

Tasman Catchment Summary

Introduction

This document is one of 15 draft catchment summaries prepared by NRM South in 2007-8, most of the catchments in the Southern Region.

It is a summary of information from 12 expert workshops and 9 sub-regional stakeholder workshops held in 2007. The expert workshops involved more than 80 people from government, consulting companies and the University of Tasmania. Participants for the expert workshops were selected for their regional expertise in the subject areas (land, threatened flora, threatened fauna, native vegetation, freshwater ecology, groundwater and groundwater dependent ecosystems, water quality, water supply allocation and use, and marine, coastal, estuarine resources). The 9 sub-regional workshops involved stakeholders involved in natural resource management at a sub-regional, usually municipal, level.

The aim was to capture knowledge from experts at a catchment scale across the region in a time efficient way. This information reflects only the understanding and expertise of the participants of the workshops. It provided an opportunity to draw on the knowledge and experience of people working in the Tasmanian environment for many years that is often not captured in reports. Comprehensive analysis of documentation was not done.

The Catchment Summaries typically describe the following aspects of each catchment, although some are some are more complete than others:

- natural values
- threats
- Aboriginal values
- status of NRM activity
- key issues to improve NRM activity

Background Description

Located on the south-east coast of Tasmania, the Tasman catchment includes the Forestier and Tasman Peninsulas, along with the area north of Dunalley, around Copping and Carlton River. The Carlton River drains most of this northern section into Fredrick Henry Bay. The streams on the Peninsulas are usually less than 10 km long, and include Allens Rivulet (Taranna), Sounds Rivulet (Murduinna) and Cascades Rivulet (Koonya) (DPIW 2006).

Land-use comprises mainly of production forestry (26% of land area), including plantations, agriculture (mostly grazing and some poultry, viticulture, horticulture) (23%), recreation (bushwalking and fishing), and environmental and cultural conservation (e.g. Tasman National Park, Port Arthur Historic site) (21%) (Bureau of Rural Sciences 2004).. It is a popular destination for tourists and locals and within commuting distance to Hobart. Marine based activities include salmon and shellfish farming, as well as recreational boating and diving.

The area of the Tasman and Forestier Peninsulas is less than 1% of the state, yet the number of plant species present is over one third of the total plant species found in the state; some 536 plant species (DPIW 2003).

Key Observations

- Freshwater flows are extremely low and variable across the catchment. Most areas rely on tank or carted water, except Nubeena, Dunalley and Port Arthur which have a potable water supply. Any water quality/flow problems are exacerbated in summer due to low flows.
- Data and knowledge of water quality, groundwater resources and freshwater ecological values is very limited.
- Point source pollution from septic tank failure or other domestic waste management systems (due to poor soil capability and aging infrastructure) is a widespread problem across the catchment, particularly in the White Beach and Connellys Marsh area. Innovative solutions to trial new technologies and provide incentives to landowners are needed.
- Carlton River is a hotspot for poor water quality due to land use, wastewater (septic systems) and stormwater contamination.
- Water quality and flows are potentially impacted by forestry activity (e.g. Newmans Creek near Koonya and springs in the Mt Koonya area). 26% of the catchment is managed for production or plantation forestry.
- The North Bay Lagoons are important groundwater dependent ecosystems, and groundwater extraction for agriculture purposes is a potential threat if land ownership in the area changes.
- Tunnel erosion on steep hills with soils developed from sandstones (e.g. Head North West Head to Koonya and Nubeena).
- Slopes in Mt Koonya area (e.g. where interface between dolerite and underlying sedimentary rocks) are prone to landslip if cleared.
- Soil information is lacking.
- The Tasman is on the tipping point for coastal development pressures. Shacks are changing to more permanent dwellings and subdivisions and illegal land clearing is occurring.
- Coastal water quality within the enclosed bays is an issue given the problems associated with inadequate septic systems due to poor soil capabilities (white beach hot spot)
- Coastal Bays need protection to preserve natural values (i.e. Fortescue bay, Crescent Bay due to pristine dune ecosystems and Taranna to Salt Water due to slope stability)
- The three capes walk proposal raises concerns about increased pressure on natural resources (soil compaction, coastal vistas, spread of weeds etc.)
- Marine farming, primarily oyster farming is expanding in areas including Blackman and Norfolk Bay.
- Tasman provides important refuges for threatened species including Handfish, Sea Eagles, Grey Goshawk and Tasmanian hairstreak butterfly
- The catchment is 73% of native vegetation, with 11% in threatened vegetation communities, including *Eucalyptus ovata* Important areas for biodiversity include the Wielangta Forest relic rainforest, salt marshes and sub-alpine vegetation
- On private land, native vegetation is being lost by incremental clearing. There is no process to address private land clearing, which should be a role of Council.

