Bridport Foreshore

Native Vegetation Management Guide

Bushways

Environmental Services – Tasmania

Dorset Council

Author

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Cover photo:
Bridport and its beaches are nestled into the bush.

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The wealth of management experience of these people has contributed greatly to this document.

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Summary

In response to the need for a practical guide to managing Bridport Foreshore native vegetation Dorset Council NRM Officer Jay Wilson engaged Bushways Environmental Services - Tasmania to provide this practical management guide aimed at protecting and enhancing the native vegetation of the Bridport foreshore.

The beautiful combination of native vegetation, coast and recreational opportunities within the heart of Bridport is extraordinary and is highly valued by locals and visitors. Native foreshore vegetation also provides vital services by protecting Bridport from coastal winds, holding sand in place, providing shade and by supporting wildlife including threatened species.

The native vegetation at the site is a mixture of White Gum coastal forest (TASVEG code DVC), which is listed as rare and vulnerable (DPIW 2005), and Black Peppermint coastal forest (DAC).

Active management is recommended to address many issues and to ensure that Bridport maintains the health of its foreshore vegetation. Section 4.3 provides guiding principles for management of the foreshore vegetation. Particular sites are also discussed within zones that have common themes of management:

- Zone 1 – caravan park
- Zone 2 – recreation area
- Zone 3 - foreshore walk

The management actions which have been recommended are tabled in Appendix 4, with an indication of relative priority and a timeframe for implementation. The actions which would contribute most effectively to maintaining the health of Bridport's foreshore native vegetation are summarised here:

- Protect and manage existing vegetation.
- Leave both trees and understorey undisturbed as much as possible.
- Allow natural regeneration of trees and understorey, especially at the coastal edge.
- Control weeds.
- Prevent illegal removal or cutting of vegetation (education, encouragement, enforcement, etc)
- Protect and encourage paperbarks (allow existing ones to sucker, and establish more where appropriate).
- Prevent uncontrolled access that destroys vegetation, and better define proper access points.
- Install barriers where necessary to protect native vegetation.
- Plant locally native plant species, especially around remaining trees and especially at the coastal edge, to protect existing vegetation.
- The first plantings should be behind and amongst foreshore vegetation of the Village Green, as a very high priority. Mowing here should be reduced in area immediately to allow natural regeneration.
- Consider impacts on vegetation of any maintenance or construction.
- Ensure retention of vegetation has an equivalent or higher priority than construction of infrastructure.
- Ensure that there are available resources to adequately manage natural infrastructure.

Keeping any natural vegetation in good condition is the highest priority of vegetation management.

While new plantings are not as high a priority as protection of existing vegetation, they can be a focus for community activity and pride, and a signal of council attitude and action. Some plantings are recommended in the more open parts of zone 3 and zone 2.

Lists of native plants suitable for various plantings are provided (Appendices 1, 2). Recommendations for site preparation for plantings (section 4.4), and for weed control (section 6), are also made.

1. Introduction

1.1 Background

Dorset Council engaged **Bushways Environmental Services - Tasmania** to provide a practical management guide aimed at protecting and enhancing native vegetation of the Bridport foreshore.

The objectives of the Bridport Foreshore Native Vegetation Management (BFNVM) Guide are to:

- Provide a framework for the sustainable management of foreshore native vegetation from the mouth of the Brid River to the Old Pier;
- Provide a guide for the maintenance and enhancement of the amenity and natural values provided by foreshore native vegetation;
- Provide a practical guide for prioritising and implementing on-ground management activities relating to native vegetation management on the foreshore; and to
- Consider the implications of fire, weeds, infrastructure requirements and public risk in relation to foreshore native vegetation management.

Many strategic planning and resource assessment documents covering this area have already been produced (see 1.4 below), and will be complemented by this vegetation management guide. The Bridport Foreshore Management Plan (Graham & Associates, 2000) provided an action plan for the area from Pier Point to Granite Point, i.e. immediately north of this project.

This guide provides prescriptions for on-ground management activities which can be undertaken by Dorset Council, the Parks and Wildlife Service and community volunteers as appropriate.

1.2 Description of the study area

The Bridport Foreshore extends along the foreshore of the Anderson Bay and Trent Water, from the estuary of the Brid River northwards to Granite Point. It is bordered at the western edge by Main Street and Bentley Street. This guide focusses on the area from the mouth of the Brid River to the Old Pier.

Bridport foreshore is Crown Land, but Dorset Council leases much of it. Part of the area is managed as a public caravan park, the Village Green and Community Hall (etc) is located in the centre of the area, and there are park and picnic areas, recreation facilities and a boat ramp, with walking paths throughout. While recreation and camping are major uses of the area, the vegetation is still in a remarkably natural state. The northern end of the foreshore extends into the Granite Point Conservation Area, which contains diverse and healthy native vegetation and contributes to the natural viability of the foreshore remnant vegetation.

The area is centred at approximately E: 533160, N: 5461000, and is in the Flinders bioregion.

1.3 Values of foreshore native vegetation

The beautiful combination of native vegetation, coast and recreational opportunities within the heart of Bridport is extraordinary and highly valued by locals and visitors. Campers find a natural and individual camping experience tucked within the bush close to the beach, beachgoers and walkers find protection from strong winds, and everyone can find some shade beneath the trees as a welcome relief from heat and ultraviolet rays. The bush provides privacy between the caravan park and nearby residences, and between the foreshore area and road traffic.

Native foreshore vegetation also provides vital services, protecting Bridport from coastal winds, holding sand in place, providing shade, and supporting wildlife including threatened Swift Parrots, Grey Goshawks and Masked Owls.

The coastal environment is extremely harsh, with strong, salty winds and poor, sandy soils. Foreshore vegetation is adapted to these conditions, and helps to protect more vulnerable vegetation inland of it. Across the northeast of Tasmania, eucalypt dieback is becoming severe, as loss of vegetation has exposed remaining forests and paddock trees to the full brunt of wind and sun. Dieback is already beginning to affect some of the trees of the foreshore here – it is essential to protect and enhance the vegetation here to avoid the progressive loss of trees to dieback. With a loss of foreshore vegetation, sand dunes sometimes become mobile, causing problems for management. Previously undervalued plants, such as Coast Wattle (or "Boobyalla"), Sheoaks, Prickly Box, Poa grasses and Saggs, play a particularly important role in protecting the eucalypts and inland vegetation, and stabilizing coastal sands.

The coastal views so prized by property owners are enhanced by the natural health of the foreshore vegetation – a real break from the city and not at all like a Gold Coast sprawl. The few people who seek to expand their views by cutting or removing native vegetation may not be aware that this increases wind exposure, leads to tree dieback, and ultimately greatly diminishes the landscape of Bridport.

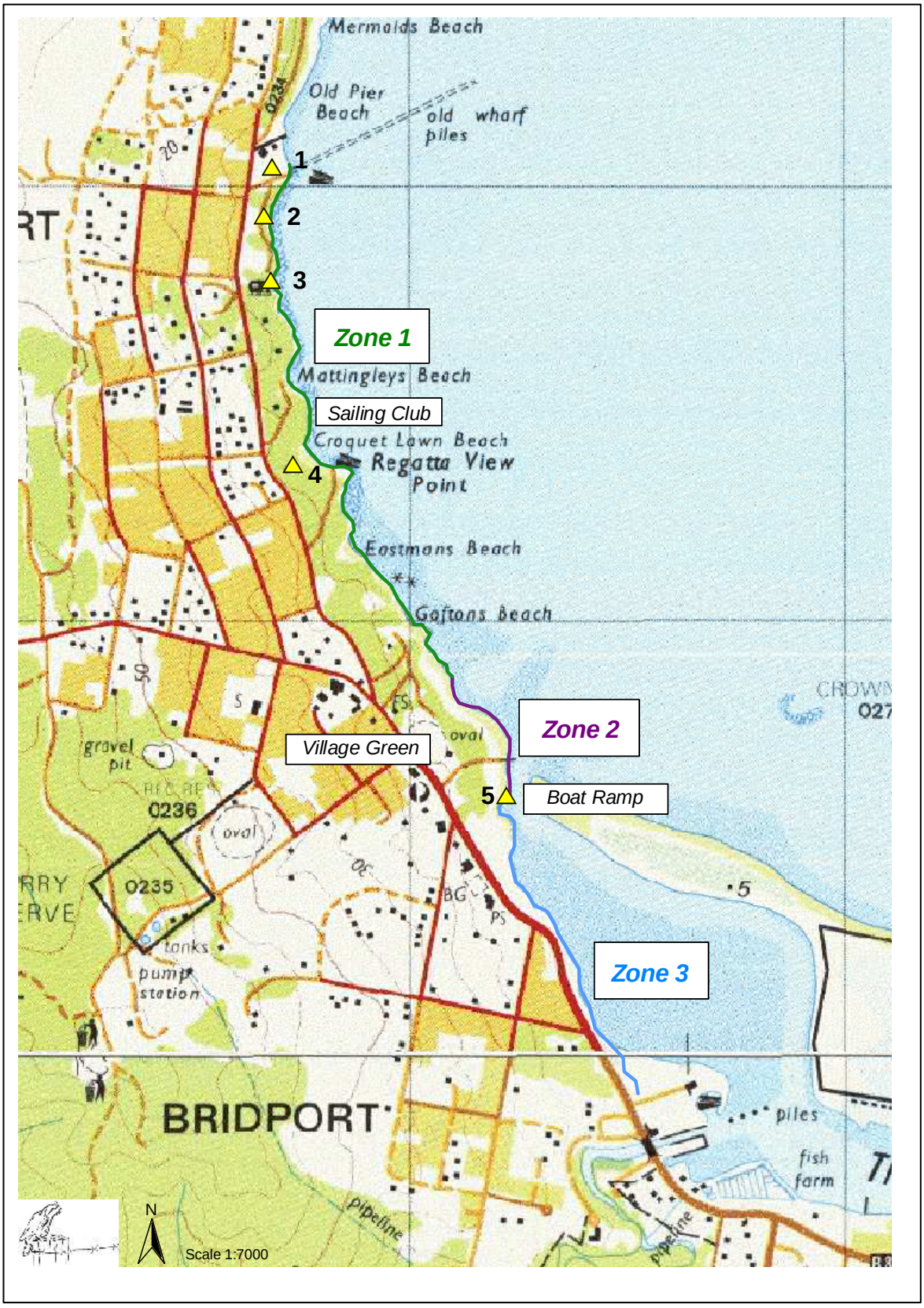
Unusually for coastal vegetation (which tends to be dominated by a few hardy species), Bridport has a very diverse foreshore, with a wide range of attractive trees, shrubs and groundcovers. This foreshore bush is both beautiful and valuable for many reasons. Dorset Council is to be commended for its determination to protect it.

