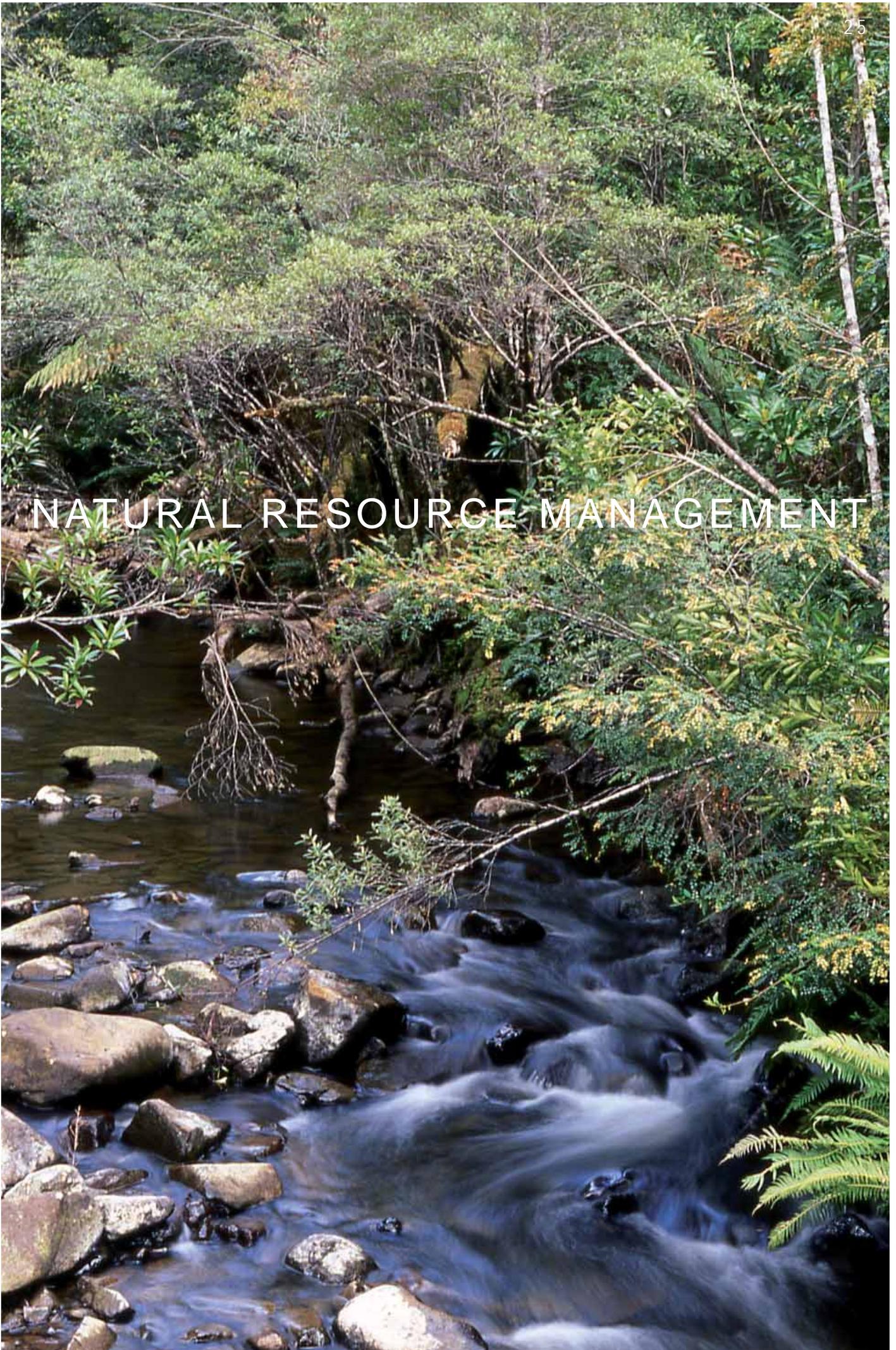


NATURAL RESOURCE MANAGEMENT



Background

The Draft Huon Valley Natural Resource Management Strategy provides the source of most of the relatively brief descriptions contained within this section. The issues identified here generally correlate with those identified within the Draft NRM Strategy.

The Draft NRM strategy addresses the broad range of natural resources and their management needs. The aim of the document is to “provide a comprehensive and action-oriented framework for sustainably managing, protecting and conserving the natural resources of the Huon Valley”. Like the regional NRM process, it does not regulate or control natural resource use in itself, but seeks to provide for or promote more coordinated and informed processes in order to achieve enhanced NRM outcomes. It frequently identifies that the planning scheme is a critical factor in effectively managing and protecting natural resources.

These natural resources are not only very important community assets but have an inherent value that warrants protection when considering prospective development proposals. Maintaining the quality of the municipal area’s natural resources is an essential requirement if the social, cultural and economic welfare of the area’s population is to be maintained over the longer term.