- The opportunities for weed management are good as the Tasman has two necks, however a weed management strategy including education for Council staff and private landholders is needed

Natural Values, Conditions and Threats

1. Water Resources

Water quality

- Water quality is generally thought to be good, though very limited data is available. Low flows in summer adversely impact on water quality.
- Point source pollution from septic tank failure (due to poor soil capability and aging infrastructure) is a widespread problem across the catchment, impacting on marine farming, groundwater, freshwater and estuarine ecosystems and recreation. Hotspots include White Beach area. The problem is exacerbated by limited Council resources for management and limited capacity of owners to upgrade.
- Investment is needed to support innovative solutions to wastewater/septic issues, e.g. trial new available technologies (e.g. small, communal wastewater treatment systems) and 'Incentive' schemes with low interest loans. Council could purchase land to cater for communal treatment plants.
- Forestry activity has potential impacts on water quality. Limited monitoring by Forestry Tasmania in Newmans Creek near Koonya, indicates turbidity issues.
- Carlton River has poor water quality (incl high salinity and turbidity) due to agricultural land use, stock access, wastewater (septic systems) and stormwater.
- On-site issues are associated with the Southern Beaches wastewater re-use scheme.

Water quantity

- Flows are extremely low and variable, except for the southern tip of the Peninsula where rainfall is higher.
- A low level of water allocation across the catchment, mostly via property / farm dams.
- The effects of farm dam development on reducing environmental flows are cumulative and affect freshwater ecosystems (e.g. at Marion Bay and Dunalley).
- Drinking water supply is limited. Most areas rely on tank or carted water. Nubeena, Dunalley and Port Arthur have potable water supply.
- Finfish and shellfish farmers are using freshwater, which needs to be trucked in to wash the fish.
- Tree plantations intercept surface runoff and reduce surfacewater flows and ecosystem processes.

Freshwater ecology

- Knowledge / assessment of the freshwater ecological values, including the distribution and status of freshwater threatened and non-threatened freshwater species, is limited.
- Knowledge about the distribution and status of non-threatened species (e.g. eels and other native fish) is lacking, particularly in lower river systems where environmental impacts are often greatest.
- Knowledge about the impacts of climate change on freshwater values and systems is lacking.
- Aquatic ecology and water resource management expertise in the State is limited.
- Headwater systems need protecting as they protect and influence downstream ecosystem processes.
- Management is required to minimise and prevent where possible the spread of disease, pathogens (including chytrid disease in frogs and the platypus virus) and pest species.

Groundwater and groundwater dependent ecosystems

- Information on groundwater resources is very limited.
- Groundwater is generally of poor quality due to low rainfall and recharge.
- There are few known groundwater bores across the Tasman. Groundwater is extracted for stock and domestic use at Nubeena (Koonya springs), Carlton, Primrose Sands and Dodges Ferry. The latter 3 are quite saline and in low rainfall areas.
- Domestic waste system management in areas with shallow ground water and permeable soils (e.g. Connellys Marsh) is affecting water quality of ground water.

Groundwater dependent ecosystems

- Key systems include springs on Forestier Peninsula, North Bay and Lime Bay Lagoons, and deflation basins at Cape Pillar and Lime Bay. Bream Creek Estuary is also potentially groundwater dependent.
- The North Bay Lagoons are well protected for now on private land but it is possible that groundwater could be extracted for agriculture at North Bay Lagoon if the land ownership changes.
- Forestry activity has potential impacts on the springs in the Mt Koonya area, which are used for stock and domestic supply. A study is available on the impacts of forestry on the springs.