1.4 Strategic framework

This guide complements other relevant documents:

- *Bridport Foreshore Strategic Framework (GHD 1996b)*
  - "All native vegetation should be protected and conserved",
  - "natural regeneration should be encouraged and extensive plantings of indigenous species should occur around developments".
- *Dorset Planning Scheme (Dorset Council 1996)*
  - An overall objective: "To promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity"
  - Strategic Objective (viii) "To maintain and enhance the treed coastal quality of the settlement and to develop a built environment that is in harmony with the natural setting"
- *Bridport Future Planning and Development Strategy 2007*
  - "Existing native vegetation to be retained and protected with improved foreshore weed management"
- *Bridport Foreshore Management Plan 2000*
  - "The issues on the Bridport foreshore are similar to many other recreational settlements around Tasmania. What is different here is that many of the natural values are still intact and there is community will to see that they are maintained."
- *Bridport Entrance Beautification Plan*
  - "Key Features along the entrances are the vistas of Anderson Bay, …, and the Township nestled along the slopes, sheltered from the prevailing north/westerly winds among Eucalypts and other predominantly Australian trees."
- *Dorset Natural Resource Management Strategy (Cronin 2002)*
  - Objective: Maintenance, enhancement and protection of native ecosystems and native biodiversity in the Dorset region.
  - Objective: To minimise the impact of weeds
- *Coastal Values of North East Tasmania (DTAE 2007)*
  - Much of this area is mapped as "a vegetation unit that requires significant management."
- *Our Sustainable Future - Dorset Sustainable Development Strategy 1995*
  - "Bridport …is attracting a higher growth than its larger neighbour. This is a result of its natural attractions which need to be protected and enhanced".
  - ESD outcomes: "Bridport natural environment retained".
- *Dorset Council Tree Management Policy*
  - "Dorset Council ….. recognises the importance of trees to the quality of the Dorset environment."

Figure 2. Map of Bridport Foreshore study area
Numbers (sites) and zones are referred to under section 5, Specific Site Recommendations.



2. Methodology

2.1 Background research

A Natural Values Report was conducted through the Natural Values Atlas database (June 2007) for all threatened flora and fauna records within 5 kilometres of the site, as well as TASVEG communities.

Vegetation condition and viability classes of the area were obtained from the Coastal Values of North East Tasmania data layer on The List website (DTAE 2007).

2.2 Field assessment

A field assessment was conducted by Anna Povey of Bushways on 6th June 2007. She was accompanied by Jay Wilson and Freddy Bagger of Dorset Council, who provided insights from their management experience.

Management issues for the vegetation were identified.

Locations were recorded with a handheld GPS, using datum WGS84 (equivalent to GDA94).

2.3 Limitations

This document provides a guide to management. Specific management decisions will need to take account of safety issues, availability of finance, labour availability, local constraints, clear driver vision, impacts on neighbours, and any other relevant issues. Aboriginal heritage sites should be identified and protected. Specialist advice should be obtained on particular issues. Stakeholders should be consulted as necessary.

A detailed works plan is not provided in this guide, and would depend upon available resources. Bushways can provide further advice, assistance with ordering plants, or guidance to works crews if required.

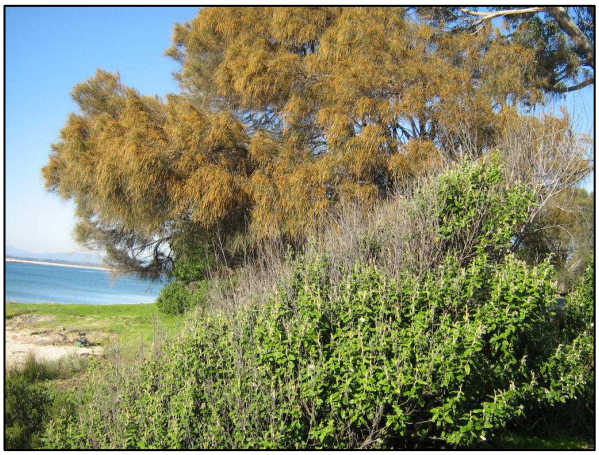


Figure 3. The effect of coastal winds can clearly be seen on this native dogwood bush. Native vegetation management is required along the Bridport foreshore to ensure that the vegetation is robust enough to cope with these natural conditions as well as with human impacts.

3. Natural Values

3.1 Vegetation communities

The vegetation at the site is a mixture of Black Peppermint, *Eucalyptus amygdalina,* coastal forest (TASVEG code DAC) and White Gum, *E. viminalis*, coastal forest (TASVEG code DVC).

White Gum coastal forest is listed as rare and vulnerable in Tasmania, while Black Peppermint coastal forest is not listed as threatened (DPIW 2005), but typically supports a very high diversity of plants and animals.

Figure 4. White Gums and Black Peppermints dominate the vegetation, and provide shade and shelter for people and wildlife alike.

There is also an area of Marram grassland (TASVEG code FMG), Marram being an introduced grass, at Goftons Point.

Figure 5. Introduced Marram Grass and weedy Seaspurge form a bleak landscape at Gofton's Point. However, there are some native plants such as Coast Wattle growing here and more could be planted.

3.2 Native vegetation condition and viability

The native vegetation of Bridport foreshore is in reasonable condition considering its semi-urban location, but it requires management to survive into the future.

Overall, the condition of the native vegetation is best at the northern end of the area (merging into excellent natural forest in the Granite Point Conservation Area) and declines to southwards into predominantly non-native lawns. Most of the vegetation has Condition Class 3 (Coastal Values data: DTAE 2007). To the north there is some Condition Class 2 where the native vegetation is less disturbed. To the south is essentially non-native vegetation (lawn or marram grass) with a few native patches.

Condition Class	Description
1 (none in the focus area)	Vegetation structurally and floristically intact, weed invasion <10% cover
2	Vegetation structurally or floristically altered and/or greater than 50% cover of vegetation in shrub and ground layer is native
3	**Vegetation structurally or floristically altered and/or greater than 50% cover of vegetation in shrub or ground layer exotic**
4	Grossly altered vegetation structure in otherwise weed infested vegetation (> 90% weeds)

The viability of the native vegetation follows a similar pattern, with most of the area being Viability Class 3, some class 2 at the northern end, and some class 4 at the southern end.

Viability Class	Description	Explanation / Management
1 (none in the focus area)	Viable and self sustaining	Viable as a self-sustaining vegetation unit.
2	Viable but at risk	Viable as a self sustaining vegetation unit but at some risk of degradation. This is likely to be due to the presence of, for example, a road, a house or some cleared land in the cell. Weed monitoring is recommended.
3	**Management required and or high risk**	**A vegetation unit that requires significant management due to the presence of weeds and/or has additional exposure to risk of degradation through the presence of roads, houses or cleared land.**
4	Not viable, but may be managed as a buffer area	Considerably degraded or at very high risk of degradation. These vegetation units may perform a function as a buffer to adjacent vegetation if they are managed appropriately. If they are not managed they represent a risk to adjacent vegetation

3.3 Fauna habitat

A wide range of birds, insects, lizards and other creatures would utilise the foreshore vegetation for food and shelter. While some generalist species can utilise non-native plants at times (for instance wattlebirds may feed on nectar of some garden plants), most nevertheless rely on native vegetation for critical parts of their lifecycle (for instance eucalypt hollows for nesting). Most native fauna requires native vegetation to survive. The presence of the native foreshore vegetation allows native animals to enter the heart of Bridport. Such creatures provide delight to children and adults in the camping area and along the walking tracks.

Figure 6. Echidnas are one of the hardier and most often encountered native mammals, delighting everyone who sees them.

Some listed threatened fauna (Natural Values Atlas, Coastal Values data) that may utilise this area at times include:

- White-bellied Sea-eagle, Grey Goshawk, Swift Parrot, Masked Owl, Tasmanian Devil, Eastern Barred Bandicoot, and Spotted-tailed Quoll.

Habitat components of particular importance to these threatened fauna include:

- Big old eucalypts with tree hollows (Masked Owls) and perching points (e.g. dead branches – Sea-eagle)
- White gums and black gums (Swift Parrot feeding)
- Dense clumps of small trees such as paperbarks, native cherries and blackwoods (Grey Goshawk, Masked Owl)
- Dense areas of undergrowth (Tasmanian Devil, Eastern Barred Bandicoot, Spotted-tailed Quoll)

Other (non-threatened) fauna utilise the full range of native plants, including shrubs, saggs and tussock grasses.

Figure 7. Prickly Box flowers provide summer food for butterflies and many other insects.

4. Vegetation Management

4.1 Natural vegetation

Immediately north of the area covered by this guide, the Granite Point Conservation Area is included here as a reference point for natural vegetation in very good condition. Although it is somewhat affected by weeds, localised trampling, and some dieback, overall the vegetation is healthy and diverse. This corresponds to zone F (or L5) by GHD (1996b).

Keeping this natural vegetation in good condition is the highest priority for vegetation management.

Management actions are detailed in the Bridport Foreshore Management Plan (Graham & Associates, 2000).

Figure 8. Dense and diverse understorey provides a protective microclimate and abundant habitat. Also note the numerous eucalypts in the canopy, including juvenile trees which are ready to replace any mature tree deaths.

Management of the subject area, south of here, should aim to replicate this natural vegetation as much as possible. Look to this vegetation for guidance when planting or conducting other management activities along the foreshore.