Covering a total area of about 5,200 square kilometres, the municipal area is a region of immense cultural and natural diversity. This diverse landscape is characterised by settlements nestled among the partially cleared rolling hills of the eastern valleys and along the spectacular coastline and waterways of the Huon Estuary and the D’Entrecasteaux Channel. These are in turn set against the backdrop of extensive areas of native forest, striking mountain ranges and the South West Wilderness Area. Significant natural features within the region include:

- A maritime climate, with temperature and rainfall gradients across the region from west to east (wetter to drier) and from higher altitude to lower altitude (cooler to warmer and wetter to drier). This climate is dominated by zonal westerly winds producing predominantly changeable, cool temperate conditions. Weather in the Huon Valley is monitored by over 50 weather stations, which are operated and maintained by the Bureau of Meteorology, Forestry Tasmania and local aquaculture companies.
- Geodiversity of local, national and international significance, including karst systems, glaciated landforms, drowned river valleys, alluvial flood plains, gorges, ravines and upthrust river floors.
- A relatively pristine water catchment originating deep in the South West World Heritage Area, from places such as Lake Pedder, the Snowy Ranges, Mt La Perouse and Federation Peak and including such major rivers as the Huon, Picton and Weld.
- A unique coastal, estuarine and marine environment with high levels of localised marine endemism extending from the protected tidal waters of the Huon Estuary and D’Entrecasteaux Channel to the more exposed waters south of the Channel.
- Rich faunal diversity and numerous plant species and vegetation community types, including alpine, cool temperate rainforests, buttongrass [plains, wet forests, dry forests, coastal heaths, saltmarshes and wetlands of local, national and international significance.
- Soils ranging from extensive areas of peat within western areas to higher level yellow-brown soils, duplex grey-brown soils on lower slopes and complex alluvial soils found on river flats.

The municipal area also includes that part of the south-west Tasmanian coast around Port Davey and Macquarie Island. The natural resources of these areas are not covered in this document, as the planning scheme will rarely be applied for development at those locations. However, it

is expected that if any development is proposed for such extremely isolated locations then the planning scheme can still accommodate the specific and very sensitive safeguards that are necessary.

Temperatures vary between the seasons, with February producing the highest average temperature of 22°C and the highest minimum temperature of 11°C. The coldest month is July with an average maximum temperature of 11°C and minimum of only 2°C. Temperatures tend to be more extreme in the higher altitudes of the western zone. Frosts can be experienced in most areas from April through to October, with frosts becoming increasingly common and lasting through to December at higher elevations (Derose, 2001).

Rainfall tends to decrease from an annual rainfall in the west in excess of 2000 mm to less than 1000 mm in the east. Winter is the season of maximum rainfall with July averaging over 90 mm per annum. The driest months are January, February and March with February averaging only 47 mm. Heavy snowfalls and hail storms are generally restricted to the higher inland areas. While droughts are almost non-existent, periods of low average monthly rainfall may occur during summer months from December to March (Derose, 2001).

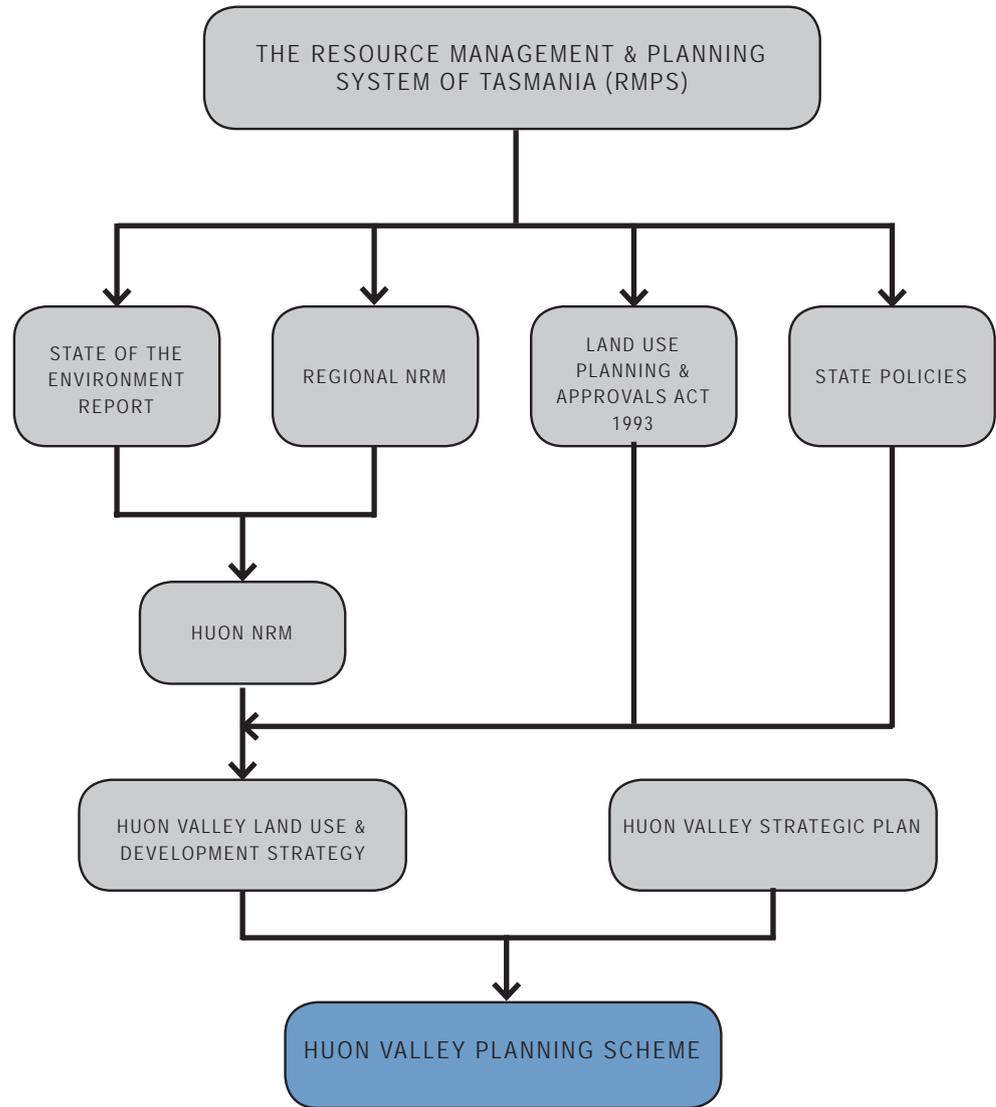
A Local Resource Management and Planning System for the Huon Valley

