Prosser River
PWS	• Need to clearly indicate who owns what and delegated responsibility • Past history on foreshore management within the Conservation Areas including visitor facilities • Requirement for unallocated land to be re-classified into the Public Reserve to allow for improved land management regulations under Crown Lands Act and also potential for development of a management plan • Past history on the removal of the pines, management and resourcing issues and community involvement • Weed problems • RAA undertaken • Ongoing responsibility for the management and maintenance of the sand bags • Stormwater maintenance and foreshore erosion • Need to have formal agreement with Council on walking track to Our Park • Stormwater issue re flooding near Rudd Avenue • Safety concern with shared path near bridge and highway • DPIWE licence for private jetties • Council owned/managed land outside of Conservation Areas and Crown Land • Stormwater drain into backwater – safety concern • Hydro-carbon issue • Issues for protection of bird nesting and habitat sites • Opportunity for bird hide • Burbury report on coastal erosion and sand movement • Fire risk concern at Millingtons Point • Creek blocking and flooding issues for Golf Club
MAST	• Discussion about the history and process for the installing of the sand bags • Discussion about the Prosser River boat ramp and trailer parking issues • Discussion about the community issues with foreshore access

Table 2.1 Summary of Key Points from Consultation

Stakeholder/Community	Summary of Key Points Discussed
Birdlife Tas and Friends of Orford Bird Sanctuary	• Provision of extensive information from bird surveys and site visits • Provision of photos of coastal erosion along Raspins Beach • The southernmost breeding colony for the Fairy Tern species in Australia, which identifies the colony as an Important Population under the EPBC Act (population at the limits of a species' range). • The spit is one of a few sites in Tasmania which annually supports a breeding colony of the vulnerable Fairy Tern. • The spit also supports breeding populations of Hooded and Red-capped Plover, and Pied Oystercatcher. Flocks of 50 Red-necked Stint are present during summer months. • The size and shape of the spit vary depending on tides, but the spit has grown progressively larger in recent years because of low rainfall and associated low outflow from the Prosser River. • The habitat at the spit is mostly bare sand, but marram grass has begun to grow in recent years. • Other species recorded in the IBA include 5-6 pairs of Hooded Plover, 10 pairs of Red-capped Plover, 5-7 pairs of Pied Oystercatcher and up to 50 Red-necked Stints. Double-banded Plovers are also recorded here • Continue to protect the Fairy Tern colony during periods of peak recreational activity through the erection of fencing. Explore the need for additional or stronger means to exclude pedestrian traffic from the colony site. • Imperative that the entire area is undisturbed by any and all human activities and the presence of dogs during breeding and nesting periods
TasWater	• Major upgrades of the sewer pump stations planned – likely to go to their Board within next 2 months before detailed design • Provided initial concept site plans for The Hedge, Prosser Bridge, Our Park, Wade Bridge and West Shelley • Plans will better manage spill-overs as pump stations will incorporate secondary pumps and holding tanks • Opportunity to consider relocation of infrastructure to fit with the master plan but have preferences for truck turning • Major plans in consideration for linking new sewer and water mains from Solis along Tasman Highway (impacts on foreshore land mainly within the Orford Golf Club land on eastern side of highway)

Table 2.1 Summary of Key Points from Consultation (cont.)

Stakeholder/Community	Summary of Key Points Discussed
Orford Golf Club	• Aware of the parcel of land shown as belonging to the Golf Club on eastern side of highway – limited value • Main concern was about saltwater seepage and flooding • Option of small dam wall to protect saltwater reaching the golf course • Other main concern was the need for a turning lane into the Golf Club to improve safety
Orford Community Group, Raspins Beach Surf Lifesaving Association and Raspins Beach Sailing Club Association	• Viewed and discussed existing access and use of the Club site and facilities • Would like to see a wider ramp to the beach to improve access • Would be good to have a lockable bollard to allow trailer and trolley access at times from the car park, especially during events • Need to keep the front space to the lift doors free • Use the gravel petanque area as is – works fine for boat set-up • Consider the rock wall has helped reduce erosion over time and allowed plantings to continue
Natural and Cultural Heritage Division DPIPWE	• The discussion was more of a briefing about the project and outline of the key values, issues, and options • Discussed the difficulty of managing natural recession with rising sea levels and coastal erosion • Discussed the benefit of introducing white gum into Millingtons Beach over time for the 40 spotted pardalote
Aboriginal Heritage Tasmania	• Desktop review of known Aboriginal heritage sites (5 known recorded sites) with potential for additional undetected Aboriginal heritage sites within the project area, particularly due to the coastal and riverine location
Orford Primary School	• Brief discussion about project and involvement of the school community with plantings at Millingtons Beach • Offered to talk with other staff and provide any further input

Table 2.1 Summary of Key Points from Consultation (cont.)

Stakeholder/Community	Summary of Key Points Discussed
Representatives of the rate payers and local community near the Orford Bird Sanctuary	<u>Orford Bird Sanctuary</u> • Desire for protection of birds but the process and limited engagement was not good • Loss of amenity due to fencing. • Unsafe access to a small, sheltered beach. • Confusing signage, especially that attached to fencing. • Drainage and water damming at Carpark 56-58 Tasman Highway and 54 Tasman Highway and problems at north end of lagoon at the stormwater drain. Algal mat over northern end of lagoon and impact on strandline/intertidal zone. • Management of the IBA, which, it seems, has become unsuitable for fairy tern breeding habitat. (Not used in 2020/21 and not so far for 21/22 season. Two sites chosen 18/19 and 19/20 seasons were successful with up to 35 breeding pairs.) • Rapid invasion of marram grass (not native) and boobialla a native pioneer species along with other weeds. These plants make the area that is not subject to inundation unsuitable for nesting for fairy terns and can cause collapse on hooded plover nests. • The carrying capacity of the sand spit area for resident shorebirds. • *Environment Protection and Biodiversity Act (EPBC Act 1999):* Significant populations and how they are protected by the ACT. i) Significant populations, fairy terns; ii)vulnerable listed species , hooded plovers; Australian grayling and water rats. • Access with gates in fit-for-purpose fencing that effectively protects the vulnerable/protected species but allows safe access to humans where not impacting on Vulnerable breeding species. • The 2002 DA Permit 02013; requirement to keep the backwater flushed. Problems arising loss of foraging, little use by fairy terns for diving due to limited clarity/blue water/ Saunders Jetty is unusable as a jetty. • Shifting sand movements over time and the history of river flows • History of events and assurances regarding the dredging of the backwater from agencies

Table 2.1 Summary of Key Points from Consultation (cont.)

Stakeholder/Community	Summary of Key Points Discussed
Representatives of the rate payers and local community near the Orford Bird Sanctuary (cont)	<u>Other Foreshore Areas</u> • The Toilet Block on Raspins: not a nominated as a problem. • 'Temporary' Fencing on Raspins Beach. Restricted access points seem to work well. • Erosion of Raspins Beach an ongoing problem. • Boat Ramp and congestion of Riverside Drive by parked rigs and rigs waiting for launching and landing craft. MAST has a plan. • Increased widening and hardening of walking track and spraying regime. • Dogs on leashes considerably improved, was a recognised problem in 2019 Easter Survey, as dogs entered private land and terrorised children and owners. Local residents have acted as 'neighbourhood watch' and spoken to dog owners with a high level of compliance. • Millingtons Conservation Area : Pine Forest and toilet block at end of Esplanade concerns. • Our Park and limited access points to Main/Millington's Beach not raised as a problem. Limited survey of people on Main Beach as this was not included in PRAG's TOR.
Representatives of the rate payers and local community at Millingtons Beach	• Most of these shack owners were linked to the Millington family with involvement at Orford for over 50+ years • General discussion about the project • History of past woodland, farming use and shacks since the 1930's • Provided images/photos of the past foreshore showing some remnant eucalypts, early pines and marram grass with open views to Maria Island • They question the rationale for the selection of plant species used on the foreshore at Our Park given the outcome with high density and height of vegetation, limitations to control the spread of weeds/pine weedlings, perceived increased fire risk, loss of coastal views, limited benefit for birds and risk of feral/domestic cats on any native fauna • Willingness to support planting of white gum trees with low dune vegetation over time • Concern about sewer spills with current sewer pump site near Prosser River
Grant Hall, former PWS Ranger	• Past history with the Orford Bird Sanctuary, sand bags and weed removal and native rehabilitation at Millingtons Beach

Table 2.1 Summary of Key Points from Consultation (cont.)

2.6 Key Issues

The following key issues have been identified from the background research, fieldwork and consultation with stakeholders and community groups.

These issues include the:

impact of climate change and identified high risk for coastal erosion and inundation at Raspins Beach and Millingtons Beach in the future (refer to Section 2.7);

need for clarity about land tenure and management responsibilities, and in particular the unallocated Crown Land at the Orford Bird Sanctuary;

diversity of views, interests and mistrust in the process and outcomes regarding the management measures for the Orford Bird Sanctuary IBA, the Prosser River training walls and entrance channel within local community and agencies;

some local community concern about the outcomes and plantings used in rehabilitation behind Millingtons Beach (or have self-established over time including the colonisation by the native coastal wattle within re-planted foreshore areas);

lack of a management plan for the Orford Bird Sanctuary;

fire management, access and safety concerns with the remaining pine planting areas along Millingtons Beach;

responsibilities for the ongoing management and maintenance of the training walls and entrance channel;

lack of management/control of the access and trailer parking associated with the boat ramp;

age and condition of existing public toilets (Millingtons Beach) and need to be compliant to meet standards and user needs (Raspins Beach and Millingtons Beach);

management of weeds including pines (*Pinus radiata* and *Pinus pinaster*); and

managing the impacts of existing infrastructure (e.g., stormwater courses) and future upgrades and works.

2.7 Impact of Coastal Hazards

Natural coastal processes make some of this coastline vulnerable to being eroded away or flooded by the sea. There is an increasing risk over time that erosion or flooding will create hazards for people, natural assets or property because the level of the sea is rising in response to rising global average temperatures. Rising sea levels and increased storm surge are likely to have a significant adverse impact on the coastal infrastructure, habitats and associated biodiversity.

Additional adverse impacts on coastal vegetation and species are expected to result from additional salt intrusion into freshwater systems, and an increase in storm surge and salt spray, which result in additional biological and ecological pressures. Changes in coastal geomorphology can have profound impacts on the availability of different habitats along the coast. (Wohler E, 2016).

The Orford foreshore was included within a study to investigate high level risk for coastal hazards in Tasmania, in order to help identify the areas and assets vulnerable to the impacts of rising sea levels, coastal inundation and erosion (AECOM 2016). The study indicated that the sea level rise projection adopted for Tasmania in 2050 is 0.2 m above the 2010 mean high tide benchmark, and for 2100, 0.8m above the 2010 mean high tide benchmark. This rise in sea levels increases the risk for inundation and erosion damage to buildings, community facilities, utility infrastructure, roads and service disruptions from increased storm events.