4.2 Management Issues

Within the subject area itself, issues for the health of foreshore vegetation are many and include:

- **Coastal environment** (strong salt-laden winds, poor sandy soils) makes trees vulnerable to dieback, especially when protective vegetation has been removed.
- **Eucalypt dieback** is likely to accelerate as vegetation thins and remaining trees suffer increased wind etc.
- **Narrow area**, between coast and urban roads, increases edge effects (sun, drying effect, wind, weed invasion, etc) and reduces viability of remnant.
- **Safety concerns** (falling limbs, trees) leads to removal of trees, further exposing remaining trees to more wind etc.
- **Soil compaction** by people and vehicles; affects water infiltration, soil structure, erosion, plant regeneration and ultimately vegetation health.
- **Desire for unlimited access** by locals and visitors means ever-increasing pressure on vegetation.
- **Illegal removal** of vegetation by locals and visitors (for views, access, firewood etc).
- **Replacement of much native understorey** by lawn and bare camping areas, eliminating habitat and removing shelter.
- **Lack of eucalypt seedling regeneration**, so that there is a gradual loss of canopy trees with age and dieback.
- **Poor pruning** of trees in the past lead to unsafe regrowth (F.Bagger, pers.comm.).
- **Regular maintenance by arborists** helps to address (but not eliminate) safety concerns, but eliminates some trees and habitat features (hollow branches etc) in the process.
- **Solid annexes** can prevent access for maintenance of trees (F.Bagger, pers.comm.). Further construction of cabins or other infrastructure may cause similar problems.
- **Existing weeds** require ongoing removal of regeneration, and invasions of **new weeds** from surrounding urban areas are also likely.
- **Vandalism** sometimes threatens plantings.
- **Fences** to protect vegetation are sometimes removed.
- **Past plantings** included exotic and mainland native plants, which can become weedy.
- Any **intensification** of camping would threaten vegetation (by increasing above impacts)
- **Plumbing and other infrastructure** maintenance or construction may destroy plant roots, leading to loss of trees and shrubs.

4.3 Management principles

Both trees and understorey of native vegetation should generally be left undisturbed as much as possible, which will address many issues. Additional management is also recommended to address the above issues and ensure Bridport maintains the health of its foreshore vegetation.
It is important that resources are made available to adequate manage the foreshore vegetation.

Figure 9. Coastal environments are particularly vulnerable to tree dieback.

4.3.1 Protect existing vegetation

This is the key principle of foreshore management, and applies throughout the area. Some eucalypts have succumbed to dieback, and the whole foreshore, being coastal and narrow, is ultimately vulnerable. The following actions should be implemented as a priority wherever possible.

- **Allow natural regeneration** of trees and understorey where possible, ESPECIALLY AT THE COASTAL EDGE. This may require fencing of areas to protect existing coastal vegetation and new seedlings, and better definition of proper access points.

- **Plant hardy shrubs** around remaining trees and ESPECIALLY AT THE COASTAL EDGE. Also plant pockets of vegetation THROUGHOUT THE AREA. Eucalypts tend to be most vulnerable to dieback, and need the hardier understorey plants to protect them.

Near-coastal plantings should consist predominantly of:
Coast Wattle, Sheoak, Hopbush, Coastal Saltbush, Common Boobyalla, Prickly Box, Sagg and Poa, and (in wet soaks) Swamp Paperbark.
Eucalypts and other species may also be added (see Appendix 1).

- **Plant eucalypts** wherever possible, while minimizing future risks to infrastructure and public safety. It is essential to grow eucalypts now to augment the reduced tree canopy and to replace future losses. Consult arborists to aid location decisions.

- **Close off areas for regeneration** off-season. This is already done, and should be continued wherever possible.

- **Plant hardy shrubs and groundcovers** wherever possible **between campsites**, and between campsites and walking tracks. A vegetation screen could be established between the main walking track and the caravan park.

- **Thicken sparse vegetation** by planting shrubs and groundcovers between trees, and more trees and shrubs around the patch.

Figure 10. Many caravan park sites are open, with lawn or dirt below sparse eucalypts. Currently healthy trees can be expected to suffer dieback over time. Plantings of shrubs and groundcovers will help protect them, and improve privacy for campers and walkers.

Plants for narrow spaces (and can be pruned if necessary) include:
Hopbush, Banksia, Prickly Box, Scrub Bulloak, White Correa, Coastal Saltbush, Coast Beard-heath, Common Boobyalla (larger), Scented and Swamp Paperbark (damp sites), Poa, Sagg, Flax-lily, and many additional plants in Appendix 1.

4.3.2 Weed control

Weed control is absolutely essential to protect the health of the foreshore vegetation. Existing maintenance includes spraying of asparagus fern and other weeds, and cutting-and-painting of woody weeds. This excellent commitment by Dorset Council and volunteers has greatly improved the weed status of the foreshore in recent years.

- **Ongoing regular** (e.g. annual or seasonal) **weed control** is essential to contain weeds which otherwise threaten the viability of the native vegetation. With a continued commitment it will be possible ultimately to eradicate many of the worst weeds, although weed invasions from surrounding urban areas will always need to be addressed.

- **Aim to eradicate** woody weeds and the most serious invaders, and **contain** (and ultimately eradicate if possible) others which are more localised in effect (such as marram grass) and/or difficult to eradicate (such as three-cornered garlic). Priority weeds are listed under section 6 below.

Figure 11. Asparagus fern is the most serious weed in this area, and has been the subject of control efforts.

4.3.3 Prevent illegal removal or cutting of vegetation.

A number of strategies should be employed, targeting both visitors and local residents:

- Ongoing education campaigns to raise pride in the native vegetation and awareness of its benefits (for wind protection etc) – could include permanent interpretive signs, activities, articles in local newspapers, local involvement in planting activities, etc.
- Caravan Park office staff should verbally stress protection of vegetation to visitors on arrival, as already outlined in Conditions of Stay.
- The existing Caravan Park brochure could be reworded, or another one produced, to encourage campers to care for the vegetation and fauna of the area.
- Ideally the caravan park manager would be the key person explaining the rules of vegetation protection, managing the park, and enforcing the rules.
- Authorised officers (Council, Caravan Park and Parks and Wildlife Service staff) patrol the area when possible and speak to people; an important role that should continue to be supported by these organisations. Often a simple conversation can educate locals and visitors and reinforce council's stance on vegetation protection, leading to a change in behaviour. Serious offenders should be charged if necessary.
- Immediate replacement of fencing or plantings to show that illegal removal will not be successful.

Figure 12. Paperbarks that have regenerated after being illegally cut.

4.3.4 Plant locally native plant species

A variety of local species can be utilised wherever there is need for shelter from wind and sun, for visual screening, for habitat, or for beauty (see Appendix 1). Native plants can be utilised in a variety of ways for different effects (not just in a haphazard, neglected mix as they have been traditionally used). Mass plantings, formal edges, garden beds, clipped hedges, avenues and so on, are limited only by imagination. While there may not be a replacement native for every horticultural plant available, there is such a range that many new effects can be found.

Figure 13. The beautiful Wedding Bush is relatively common in northeast forests.

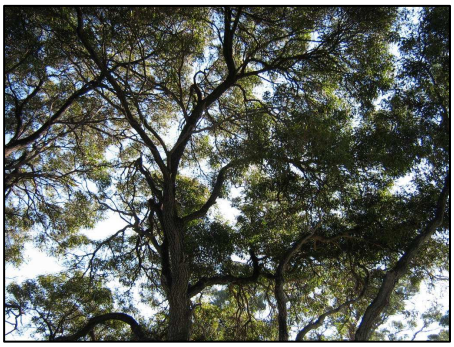


Figure 14. Blackwoods provide dense shade.

For shade, any of the trees could be considered, but Blackwood is a very shady tree, while Sheoak provides more dappled shade but is particularly drought hardy. Banksias can be useful for both shade and windshelter.

Figure 15. Nothing can rival Coast Wattle (left) for dense shelter and coastal hardiness. While space should be allowed for the spread of this species to obtain maximum shelter, it can be pruned if necessary.

Some particularly **dense, hardy, windbreak** plants include:

- Coast Wattle, Swamp Paperbark (damp spots), Hopbush, and Common Boobyalla.
- Also useful, but shorter, are White Correa, Coastal Saltbush, Poa grasses, Saggs and other groundcovers.

Many other species are also good shelter, and can be planted densely and/or pruned to form a windbreak.

Figure 16. Sheoaks with Saggs and Poa grasses below provide a more open form of shade than the dense shrubbery of other coastal species. Some plantings should mimic this for variety of habitat and aesthetics.

Note: "**Local native plants**" means species that occur naturally in the near vicinity (also called "indigenous"). Here this includes species found in similar habitats within Bridport, especially the foreshore and Conservation Area. Genetic material (seeds or cuttings) for propagation should also be from the area. Nurseries are able to obtain seed and cuttings from this area if given advance orders. In some circumstances, material from elsewhere in northeast Tasmania would be acceptable.

The term "endemic" is often mistakenly used. "Endemic" means only occurring in an area (for instance only in Bridport and nowhere else in the world – excessively strict for our purposes!). "Australian natives" that have been recommended in previous reports include species from N.S.W. and W.A. that are not appropriate here, can become weedy, and are barely more "native" than plants from Europe.

4.3.5 Consider impacts on vegetation of any maintenance or construction.

Planners and managers have a vital role in ensuring that retention of vegetation has an equivalent or higher priority than construction of infrastructure, and that it is not threatened by maintenance activities.

For example:

- Avoid trenching that may disturb tree roots.
- Avoid construction that will restrict tree maintenance or will lead to calls for tree removal due to safety concerns. Instead of removing trees for safety, try to prevent activities coming into conflict with trees.
- Consider banning construction of solid annexes or cabins where trees will be affected.
- Consolidate camping areas rather than extending them or intensifying use.
- Foreshore vegetation, and the random arrangement of camping sites within this, is an integral part of the camping experience and indeed of the character of Bridport as a whole (GHD 1996), and should be protected.
- Do not plant tall trees below overhead lines or above underground drains.