A holistic and integrated approach has been adopted for resource management and planning within the Huon Valley. For Council as an organisation, the over-riding document in this regard is the Strategic Plan. This complements the strategic effort and various legislated instruments of the State Government's Resource Management and Planning System (RMPS).

The planning scheme will represent the culmination of an appropriate mix of local, regional and State-based strategic directions. It will be the working document that can put into effect the objectives developed within these various approved strategies and policies. Within the municipal area, there is Council's Strategic Plan and the Draft Natural Resource Management Strategy. The latter strategy interprets the current environmental, social and economic situation in order to appropriately inform the proposed new planning scheme. At a State level, the RMPS provides the overall framework, within which sit such various initiatives as State of the Environment reports, Natural Resource Management, environment and planning legislation, and State Policies. The table below (next page) highlights the various inter-relationships.

The overall intention is to plan in a way that is more holistic and to adopt procedures (such as contained within the planning scheme) that are based on integrated policies and practices. This facilitates consistency across different planning arenas and provides for a constantly evolving planning environment that responds to improved knowledge and techniques. The planning process must be based on systems that enable continuous improvement, rather than on static approaches that quickly fall out of date.

The sections to follow outline the value of the natural resources of the municipal area, the resource management and planning issues, recommends strategic directions and statutory implications, and also identifies principles for the planning scheme.



PROMOTION OF NATURAL RESOURCE MANAGEMENT	
Strategic Directions	Guiding Principles
<p><i>Integrate principles of natural resource management with land use and development controls.</i></p> <p><i>Recognise the importance of maintaining natural values through natural resource management.</i></p>	<p><i>Ensure the planning scheme promotes an integration of management methods within State and regional NRM frameworks.</i></p> <p><i>Ensure the planning scheme incorporates Council adopted natural resource management strategies.</i></p> <p><i>Ensure the planning scheme is consistent with NRM related legislation and policies.</i></p> <p><i>Ensure the planning scheme allows for community NRM initiatives.</i></p>

Geology

Dolerite landforms dominate the eastern zone of the region forming most of the higher mountain peaks and plateaus. Permo-Triassic rocks typically underlie the dolerite caps and these tend to crop out on lower slopes and valley margins. Alluvial deposits of Tertiary and Quaternary age are generally confined to valley systems and coastal areas. The Huon Estuary and bays of the region are the result of rising sea levels following the last glaciation. The dominant soils are either grey-brown podzolic soils (derived from underlying parent materials) or yellow podzolic soils (formed from siliceous materials).

The municipal area has some natural land resources that are very significant at a State, national and world level. These include some highly significant geological features such as extensive karst systems (e.g. Hastings, Ida Bay, Mt Weld etc) and geoheritage sites at Langdons Point near Cygnet, Southport Lagoon and Egg Island. The Tasmanian Geoconservation Database includes 60 registered sites within the Huon Valley.

Land resources include geological, landform and soil features. The values that can be attributed to these resources include:

- ▶ Natural values – intrinsic geoheritage, the basis on which biological systems depend and an essential part of the water cycle;
- ▶ Economic values – the basis for all agricultural and forestry activities;
- ▶ Social values – recreational (caving, gardening, sport), Aboriginal heritage and scenic (particularly prominent features).