The AECOM 2016 study undertook coastal hazard mapping for possible coastal erosion and inundation and determined that Raspins Beach and Millingtons Beach were highly vulnerable to coastal erosion given the sandy foreshore backed by soft sediment plains. The areas immediately behind these beaches, including existing shacks and residences, have the potential for recession by 2100. The study also found that parts of Raspins Beach and Millingtons Beach and the mouth of the Proser River (including the Orford Bird Sanctuary) are at high risk of inundation by 2050.

The main implications for preparing the Orford Foreshore master plan are:

- recognising the coastline is dynamic and that rising sea levels will continue to impact on accessibility, infrastructure and natural values of the Orford foreshore;

understanding that the current infrastructure and future planning for new infrastructure and development along the foreshore must consider the potential impacts of coastal erosion and inundation – this includes minimising new developments of infrastructure on the foreshore to help protect natural values, assessing the suitability of a location for any future infrastructure, achieving low maintenance outcomes and having the capacity to protect or repair damage; and

recognising the potential for a coordinated and long-term response to coastal risks and hazards including options for adaptation and managing retreat pathways.

SECTION 3
MASTER PLAN

3.1 Overall Master Plan

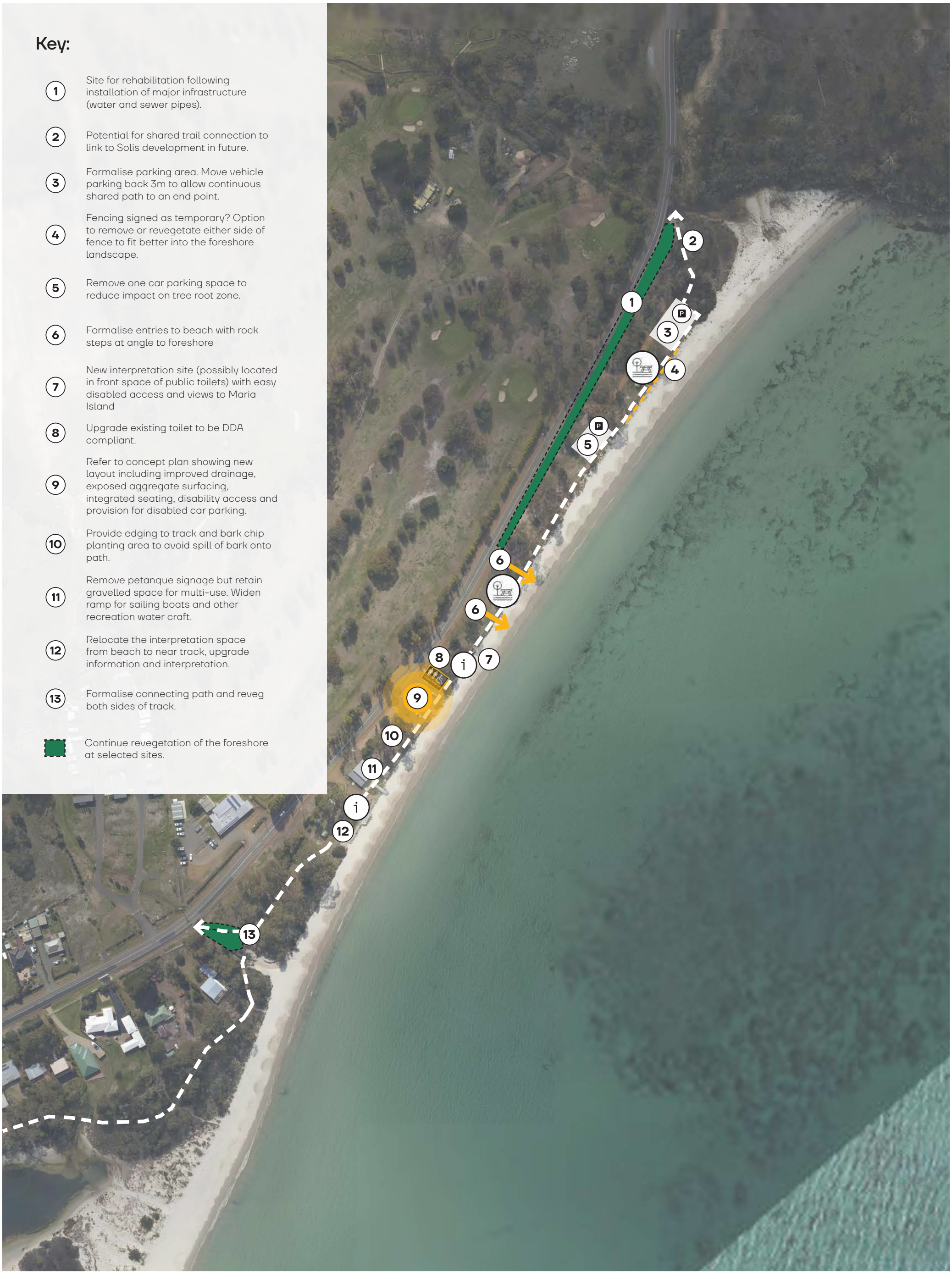
Maps 3.1, 3.2 and 3.3 show the possible opportunities to improve the Orford foreshore. Prior to these suggested upgrades, Crown leases or crown licences need to be in place as advised by Property Services section of the Parks and Wildlife Service.

Table 3 provides a summary of the key improvements, location and rationale for the key features in the master plan.

Key:

1. Site for rehabilitation following installation of major infrastructure (water and sewer pipes).
2. Potential for shared trail connection to link to Solis development in future.
3. Formalise parking area. Move vehicle parking back 3m to allow continuous shared path to an end point.
4. Fencing signed as temporary? Option to remove or revegetate either side of fence to fit better into the foreshore landscape.
5. Remove one car parking space to reduce impact on tree root zone.
6. Formalise entries to beach with rock steps at angle to foreshore
7. New interpretation site (possibly located in front space of public toilets) with easy disabled access and views to Maria Island
8. Upgrade existing toilet to be DDA compliant.
9. Refer to concept plan showing new layout including improved drainage, exposed aggregate surfacing, integrated seating, disability access and provision for disabled car parking.
10. Provide edging to track and bark chip planting area to avoid spill of bark onto path.
11. Remove petanque signage but retain gravelled space for multi-use. Widen ramp for sailing boats and other recreation water craft.
12. Relocate the interpretation space from beach to near track, upgrade information and interpretation.
13. Formalise connecting path and reveg both sides of track.

Continue revegetation of the foreshore at selected sites.



Map 3.1 Raspins Beach Conservation Area

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Scale 1:2500 @ A3

Key:

1. Unallocated crown land to be included as Public Reserve under the Crown Lands Act. This would allow for a management plan to be prepared for the Public Reserve with acknowledgement of Orford Bird Sanctuary and to address issues and opportunities for best practice protection measures. Public access along foreshore to sand bags for passive recreation use e.g. fishing

2. Retain existing IBA bird protection fencing until the management plan is prepared. In the interim, consider improved and more obvious signage, consider engaging graphic designer for signage strategy.

3. The proposed Management Plan for the Orford Bird Sanctuary to consider a range of issues and opportunities for the protection of seabird and shorebird nesting and breeding sites. This may include the location of fences, whether the fences become dog proofed, management of public access, removal of weed species.

4. Refer to concept plan showing proposed new road and parking layout. Proposed bird hide incorporating seating, and revegetation of area. Relocation of sewer pump planned by TasWater. Parking is set back from the bird habitat to lessen disturbance.

5. Plan for thinning/removal of native woody plants including existing coastal wattle which is reducing the foraging ground habitat for red-capped plover, hooded plover, and nesting fairy turns. Adopt North Barker Ecosystem Services weed management plan (Appendix B).

6. Revegetate public land with native plants of low height.

7. Refer to Map 3.6 Site Concept Plan showing options for improved boat ramp access, trailer parking, community park, nature play and shared trail. Includes option to relocate boar ramp to reduce impact on nearby shacks.

Continue the revegetation works along the entire foreshore.

Inclusion of unallocated Crown Land into the Public Reserve to the low water mark

Existing fences

Proposed boundary to Orford Bird Sanctuary (IBA) to low tide mark on the Raspins Beach (eastern boundary); training wall and mouth of the back water channel (southern boundary); northern boundary = the pedestrian/bike track; western boundary as shown on map and along fenceline on the ground.

ORFORD BIRD SANCTUARY (IBA)

Fairy terns

Pied oystercatcher

Hooded plover, red-capped plover

Map 3.2 Orford Bird Sanctuary + Prosser River

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Key:

1. Improve connection and safety of the foreshore shared trail turning onto bridge. Accommodate TasWater plans to upgrade sewer pump station and allow turning access for trucks.

2. Council and jetty owners to address erosion control. Retain existing shared paths and landscape features.

3. Allow continuation of shared foreshore trail by providing safe shared pathway for walkers and cyclists.

4. Extend footpath into carpark area. Renovate toilet. See concept plan for vehicle access, designating parking layout and maintaining entries to residences.

5. Removal of *Pinus pinaster* and weed species by PWS in stages subject to funding. High priority to be given to a short trail connection (<50m) from toilets to Prosser foreshore to reduce current site impacts and provide safe connection around Millingtons Beach.

6. Potential experimental revegatation areas to allow for planting of ***Eucalyptus viminalis*** and appropriate low dune vegetation species to avoid dense vegetation cover, increased fire risk and loss of coastal views.

7. Upgrade shared foreshore trail between town centre and Our Park

8. Install marker poles and signage at beach access points

9. Aboriginal Heritage area and midden site along creek bed, to remain undisturbed unless approved under a permit issued by AHT.

Map 3.3 Millingtons Beach Conservation Area and Public Reserve

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Key Features in the Orford Foreshore Master Plan	Location(s)	Rationale for Improvements
Widening the shared trail to better meet higher levels of use.	Full length of the foreshore	The existing gravel surface shared trail is well-used and is expected to attract growing numbers of users in the future. The width of the current trail varies and in some locations is narrow in width or poses some risks for user safety. The master plan indicates the capacity to widen the trail to 2.1m to better allow passing of trail users. It recommends retaining a compacted gravel surface and diverting the trail alignment in some locations to reduce safety issues. This includes setting back the car parking spaces at the northern end of Raspins Beach to allow for a defined and continuous shared path separate from vehicle movements.
Improving the layout of existing car parks to be more defined, allow for disability access, improve safety and connectivity for the shared trail users, overcome water ponding and limit damage to the root zone of trees	Car parks at Raspins Beach toilet and at Millingtons Beach	The public toilets at Raspins Beach attracts high levels of visitor use including being one of the main access points to the beach. The master plan shows a range of improvements to make the facilities more accessible and safer, better designed for the accessibility needs of people with mobility difficulties, more attractive upon arrival, upgraded access to the beach and the opportunity to enhance visitor information and interpretation. Raising the ground level of the shared path near the public toilets will also avoid ponding on the path and allow all-weather access to the beach. There is no formal layout for access and parking of vehicles at Millingtons Beach. This has led to loss of vegetation, damage to the tree root zone, hardening of sites, increased litter, weed invasion and ad hoc parking affecting visitor capacity at the site. The master plan shows how safety can also be improved for people moving through the site or gaining access to the public toilet. The public toilet requires major upgrading to cater for public use of both Prosser River and Millingtons Beach.