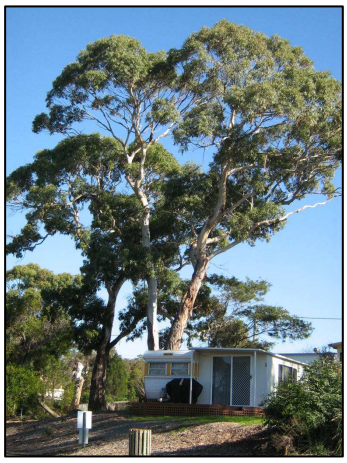


Figure 17. Beautiful and healthy white gum, now difficult to access for maintenance due to erection of solid annexe.

4.3.6 Ensure carparks do not encroach on vegetation

Carparking areas could be better defined by bollards and infill plantings, to prevent progressive expansion of parking over vegetation, improve visual amenity, limit soil compaction, shade cars and maintain vegetation health.

Figure 18. Paperbarks here, if not mown, would sucker and efficiently produce a screen between the carpark and street.

Figure 19. The drive circle at Croquet Lawn should have bollards and plants (e.g. sheoaks) in the centre and around the edges, leaving defined parking spaces, so that damage does not continue to expand. Remaining trees here are under pressure.

4.3.7 Choose areas to remain open

Leave some areas open, for a variety of recreational and aesthetic opportunities.
In general, choose areas that are already open, important to the public, and with hardy vegetation adjacent that will not succumb to the exposure of the open area.

Figure 20. The lawn at waypoint 4 (on Figure 2) is a popular gathering place, and bordered by hardy paperbarks which are sheltering the site. The paperbarks should be allowed to sucker if possible, and some weed control below them would help ensure they remain dense and healthy.

On the other hand, some open areas should be at least partly revegetated to avoid ongoing tree dieback. Eucalypt dieback along the whole foreshore is likely over time if vegetation were thinned to the extent in Figure 21.

Figure 21. The trees remaining in this open area are suffering dieback and one may be dead. More trees should be planted here, and shrubs and groundcovers in patches around trees.

Coastal edges, especially, should be thickened wherever possible.

4.3.8 Plant steep banks

Plant steep banks to prevent erosion and to avoid mowing. These areas are not useful to the public anyway (and can be a hazard). Define paths or stairs that can be used.

Figure 22. Recent plantings on this bank have done well, despite no guards, as people do not walk here (and clearly wildlife browsing has not been an issue).

Figure 23. Difficult maintenance could be avoided by replacing with mulch and plantings.

4.3.9 Encourage paperbarks

These naturally sucker to form a dense and hardy screen in damp situations. All that is usually required is to cease mowing and allow suckers to grow (very cost-effective!).

Figure 24. Jay Wilson shows the regenerative capacity of paperbarks.

Figure 25. In some situations, dense grasses and weeds may need to be removed (spray grasses with a grass-selective herbicide, cut-and-paint woody weeds), but usually suckers can grow through without help.

4.3.10 Prevent uncontrolled access that destroys vegetation

Define access points to beaches etc, and encourage people to respect the need for protection of vegetation. Rationalise paths and prevent new path formation.

4.3.11 Install barriers where necessary to protect native vegetation

Fences (temporary or permanent) are useful for allowing plants to grow and defining where people can go.

Figure 26. While this simple fence had sometimes to be re-erected, it has worked well in allowing dense vegetation to grow and could now be removed.

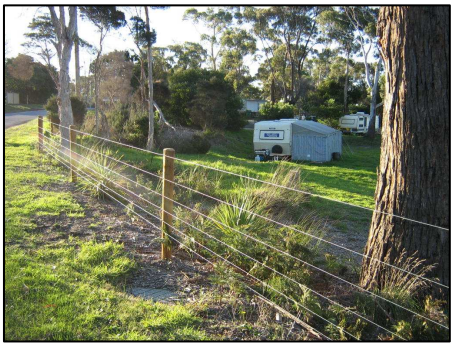


Figure 27. The new fence along Bentley St has been effective at directing people and vehicle movements to proper entrances. Natural regeneration of plants is continuing along the fenceline, and there have been some plantings. More plantings could be done along this boundary.

Any of the plants listed in Appendix 1 would be suitable here. Hardy Swamp Paperbarks (moist parts), Coast Wattle, Banksia, shrubs and tussocks (Poa and Sagg) should form the bulk of plantings. Some additional pretty plants could be scattered along this high-profile edge, such as Clematis (climbing the wire), Wedding Bush and many others.

Prickly plants can also form natural barriers, once grown.

Prickly plants for natural barriers:
Prickly Moses (damp sites),
Dagger Hakea (damp or drier sites), and Prickly Box (dry sites).

4.4 Site preparation and maintenance of plantings

We recommend local native plants that tend to be hardy and attractive. However, it can be expected that some species and individual plants will do better than others. Success depends partly on planting techniques, and unknown factors such as the nature of the seasons after planting, competition with other plants, drainage and moisture and the composition of the soil at each site. Loss of some individuals is normal in any planting, and is dealt with by removal and replanting with more experience, and perhaps better site preparation.

Good site preparation and some assistance in the establishment phase, and during future times of summer drought, will help ensure success.

- **Spray grasses and weeds** with appropriate herbicide, during a period when they are actively growing, ideally the season before planting and about 2 weeks before mulching and planting (e.g. spring and the autumn just before planting). FOLLOW LABEL INSTRUCTIONS and take all safety precautions.

- **Hardy weeds** such as asparagus fern and blackberries may require two or more years of control, as well as follow-up control of seedling regeneration for many years.

- **Mulch** plantings thickly (at least 10cm thick), for weed control and reduced water stress. However, keep mulch a few inches away from plant stems.

- **At bed edges, slope soil down** to approx. 10 cm below ground level, so that **mulch fills the space to the edge**, does not slip away, and prevents weeds germinating at the edge.

- **Top up mulch** regularly, **before** the last mulch rots away.

- Where the soil is poor and sandy, ideally add some **compost or topsoil.** Otherwise, add a **fertiliser tablet** to each planting hole**.**

- Generally, use **plant guards** to protect from wildlife and people. (Unprotected plantings have been successful in some places here).

- **Autumn** is probably the best time to plant. Winter and early spring are OK too, but spring plantings will need to be watered well through summer, especially if spring rains fail.

- Plant roots well down and **water in well.** A “dish” in the soil surface around the plant will help direct water to the plant.

- **Follow-up watering** will greatly improve success, particularly during the first summer.

- Occasional light **pruning of shrubs** will make plants bushier and healthier.

4.5 Monitoring and evaluation

Monitoring and evaluation, followed by appropriate action, is important to ensure success of weeding, planting and other bushland management activities. Records should be kept in a single folder, with dated and named photos.

Weed control sites:

- Take photos of site before and after weed control activity.
- Take GPS points and record on a GIS database for records and follow-up control.
- Keep records of weed control methods used, especially any herbicides used.
- Inspect sites annually, take photos, and program follow-up weed control.

Revegetation sites:

- Keep records of plants planted, site preparation, date etc
- Take photos of site at planting and as plants grow
- Check weed growth in early spring, especially within the 1 metre circle around each planted specimen. Program weed control in spring, before weeds set seed.
- Check survival of plants (e.g. during summer – water if necessary). Consider cause of deaths and rectify if possible. Plan management and re-plantings accordingly.

Bushland condition:

- Photos can be taken every five years of various representative sites (fixed photopoints are particularly useful for comparison), and notes taken of apparent condition.

Fauna habitat:

- Perhaps a local community group could keep a list of birds and other animals encountered along the foreshore. Local naturalists could be approached for copies of their fauna records. Records could be made available at a council or NRM North facility.

4.6 Risk management

There are a number of risks associated with any vegetation, including fire, falling trees and limbs, and accidental injury. These can be minimised with care, but not totally eliminated.

Bushways does not advise on fire or other risk management, though implications for vegetation management are considered. The local fire service, arborists and other experts should be consulted for advice on fire and other hazard control. Fire management recommendations for biodiversity given below are taken from existing literature and are provided as a guide.

Any bushland (almost any vegetation) has the potential to burn. Here access and proximity to people increases the risk of accidental fire, arson, and intentional burning off, although fortunately this has not been a major issue in the past (F. Bagger, pers.comm.). Fire management is important for safety of people and property (with neighbouring houses), as well as for biodiversity.

The Tasmanian Bushcare Toolkit (Kirkpatrick & Gilfedder 1999) recommends for heathy eucalypt forests that average fire intervals be 15 – 30 years, although a range of fire intervals is best for biodiversity. It recommends for shrubby forest an average fire interval of 20 - 40 years. This forest is intermediate between shrubby and heathy. However, here active management with mowing, planting and selective removal of weeds may replace the role of fire, and fire is not likely to be appropriate in this situation. Any deliberate fire should be considered and conducted carefully, with permission from authorities, and done in patches only.

Regular visits by qualified arborists for tree maintenance should be continued. Consult arborists over potential locations for more eucalypt plantings. Appreciate that eucalypts are an essential part of this natural foreshore vegetation, and more must be allowed to grow in order to replace losses of mature plants. Aim to keep new infrastructure and paths away from conflicts with vegetation (e.g. locate them in already open areas), rather than removing the vegetation. Ensure that visitors appreciate the natural risks associated with natural vegetation. The council Tree Management Policy addresses public safety concerns.

5. Specific Site Recommendations

While most recommendations can be applied as general principles, some sites were noted that could receive particular attention. These are discussed here in order of location from north to south. A map (figure 2) shows the zones and locations of notable sites.

Recommendations for particular sites will be discussed within zones that have common themes of management. Similar zones have been used in the Bridport Foreshore Strategic Framework (GHD 1996b), though more of them.

5.2 Zone 1 – caravan park

The caravan park is interspersed within native vegetation which is in relatively good condition for such a high use area. The native vegetation provides a special camping experience; it improves privacy, provides shade and shelter from winds, is beautiful, attracts birds and other wildlife, provides natural play opportunities for children, and gives a feeling of adventure and exploring that sets Bridport Caravan Park above the mundane, open grass of other campsites. The native vegetation also screens the caravan park from nearby residential houses, limits traffic noise, and provides shelter from coastal winds for adjacent urban areas.