A land system is an area, or group of areas, which have similar geology, topography, rainfall and altitude.

Each land system has a six-figure code, configured according to the following. The first, second, third, fourth, fifth and sixth digit refers to a code for annual rainfall, geological age, geology, altitude, topography, and soils respectively.

For the municipal area, land system data provides the most detailed and most consistent information regarding soils and their limitations. Therefore, land system data provides the basis for soil-related hazard maps. By identifying areas where a certain hazard is more likely to occur, the planning scheme can make provisions for identifying and managing such hazards.

There are 39 recorded land systems within the municipal area. Appendix B summarises the following for each land system:

- ▶ Approximate total land area (ha);
- ▶ General location in the municipal area;
- ▶ General land tenure;
- ▶ Geology; and
- ▶ Associated hazards, particularly tunnel erosion and landslip. Wind erosion, sheet & rill erosion are considered to occur anywhere where vegetation has been exposed.

Soil-related hazards and guiding principles for managing such hazards are discussed in the next chapter.

LAND SYSTEMS	
Strategic Directions	Guiding Principles
<i>Recognise the importance of land systems in the Huon Valley and provide appropriate mechanism for their protection</i>	<i>Utilise relevant land system information and mapping to determine further development requirements for investigating and assessing the management of soil-related hazards.</i> <i>Ensure that the planning scheme protects areas with recognised geoheritage value.</i>

Waterways and Wetlands

Most of the waterways are physically or visually accessible as the development of the region was closely related to the use and development of these waterways. The Huon River and surrounding waterways provide an exceptional environment for many recreational activities such as boat cruising and sailing, diving, fishing, rafting, kayaking, jet boat rides and other water related activities. Moreover these waterways provides significant habitat for water based species.

The municipal area has very extensive and significant natural water resources. The catchment of the Huon River itself covers an area of about 3440 square kilometres and includes the pristine headwaters of a number of rivers. These include the Picton, Cracroft, Huon and Weld Rivers that all originate within the World Heritage Area. The region also contains very extensive, although poorly understood groundwater resources, many of which are used for landholders in an informal way without established monitoring. They are important contributors to the base flow of streams in the region and provide a source (300 bores in the Huon) of fresh water for agricultural and domestic use.

The municipal area has many wetlands – buttongrass plains, peatlands, brackish to saline lagoons, permanent shallow waters and permanent freshwater lakes. These wetlands provide valuable habitat (often for rare and threatened species) and serve as important filtration systems. Southport Lagoon and Port Cygnet Conservation Area have been listed in the Wetlands Strategy for Tasmania as wetlands of National and State significance (Lake Sydney, 30km west of Raminea and the South East Cape Lakes also have been listed as being of State significance).

Through a comprehensive audit of the State's freshwater-dependent ecosystems, the Conservation of Freshwater Ecosystem Values (CFEV) project offers the first comprehensive, adequate and representative assessment of freshwater-dependent ecosystems conducted in Australia. The CFEV database can provide broad conservation information for all rivers, wetlands, lakes, water bodies, saltmarshes, estuaries, karst systems and groundwater dependent ecosystems. This information provides assessments of a wide range of components, such as important geomorphic sites, threatened species and rare biological communities. Given that the CFEV database recognises such a broad assortment of freshwater ecosystem values, it should be considered a useful tool and an essential resource for planning land use and development in the municipal area.

Water quality is particularly important for the maintenance of healthy ecosystems and it is most susceptible to changes in use or development activity. Water quality can therefore be used as a surrogate indicator of catchment health in general. The key processes that adversely impact on water quality include inadequately maintained septic and sewerage systems, domestic animal access in waterways, stormwater runoff (including gravel road drainage), sedimentation from

soil disturbance, clearance of riparian vegetation and invasion by foreign riparian species (e.g. crack willow).

Available water quality data for fresh and estuarine waters indicate that this resource is generally in very good condition, with no serious water quality problems for the major waterways and estuaries in the Huon Valley. However, local water quality problems are to be found in some smaller creeks within areas of higher population density such as Verona Sands, Agnes Rivulet, Nichols Rivulet, Kermandie River and Mountain River. Water quality issues can also arise through poor land management practices such as unrestricted stock access and insufficient riparian vegetation.

There are potential point source discharges into waterways within the municipal area that are associated with sewage treatment plants (discharge points at Ranelagh, Port Cygnet, Kermandie River and Port Esperance) or leachate from former landfills (including Geeveston, Cygnet and possibly Southbridge) or from local industries (mainly fruit, fish and animal processing plants). The monitoring done over recent years indicates that the discharges from the Cygnet and Geeveston sewage treatment plants are within acceptable limits set by the Department of Tourism Arts & the Environment (DTAE) and are not causing environmental harm.

Both the Dover and Ranelagh plants have historically exceeded these limits but both have had major upgrades (in 2002 and 2004 respectively). Acceptable limits prescribed by DTAE are now being met, although Dover will require further chlorination.