Table 3.1 Outline of Key Improvements

Key Features in the Orford Foreshore Master Plan	Location(s)	Rationale for Improvements
Reducing the impact of dogs on Raspins Beach	Raspins Beach	Currently dogs are prohibited from entering the Orford Bird Sanctuary at the southern end of Raspins Beach. Council is currently reviewing the Dog Management Policy and it is recommended that prohibition of dogs on the beach be extended north to the toilets at Raspins Beach. This will provide greater buffer to the Sanctuary and reduce the presence of dogs on the beach at one of the main visitor entry and recreation hubs on Raspins Beach.
Formalise entry points onto the beaches – relatively minor works to improve safety, accessibility, visual impact and reduce erosion	Raspins Beach	The introduction of temporary fences along Raspins Beach has helped direct people to selected access points onto the beach. However, there are also informal access points which have not been constructed but have damaged foreshore vegetation. The master plan refers to rationalising the access points to those that are desired for access. It requires upgrading the steps and surfaces to ensure the access is more defined, attractive, usable and safer.
Relocating sites and upgrading the interpretation panels	Raspins Beach, Millingtons Beach	Many of the existing interpretation panels have faded over time and need to be reviewed. This includes consideration the location of the sites most suitable for the delivery of information and interpretation. At Raspins Beach it would be possible to re-locate these facilities closer to the main car park and public toilets, where it would be more accessible to most people. This would allow for rehabilitation of the foreshore vegetation in some locations where interpretation panels are located.
Making public toilets more DDA compliant and suitable for level of use	Raspins Beach, Millingtons Beach	This is a building standard requirement for each of the public toilets. The public toilets at Millingtons Beach receive lower levels of use, given the location and current condition. However, they do cater for recreational users of Prosser River (e.g., swimming, families using small beaches, fishing) and visitors to Millingtons Beach. They are also located closer to the Orford town centre than existing toilets at Our Park. Upgrading the public toilets would also help to reduce uncontrolled use of the bush for toilet use.

Table 3.1 Outline of Key Improvements (cont.)

Key Features in the Orford Foreshore Master Plan	Location(s)	Rationale for Improvements
Supporting past revegetation work along Raspins Beach and community park with some other nominated areas for future work	Raspins Beach Conservation Area and public facilities	Considerable revegetation works have been conducted along Raspins Beach foreshore by the Orford Community Group. The master plan indicates this work should continue and proposed a few areas where revegetation would be beneficial.
Providing a layout for efficient and functional use of the boat ramp and access to trailer parking locations	Existing boat ramp	There is no formal parking layout for the boat ramp and consequently vehicles and trailers are parked in available open space and along the road. This situation leads to inefficient use of space, impact on tree root zones and potential for safety risks with shared trail users. The master plan provides a proposed layout to overcome these issues with the continued use of the existing boat ramp or constructing a new ramp further to the north. The latter option involves investment but would remove boat activity in front of existing shacks and allow the ramp to be closer to the proposed vehicle and trailer parking area.
Re-capturing foreshore land, organising better car parking and upgrading the small play area (near boat ramp) with conversion to a small nature-play facility	Near existing boat ramp	There is excessive and generally an underutilised car parking area near the existing play facility. The master plan shows how rationalising this space will still allow for parking, improve foreshore amenity and allow the opportunity for adding a future small nature play facility.
Addressing the unallocated Crown land outside of the critical Orford Bird Sanctuary and the need for preparing a Management Plan	Orford Bird Sanctuary, Prosser River	The dredging and channelising of the Prosser River mouth has altered the coastline with the building of sand deposits adjacent to the Orford Bird Sanctuary. The Sanctuary is contained within a Public Reserve, but the additional coastline remains as unallocated Crown land. The unallocated land has become the more favoured nesting and breeding location for seabirds and shorebirds. The master plan recommends that the unallocated Crown land be added to the Public Reserve as this would then allow for a management plan to be prepared for the entire area, including the Orford Bird Sanctuary. The management plan would provide the opportunity to review and address a range of issues and opportunities that have arisen within the local community, Council, PWS, MAST, Birdlife Tasmania and Friends of Orford Bird Sanctuary.

Table 3.1 Outline of Key Improvements (cont.)

Key Features in the Orford Foreshore Master Plan	Location(s)	Rationale for Improvements
Improving connectivity to the town centre and in the longer term, to the proposed Solis development	Raspins Beach to Solis, town centre to Millingtons Beach/Our Park	The master plan refers to the potential to extend the shared trail in the long term to connect with the Solis residential area. This should be considered at the same time of any planned works for installing sewer and water mains connections along the Tasman Highway. The shared path link between Millingtons Beach is not well defined and consequently some users would use the roads. Given that some users of the trail are young children, it would be appropriate to reduce safety risks by constructing a better shared path link to the Esplanade and connecting to the town centre.
Accommodating and refining any site issues with the proposed upgrade of the sewer pump stations along the foreshore	Radar Beach and foreshore north of Prosser Bridge	TasWater are planning to upgrade the sewer pump stations and add holding tanks to several sites along the foreshore. Initial discussions with TasWater have considered the proposed location of these facilities with consideration to planned improvements to access, facilities and use of the foreshore. TasWater will be preparing detailed design plans during 2022 and have indicated the intention to review the foreshore master plan.
Weed management priority and implementation	Entire foreshore	Appendix B provides a Weed and Land Management Concept Plan to identify priorities for control and actions.
Providing alternative planting option for rehabilitation of the Millington Beach foreshore vegetation –	Millingtons Beach	The removal of the pines on the foreshore led to volunteer action by the Orford Community Group, Orford Primary School, PWS, Council, ratepayers and local community to revegetate the foreshore. The foreshore near Our Park has become dense vegetation and local shack owners has raised concern about fire risk, loss of habitat values, loss of coastal views and the extent of some species (coastal wattle and pines). The master plan recommends consideration of restoring the foreshore with *Eucalyptus viminalis* (white gum) woodland with stabilising low height dune vegetation. This would potentially add to the habitat for the endangered *Forty Spotted Pardalote* on Maria Island where there is a risk of habitat loss from bushfires.
Improving identification of beach access to and from Millingtons Beach	Millingtons Beach	The entry points from Millingtons Beach to Our Park and the foreshore are not signposted or marked. The visibility is also more difficult given the dense revegetation of the foreshore. The master plan recommends the installing of marker poles to signify the key access points from the beach.

Table 3.1 Outline of Key Improvements (cont.)

3.2 Site Concept Plans

Concept plans were prepared for seven sites along the foreshore to further indicate how the proposed improvements could be applied. These sites include:

improving the public toilet, car park, shared trail and interpretation at Raspins Beach;

designating car parking, accommodating TasWater sewer pump upgrade, redirecting the shared path and provision for a bird hide at Radar Beach;

recommending the preparation of a management plan for the Public Reserve including the Orford Bird Sanctuary;

options for improving the overall access and functionality of the existing boat ramp, boat trailer parking areas, rehabilitation plantings and small play park;

improving connectivity, safe public access and accommodating TasWater sewer pump upgrade on the northern side of the Prosser Bridge;

improving the connectivity, safety, public toilets, control of car parking and access to Millingtons Beach car park; and

priorities for weed and land management.

3.2.1 Raspins Beach Toilet Area

Map 3.4 indicates the improvements that could be made to the public toilets and surrounding area at Raspins Beach. This site is one of the most used facilities on the Orford foreshore given its visibility from the Tasman Highway attracting visitors to stop.

The concept plan addresses a range of site planning issues including the:

need to manage informal parking and public safety along the highway;

lack of safe paths to access to the toilets;

need to upgrade the toilets to be DDA compliant;

Key:

1. Upgrade existing public toilet facilities including hardening entry surface and pathways around the building
2. Install aggregate concrete surface from the car park to the toilet to reduce ponding and long term maintenance costs for grassed areas and shared trail
3. Set the car parking area back further from the foreshore to meet current design layout standards (this allows 16 spaces which provides additional parking to current layout)
4. Identify two parking spots for disability parking close to the toilets, picnic tables and access to the beach
5. Upgrade access and levels to the beach
6. Install picnic tables
7. Opportunity for interpretation panels on the wall and front space to the building
8. Retain existing coastal fence but allow planting of vegetation on northern side to help reduce visual impact. Remove temporary fence signs
9. Shared pathway for pedestrian walking, bike riding and running (~ 2m aggregate concrete surface but with compacted gravel surface for rest of the foreshore)
10. Formalise long vehicle parking (which currently occurs along the highway edge) to allow convenient and safe access to the public toilets
11. Retain gravel surface (formerly petanque space) for use by the Surf Lifesaving Club and during events
12. Widen the ramp from the Surf Lifesaving Club onto the beach to better cater for use and safety

Map 3.4 Raspins Beach Conservation Area

Toilet and Carpark Site Concept Plan

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locating the parking for people with disabilities closer to the toilets and other facilities;

narrow width of the shared path and ponding occurring after rain;

need for better access steps to the beach; and

need to review appropriate sites for interpretation.

The improvements shown in Map 3.4 would cater for the higher level of use and enhance the quality of visitor experience upon arrival at Raspins Beach. It provides the opportunity to cluster a number of visitor facilities within easy viewing and access to the toilets, path to the beach, picnic tables and interpretation. Prior to these suggested upgrades, a Crown lease must delegate land management responsibilities where required, and any improvements must be approved by PWS.

3.2.2 Radar Beach Area

Map 3.5 shows improvements to the overall layout of Radar Beach area. The small beach is known to locals but not promoted to visitors. Over time, the site has become an informal gravelled car parking area adjacent to the shared path and foreshore. The access road also services a sewer pump station managed by TasWater. TasWater are currently investigating upgrading of the sewer pump and installing a holding tank to avoid the risk of waste spillage due to power cut-outs or high use. The initial planning explores the option to relocate the sewer pump and holding tank further away from the immediate foreshore.

A private jetty is located in the backwater of the Prosser River and potential use is constrained by the shallow water depth created as a result of the dredging and channelising of the Prosser River mouth. Vehicle access to the jetty may be required at times via the access road.

The concept plan indicates that the overall amenity and use of the area could be enhanced by restricting public vehicle access to the foreshore with the provision of a designated parking area off the highway. A lockable bollard would allow management vehicles, including TasWater to access the foreshore as required.

Map 3.5 Public Reserve-Radar Beach Site Concept Plan

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This would allow rehabilitation of the existing car parking area and create a 'buffer' along the foreshore to enhance shore bird observing, interpretation and improve safety for shared trail users. The plan proposes installing a bird hide to encourage viewing of the seabirds and shorebirds in the Orford Bird Sanctuary. Prior to these suggested upgrades, a Crown lease expanding to cover the unallocated crown land at the spit, delegating land management responsibilities must be in place where required.