However, apart from recent weed removal programs, the vegetation condition is declining over time (loss of understorey, loss of trees, opening of vegetation, compaction of the soil). Management is critical here to maintain the vegetation. In fact, a program of active improvement (weed removal, plantings etc) is necessary to prevent this vegetation further declining.

This zone corresponds to zones B to E (or L4) by GHD (1996b).

5.2.1 Open picnic areas

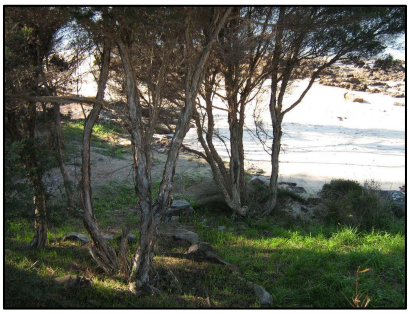
There are several open picnic areas throughout the site, some of which could be planted for more shade and shelter, with others left open if desired. Nowadays many people avoid excessive sun exposure, although sun, views and playing areas are also important. Public consultation should be conducted to determine what people would prefer.

Figure 28. This picnic area at Old Pier (site 1 on Figure 2) could benefit from some shade and wind protection, while maintaining an overall open aspect.

A few Sheoaks planted to the northern side of open areas could grow to provide shade, while allowing views. In other sites, Coast Wattle may be preferable, providing a dense windbreak.

Figure 29. Mature sheoaks, providing shade while allowing views of the sea, with quintessentially Australian colours.

5.2.2 Memorial garden



The small memorial garden (at site 2 on Figure 2), with its stone arrangement, rose and mainland bottlebrush, has fallen into some disrepair but is not causing any problems.

Figure 30. Small memorial garden.

The paperbarks here could be allowed to sucker (cease mowing around them), which would thicken this protective coastal vegetation and improve its appearance. Some lawn could be retained if desired, but some attractive native groundcovers (see Appendix 1) would form an alternative and hardier garden.

For example, White Correa to shorewards, and Native Pigface, with a selection of additional species behind the Correa (moisture here may support a variety of shrubs). Wedding Bush may do well, inland of the Correa.

5.2.3 Tennis courts

The local tennis club should be consulted, but it is expected that shelter on the windward side would be advantageous for both northern and southern tennis courts.

Figure 31. The northern tennis courts already have some shelter, but could do with more.

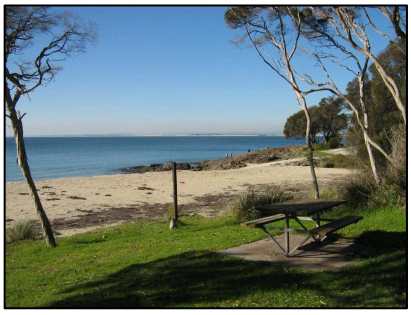
5.2.4 Sailing Club area

This picnic area (site 4 on Figure 2), "A-frame" building and roadside would look a lot better with plantings. It is currently a large gap that needs to be filled, at least partly, to maintain the integrity and health of the foreshore vegetation.

Figure 32. Picnic area and building near Sailing Club.

Shrubs, groundcovers and a few trees could be planted on the banks around this grassy area. Almost any species from Appendix 1 could be used, but most of the planting should be of species up to 2 m high, to reduce conflict over views. There has been some illegal removal of trees here in the past, so various measures (see section 4) may be necessary to achieve success. The slope ensures that uphill residents will be able to see over most shrubs, and the view through the boom gate will remain. Plantings should be planned to leave some views of the beach from various perspectives – there is plenty of room here for plantings together with open areas and views.

Involvement of the Sailing Club is recommended. Locals could be informed of intentions here (with reassurances that most views will remain).



The Sailing Club building on the beach, surrounded by lawn, can remain open. However vegetation at the edges of this area needs to be thickened so as not to suffer ongoing decline. Clumps of groundcovers and shrubs could be planted around existing eucalypts and paperbarks.

Figure 33. These few Paperbarks are suffering from exposure. A small area around these could be fenced, mulched and planted with more Paperbarks and Poas.

5.3 Zone 2 – Recreation Area

The native vegetation behind the Village Green and extending to the boat trailer carpark exists within a busy recreation area. The vegetation is more modified than in zone 1, with some very open lawn areas and carparks, but it retains many beautiful trees and areas of natural shrubs and groundcovers. Introduced marram grass has grown on sand that has accumulated in recent history since modifications to the river mouth and Trent Water.

This area is right in the heart of Bridport, overlooked by the shops and Main Street, and including the Community Centre, Tourist Information Centre, tennis courts, skateboard park, play equipment, BBQ facilities and boat ramp.

This foreshore vegetation forms the surroundings to community activities and day-to-day life in Bridport. It is vital in protecting Bridport from coastal winds, and provides a beautiful environment for recreation. This is an iconic part of Bridport's image, and it requires active management to protect it into the future.

This zone corresponds to zone A by GHD (1996b).

5.3.1 Village Green

Some of the beautiful Black Gums and other eucalypts behind the Village Green are already suffering some signs of dieback. While the narrowness of this forest fringe allows views of the sea through the trees, it also subjects the trees to excessive coastal exposure.

Figure 34. Protection of the vegetation behind the Village Green is a high priority.

This area must be protected and planted more densely, **as a high priority,** to ensure its long-term survival. Plantings need not block views of the sea from the shops, which are uphill. Existing shrubs up to 3 metres tall do not block views.

Plant the swale between the trees and the dunes. Dense plantings of Coast Wattle, Banksias, Swamp Paperbarks, Prickly Box, Hop Bush, some Black Gums and Poa Grass will shelter the existing eucalypts from the sea winds. Allow the native Blady Grass and Australian Saltgrass to grow un-mown.

Figure 35. The swale behind the Village Green trees could be planted, and native grasses left unmown.

Reduce mown areas amongst the trees. Allow paperbarks to sucker. Plant more eucalypts (predominantly Black Gums) where there is space. Plant shrubs and groundcovers to augment existing patches. Plantings should include Swamp Paperbarks, Prickly Box, Prickly Moses, Hopbush and Banksias. A variety of groundcovers, and flowering shrubs from the additional species list (Appendix 1), should also be planted. Plantings could screen the ugly toilet block from view.

Figure 36. Paths and some open areas can remain, but this narrow strip of forest requires reduced mowing and determined revegetation for it to survive long-term.

5.3.2 Marram grass - Goftons Point

This large area of weedy marram grass and sea-spurge is ugly and windswept.

Some Coast Wattle and other native species have grown naturally here, but somebody has been pulling out seedlings.

Figure 37. This is a large area – people who like the open feeling have no need to fear that plantings will lead to complete dense shrubbery.

Plantings here would provide much needed shelter for the vegetation behind the Village Green, as well as for the carpark. Plantings should be done into openings in the marram grass, to avoid the need to remove marram grass competition, and this will result in a patchy effect. Plantings should be denser near the Village Green vegetation, and around the windward sides of the carpark. Plantings could be placed at the point for shelter, but may not be desired as this is a popular viewing spot. Plantings along the dirt road would improve its appearance. Any natural regeneration should be left to grow.

If possible, involve the local community in plantings here. Together with media articles, posters etc, this may improve others' attitudes to revegetation at this site.

Few species will survive the almost pure sand, dry and windy conditions here (see box).

Coastal dune plantings should be predominantly of:
- Coastal Wattle, Coastal Saltbush, and Bower Spinach.
- Grey Saltbush, White Correa, Coastal Poa Grass, Knobby Clubrush, Native Pigface and Coast Beard-heath are also suitable

- Pigface, White Correa and other pretty species could be planted alongside paths and roadsides.
- Prickly Box and Sheoak may be trialled where there is some clay below the sand, perhaps around the carpark.
- Some compost or a fertiliser tablet in each planting hole would assist establishment in this harsh site.

Figure 38. Hardy Coast Wattle is helping to protect the eucalypts. More is needed.

Figure 39. Uncontrolled vehicular access to the beach threatens beachgoer safety and could lead to erosion.

5.3.3 Recreation facilities

This whole area has some trees and shrubs in patches throughout, but is generally very open and exposed to the wind. Large areas should be left open for ball games and other activities, but there is plenty of room here to plant some shelter too.

- Plant hardy windbreaks to northwest of each facility. Leave space for play and sunny areas.
- Plantings should also augment existing patches of native vegetation, to help protect them from slow decline.
- Plantings should be made in consultation with maintenance staff, and concentrated in defined areas so that mowing can occur easily around them.
- Site preparation will need to be thorough, and mulch topped up regularly, to prevent grasses and other weeds becoming a maintenance problem in planting beds.
- Eucalypts should be planted as there are few remaining in this area, and some are suffering dieback. These should be carefully located to avoid risks to public and infrastructure, but there is plenty of space here.
- Suitable plants in this area include the hardy near-coastal windbreaks, but almost any other species in Appendix 1 could also be used. Plantings should be a mix of hardy species (below) and pretty additional species.

The local tennis club should be consulted, but it is expected that shelter on the windward side would be advantageous. Coast Wattles would be most effective. If trees are not desired, then groundcovers should be used to cover this ugly bank.

Figure 40. The central tennis courts (in zone 2) are lacking protection from the wind.

Figure 26. The skateboard park area is very exposed.

Dorset Council Youth Officer may be able to work with local youth to plan and implement plantings at the skateboard park. A variety of species, including Coast Wattle, could be planted to the northwest, with seating facing the park.

Figure 41. The play equipment is similarly exposed and needs shelter plantings to northwest.

Playground plantings could be in curving beds that will form "nooks" for play and exploration.

Windbreak plants:
Coast Wattle, Sheoak, Hopbush, Coastal Saltbush, Common Boobyalla, Prickly Box, Sagg and Poa, and (in wet soaks) Swamp Paperbark.
Eucalypts and many other species may also be added here for beauty and habitat variety (see Appendix 1).

5.4 Zone 3 – Foreshore Walk

This popular walk continues north through the other zones and into the bushland. Here it passes through open lawns with few trees or other native vegetation. The natural values of this zone are extremely degraded, but nevertheless worth keeping and enhancing. There are some large and beautiful eucalypts (not all local native species), some native remnant vegetation and some planted natives, as well as a few exotic plantings.