Diffuse source discharges (mainly surface runoff) provide the most significant sources of pollution to the waterways of the municipal area. Potential sources of contamination of diffuse discharges can include sediment and oil runoff from roads, agricultural runoff including soil pesticides and fertilisers, nutrients from grazing animals, aquaculture operations, and septic tanks and sediment from works which disturb soil and vegetation. Steep slopes and highly erodible soils can create particularly high sediment loads to adjacent waterways after disturbance of soil and vegetation.

The diversion of waters in the upper catchment of the Gordon River has led to a reduction in annual discharge for the Huon River system from approximately 3000 to 2600 million cubic metres. Scotts Peak dam is estimated to have caused a 15% reduction in median flows and an 8% reduction in low flows. The environmental impact of these flow reductions is not known, however it has been suggested that Scotts Peak dam has effectively reduced the frequency and size of flooding in the Huon River (Gallagher 1996).

Within the agricultural landscape, the water flows have been impacted on by riparian extractions and the construction of many farm dams. Municipal water supplies also reduce the amount of water flow in a number of local creeks. These all impact on the downstream water quality and its availability for other users. The DPIWE publication, *Waterways and Wetlands Works Manual* provides a guide for local government on the environmental issues to be considered when undertaking works on waterways and wetlands and how to minimise the risk of environmental harm from these activities.

Agricultural, recreational, forestry, industrial and urban activities all potentially impact upon the quality of surface waters. The quality of surface waters in turn determines the suitable uses of that water and the extent to which it requires treatment. Any activities that degrade the water quality are therefore potential threats to water supply schemes or other potential/existing uses.

Development in the municipal area must be consistent with the *State Policy on Water Quality Management 1997*, which aims to ensure that diffuse source and point source pollution does not

prejudice the achievements of water quality objectives. As further discussed in Chapter Eight, the implementation of Water Sensitive Urban Design principles are a recognised mechanism in achieving better water quality and water supply outcomes. Another potential tool for protecting water quality is by retaining the values of riparian vegetation. This can be achieved by utilising the buffer mechanism for Class 1, 2, 3 & 4 rivers & streams as defined under the Forest Practices Code. These buffers should be applied to all forms and scale of clearance with any clearance within these buffers subject to a forest practices plan. Kingborough municipal area has used a very similar mechanism in their new Planning Scheme to protect riparian vegetation and water quality.

In conjunction with other key stakeholders, the Council has determined protected environmental values (PEV's) for surface waters in the municipal area. PEV's are the values and uses for which it has been determined that a given area of the environment should be protected. The Council is one of the key stakeholders responsible for ensuring that the PEV's are protected. The PEV's are matched to land tenures and can be used in a way that complements the planning scheme's assessment process.

PROTECTION OF WATERWAYS AND WETLANDS	
Strategic Directions	Guiding Principles
<p><i>Recognise the importance of the protection of wetlands and waterways within the Huon Valley.</i></p> <p><i>Require development to maintain the identified Protected Environmental Values (PEV's), as documented in the State Policy on Water Quality Management (1997). This will ensure that diffuse source and point source pollution does not prejudice the achievements of Water Quality Objectives, and that pollutants discharged into waterways are reduced as far as possible by the use of best practice environmental management.</i></p>	<p><i>Maintain environment flows in all major waterways to protect natural ecological processes and water quality.</i></p> <p><i>Maintain and enhance the quality of riparian and fringe vegetation alongside waterways.</i></p> <p><i>Water extraction development (water storages, access to groundwater and riparian users) is to be assessed for potential environmental impacts and appropriately managed.</i></p> <p><i>Encourage restricted stock access to prevent stream bank erosion.</i></p> <p><i>Minimise in-stream works and activities.</i></p> <p><i>Prevent development within wetlands unless unavoidable in achieving a wider environmental and social community benefit.</i></p> <p><i>New development should comply with the recognised management manuals and guidelines including the Waterways and Wetlands Manual, FPA riparian requirements and stormwater management guidelines.</i></p> <p><i>Use and development should avoid:</i></p> <ul style="list-style-type: none"> ◆ <i>Visual and ecological disturbance.</i> ◆ <i>Conflict with recreational & tourism values on the foreshore.</i> ◆ <i>Changes to the natural movement of river flows.</i> ◆ <i>The spread of weeds, pests and diseases.</i> ◆ <i>In stream barriers to fish passage.</i>

Coastal and Estuarine Management

The State Coastal Policy 1996 is currently under review. A new State Coastal Policy is expected to come into effect mid 2006. The policy is to be implemented through planning schemes and other instruments that manage and control the use or development in coastal areas, which means that Councils need to review their schemes so that the objectives of the policy can be met. In order to assist in authorities and to ensure a consistent approach state-wide, the Guidelines for Implementation and Model Standards have been prepared. The Guidelines for Implementation provides a good practice methodology for implementation and the Model Standards gives an example for planning authorities of the types of provision to be developed. Implementation strategies will be referred to the RPDC for approval.