3.2.3 Public Reserve and Orford Bird Sanctuary

Map 3.6 shows the location of the Orford Bird Sanctuary.

The dredging and channelising of the Prosser River mouth has altered the coastline with the building of sand deposits on Raspins Beach adjacent to the Orford Bird Sanctuary. The coastal area with the recent sand deposits is currently unallocated Crown land and has become the more favoured nesting and breeding location for seabirds and shorebirds.

Adding the unallocated Crown land to the Public Reserve would facilitate the preparation of a management plan to be prepared for the entire reserve, including the Orford Bird Sanctuary. The management plan would provide the opportunity to review and address a range of issues that have arisen within the local community, Council, PWS, MAST, Birdlife Tasmania and Friends of Orford Bird Sanctuary.

These issues include:

protecting the IBA (Important Bird Area) consistent with the objectives and requirements of Tasmanian *Threatened Species Protection Act 1995* (TSPA) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA);

managing impacts of coastal erosion and inundation with expected rising sea levels;

managing/controlling dogs within the Orford Bird Sanctuary;

managing public access during and outside the breeding and nesting season within the Orford Bird Sanctuary;

reviewing the location, extent and suitability of fencing for the Orford Bird Sanctuary;

Key:

1. Access to Raspins Beach at northern end of the Orford Bird Sanctuary. Upgrade management and interpretation signs at this location.
2. Undertake aquatic flora surveys of the Radar Beach backwater.
3. Plan for thinning/removal of native woody plants including existing coastal wattle which is reducing the foraging ground habitat for red-capped plover, hooded plover, and nesting fairy turns. Adopt North Barker Ecosystem Services weed management plan (Appendix B).
4. Refer to site concept plan 3.5 showing proposed new road and parking layout. Proposed bird hide incorporating seating, and revegetation of area. Relocation of sewer pump planned by TasWater. Parking is set back from the bird habitat to lessen disturbance.
5. Continue monitoring and maintenance of the sandbags used to channelise the Prosser River mouth.
6. Revegetate public land with native plants of low height.
7. Seasonal access for pedestrians and passive recreation in intertidal zone or on the sandbags to low water mark.

Continue the revegetation works along the entire foreshore.

Inclusion of unallocated Crown Land into the Public Reserve to low water mark

Existing fences

Proposed boundary to Orford Bird Sanctuary; to low tide mark on the Raspins Beach (eastern boundary); training wall and mouth of the back water channel (southern boundary); northern boundary = the pedestrian/bike track; western boundary as shown on map and along fenceline on the ground.

Map 3.6 Orford Bird Sanctuary Site Concept Plan

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managing invasive weeds;

identifying and addressing the environmental condition of the backwater including the impact on aquatic flora;

developing a plan to identify appropriate management signage, interpretation and information (including the location, style and information content);

identifying appropriate management arrangements for beach and intertidal access to allow ongoing maintenance of the Prosser River training wall; and

improving engagement processes with the local community.

The fenced *IBA protection zone* is primarily for the protection of natural values. This zone will be managed in a manner that allows for threatened species to remain stable or increase in population or extent. The extent of threatened species will determine the zone area.

Proposed activities within the zone will be subject to applicable assessment and approval processes and consistent with the protection of the natural values.

3.2.4 Boat Ramp and Community Park Area

Map 3.7 shows the potential for improvements to the overall layout of the foreshore area to the north of the existing boat ramp on the Prosser River.

The concept plan addresses a range of site planning issues including the:

lack of a formalised parking arrangement for vehicles and trailers using the boat ramp;

the existing unmanaged parking can lead to inefficient use of space, have impact on the tree root zone and increase safety risks for users of the shared path; and

large and often under-utilised car parking area at the northern end of the foreshore.

The boat ramp is the main boat launching facility for Orford and boating use has increased with the dredging and channelising of the Prosser River mouth. The boat ramp was located to take advantage of the deeper water at this site, but the narrow width of public land requires vehicle and trailer parking to occur

Key:

1. Shared pathway for pedestrian walking, bike riding and running (~ 2m wide compacted gravel)
2. Rehabilitate large gravel car parking area back to foreshore and grassed open space
3. Provision for car parking including capacity for overflow trailer parking in peak use times (6 spaces)
4. Replacement of the existing urban play structure with items that encourage nature play e.g. boulder climb with rocks, timber balance poles, adventure play, sandpit
5. Provision for parallel vehicle parking including boat trailer parking in peak use times (6 spaces)
6. Retention of the existing community park with native plantings and vegetation rehabilitation of the foreshore
7. Formalise the boat trailer parking (15 spaces) to achieve efficiency, protect existing trees and reduce potential safety risks with users of the shared path
8. Possible option for a new boat ramp site to be located away from the front of the existing shacks and closer to the boat trailer parking. This requires negotiation with private jetty owner and possible relocation of private owner use to the existing boat ramp site. Alternatively the existing boat ramp remains in current location with proposed boat trailer parking layout as shown.

Map 3.7 Prosser Boat Ramp Concept Plan

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further north of the boat ramp. The vehicle movement for use of the boat ramp occurs directly in front of a row of shacks.

There is insufficient public land to cater for needs of boat trailer parking during peak times but there is adequate land to cater for boating use during most other times. A formalized parking layout will help inform users of the capacity to accommodate boat parking within close proximity to the boat ramp. During peak use times, if parking is fully occupied, then users should consider making use of the Triabunna boat ramp or other boat launching locations to avoid parking illegally or on private land.

The proposed improvements in the site concept plan are the:

protection of the community park and rehabilitated foreshore including the local play area;

possible layout of vehicle and boat trailer parking to allow safe and efficient use of available land;

possible option of using the existing boat ramp or over time, if funding is available, to consider constructing a new boat ramp further to the north which would be closer to the vehicle and boat trailer parking area;

provision of buffer land between the shared path and vehicle and boat trailer parking area; and

rehabilitation of the over-sized car parking area with the potential for providing greater open space and a small nature play park.

Prior to these suggested upgrades, a Crown lease or licence delegating land management responsibilities must be in place where required. Parcels of crown land where council have/wish to install infrastructure that also have jetty licences attached should be recreational licences.

3.2.5 Northern Prosser Bridge Area

Map 3.8 shows the potential for improvements to the overall layout of the public land located on the northern side of the Prosser River bridge.

TasWater are currently investigating upgrading of the sewer pump and installing a holding tank to avoid the risk of waste spillage due to power cut-outs or high use.

This area is constrained by the need for vehicle access, turning of vehicles (TasWater and private jetty users), widening the shared trail, retaining existing trees, maintaining access to a private shack, provision of vehicle parking for private jetty owners and creating a safe approach for shared trail users (e.g., bike riders, pedestrians, runners) on approach to the Tasman Highway.

The proposed improvements shown in the site concept plan are:

- narrowing the vehicle entry off the Tasman Highway to help reduce the speed of vehicles turning in;
- widening the shared path to better accommodate increased use and realigning the path to provide a safer approach to the bridge;
- retention of the foreshore trees;
- designating car parking; and
- options for the location of the new sewer pump and holding tank.

Prior to these suggested upgrades, Crown leases delegating land management responsibilities must be in place where required. Parcels of crown land where council have/wish to install infrastructure that also have jetty licences attached should be recreational licences.

Key:

1. Shared pathway for pedestrian walking, bike riding and running (2m wide compacted gravel)
2. Proposed new location for sewer pump, subject to TasWater undertaking more detailed design investigations during 2022
3. Proposed location for underground sewer holding tank, subject to TasWater undertaking more detailed design investigations during 2022
4. Retain entry to private residence
5. Vehicle parking area to service private boat jetties
6. Reduce width of entry road to help reduce vehicle speed turning into the site and to improve safety for shared trail users approaching the highway

Map 3.8 Prosser Bridge Site Concept Plan

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Scale 1:400 @ A3

3.2.6 Millingtons Beach Car Park Area

Map 3.9 shows the potential for improvements to the overall layout of the public land located at Millingtons Beach.

The concept plan addresses a range of site planning issues including the:

loss of vegetation, hardening of sites and potential safety risk with the lack of designated vehicle parking areas;

lack of safe paths for pedestrians connecting the site;

poor standard of the public toilet and public risk with vehicle access close to the building;

impact of multiple informal routes being used from Millingtons Beach on the Prosser River at moderate to high tide levels to reach the road; and

provision for a path linking to the town centre.

The site plan provides for increased visitors and due to current and future subdivisions of Shelley Beach area, an increase in local rate payers. It is also recognized that this could be promoted as the desired location for surfers to reach the breaks out from the mouth of the Prosser River. This would help reduce the human impact crossing through the Orford Bird Sanctuary to reach the surf.

Prior to these suggested upgrades, Crown leases delegating land management responsibilities must be in place where required. The bike track where it passes over Millingtons should also be covered by a recreational licence.

Some of Council's infrastructure on the southern side of the Prosser Riverbank area is also located on the Millingtons Beach Conservation Area. This area includes the pedestrian pathway, parking and landscaping which should be covered by a recreational licence.

Key:

1. Construct pathway along the Esplanade to connect with existing foreshore path to shops and services
2. Formalise small car parking area to allow for continuous foreshore path and create small open space to edge of the river
3. Short path to formalise current access to beach (low tide), swimming pontoon and fishing from the foreshore
4. Upgrade the existing public toilet facilities
5. Selective clearing of any trees with high risk within close proximity to the proposed new track. This track would provide a defined path to Prosser River foreshore and allow continuous walking at most tide levels around Millingtons Beach to the town centre. PWS responsibility.
6. Formalise car parking within the currently disturbed area (the area has been impacted by informal past vehicle use and parking)
7. Retain existing wide pedestrian sandy track to Millingtons Beach that also allows access for management vehicles (including MAST for maintenance of the sand bags or sand deposits)

Map 3.9 Millingtons Beach Conservation Area Carpark Site Concept Plan

Orford Foreshore Master Plan | PREPARED FOR GSBC AND PWS

inspiring place

NORTH

Date 21/03/2022
Scale 1:500 @ A3

3.2.7 Weed and Land Management

See Appendix B for the Weed and Land Management Concept Plan.

The concept plan identifies 4 priorities for weed and land management actions in the following foreshore areas:

Millingtons Beach Conservation Area revegetation;

control of African lovegrass;

education of landowners on environmental weeds from garden escapes on the periurban interface; and

improved land management within the Orford Bird Sanctuary, focussing on control of coastal wattle within bird breeding habitat.

SECTION 4
IMPLEMENTATION

4.1 Action plan

It is unrealistic to believe that the recommended actions in the master plan can be all implemented over a short period of time. Some of the recommended actions require further investigations including environmental impact and sourcing of funding. It is important, therefore, to examine short term, mid-term and long-term priorities for implementing action.