As elsewhere along the foreshore, this zone would benefit from more plantings – to provide shelter and interest to walkers, to protect existing trees and other plants, and to improve protection of adjacent parts of Bridport. Views are important to maintain, and need not be compromised by plantings - scattered trees can frame and enhance a view, and patchy plantings provide interest. A variety of spaces is desirable – from open to intimate and sheltered.

The altered landscape here lends itself well to creative uses of native plants in a semi-formal garden style.

This zone corresponds to zone G (and some of zone A) by GHD (1996b).

Figure 42. Parts of this walk are so open as to be bleak.

- **Plant patches** along the foreshore walk, especially around features such as seats, bends in the path, track junctions, entrance points, carparks, and rocks.

- **Plantings in this zone** should be a variety of native plants and styles (experiment!). Include plenty of taller shelter (e.g. Coast Wattle, Coast Beard-heath), lower hardy shrubs (e.g. White Correa, Coastal Saltbush) and many groundcovers, with scattered taller trees (e.g. eucalypts and Banksia). Also use some of the additional species in Appendix 1, for a range of flowers and shapes.

- **Plant eucalypts** wherever there is room (avoiding paths and infrastructure). Eucalypts should be scattered, so as not to fill this open area or block views. The few mature eucalypts in this zone are appreciated, but cannot last for ever.

- Spray grass, then plant, **mulch** and **maintain** these beds.

Figure 43. The statuesque eucalypts along the foreshore walk are vulnerable to dieback if not protected by further plantings.

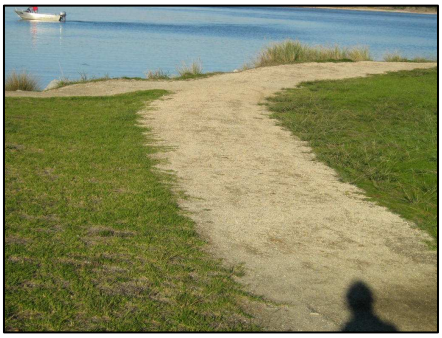
- **Plant low plants along the river edge** to discourage public access to steep boulders and dangerously deep, fast water.

> **Low plants**, such as Poas, Saggs, Knobby Club-rush, Bower Spinach and Native Pigface, will not impede views.

Figure 44. Low plantings along this edge could improve safety.

- **Consolidate existing vegetation** with more plantings into gaps and around edges.
- Do not plant such overused exotics as Agapanthus, which provide no habitat value and can become weedy.
- **Complete the path** at the southern end, and landscape with natives as an appealing entrance.

Figure 45. Planting on the bank would thicken this natural remnant, and improve shelter for the picnic area in the natural amphitheatre below.



Figures 46, 47. An unappealing track junction (left) contrasts with a meander (right) between Coast Wattles that invites a walker to explore further.

Figure 48. Recent plantings (here of Banksias and Saggs) have been well done and are looking good.

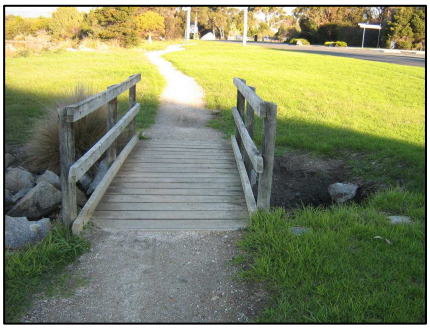
Figure 49. This is an excellent planting around the boat ramp turning circle (at site 5 on Figure 2). Fill the gap with more plantings.

Figure 50. Consult the RSL about any plantings around the cenotaph.

Figure 51. Poa grasses around and between these sheoaks would improve their appearance. There is a lovely patch of Gladiator Sword-sedge behind these.

Figure 52. The open area in front of the police station is an ideal place for plantings, which has enough room for more eucalypts. Kill the ivy on the stump here.

Figure 53. Some plantings of low shrubs and tussocks next to the bridge would not disturb the open aspect here, but would reduce erosion, reduce risk of people falling in the hole, and make the bridge crossing more appealing.



- **Protect saltmarsh**

There are areas of saltmarsh along the river, which contribute to the coastal open look. Saltmarshes are poorly reserved in Tasmania and provide important ecological processes in the intertidal zone (Kirkpatrick & Gilfedder 1999). They should be left alone. Vehicles should not be allowed on the saltmarsh, as they damage the vegetation.

Figure 54. Saltmarshes like this have important ecological roles.

6 Weed control

Comprehensive weed control information was not required for this guide, as information is available elsewhere. As a general rule, however, most weeds (especially woody weeds) can be cut and painted with glyphosate (within 10 seconds of making the cut). Asparagus Fern, Bridal Creeper, Cape Ivy, Passionvine and Blackberries may be sprayed with selective herbicides according to Department of Primary Industries and Water recommendations (www.dpiw.tas.gov.au).

Where weeds have been removed, especially over large patches, **native plantings will help prevent weed regrowth**. For example, where Asparagus fern has been removed, plant Poa Grasses and Saggs (which could be over-sprayed with a broadleaf-specific herbicide if Asparagus Fern regenerates) or vigorous natives such as Coastal Saltbush and Bower Spinach.

6.1 Priority Weeds

This is not a comprehensive weed list, but highlights some of the worst weeds on site. These include species that are vigorous and competitive within the site, or may be spread by wind or birds into surrounding bushland.

Aim to eradicate:

- Asparagus Fern, *Asparagus scandens*
- Bridal Creeper, *Asparagus asparagoides*
- Bluebell Creeper, *Billardiera heterophylla (*was *Sollya)*
- Cape Ivy, *Delairea odorata*
- Mirror Bush, *Coprosma repens*
- Cotoneaster, *Cotoneaster* spp.
- Montpellier Broom, *Genista monspessulana*
- Sweet Pittosporum, *Pittosporum undulatum*
- Cape Wattle, *Paraserianthes lophantha*
- Boneseed, *Chrysanthemoides monilifera* – has already been well controlled
- Blackberry, *Rubus fruticosus*
- Passionvine, *Passiflora mollissima*
- Ferny Panax, *Polyscias sambucifolia*
- Berberis, *Berberis floribunda* (one individual south of Sailing Club)

Figure 41. Ferny Panax can grow into a large tree. It appears to be naturalising and should be eradicated.

Aim to contain or ultimately remove:

- Sea Spurge, *Euphorbia paralias* (BEWARE of poisonous sap) – aim to eradicate wherever possible, especially from popular children's beaches and the Conservation Area, and contain elsewhere. Ongoing reinfestation will need to be tackled in these areas.
- Three-cornered Garlic ("Onion Weed"), *Allium triquetrum*
- Marram grass, *Ammophila arenaria*
- Bulbs, inc. *Watsonia meriana, Freesia* spp.
- Cordyline, *Cordyline* sp.
- Pasture/lawn grasses – are extremely competitive with native understorey; do not underestimate these weeds.
- Coast Tea-tree, *Leptospermum laevigatum* - N.B. there is debate over whether this is native or introduced to the area, but it is best to contain spread of this vigorous shrub.
- Chilean and/or South African Pigface, *Carpobrotus aequilaterus* and *C. edulis* (pictured). – These are larger than the equally attractive Native Pigface, and can become weedy.

6.2 Mainland natives

Several species of mainland natives have been planted in the area in the past. At this stage they do not appear to be spreading greatly, but they all have the potential to become weeds (and have done so elsewhere). Over time it would be best to selectively remove these and replace with local native equivalents.

- Ovens Wattle, *Acacia pravissima*
- Wirilda, *Acacia retinodes*
- Giant/Bracelet Honeymyrtle, *Melaleuca armillaris*
- Sallow Wattle, *Acacia longifolia* ssp. *longifolia* possibly on site. This invasive large shrub looks very similar to the related local native "Coast Wattle", *Acacia longifolia* ssp. *sophorae*, but has longer, pointier phyllodes and straighter pods. Be careful of identification before removal. The picture shows a specimen on site whose narrow phyllodes suggest that it is Sallow Wattle.

Note that Kangaroo Apples, *Solanum laciniatum*, which occasionally germinate around the site, are NOT weeds, but are attractive native plants. They should be encouraged.

6.3 Coastal Wattle – a valuable native plant, NOT a weed

A special note is given here about Coastal Wattle, *Acacia longifolia var. sophorae*, as this guide highly recommends it, yet some people dislike it. There is also some confusion over names.

This wattle is also known as Boobyalla, but is different from Common Boobyalla, *Myoporum insulare*, which also occurs here. Due to this confusion of common names, we will refer to this species as Coastal Wattle.

This shrub is sometimes regarded as problematic due to its spreading lower branches and hardy nature (leading to an impression of "taking over"). There do not appear to be any problems with this species here, and in fact it is vital in coastal areas to protect less hardy vegetation from coastal winds.

*Figure 43. Coastal Wattle's curly mature seedpods and rounded phyllodes ("leaves") distinguish it from introduced Sallow Wattle (*A. longifolia *var* longifolia *usually has straight seedpods and pointy phyllodes), and from Blackwoods.*

Coastal Wattle has a number of benefits. Firstly, it is a typical component of this vegetation type at the coast. It provides abundant food (in the form of pollen and seeds) and dense shelter for a wide range of fauna. It is also invaluable as a hardy, salt- and wind-tolerant dense shrub, which contributes to the stability of the microclimate for this forest, and helps to prevent eucalypt dieback. This is a particularly important role in a very narrow forest patch that suffers from "edge effect" (increased wind, sun and weed impacts around the edges). It can also be effectively used as a natural fence, guiding people to defined entrances, and therefore protecting understorey from trampling.

7 Priorities

The foreshore, with its native vegetation, has been recognized as "clearly the greatest natural asset" that Bridport possesses (GHD 1996). Protecting this existing natural asset is arguably Bridport's highest priority.