The purpose of the State Coastal Policy is to facilitate:

- ▶ The conservation of intrinsic assets, values and processes of the coastal area; and
- ▶ The sustainable use or development of the coastal area.

The draft Coastal Policy defines a coastal area as:

- (a) "State waters and the area of land identified in a planning scheme or any other instrument required to manage or control use or development, which encompasses the coastal assets, values and processes which are to be conserved, used or developed; or, in the absence of an area so identified;
- (b) all land to a distance of one kilometre inland from high water mark and State waters."

The coastline of the region within the municipal area is characterised by convoluted bays and rocky headlands composed of sandstone and mudstone with dolerite intrusions to the south, exposed sandy beaches, saltmarshes and tidal flats. Woodlands and forests occur right up to the shore along much of the coastline and saltmarshes are prevalent in the protected tidal flats of the estuaries and inlets.

The coastal environment has a high concentration of sites that have cultural and natural significance. This includes sensitive Aboriginal sites and landscapes, historic European sites, high priority vegetation communities, threatened flora and fauna and sites of geoconservation significance.

The coastal environment is the most dynamic and changeable of all landforms and is particularly sensitive to potentially damaging uses – including ribbon development, removal of native vegetation, invasive weeds, recreational activities, sewage outfall and septic leachate and rubbish dumping. These all constitute threats to the coastal values and must be managed through the development control processes.

Much of the coastline is dedicated as Public Reserve and managed by the Parks and Wildlife Service. The Service has mapped the region's coastline, determined the natural and cultural resources and assessed current land use and condition. This has formed the basis of a 'Land Management Zoning System' that provides generic management regimes for these public lands. Where appropriate, this system can be used to complement and inform the development approval process. In a similar manner, the DTAE sponsored (NHT funded) project entitled 'Coastal Values of Southern Tasmania' will provide geomorphological, coastal vegetation and fauna habitat data to assist the development assessment process.

The region is home to numerous estuaries characterised by small tidal ranges. The principal estuary relates to the Huon River, a micro-tidal salt-wedge estuary extending from Huon Island some 40km upstream as far as Ranelagh. The main threats to the estuaries in the Huon Valley

include increased siltation and nutrient loads, urban effluent, foreshore development, marine farms, water flow changes introduced pests and long term climate change (Edgar et al, 1999). Unless otherwise specified, the coastal zone includes all land within one kilometre from the high water mark, as well as adjacent estuarine and marine waters.

The coastal environment within the municipal area has a high concentration of sites that have cultural and natural significance. This includes sensitive Aboriginal sites and landscapes, historic European sites, high priority vegetation communities, threatened flora and fauna and sites of geoconservation significance.

The coastal environment is the most dynamic and changeable of all landforms and is particularly sensitive to potentially damaging uses – including ribbon development, removal of native vegetation, invasive weeds, recreational activities, sewage outfall and septic leachate and rubbish dumping. These all constitute threats to the coastal values and must be managed through the development control processes.

The Huon Estuary has been the subject of considerable research (CSIRO, 2000) and was found to be a “substantially natural waterway” and in good condition. This research did however identify that land based activities do impact upon the environmental quality of the estuary – notably sewage treatment plants, aquaculture and more diffuse sources such as septic tank drainage and agricultural runoff.

Climate change has the potential in the longer term to have a significant impact on the way the coastal zone is managed. Sea level rises are predicted together with changes to rainfall patterns, storm patterns (more frequent and more severe storms) and temperatures. The predictions (a sea level rise of between 0.09 and 0.88 metres by 2100) may not seem significant, but even the smallest increases can result in the flooding of low-lying coastal areas, dune erosion and coastal re-alignment.

Foreshore development is a particularly sensitive issue as it involves development on some of the most active landforms. Any shoreline construction (reclamation, marina etc) will cause subsequent changes to the foreshore elsewhere. Engineering structures, such as retaining walls that are designed to protect a beach, may eventually destroy it.

The table below (next page) outlines the strategic directions and guiding principles for the protection of coastal and estuarine water quality values.