The following Table identifies the recommended actions and who needs to be involved in the implementation. The Action Plan is based on a 10 Year timeframe using the following:

short-term – commence and complete within 2 years;

mid-term – commence and complete within 5 years; and

long-term – commence and complete within 10 years.

It is recognised that the timing is very dependent on access to funding, partnership support with other agencies and community support. In some cases, the implementation may require development and approval processes being negotiated between different agencies before a recommendation can be acted on.

Further, whilst an action may have priority within this master plan, there may be other higher priorities for PWS and Council that may necessitate actions being delayed.

Action Plans often become less relevant after 5 years, requiring review and updating in relation to what has been achieved and the impact of emerging issues or new opportunities. Such reviews generate the need for a rolling Five Year Action Plan for 2022-2027 and then a revised action plan by 2032.

4.1.1. Short-term Action Plan

No	Recommended Actions	Responsibility
S1	Adopt the Orford Foreshore Master Plan as a document to guide future planning, development and management of recreation use and experiences along the foreshore.	Council, PWS
S2	Request Crown Lands to include the unallocated Crown land into the Public Reserve at Raspins Beach	PWS, Council
S3	Extend the boundaries of the Orford Bird Sanctuary to capture the existing unallocated Crown land that was created by the dredging and channelising of the Prosser River mouth.	Birdlife Tasmania, PWS, Council
S4	Confirm and formalise the long-term management and maintenance responsibilities and tasks for the Prosser River training walls and boat channel. This is to include specifications for ongoing access for management and maintenance purposes across the Public Reserve and Millingtons Beach Conservation Area.	MAST, Council and PWS (given land ownership)
S5	Consider an amendment to the Council Dog Management Plan to extend the area for dogs prohibition on the beach area from north of the Orford Bird Sanctuary to the Sailing Club.	Council
S6	Continue consultation with TasWater over the upgrade to the sewer pumps and addition of holding tanks at Radar Beach and north of the Prosser Bridge.	Council
S7	Review the potential impacts of proposed upgrade of sewer and water mains between Solis and Raspins Beach, including the requirement for rehabilitation of the foreshore vegetation within Raspins Beach Conservation Area.	PWS, Council
S8	Upgrade the Raspins Beach public toilet to be DDA compliant	Council
S9	Upgrade and widen the shared path between Our Park and the Orford town centre	Council
S10	Consolidate access points to Millingtons Beach and install marker poles to improve beach access	PWS
S11	Undertake further trials for restoring a section of the Millington Beach foreshore with *Eucalyptus viminalis* (white gum) woodland with stabilising low height dune vegetation	PWS, Council, ratepayers and community
S12	Prepare a detailed design concept and feasibility plan for the upgrading of the Prosser River boat ramp and trailer parking facilities	MAST, Council, PWS
S13	Identify and seek future funding for the major works and improvements at Raspins Beach (refer to Map 3.4 Site Concept Plan)	PWS, Council
S14	Identify and seek future funding for the major works and improvements at Millingtons Beach (refer to Map 3.8 Site Concept Plan)	PWS, Council
S15	Prepare baseline surveys of the extent and condition of natural values at selected sites where visitor access and facilities exist	PWS
S16	Identify funding to allow an updated vegetation study to define the current extent and condition of threatened vegetation within the foreshore area.	PWS, Council
S17	Identify funding for investigation of aquatic flora of the Radar Beach backwater and Sheas Creek (at northern Raspins Beach) to assess potential occurrence of threatened flora species	PWS

No	Recommended Actions	Responsibility
S18	Start implementation of the recommended actions in Weed and Land Management Concept Plan (Appendix B)	PWS, Council
S19	Undertake an internal minor review of the Orford Foreshore master plan at least every two years	Council, PWS
S20	Council should explore funding initiatives or volunteer programs to employ bird stewards during the shorebird breeding season to monitor potential issues and provide more direct protection.	Council, PWS
S22	Review and revise the previous NRM weeds pamphlet for community distribution	Council

4.1.2 Mid-term Action Plan

No	Recommended Actions	Responsibility
M1	Prepare a management plan under the *Crown Lands Act 1976* for the parcel of Public Reserve incorporating the Orford Bird Sanctuary to clarify management priorities and address a range of issues and options.	PWS
M2	Implement proposed improvements at Radar Beach (refer to Map 3.5 Site Concept Plan) in conjunction with site works being undertaken by TasWater.	PWS, Council
M3	Implement proposed improvements at the site north of Prosser River (refer to Map 3.7 Site Concept Plan) in conjunction with site works being undertaken by TasWater.	PWS, Council
M4	Subject to funding, undertake major works and improvements at Raspins Beach (refer to Map 3.4 Site Concept Plan)	PWS, Council, State Growth
M5	Undertake works at Millingtons Beach to improve use and manage site impacts. Formalising the access road and car parking and creating a safe track connection to Prosser River to allow for a continuous walk around Millingtons Beach subject to funding (refer to Map 3.8 Site Concept Plan).	PWS and Council
M6	Upgrade of the public toilet at Millington Beach	Council
M7	Upgrade and widen the shared trail from Raspins Beach to the Prosser Bridge	Council
M8	Continue restoring a section of the Millington Beach foreshore with *Eucalyptus viminalis* (white gum) woodland with stabilising low height dune vegetation, based on the success/results of the trial.	PWS, Council, ratepayers and community
M9	Identify future funding for the proposed upgrade of the Prosser River boat ramp and trailer parking facilities	MAST
M10	Assess the options and costs for the removal of weeds from Millingtons Beach including Pinus radiata, Pinus pinaster and other species. Future vegetation works will need to be fully resourced to allow this happen over a 15-year period. The management statement for the *Millingtons Beach Coastal Reserve Management Strategy 1998* provides a useful guide for future works.	PWS, Council, ratepayers and community
M11	Continue the program of rehabilitation of the foreshore vegetation	Council, PWS, volunteers
M12	Instigate regular monitoring of any site impacts at the selected foreshore sites	PWS, Council

No	Recommended Actions	Responsibility
M13	Update vegetation study to define the current extent and condition of threatened vegetation within the foreshore area.	PWS, Council
M14	Continue implementation of the recommended actions in Weed and Land Management Concept Plan (Appendix B)	PWS, Council
M15	Undertake an internal minor review of the Orford Foreshore master plan at least every two years	Council, PWS

4.1.3 Long-term Action Plan

No	Recommended Actions	Responsibility
L1	Subject to funding, undertake upgrade of the Prosser River boat ramp and boat trailer parking areas including the other improvements (refer to Map 3.6 Site Concept Plan)	MAST, Council
L2	Continue restoring a section of the Millington Beach foreshore with *Eucalyptus viminalis* (white gum) woodland with stabilising low height dune vegetation, based on the success/results of the trial.	PWS, Council, ratepayers and community
L3	Subject to funding, commence works for the removal of weeds from Millingtons Beach including Pinus radiata, Pinus pinaster and other species	PWS
L4	Implementation of the management plan for the Public Reserve including the Orford Bird Sanctuary	PWS, Council
L5	Assess the opportunity for a shared trail link between Raspins Beach and the Solis development	Council
L6	Continue the program of rehabilitation of the foreshore vegetation	Council, PWS, volunteers
L7	Continue monitoring of site impacts at the selected foreshore sites.	PWS, Council
L8	Continue program of random visitor surveys to gain insight into visitor use and experiences at these selected foreshore sites	PWS, Council
L9	Continue implementation of the recommended actions in Weed and Land Management Concept Plan (Appendix B)	PWS, Council
L10	Investigate the feasibility of propagating and reintroducing *Calendenia. filamentosa* into suitable habitat in Millingtons Beach Conservation Area	Orchid Conservation Program RTBG, PWS
L11	Investigate the feasibility of implementing ecological patch burns in Millingtons Beach Conservation Area	PWS
L12	Undertake a major review of the Orford Foreshore master plan within 10 years	PWS, Council

4.2 Adopt Best Practice

The design principles suggest the possibilities for robust design, suited to the place and having an exemplary quality that stands out from the standard fare of park furniture.

The key considerations for adopting best design practice include the need to:

1. Undertake legislatively required investigations to obtain the necessary permits for development. It is necessary to fulfill all planning requirements of Council and PWS (i.e., Reserve Activity Assessments and DAs, permits, etc.). Subsequent planning processes may alter the final design or location to that indicated in the concept plans. Land occupied by the Council on PWS land tenures is to have a lease or licence prior to occupying the land.

2. Understand the character of the site to ensure that planning, design and construction protects the functioning natural systems of the chosen site and to derive inspiration and guidance about appropriate design, construction techniques and materials selection.

3. Spatially arrange facilities to maximize the benefit of the setting to create a plan form that suits the 'nature' of the place. This includes consideration of the arrival sequence and the organization of the site so that its parts work together as a spatial and visually coherent whole. This could be applied to the location of main car park and public toilets at Raspins Beach.

4. Practice sustainable design. The design of facilities needs to address functionality, structural imperatives and aesthetics – this is sustainability in its most elemental form. While aesthetics typically focuses on form, scale and mass, materials and colours and openness and enclosure, there is the strong possibility of embodying aspects of the site to represent or interpret its essential character and poetically extend the visitor experience. Sustainability in this higher form lifts visitors out of their everyday experience and encourages them to participate in the care of the place.

5. Incorporate sustainable building and site management systems. Attention is required to the effect of the design of facilities on operational costs and the potential environmental benefits that arise through the conservation of resources including water, energy, materials reuse, waste management and life-cycle costs. Building site design of infrastructure needs to incorporate predicted sea level rise, storm surges and future visitor capacity. Thought must also be given to the best methods of construction to minimize impacts at the building site.

6. Once installed, monitoring is essential for due care and diligence in protecting the safety of visitors, minimising damage to the environment and prolonging the longevity of installations. Facilities that are properly maintained with operational procedures focused on the care and repair of elements and the living landscape around them will ensure that visitors enjoy the experience that they came to the Orford foreshore to have.

The facilities along the Orford foreshore should be:

fit for purpose;

responsive to the climate and visual character of the coastal environment;

of a robust construction using durable materials;

of a scale and form, such that they facilitate an appreciation of the landscape;

designed and sited to provide a quality experience of the values of the foreshore;

aesthetically pleasing;

safe and easily accessible; and

affordable to build and care for.

It would be worthwhile to establish a good baseline for monitoring the potential impacts of increased visitation in future years. Monitoring could involve:

baseline surveys of the extent and condition of natural values at selected sites where visitor access and facilities exist e.g., Raspins Beach Conservation Area car park and toilet, Millingtons Beach Conservation Area car park;

regular monitoring of any site impacts at the selected sites;

review of visitor numbers passing, stopping or staying at Orford (Tourism Tasmania visitor data); and

a program of random visitor surveys to gain insight into visitor use and experiences at these selected sites.