The direction of recent management has been very positive, with considerable weed control already undertaken and ongoing, regular arborist maintenance visits (hopefully reducing the need for any further tree removal), attempts to prevent illegal removal of vegetation, and some plantings of local native plants. Much of what is needed is simply a continuation of the direction already taken. It will take commitment by council, together with local groups and others, to ensure the ongoing health of foreshore vegetation. Fortunately, the actions required are relatively straightforward and very cost-effective (especially compared with big infrastructure projects, e.g. a proposed $3.5 million "Wellness Centre" – GHD 2006).

With Bridport undergoing a "growth spurt", it is particularly important that impacts on vegetation of any future maintenance or construction are fully considered, and that conflicts between these are avoided. Retention and protection of native vegetation should have an equivalent or higher priority than construction of infrastructure.

Figure 44. The bush behind the Village Green must be thickened with plantings and regeneration, or be lost to dieback.

The management actions which have been recommended in this document are tabled in Appendix 4, with an indication of relative priority and a timeframe for implementation. Amongst these are some actions which would contribute most effectively to maintaining the health of Bridport's foreshore native vegetation. These are summarised here:

- Protect and manage existing vegetation.
- Leave both trees and understorey undisturbed as much as possible.
- Allow natural regeneration of trees and understorey, especially at the coastal edge.
- Control weeds.
- Prevent illegal removal or cutting of vegetation (education, encouragement, enforcement, etc)
- Protect and encourage paperbarks (allow existing ones to sucker, and establish more where appropriate).
- Prevent uncontrolled access that destroys vegetation, and better define proper access points.
- Install barriers where necessary to protect native vegetation.
- Plant locally native plant species, especially around remaining trees and especially at the coastal edge.
- The first plantings should be behind and amongst foreshore vegetation of the Village Green, as a very high priority. Mowing here should be reduced in area immediately to allow natural regeneration.
- Consider impacts on vegetation of any maintenance or construction.
- Ensure retention of vegetation has an equivalent or higher priority than construction of infrastructure.
- Ensure that there are available resources to adequately manage native vegetation.

Keeping any natural vegetation in good condition is the highest priority of vegetation management.

8 References

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9 Appendices

Appendix 1. Plants suitable for planting, Bridport Foreshore

A very good list was supplied by Mary Cameron in 1999. Some of those species are suitable for extensive plantings with minimal maintenance, while others are attractive but less robust and should be restricted to focal plantings that will receive more care.

Previous lists have included species that are not native to this area and have the potential to be weedy (such as Wirilda, Oyster Bay Pine, Kunzea). It is wise not to plant Coastal Teatree either, as it can be too invasive.

Sources of plants:
The best nurseries for this site are Woodlea at Scottsdale (ph 6352 7262), Habitat at Liffey (ph 6397 3400) and Taz Wild Plants at Avoca (ph 6384 2165). All provide native plants (specify local provenance), and orders can be made. Slim-line tubes, where available, will be fine and usually cost around $2. Note that some species (eg grasses) are available in cheaper hiko trays (cost around $1).

The cost of guards for plants is also significant, but depends on the method chosen, and guards are not necessary for grasses and saggs. All nurseries can advise on and provide guards. Some nurseries provide planting services.

The species below are hardy for widespread planting, and exist naturally on site or very nearby. (Note **comments in bold** for special uses or requirements).

Name	**Comments**	**Height (approx.)**
TREES	**Avoid planting large trees near infrastructure and pipes. Spacing >5m looks more natural.**	
Black Peppermint *Eucalyptus amygdalina*	Drought-tolerant eucalypt with fine foliage and finely textured bark.	> 20 m
White Gum *Eucalyptus viminalis*	Beautiful white bark.	> 20m
Black Gum *Eucalyptus ovata*	Large glossy leaves, white bark. Prefers **moist, heavier soils**.	> 20m
Cabbage Gum *Eucalyptus pauciflora*	A particularly beautiful tree, with coloured patches on its white bark, and weeping foliage.	10 – 20 m
Silver Wattle *Acacia dealbata*	Abundant yellow flowers = first sign of spring. Attractive grey foliage. Under-appreciated, **hardy tree**, but can be short-lived (a decade or so).	10 (-30)m
Blackwood *Acacia melanoxylon*	**Shady green tree**. Best in moist sites but hardy in most situations.	10 (-30) m
Sheoak *Allocasuarina verticillata*	**Hardy in dry sites**. Drooping, greyish-green foliage like pine needles. (Bulloak, *A. littoralis*, is also an appropriate local species, but sheoak is favoured in this coastal situation.)	6 - 10 m
Banksia *Banksia marginata*	Great for birds. **A favourite** with people and fauna.	6 (- 10) m
Swamp Paperbark *Melaleuca ericifolia*	Hardy, fast growing small tree with cream flowers spring/summer. **Good screen**, spreads by suckers. Can withstand **coastal** winds in **moist sites.**	4 - 6 (-12) m

Continued over page…..

Appendix 1 (continued). Plants suitable for planting, Bridport Foreshore

SHRUBS	**Space shrubs one to two metres apart.**	
Coast Wattle ("Boobyalla") *Acacia longifolia ssp. sophorae*	The **hardiest** front-line plant for seawinds and sandy sites. Provides shelter. **Allow room** to spread, although pruning is possible.	2 – 5 m
Prickly Moses *Acacia verticillata*	**Prickly**, potential traffic barrier. **Moist sites.**	2 – 3 m
Redstem Wattle *Acacia myrtifolia*	Red stems, yellow flowerballs in early spring. Well-drained soils. **Hardy**, attractive small shrub.	0.5 – 1.5 m
Scrub Bulloak *Allocasuarina monilifera*	Like bulloak but smaller. Tolerates **dry**, some shade, dust.	0.5 – 2 (-4) m
Prickly Box *Bursaria spinosa*	Masses of fragrant white flowers in early summer for butterflies etc. **Prickly, potential traffic barrier, hardy in many conditions**.	3 - 5 m
White Correa *Correa alba*	Compact, rounded shrub, oval leaves, white flowers. **Hardy in dry, coastal** sites.	1 – 3 m
Native Hopbush *Dodonaea viscosa*	**Hardy in dry sites**. Glossy green leaves, and purple-red papery fruits. **Good screen.**	3 - 5 m
Dagger Hakea *Hakea teretifolia*	**Prickly**, potential traffic barrier. Summer flowers, scented.	1 – 2 m
Scented Paperbark *Melaleuca squarrosa*	Yellow-cream scented flowers. **Moist sites**.	2 – 4 m
Common Boobyalla *Myoporum insulare*	**Front-line coastal** shrub in dry sites. Large green leaves, small white flowers.	2 – 3 m
Coast Everlastingbush *Ozothamnus turbinatus* and Coast Daisybush *Olearia axillaris*	Fast-growing shrubs with yellowish-green (Everlastingbush) or grey (Daisybush) foliage. Both good on **coastal sands** in sun. Check availability with nurseries.	1 – 2 m
Coastal Saltbush *Rhagodia candolleana*	Scrambling dark green shrub with bright red berries. **Really hardy**, fast-growing shrub. **Dense screen**.	0.5 – 1.5 m
Kangaroo Apple *Solanum laciniatum*	Lush dark green leaves, purple flowers, orange fruits make a spectacular large shrub.	2 - 4 metres
GROUNDCOVERS	**Plant groundcovers 0.5 to 1 metre apart, except Bower Spinach 2 m apart.**	
Native Pigface *Carpobrotus rossii*	Succulent creeper, with large, bright flowers. **Sunny sites, hardy in coastal sand**.	0.2 m
Blue Flax-lily (**drier** sites) *Dianella revoluta* Tasman Flax-lily (**moister** sites) *Dianella tasmanica*	Strap leaves, blue flowers, blue berries. Spread to form clumps.	0.5 m
White Flag-iris *Diplarrena moraea*	Beautiful white iris flowers, strappy leaves	1 m
Knobby Club-rush *Isolepis/Ficinia nodosa*	Fine leaves with distinctive round knobs on top. **Hardy** in variety of situations.	0.5 – 0.8 m
Sagg *Lomandra longifolia*	**Very hardy** tussock. Good butterfly plant.	1 m
Poa Grass *Poa labillardierei* (wet & dry sites) *P. poiformis* (coastal front-line)	**Tough, drought-tolerant**, attractive tussocks. Cut back to the base every few years to rejuvenate.	0.5 - 1 m
Kangaroo grass *Themeda triandra*	Reddish leaves, distinctive seedheads make a feature of mass plantings.	0.5 m
Bower Spinach *Tetragonia implexicoma*	Sprawling runners of succulent green leaves. Fruit attracts birds. Allow plenty of room to spread. **Hardy** with **coastal** winds, sandy soils.	0.1 m (to 2 m spread). May climb 1-2 m

Appendix 2. Additional species for planting

Below are some plants that look good and can be hardy, but are not as widely appropriate as the species listed above. They will add variety in appropriate positions. (More species are also listed by Mary Cameron, and would be worth trying but may not be easily available.)