PROTECTION OF COASTAL AND ESTUARINE VALUES

Strategic Directions	Guiding Principles
<p><i>Recognise the importance of the protection of coastal and estuarine quality and values.</i></p> <p><i>Recognise that the beaches, dunes, sand ridges, dune swales, coastal wetlands and estuaries, and cliffs subject to mass movement are critical to the operation of the natural processes of erosion, deposition, littoral drift and inshore current flows.</i></p> <p><i>Identify a coastal area that has regard to:</i></p> <ul style="list-style-type: none"> ▶ <i>Animal and plant habitat;</i> ▶ <i>Landforms, such as coastal plain, beaches, wetlands and dune systems;</i> ▶ <i>Coastal processes, such as erosion/ sedimentation, climate change impact and flooding;</i> ▶ <i>Geology; and</i> ▶ <i>Scenic landscapes and features.</i> 	<p><i>Ensure that use and development:</i></p> <ul style="list-style-type: none"> ▶ <i>Has minimal potential navigation hazard for local recreational and commercial boats;</i> ▶ <i>Avoids visual and ecological disturbance by ensuring foreshore structures are in keeping with the coastal setting;</i> ▶ <i>Minimise changes to the natural movement of coastal and marine sediments;</i> ▶ <i>Protects the special wind, wave and soil conditions of coastal environments;</i> ▶ <i>Minimise the spread of weeds, pests and diseases.;</i> ▶ <i>Minimise instream barriers to fish passage;</i> ▶ <i>Protect or enhance estuarine and marine water quality;</i> ▶ <i>Protects Aboriginal and cultural heritage associated with coastal areas;</i> ▶ <i>Takes into account the potential impacts of sea level rise and increased storm surges as a result of climatic change;</i> ▶ <i>Focus on established nodes to protect relatively pristine coastal areas;</i> ▶ <i>Provide for public access along the foreshore that will not be impeded by structures in a way that does not damage or degrade the coastal values;</i> ▶ <i>Ensure that it will not be dependent upon shore protection measures;</i> ▶ <i>Set back structures from the coast to minimise erosion threats;</i> ▶ <i>Protect the coastal environmental as important habitat for sea-based fauna species.</i>

Vegetation Management and Biodiversity

The municipal area has extensive natural flora and fauna resources that are significant at either a regional, State and national level in accordance with the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA). Significant species previously associated with the municipal area can be found in the Huon Valley Draft NRM Strategy, or by performing a desktop search of the Natural Values Atlas (Resource Management and Conservation Division, DPIW) or the EPBCA ‘Protected Matters Search Tool’. The List information database also provides information on the location of vegetation communities.

It has been estimated that 45% of the municipal area is found within the Tasmanian World Heritage Area. The municipal area also contains numerous sites reserved under the *Nature Conservation Act 2002*, including game reserves, conservation areas (which are also protected under the *National Parks and Wildlife Services Act 1970*), historic reserves, national parks,

state reserves, nature recreation areas and marine reserves. The conservation status of such areas is important for the provision of habitat and protection of genetic diversity, both within and outside these areas.

An overview of the some of the significant flora species/communities within the municipal area and their locations is included below (a complete list can be found in the Draft Huon Valley NRM Strategy):

Significant Flora Species/Communities

Location Within The Municipal Area	Species/communities
South West National Park	Alpine vegetation and King Billy communities
Southport (and surrounding areas)	Coastal heaths, <i>Euphrasia fragosa</i> , <i>Epacris stuartii</i>
Dover	Coastal heaths, <i>Eucalyptus tenuramis</i> , <i>Eucalyptus pulchella</i> ,
South Cape	<i>Eucalyptus nitida</i>
Verona Sands	<i>Eucalyptus tenuramis</i>
Garden Island Creek	<i>Eucalyptus tenuramis</i> , <i>Eucalyptus pulchella</i>
Cygnets Point	<i>Eucalyptus tenuramis</i>
Catamaran	<i>Eucalyptus nitida</i>
Shoemaker Point	<i>Eucalyptus nitida</i>
Police Point	<i>Eucalyptus amygdalina</i>
Geeveston	Scrubby <i>Eucalyptus ovata</i>
Mountain River	Scrubby <i>Eucalyptus ovata</i>

Four forest community types in the Huon Valley (*E. amygdalina*, *E. globulus*, *E. ovata* and *E. tenuramis*) have been identified under the Tasmanian Regional Forest Agreement as requiring protection. These communities form a part of a comprehensive, adequate and representative (CAR) forest reserve system that is retained throughout the State. Any clearance of native vegetation communities needs to be in accordance with the *Forest Practices Act 1985*.

Legislation has been in place since 2002 for the protection of threatened forest types. Effective as of 30th April 2007, the State Government introduced changes to legislation for additional protection of threatened native vegetation from clearance and conversion. The protection has been extended to include additional vegetation types such as wetlands and high altitude native grasslands. Threatened native vegetation is defined as plant communities that are naturally rare and communities that once were more widespread but are now significantly depleted because of clearing over the last two hundred years. These communities have been scientifically assessed for listing as threatened native vegetation under the Nature Conservation Act 2002 (a list of threatened native vegetation communities is available on the Forest Practices Authority (FPA) website). Information leaflets to assist land managers with the identification and management of threatened native vegetation are also available from the FPA.

The term “clearance and conversion” means the deliberate removal of native vegetation, and its replacement with introduced vegetation or other material permanently or in the long term. There

are no new restrictions on existing land management practices such as harvesting, slashing, ploughing, burning and grazing within threatened native vegetation provided that the essential character of the vegetation is maintained and not converted to other land uses such as crops or plantations.