APPENDIX A
ORFORD FORESHORE NATURAL VALUES – SUMMARY OF KEY VALUES, THREATS, CONFLICTS AND RECOMMENDATIONS

A1 Introduction

Our coastlines are rich in natural values representing valuable and irreplaceable natural assets. They are diverse landscapes ranging from sandy beaches, spits and dune systems, to saltmarshes, lagoons and foreshore forest remnants. Many of these habitats contain sensitive natural values including threatened vegetation communities and wildlife habitat, particularly for coastal obligate birds, including threatened migratory and resident shorebirds. Given the concentrated nodes of human development associated with much of our coastline, the sensitive natural values have in many areas been subject to modification and clearance, with vestigial remnants in many situations confined to suboptimal niches with very little to buffer them from the effects of human use, and little scope for the migration of habitats when required due to coastal dynamics (such as erosion) and rising sea levels.

The juxtaposition of private land with coastal environments can also lead to conflict when desired land uses, or particular aesthetics are incompatible with conservation significant natural values. This can lead to resistance to conservation directives when they are seen to be an imposition on the liberty of local residents, and direct actions that can be equivalent to environmental vandalism from a legal perspective (such as illegal tree removal within Crown Land and reserves when coastal views are obstructed), but which, from the perspective of the responsible adjacent landowners, have outcomes that are desirable enough to break the law. Conversely, the juxtaposition of development with coastal environments creates opportunities for reconciliation, appreciation and stewardship of nature, in a balance where conservation significant natural values can persist or even flourish within human modified areas.

The area subject to investigation for the Orford Foreshore Master Plan is no exception to these patterns and problems, with several conservation significant natural values present within a matrix of varied human land uses and priorities, resulting in mixed outcomes for values, and mixed perceptions from people. To

facilitate improving natural values conservation in the area and reducing conflict and incompatible priorities, we have reviewed existing natural values data and reports (including vegetation and bird specific studies), engaged with various stakeholders, completed a gap analysis to identify where available data may be a limiting factor in natural values management, and provided a series of recommendations to address gaps, conflicts and improve conservation outcomes in balance with desired local land uses.

A2 Conservation Significant Fauna Species

A2.1 Background and context

The large sandbar on the northern side of the mouth of the Prosser River (enclosing the Radar Beach backwater) comprises the 'Orford (Tasmania) Important Bird Area' (IBA), meeting the requirements for the international listing under multiple criteria (defined by BirdLife International) in relation to the breeding presence of the Fairy Tern (*Sternula nereis* ssp. *nereis*), which is listed as vulnerable (based on small population under continued decline) under both the Tasmanian *Threatened Species Protection Act 1995* (TSPA) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA).

Regular monitoring of the site over many years by BirdLife Tasmania has produced a robust and unquestionable dataset detailing the importance of the area for breeding, feeding, and roosting shorebirds, with the sandbar recognised as being one of the most important sites in Tasmania for the density and diversity of breeding shorebirds.

In addition to the Fairy Tern, threatened species known to utilise the area in relatively recent years include the (Eastern) Hooded Plover (*Thinornis cucullatus cucullatus*) (EPBCA vulnerable), which breeds on the site, and the Little Tern (*Sternula albifrons* ssp. *sinensis*) (TSPA endangered), which is an irregular visitor to the site but could plausibly breed there at some point. Resident (non-migratory) shorebirds also breed on site, particularly Red-capped Plover (*Charadrius ruficapillus*) and Australian Pied Oystercatcher (*Haematopus longirostris*). Past observations have included Bar-tailed Godwit (*Limosa lapponica*) (EPBCA vulnerable and migratory), Common Greenshank (*Tringa nebularia*) (migratory), Curlew Sandpiper (*Calidris ferruginea*) (EPBCA critically endangered), and the Double-banded Plover (*Charadrius bicinctus*) (migratory).

In addition to shorebird habitat, the Orford foreshore contains potential habitat trees for additional threatened birds, such as the Forty-spotted Pardalote (*Pardalotus quadragintus*) (TSPA and EPBCA endangered) and the Swift Parrot (*Lathamus discolor*) (TSPA endangered and EPBCA critically endangered), with the latter having confirmed sightings foraging along the foreshore. In addition, there are confirmed sightings of Eastern Barred Bandicoots (*Perameles gunnii*) (EPBCA vulnerable) at the northern end of Raspins Beach Conservation Area and throughout Millingtons Beach Conservation Area. As these species and their potential habitat are less likely to be impacted by the management issues raised within this assessment, they have not been the focus of discussion nor recommendations.

A2.2 Gap analysis / currency of available data

The Orford IBA is referred to by BirdLife International as being protected within the Raspins Beach Conservation Area, however this is incorrect from the perspective of the location actually in use by birds, which is south of the border of Raspins Beach Conservation Area (and north of Millingtons Beach Conservation Area).

A small informal reserve (referred to as the Orford Bird Sanctuary) covers part of the sandbar; this location is covered by the *Crown Land Act 1976* (under the administration of DPIPWE). Crown Land extends beyond the informal reserve but does not cover all of the sand bar, with the balance effectively being un-gazetted land. In other words, the informal reserve and even the cadastre of Crown Land more broadly fail to capture the full extent of the sandbar habitat that is supporting breeding birds – essentially the fixed boundaries on these jurisdictions are inadequate for a dynamic shifting landscape.

Due to the status of informal reserve, no management plan exists for the important bird area.

A boundary to protect the important bird area has somewhat been defined on the ground with wire exclusion fencing with accompanying signs noting the presence and breeding birds. The fencing is limited on the ocean-side due to wave action on Raspins Beach making a fence at the low tide level infeasible; thus, in this area, a sign is present on a post in the middle of the sand that represents the boundary of the informal reserve. The fencing is merely a token barrier and not designed or constructed adequately to function as a genuine exclusion.

Reservation and cadastral boundaries around the area of the sandbar comprising the Orford IBA (brown areas to the north and south being Raspins Beach and Millingtons Beach Conservation Areas respectively, and the yellow area representing the extent of the informal reserve, noting that not even the Crown Land cadastre (black line) sufficiently covers the extent of the sandbar bird breeding habitat

A2.3 Conflicting interests / priorities / management issues

The IBA has been listed as an IBA 'in danger' by BirdLife International, one of only three Tasmanian IBAs to be given this rating.

The site was assessed (in 2018) as being under very high threat, with climate change rated as a medium threat, and very high threats attributed to human intrusions and disturbance, and transportation corridors (in relation to the channel dredged into the mouth of the river on the margin of the sandbar). All of these threats are ongoing and have not diminished.

Human disturbance is widely acknowledged as a major threat to shorebirds, with the disruption and destruction of nests and nestlings being a significant impact on breeding success and long-term population persistence. Human disturbance of shorebirds within the Orford IBA is prevalent, with direct

observations (and evidence) of disturbance including people undertaking recreational beach use within the bird breeding area; people using the bird breeding area as a thoroughfare (including to reach preferred fishing spots); dogs (with and without their owners) within the bird breeding area; unauthorised drone use; and mountain bike use within the bird breeding area.

In addition to the current signage and exclusion fencing being apparently ineffective at protecting the bird breeding area, the protection measures have been subject to vandalism (e.g., destruction of fencing).

On account of this human disturbance, numerous breeding attempts have failed and/or been abandoned by the conservation significant shorebirds utilising the sandbar, including entirely failed breeding seasons for the Little Tern.

Critically, the human disturbances compound broader ecological pressures on the species such as the natural pressures associated with an inherently restricted and dynamic habitat, which can include breeding failures from predation and weather events (e.g., storm surges). Any additional pressures such as the human disturbance will also limit each species' resilience to long-term environmental change such as rising sea levels, which itself will be exacerbated as a threat due to the barriers to habitat migration presented by near coastal development incompatible with the needs of the species. While broader environmental threats and long-term climate change may be beyond the control of local conservation land managers, the significant impacts of human disturbance represent an unnecessary and preventable stressor on the local ecology and conservation significant fauna. Removing the human disturbances may thus give the species greater chances of persisting through the multitude of other pressures they face.

A2.4 Recommendations and opportunities for conservation significant fauna

The current tenure of the sandbar and the extent of the informal reserve should be reviewed with the intent of increasing the reservation status to a formal level and ensuring that the boundaries of the reservation area adequately capture all habitat (and take into account future expected sand movements).

The increased reservation status should be accompanied by a management plan that defines the management and protection of the areas high conservation values.

With or without a change to reservation status, the Council should explore funding initiatives to employ bird stewards (e.g., something like security guards for the birds) during the bird breeding season, to give more direct protection than the current passive measures which are inadequate.

A3 Conservation Significant Flora Species

A3.1 Background and context

A 2011 Vegetation Study of Orford foreshore reserves documented in excess of 200 vascular plant taxa in the area – additional work since has been project orientated (such as for impact assessments of local developments[4]) and has supplemented the broader 2011 study.

2 threatened flora are known to be extant in the local area of Orford, but do not occur within the foreshore area due to a lack of suitable habitat:

Ozothamnus lycopodioides, *clubmoss everlastingbush* (TSPA rare) – locally abundant on the relatively disturbed interface between bushland and development, including road margins and within periurban development, with notable occurrences along Old Convict Road and the Tasman Highway west of the township.

Melaleuca pustulata, *warty paperbark* (TSPA rare) – locally abundant in the broader East Coast area, with some roadside occurrences along the Tasman Highway northeast of the township.

Other threatened flora has been reported from relatively near to the Orford foreshore (< 1 km) but with fewer and/or less recent occurrences than the above species. Collectively these species are relatively short-lived (less applicable to the *Pimelea*) and most likely to be recorded following fire or an equivalent disturbance:

Caladenia filamentosa, daddy longlegs (TSPA rare)

Gyrostemon thesioides, broom wheelfruit (TSPA rare)

Pimelea flava ssp. *flava*, yellow riceflower (TSPA rare)

[4] Including revision of the archives of North Barker Ecosystem Services

Senecio squarrosus, leafy fireweed (TSPA rare)

Stenanthemum pimeleoides, propeller plant (TSPA vulnerable)

Teucrium corymbosum, forest germander (TSPA rare)

The foreshore area has very limited habitat suitability for these species other than *C. filamentosa*, which can occur in near coastal forests on sandy soils; historically, a white gum woodland providing suitable habitat for this species is likely to have dominated the southern edge of Prosser Bay, but the extant remnants have been modified and managed in a way such that there is limited likelihood of the species remaining extant in the area (noting the past records for the area are from the 1960s and 90s).

A3.2 Gap analysis / currency of available data

It is noted that since the 2011 Vegetation Study, *Cynoglossum australe* (coast houndstongue) (a species that occupies the Orford foreshore area) has been delisted from the Tasmanian *Threatened Species Protection Act 1995* and thus no longer has the same conservation priority.

Some species present in the Orford foreshore area have updated taxonomy since the 2011 study; however, there are not seen to be any meaningful changes that would warrant a reassessment of the local flora solely for this reason.