SHRUBS	**Space shrubs one to two metres apart.**	
Sunshine Wattle *Acacia terminalis*	Creamy yellow flowers in winter, attractive feathery leaves.	2 m
Sweet Wattle *Acacia suaveolens*	Narrow blue-green phyllodes ('leaves'), winter flowers.	1 - 2 m
Coast Beard-heath *Leucopogon parviflorus*	Hardy large shrub once established. May need to be ordered in advance. Edible berries.	1- 3 m
Small-leaved Paperbark *Melaleuca gibbosa*	Mauve flowers, small leaves, tidy small shrub. **Moist, well-drained** sites.	0.5 – 1.5 m
Yellow Dogwood *Pomaderris pilifera*	Showy yellow flowers in spring. Rounded shiny leaves. Prune for health.	1 - 2 m
Bush peas (various): Golden pea, *Aotus ericoides,* Showy Bossiaea, *Bossiaea cinerea,* Native Daphne *Pultenaea daphnoides,* Native Indigo, *Indigofera australis*	All have showy yellow-and-red pea flowers (mauve in Indigofera), and can be hardy once established. Benefit from light pruning.	0.5 – 1 m
Dolly bush, *Cassinia aculeata* Dusty Daisy-bush, *Olearia lirata*	Daisy bushes with many small flowers, important habitat component, attracting butterflies and other insects. Best with some moisture. Benefit from some pruning.	2 m
Wedding Bush *Ricinocarpos pinifolius*	Gorgeous white flowers, fine foliage. Requires well-drained moist soil in full sun or part shade. Benefits from pruning.	1 – 2 m
Grey Saltbush *Atriplex cinerea*	Grey leaves. Small shrub able to grow on coastal sands.	0.5 – 1m
GROUNDCOVERS	**Plant groundcovers 0.5 to 1 metre apart, clumped for best effect.**	
Clematis *Clematis aristata, C. microphylla*	Lovely climbers with white flowers, can be used to soften wire fences and walls. Small-leaved clematis, *C. microphylla*, is hardiest in coastal dry conditions.	To 3 m
Native Pelargonium *Pelargonium australe*	Beautiful pink flowers, rounded leaves. Self-seeds well.	0.5 m
Erect Guinea-flower, *Hibbertia riparia,* Silky Guinea-flower *H. sericea*	Beautiful yellow flowers. Small shrubs suitable for garden areas. Require good drainage, some moisture, part sun.	0.5 m
Short Purple-flag *Patersonia fragilis*	Lovely purple flowers, narrow leaves. Well-drained moist sunny sites, but can handle drier sites than Long Purple-flag.	0.2 m
Long Purple-flag *P. occidentalis*	Longer flower stems make purple flowers very showy. Well-drained moist sunny sites.	0.5 m
Creeping Heath-myrtle *Euryomyrtus ramosissima*	Delightfully floral groundcover for garden/rockery sites. Moist, well-drained sites.	Prostrate, to 1 m wide
Running Postman *Kennedia prostrata*	Flat spreader, rounded leaflets, red & yellow flowers. Sunny, well-drained sites	Prostrate, to 1 m wide

Appendix 3. Some useful resources

Some useful propagation references include:

Community Coastcare Handbook – caring for the coast in Tasmania, by Veronica Thorp (2003). Tasmanian Environment Centre, Hobart. (As you know, your group is on the cover!)

Growing Australian Native Plants from Seed - for revegetation, tree planting and direct seeding. By Murray Ralph, 1997. Published by Bushland Horticulture, ph (03) 9517 6773. Very useful, comprehensive but simple propagation info.

Tasmania's Natural Flora, by J. Whiting et al, 2004. ($70 many bookshops, or PO Box194, Ulverstone, 7315). Identification of heaps of plants, and cultivation hints.

Understorey Network database for propagation and seed collection info:
www.understorey-network.org.au

Some useful weed references include:

Various pamphlets, usually available from council or Natural Resource Management/Landcare organisations. E.g. Coastal Weeds of Tasmania.

Environmental Weeds – A field guide for SE Australia. By Kate Blood, CRC Weed Management Systems, 2001. Publ. CH Jerram & Assoc., Mt Waverley.

Bush Invaders of SE Australia. By Adam Muyt, 2001. Publ. R.G. & F.J. Richardson, Meredith. (About $65, but worth it – includes control methods)

DPIW Weeds site
For comprehensive weed control information sheets, declared weeds etc:
www.dpiw.tas.gov.au/inter.nsf/ThemeNodes/LBUN-5MC2R8?open

DPIW Weeds Officer – ph: 6336 5429

Tamar Valley Weed Strategy
- another excellent Tasmanian weed website
http://www.weeds.asn.au

Appendix 4. Schedule of management actions and priorities.

The following table lists management actions (arranged according to management principles), both general and site-specific, which are recommended within this document.

Priority ratings (very high, high, medium, low) are provided as a guide only, and based on the likely effectiveness of the action in protecting the native vegetation of the foreshore, together with the likely immediacy of vegetation decline if the action is not implemented.

Implementation of actions is subject to funding and resources, which will determine in practice the timeframe applicable.

Management Principle	Management Action	Priority	Timeframe	Document reference
Keeping any natural vegetation in good condition is the highest priority of vegetation management. - Protect and manage existing vegetation	Leave both trees and understorey undisturbed as much as possible.	Very high	Immediate and ongoing	4.3
	Allow natural regeneration of trees and understorey, ESPECIALLY AT THE COASTAL EDGE.	Very high	Immediate and ongoing	4.3.1
	Identify areas that need to be fenced to protect existing coastal vegetation and new seedlings, and better define proper access points.	Very high	1 - 5 years	4.3.1
	Reduce area of mowing between trees behind Village Green.	Very high	Immediate	5.3.1
	Reduce mowing of native grasses of swale behind trees of Village Green.	High	1 – 5 years	5.3.1
	Protect saltmarsh from vehicles and other disturbance or development.	High	Ongoing	5.4
	Continue to close off areas of the Caravan Park for regeneration off-season wherever possible.	High	Ongoing	4.3.1
- Control weeds	Eradicate woody weeds and the most serious invaders, and contain (and ultimately eradicate if possible) others.	High	Ongoing	4.3.2, 6
- Prevent illegal removal or cutting of vegetation	Ongoing education campaigns – could include permanent interpretive signs, activities, articles in local newspapers, local involvement in planting activities, etc.	High	Ongoing	4.3.3
	Caravan Park office staff should verbally stress protection of vegetation to visitors on arrival. Caravan park manager to be the key person explaining the rules of vegetation protection, managing the park, and enforcing the rules.	High	Immediate	4.3.3
	The existing Caravan Park brochure could be reworded, or another one produced, to encourage campers to care for the vegetation and fauna of the area.	Medium	1 – 5 years	4.3.3

	Authorised officers continue to patrol area and speak to people about vegetation protection.	High	Ongoing	4.3.3
	Charge serious offenders as appropriate.	Medium	Ongoing	4.3.3
	Immediate replacement of fencing or plantings to show that illegal removal will not be successful.	Medium	As necessary	4.3.3
- Consider impacts on vegetation of any maintenance or construction	Planners and managers to ensure that retention of vegetation has an equivalent or higher priority than construction of infrastructure.	High	Immediate and ongoing	4.3.5
	Avoid trenching that may disturb tree roots.	High	Ongoing	4.3.5
	Avoid construction that will restrict tree maintenance or will lead to calls for tree removal due to safety concerns.	High	Ongoing	4.3.5
	Consider banning further construction of solid annexes or cabins where trees will be affected.	High	1 – 5 years	4.3.5
	Consolidate camping areas rather than extending them or intensifying use.	High	1 – 5 years	4.3.5
- Ensure carparks do not encroach on vegetation	Identify carparking areas which could be better defined by bollards and infill plantings to protect native vegetation, e.g. the drive circle at Croquet Lawn.	Medium	1 – 10 years	4.3.6
- Choose areas to remain open	Identify areas that are already open, important to the public, and with hardy vegetation adjacent that will not succumb to the exposure of the open area.	Medium	1 – 5 years	4.3.7, 5.2.1
	Revegetate (partly or fully) other open areas, where vegetation is vulnerable to dieback, especially at the coastal edge. Plant for improved shade and shelter where desired.	High	1 – 5 years	4.3.7, 5.2.1
- Plant steep banks	Plant steep banks to prevent erosion and to avoid mowing. Define paths or stairs that can be used.	Medium	1 – 10 years	4.3.8
- Encourage paperbarks	Protect paperbarks wherever possible. Cease mowing and allow suckers to grow (place temporary fences if necessary).	Very high	Immediate and ongoing.	4.3.9
- Prevent uncontrolled access that destroys vegetation	Define access points to beaches etc. Rationalise paths and prevent new path formation.	High	1 – 5 years	4.3.10
	Install barriers (fences and/or dense plantings) where necessary to protect native vegetation.	High	1 – 5 years	4.3.11
Plant locally native plant species. A - Plant hardy shrubs around remaining trees and especially at the coastal edge - Zone 1 and bush areas of zone 2.	Plant into the swale behind foreshore vegetation of the Village Green. Plant to enhance the existing patches of vegetation amongst the trees here.	Very high	Autumn 2009 / 1 – 5 years	5.3.1
	- Plant hardy shrubs throughout the caravan park: coastal edge, between	High	1 – 5 years	4.3.1

	campsites, and as a screen along the main walking track. - Thicken sparse vegetation by planting shrubs and groundcovers between trees, and more around each patch.			
	Plant eucalypts wherever possible throughout the whole area (allowing for future risk minimisation).	High	1 – 5 years	4.3.1
	At the small memorial garden (site 2, Figure 2) – allow paperbarks to sucker for protection. Plant selected native groundcovers.	Low	1 – 10 years	5.2.2
	Plant banks around picnic area near Sailing Club and A-frame building. Aim not to block views where possible.	Medium	1 – 5 years	5.2.4
	Plant clumps around existing trees at edges of Sailing Club lawn.	High	1 – 5 years	5.2.4
B - Consolidate existing vegetation in zone 2 and 3 with more plantings into gaps and around existing vegetation.	Plant coastal frontline species into gaps in the marram grass at Goftons Point, especially near the Village Green side, and to shelter the carpark.	High	1 – 5 years	5.3.2
	Consolidate existing vegetation with more plantings, especially around trees.	Medium	1 – 5 years	5.4
	Plant eucalypts wherever appropriate (see 5.4).	Medium	1 – 5 years	5.4
C - New plantings in zone 2 and 3. While new plantings are not as high a priority as protection of existing vegetation, they can be a focus for community activity and pride, and a signal of council attitude and action.	Consult local tennis club, then, if desired, plant for shelter on windward sides of tennis courts. (see 5.2.3) Consult youth and other users before planting, if desired, to shelter skateboard park and play equipment (see 5.3.3) Plant patches along foreshore walk for beauty and shelter, especially around features such as track junctions, carparks, bends, etc (see 5.4). Plant low plants along the river edge (see 5.4).	Low - medium	1 – 10 years	5.2.3, 5.3.3, 5.4
Monitor and evaluate	Inspect sites regularly. Keep records of weed control and planting sites. Set up photopoints to monitor native vegetation. Ask local experts and interested volunteers to survey fauna and provide records. Centralise records for council/NRM North reference and sharing. Address issues.	Medium	Ongoing	4.5
Adequately resource vegetation management.	Ensure that there are sufficient available resources.	High	Ongoing	4.3