In terms of approvals under the FPA, an approved FPP is required for clearance of any forest vegetation within riparian areas or any clearance of forest vegetation exceeding 1 hectare. Other clearing and land management activities do not require approval under the Forest Practices Act 1985 unless they relate to the clearing and conversion of threatened native vegetation, which is prohibited other than in exceptional circumstances as approved by the FPA.

The legislation does not affect any clearing works that are necessary to maintain existing infrastructure such as roads, fences, buildings and drainage channels. In addition, the construction of private roads, dams and powerlines (by authorised electricity bodies) is exempt. Other exemptions apply to land that is covered by vegetation management agreements, conservation covenants and fire management plans (see the Forest Practices Regulations 2007).

Approval is not required to clear regrowth on previously cleared and converted land, which is defined as land that has not contained trees or threatened native vegetation for a period of at least 5 years since 1985 and where the regrowth does not contain more than 20 eucalypts more than 2 metres in height within any 0.5 hectare area.

There are gaps in the approvals required for vegetation clearance under the current forest practices legislation, particularly where it relates to non-forest vegetation or clearance of non-threatened vegetation under a hectare. This strategy identifies that regulation of these other forms of vegetation clearance is important to ensure that there is no significant loss though incremental change to the natural values of the municipal area.

Weeds and pests can degrade biodiversity values, water quality values, and agricultural/forestry productivity. An environmental weed is a non-indigenous plant that reduces environmental values through its ability to invade bushland and compete with native flora. It can adversely affect the survival or regeneration of indigenous species in natural or partly natural vegetation communities. Declared weeds are weeds that require legislative support and direction for effective management. The declared weed list is essentially a priority list of weeds of State significance to specify where limited resources and management efforts should be directed. There are numerous weed species found within the municipal area that are listed as declared weeds under the Tasmanian *Weed Management Act 1999*, including Gorse, several Thistle species, English broom, Spanish heath, Blackberry and Ragwort. The *Weed Management Act 1999* aims to minimise the spread of weeds through preventative measures and eradication programs. Information on weed legislation, management plans and service sheets are available on the DPIW website.

The following key issues need to be addressed in the management and protection of the municipal area's natural flora and fauna resources:

- ▶ The management of vegetation removal (particularly the removal of threatened species and communities) is crucial in maintaining plant and animal species diversity, as well as water quality, erosion control and visual amenity;
- ▶ Weeds and pests are contributing to the degradation of remnant vegetation and waterways, and subsequently require more effective management regimes including the development of Weed Management Plans or an equivalent (declared weeds should be eradicated as a matter of priority according to the *Weed Management Act 1999*);

- ▶ Both rural and residential developments can adversely impact on the municipal area's biodiversity through vegetation removal (e.g. to maximise views or for fire protection), road construction, stream works, firewood collection, or agricultural practices; and
- ▶ Remnant vegetation on private land and within public reserves (such as riparian or coastal reserves) is often critically important for habitat, wildlife corridors and the protection of priority plant and animal species.

Consequently, the following table outlines the strategic directions and guiding principles for the protection of biodiversity values.

PROTECTION OF BIODIVERSITY VALUES	
Strategic Directions	Guiding Principles
<p><i>Acknowledge the importance of the municipal area's biodiversity, by ensuring that the abundance, health and distribution of species is maintained.</i></p> <p><i>Ensure that the impact of any development on the municipal area's biodiversity is considered as an integral part of decision making process.</i></p> <p><i>Integrate management of important wildlife corridors with the management of use and development</i></p>	<p><i>Incorporate provisions that outline biodiversity conservation management measures for consideration with land use and development proposals, including the following:</i></p> <ul style="list-style-type: none"> ▶ <i>Consideration of any rare, threatened or endangered species that are listed under the EPBCA or the TSPA (including consideration of significant cave species);</i> ▶ <i>Consideration of any functional wildlife corridors and biodiversity linkages;</i> ▶ <i>Assessment of existing or potential weed issues (in accordance with the Weed Management Act 1999 and through consultation with the weed division of DPIW);</i> ▶ <i>Assessment of clearance of native vegetation (in accordance with the Forest Practices Act 1985 for significant species);</i> ▶ <i>Consideration of areas of conservation areas (in accordance with the Nature Conservation Act 2002 and National Parks and Wildlife Services Act 1970);</i> ▶ <i>Consideration of native riparian and coastal vegetation condition; and</i> ▶ <i>Assessment of coastal processes.</i> <p><i>Furthermore, land use and development proposals must include protection of high priority vegetation or poorly conserved species.</i></p> <p><i>For Reserved land, ensure the following:</i></p> <ul style="list-style-type: none"> ▶ <i>Compliance with the National Parks and Wildlife Act 1970 and Crown Lands Act 1976;</i> ▶ <i>Preparation and implementation of management plans, including the management of fire and weed control; and</i> ▶ <i>Management of recreational and tourism facilities and opportunities.</i>