The 2011 Vegetation Study does not include any observations of aquatic species from the Radar Beach backwater, and current observations attributed to the location on the Tasmanian Natural Values Atlas are limited to algae. Informal observations by NBES during site investigations for the current project suggest there may be aquatic macrophytes present in the backwater, including seagrass species from the Zosteraceae. Given the location and habitat, the presence of macrophytes may include TPSA rare species of *Ruppia* and/or *Stuckenia pectinata*.

A3.3 Conflicting interests / priorities / management issues

The extant distributions of *Ozothamnus lycopodioides* and *Melaleuca pustulata* in the broader Orford area are not the subjects of conflict or management issues with respect to the scope of the foreshore master plan, with their primarily roadside and periurban bushland locations more likely to be subject

to development proposals for road upgrades or development of bush dwellings.

Given that *Caladenia. filamentosa* is unlikely to remain extant within the white gum woodlands on the Orford foreshore, there are no direct implications of their presence in relation to current management aims or land use priorities. It is desirable however for reasons outlined below that habitat be managed in a way that it is suitable for the species, which involves the control of weeds and maintenance of relatively open ground-layer vegetation.

Should the Radar Beach backwater contain undocumented occurrences of TSPA rare aquatic macrophytes *Ruppia* spp. and/or *Stuckenia pectinata*, there may be management deficiencies and the potential for inadvertent losses of plants/populations.

A3.4 Recommendations and opportunities for conservation significant flora

Given *Caladenia filamentosa* may no longer be present in the area, as part of the revegetation and restoration efforts from Millingtons Beach to Orford Rivulet, it may be possible to collaborate with the Orchid Conservation program at the Royal Tasmanian Botanical Gardens to investigate the feasibility of propagating and reintroducing the species into suitable habitat. This could function as a trial site for cultivation of the species should offset plantings or translocations ever be considered for other purposes. A successful reintroduction could also serve as an insurance population for the species within Millingtons Beach Conservation Area.

As part of the revegetation and restoration efforts from Millingtons Beach to Orford Rivulet, it would be beneficial to be able to implement ecological patch burns, which would improve habitat for orchids (including *Caladenia. filamentosa*) and potentially assistance with some weed management. It is noted that due to the proximal residences and mixed uses this would need to be managed carefully and involve extended consultation with local residents and users.

An investigation of the aquatic flora of the Radar Beach backwater is warranted for the potential occurrences of threatened flora species.

A4 VEGETATION GENERAL

A4.1 Background and context

The 2011 Vegetation Study documented vegetation communities within Orford foreshore reserves (see Figures 2a and 2b in Glamorgan Spring Bay Council, 2014), including the area subject to the current master plan.

Four communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* were documented in the area applying to the foreshore master plan:

Eucalyptus globulus dry forest and woodland (TASVEG DGL)

Small remnant patches were noted within the foreshore area, reported to be in poor condition with modified understoreys.

Eucalyptus viminalis – Eucalyptus globulus coastal forest and woodland (DVC)

Reported from various patches with varying condition, largely relating to understorey modification (including the presence of weeds and the low diversity of natives).

Remnants along Millingtons Beach Conservation Area have been targeted for weed control, revegetation, and restoration.

Eucalyptus ovata forest and woodland (DOV)

Reported from one small patch along a drainage line north of Prosser River, with moderate understorey condition but the presence of environmental weeds.

Freshwater aquatic sedgeland and rushland (ASF)

Reported as a small wetland along a narrow drainage line at the southern end of Raspins Beach Conservation Area. Noted to be in excellent condition but susceptible to degradation (on account of the small patch size).

A4.2 Gap analysis / currency of available data

The extent and condition of vegetation communities, including threatened communities, have not been reviewed since the 2011 Vegetation Study. Our brief observations for this project have indicated there is potential for each of the above threatened communities to remain extant within the foreshore area, but there is the potential for boundaries and attributions to be refined, as well as a high likelihood that vegetation condition has changed since 2011.

In addition, it is noted that since the 2011 study, Tasmanian forests and woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata / Eucalyptus brookeriana*) (which include the TASVEG unit DOV), have been listed as critically endangered (effective 4/6/2019) under the EPBCA, with patches needing to meet key definitions and condition criteria to qualify for listing. As far as we know, the reported patch of DOV from the Prosser River area has not been tested against the EPBCA listing criteria (although it is very unlikely to qualify based on the reported extent and condition from 2011).

The 2011 Vegetation Study does not include any mapping of aquatic vegetation within the Radar Beach backwater. Informal observations by NBES (during site investigations for the current project) suggest that there is the potential for the assemblage of plants and algae present to constitute the TASVEG unit 'saline aquatic herbland' (AHS), which can qualify for listing as threatened under the NCA within the 'wetland' community, as well as threatened under the EPBCA vulnerable ecological community 'subtropical and temperate coastal saltmarsh'.

There appears to be no strategic plan guiding revegetation and restoration efforts within the Millingtons foreshore area, nor anything that guides the nature of landscape plantings in proximity to native vegetation remnants.

A4.3 Conflicting interests / priorities / management issues

Should the Radar Beach backwater contain an undocumented patch of the TASVEG unit 'saline aquatic herbland', and it qualifies as a threatened wetland under the NCA and/or threatened saltmarsh under the EPBCA, there are several risks associated with the potential for inadvertent loss of the community and inadequate protection and management.

The same risk applies to patches of threatened communities previously reported from the area should their distributions require refining since the 2011

study and/or in the case of the DOV vegetation potentially be subject to increased protection under the EPBCA.

Local residents have expressed some concerns that the management of vegetation along Millingtons beach dune system (including areas subject to landcare works such as revegetation and weeding) is resulting in overly dense vegetation that represents an increased fire hazard and reduces desirable sight lines from their properties.

Revegetation and restoration projects must be well resourced, systematic and guided to achieve the optimal conservation outcome for the community intended to be restored. A regular problem in such projects (driven somewhat by limited plant selection and establishment) is increased density of woody understorey vegetation (shrubs and small trees) at the expense of open understoreys, and a higher density of trees than is natural. There is a risk of this occurring with the revegetation and restoration in areas of pine removal (as well as the general land management) along Millingtons Beach foreshore (noting the threatened DVC vegetation has around 20 % shrub cover considered to be a benchmark), which will further exacerbate the concerns of local residents regarding bushfire hazard and impeded views.

A4.4 Recommendations and opportunities for vegetation

An updated vegetation study is warranted to define the current extent and condition of threatened vegetation within the foreshore area.

Following the updated vegetation study, a vegetation management and restoration plan is warranted to guide general management of remnant vegetation in the area, in addition to local revegetation and restoration (and associated weed control). The plan should involve adequate consultation and consideration around the use of fire for purposes of ecological management, as well as the influence of all works (including revegetation) on fire hazard risk to local homes and desired visibility. The plan should build on and/or complement the management statement for Millingtons Beach Coastal Reserve Management Strategy 1998.

A5 Conclusion and Summary of Recommendations

We have identified various conservation significant values within the Orford foreshore area, with the presence of internationally important bird habitat on

the sandbar north of the Prosser River of critical importance. Unlike the bird populations in this area, other potential conservation significant values may yet be undetected and thus the overall importance of the area for other values may be greater than current data indicates. It is clear nonetheless, that the sandbar represents an area of very high conversation significance based on the bird habitat alone and warrants greater legislative protection as well as more effective land management and physical protection measures on the ground. It is imperative that the reservation status and tenure of the sandbar are reviewed, with the intent of instating a formal conservation reserve with an associated management plan. Various other recommendations are provided for the foreshore area more broadly, which are summarised below:

A5.1 Recommendations and opportunities for conservation significant fauna

The current tenure of the sandbar and the extent of the informal reserve should be reviewed with the intent of increasing the reservation status to a formal level and ensuring that the boundaries of the reservation area adequately capture all habitat (and take into account future expected sand movements).

The increased reservation status should be accompanied by a management plan that defines the management and protection of the areas high conservation values.

With or without a change to reservation status, the Council should explore funding initiatives to employ bird stewards (e.g., something like security guards for the birds) during the bird breeding season, to give more direct protection than the current passive measures which are inadequate.

A5.2 Recommendations and opportunities for conservation significant flora

Given *Caladenia. filamentosa* may no longer be present in the area, as part of the revegetation and restoration efforts from Millingtons Beach to Orford Rivulet, it may be possible to collaborate with the Orchid Conservation program at the Royal Tasmanian Botanical Gardens to investigate the feasibility of propagating and reintroducing the species into suitable habitat. This could function as a trial site for cultivation of the species should offset plantings or translocations ever be considered for other purposes. A successful reintroduction could also serve as an insurance population for the species within Millingtons Beach Conservation Area.

As part of the revegetation and restoration efforts from Millingtons Beach to Orford Rivulet, it would be beneficial to be able to implement ecological patch burns, which would improve habitat for orchids (including *Caladenia. filamentosa*) and potentially assistance with some weed management. It is noted that due to the proximal residences and mixed uses this would need to be managed carefully and involve extended consultation with local residents and users.

An investigation of the aquatic flora of the Radar Beach backwater is warranted for the potential occurrences of threatened flora species.

A5.3 Recommendations and opportunities for vegetation

An updated vegetation study is warranted to define the current extent and condition of threatened vegetation within the foreshore area.

Following the updated vegetation study, a vegetation management and restoration plan is warranted to guide general management of remnant vegetation in the area, in addition to local revegetation and restoration (and associated weed control). The plan should involve adequate consultation and consideration around the use of fire for purposes of ecological management, as well as the influence of all works (including revegetation) on fire hazard risk to local homes and desired visibility.

A5.4 Weeds

Implement the various actions in relation to the 4 identified weed and land management priorities identified within the Weed and Land Management Concept Plan.

APPENDIX B
WEED AND LAND MANAGEMENT CONCEPT PLAN

B1 Introduction

Tasmania's coastal ecosystems are under threat from a suite of invasive weeds. Declared and environmental weed species have wide ranging impacts on the biodiversity of foreshore systems. Weeds can be as destructive as land clearing – displacing and threatening native species and transforming ecosystems. In a minority of situations, some indigenous species can also effectively behave like weeds when they suppress other native values or spread into areas they wouldn't typically occupy.

Like much of the rest of the Tasmanian coastline, many weed species have been introduced to the Orford foreshore area. The vast majority of weed species found along the coastline of Orford have been introduced deliberately, most being garden escapees, some of which are still available to buy from plant nurseries. Others such as the maritime pine (*Pinus pinaster*) were introduced to stabilise the movement of back dunes and the sandspit at the mouth of the Prosser River. It has also been noted that a vigorous native plant, coastal wattle (*Acacia longifolia* var. *sophorae*) has been increasing cover within the Orford Bird Sanctuary (to the detriment of shorebird breeding habitat).

We have thus investigated weed and land management issues within the foreshore area for the purposes of identifying high priorities for control and action.

B2 Methods

As part of the investigations for the Orford Foreshore Master Plan a weed survey was conducted by one ecologist from NBES on the 2nd of September (2021) along the Orford foreshore between Orford Rivulet and the northern end of Raspins Beach. Using the Tasmanian Natural Values Atlas (NVA) records from the area and records from the Glamorgan Spring Bay Weed Management Plan 2015-2020 (GSBWMP), areas with previously recorded weed occurrences

were reassessed. Any emerging declared or environmental weeds found during this survey were recorded concurrently.

B3 Results

B3.1 Declared weeds (listed under the Tasmanian Weed Management Act 1999

A number of isolated occurrences of declared zone A and zone B weeds have been recorded along the foreshore (Figures 1 and 2), as well as along roadsides and tracks leading to the foreshore; these include (with reference to their zone status under the WMA):

Zone A (eradication principles apply)

African love grass (*Eragrostis curvula*): isolated to Tasman Highway north of Orford golf course – not known from the foreshore area but a risk of invading the area on account of the propagule present on the highway within the past 10 years (noting the infestation has been the target of control measures)

Boneseed (*Chrysanthemoides monilifera subsp. monilifera*): in coastal dunes along foreshore and northern end of Millingtons Beach Conservation Area, where it has the capacity to displace many native values

Bridal creeper (*Asparagus asparagoides*): the beginning of an infestation in Millingtons Beach Conservation Area

English broom (*Cytisus scoparius*): known to occur in the southern end of Millingtons beach Conservation Area and in the Public Reserve behind the foreshore of Raspins Beach

Fennel (*Foeniculum vulgare*): isolated occurrences in periurban areas

Montpellier broom (*Genista monspessulana*): known to occur in the southern end of Millingtons beach Conservation Area and in the Public Reserve behind the foreshore of Raspins Beach. Spanish heath (*Erica lusitanica*): isolated occurrences in periurban areas and Tasman Highway near Raspins Beach Conservation Area – a high risk to remnant native vegetation

Zone B (containment principles apply)

Blackberry (*Rubus fruticosus*): isolated patches in dunes on Shelly Beach, and occasional throughout periurban areas

Gorse (*Ulex europaeus*): occurrences along the Tasman Highway, throughout Millingtons Beach Conservation Area, and found in the Public Reserve behind Raspins Beach

Most of the declared weed species known from the area were recorded in low numbers during the 2021 survey, which is ostensibly the result of targeted local weed management or (in the minority of cases) new infestations. The relatively small scale of the infestations can facilitate eradication and suppression from the area.

Environmental weeds

The majority of weed species recorded during the 2021 (and previous) survey were environmental weeds. These species primarily have migrated from neglected coastal gardens and in some cases now outcompete native species from their relative niches. These species are ubiquitous throughout periurban areas around the Orford foreshore but are also in some cases moving into adjacent native vegetation:

Agapanthus (*Agapanthus praecox ssp. orientalis*)

Bluebell creeper (*Billardiera heterophylla*)

Blue butterfly bush (*Psoralea pinnata and P. arborescens*)

Gazanias (*Gazania spp.)*

Mirror bush (*Coprosma repens*)

African daisy (*Dimorphotheca fruticosa*)

Pride of Madeira (*Echium candicans*)

Radiata pine (*Pinus radiata*)

Maritime pine (*Pinus pinaster*)

Sweet pittosporum (*Pittosporum undulatum*)

Blue periwinkle (*Vinca major*)

Marram grass (*Ammophila arenaria*)Emerging threats

The beginnings of an infestation of the environmental weed bluebell creeper (*Billardiera heterophylla*) are emerging throughout the Millingtons Beach Conservation Area. Bluebell creeper is a serious environmental weed with the ability to grow in most soil types/conditions, and due to its climbing and scrambling habit it can smother the ground and understory species, creating a monoculture. Our observations indicate this species has increased in threat since earlier surveys.

It is apparent that the native coastal wattle *Acacia longifolia* var. *sophorae* is increasing cover within the Orford Bird Sanctuary and this is resulting the loss of breeding, roosting and/or foraging locations for threatened and migratory shorebirds.

B4 Priorities

Refer to Figure 3 Weed and Management Priorities.

African love grass

A Zone A declared weed that has been prioritised by the Department of State Growth (DSG) for eradication around Tasmania.

In 2011 only known from isolated occurrences in southern Tasmania but has since spread and increased infestations.

A high threat weed in many environments, particularly when roadside occurrences represent a high risk of dispersal in human use areas.

Actions

Co-operate and support DSG with local eradication efforts.

Undertake monitoring to ensure early detection of new occurrences.

Seek cooperation from adjoining landholders for monitoring and treatment if the species colonises new locations.

Additional Zone A species

At least 6 additional Zone A declared weeds present within the Orford foreshore, with varying degrees of infestation but all representing a high threat to conservation values.

ACTIONS

Undertake targeted control with the aim of eradication.

Undertake monitoring to ensure early detection of new occurrences.

Seek cooperation from adjoining landholders for monitoring and treatment of the species on private land adjacent to the foreshore.

Zone B species

At least 2 Zone B declared weeds present within the Orford foreshore.

ACTIONS

Undertake targeted control with the aim of eradication where possible and containment otherwise, prioritising: the protection of boundaries of Zone A municipalities, any property free of the weed, any property implementing a Weed Management Plan for the species, and any property where the weed is negatively impacting any community or flora or fauna species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and/or the Tasmanian *Threatened Species Protection Act 1995*.

Undertake monitoring to ensure early detection of new occurrences.

Seek cooperation from adjoining landholders for monitoring and treatment of the species on private land adjacent to the foreshore.

Orford Bird Sanctuary – land management

Important habitat for both resident and migratory shorebirds is being replaced by *Acacia longifolia* var. *sophorae*.

ACTIONS

Undertake removal of marram grass and replace with native *Spinifex*.

Undertake control of woody indigenous (and weed species) within the bird sanctuary, focusing on *Acacia longifolia* var. *sophorae*.

Schedule works to avoid shorebird breeding season (September to March).

Millingtons Beach Conservation Area revegetation

During the 1970s, mass planting of *Pinus radiata* and *P. pinaster* occurred to stabilise the dune and sand spit system.

In the ensuing years *Pinus radiata* has been removed more so than *Pinus pinaster* (due to greater commercial value).

Bluebell creeper is increasingly establishing throughout the understory.

ACTIONS

Target bluebell creeper for removal from the area.

Target removal of *Pinus pinaster*.

Create a revegetation plan using local provenance species and guiding ecological restoration principles (including the potential use of fire), building upon and/or complementing the Millingtons Beach Coastal Reserve Management Strategy 1998.

Engage community and Landcare groups for revegetation works where possible but with the guidance of a formal revegetation plan at periurban interface

Neglected coastal gardens are a source of environmental weeds.

These weeds pose a threat to native plant species and environmental values.

ACTIONS

Review and update NRM style pamphlet for local residents, highlighting environmental weeds and alternative native species.

Figure 1: Indicative extent of declared and environmental weeds within the Orford Foreshore Area

Figure 2: Indicative extent of declared and environmental weeds within the Orford Foreshore Area

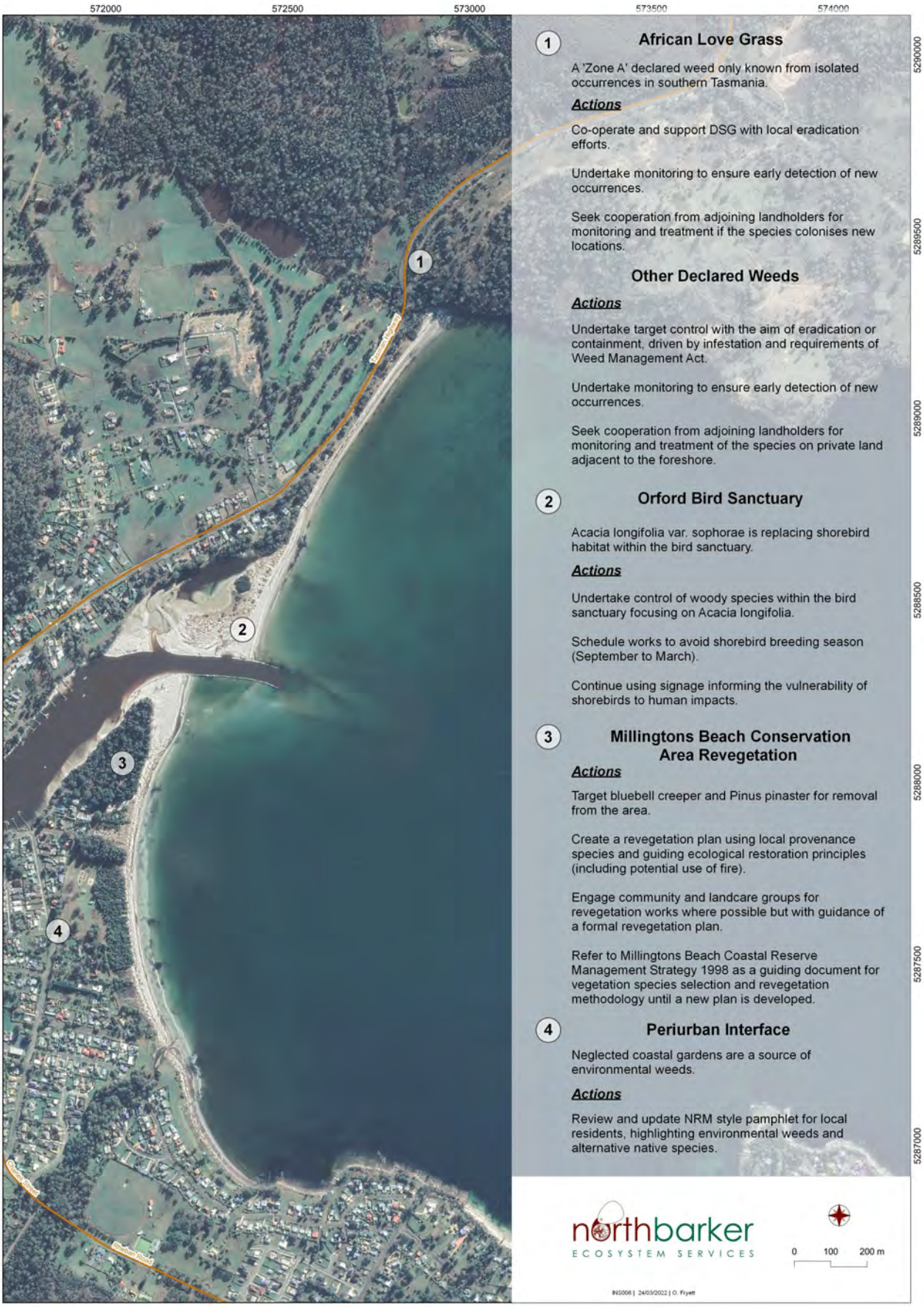

Figure 3: Weed and land management priorities for the Orford foreshore area

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