2. Flora, Fauna and Biodiversity

Biodiversity and native vegetation

- The catchment is 73% of native vegetation, with 11% in threatened vegetation communities, including *Eucalyptus ovata*.
- Important centres for biodiversity include the Wielangta Forest relic rainforest, salt marshes and sub-alpine vegetation.
- Drier areas are more vulnerable, with more threatened species and vulnerable communities.

- Fire management is an issue.
- Phytophthora is a concern in heathlands, with Sloping Main seen as a refuge.
- Feral cats impact on bird populations (incl on Tasman Island). The tip is a transfer station.
- Weeds are a problem on Marion Bay spit.
- The opportunities for weed management are good as the Tasman has two necks.
- For asparagus fern at Koonya and boneseed at Dunalley and Bream Creek, the potential for eradication is high
- Higher rainfall areas are more challenging to tackle weeds.
- On private land, native vegetation is being lost by incremental clearing. Small birds are declining due to loss of understorey habitat. There is no process to address private land clearing, which should be a role of Council.
- Current processes for landowners to reserve native vegetation are too lengthy and complex. Need alternative processes to reserve remnant vegetation (e.g. *Part 5 agreements* via Council), and support for larger proactive landowners, including public recognition and incentives.
- Tasman is a small Council with a small works crew, without specialist weed skills. Long term follow-up, co-ordination and planning is lacking in weed management. Project-based funding doesn't work.
- Roadside weed management lacks co-ordination (e.g. between DIAR, PWS, Council). On Arthur Hwy weeds are encroaching on native vegetation.
- Fill is often contaminated with weed seeds.
- Knowledge of weed and pest species distribution is inadequate.
- Multiple weed and pest threats must be conveyed simultaneously to the community, as similar management strategies are required across pest species.
- Weed management education is needed for Council staff and works crew and all weed managers and also to increase community understanding.
- A weed management strategy and a Council data base on weeds are needed.
- Cross-tenure weed management is needed, funded by relevant stakeholders.
- A study of the fauna is required as there is little data.
- Council and community education and awareness is required about the value of habitat and the benefits of native species on private land.

Threatened species and fauna

- There are 18 species of threatened fauna, including the burgundy snail, which only exists on the Tasman Peninsula.
- Areas important for handfish species include Lagoon Bay, Waterfall Bay to Tasman Island, and Canarvon Bay to Remarkable Cave.

- The catchment has habitat for white-bellied sea eagles and a small live-bearing seastar. A core breeding area for the grey goshawk lies south of the neck.
- There are 4 known sites for the Tasmanian hairstreak butterfly, whose population is in decline.
- Marion Bay spit is a significant fairy tern habitat.
- The Tasman Peninsula is a hotspot for *Euphrasia* species.
- The Tasman has seal haul out sites and, important penguin rookeries.

3. Marine, Coastal and Estuarine Resources

Estuaries and coastal wetlands

- Extensive areas of seagrass occur in Blackman Bay and South Norfolk Bay and Dunalley Bay.
- More research is needed into the environmental flow requirements of estuaries and associated wetlands.

Marine and coastal waters

- The Tasman catchment is part of the Bruny Marine Bioregion.
- The high energy coastline features dolerite geomorphology with spectacular 300 m high sea cliffs, pinnacles and off-shore islands, including Hippolyte Rocks, the Lanterns and Tasman Island as part of Tasman National Park. Other islands include Sloping and Wedge islands.
- Drowned sea caves contain unique and threatened species (cavern fauna).
- Blackman Bay is a designated shark nursery area. Recreational fishing occurs within the bay, mainly flounder, flathead and salmon.
- Abalone and rock lobster populations are important for recreational and commercial fisheries.
- Offshore areas (e.g. Hippolyte Rocks) are important for migratory tuna.
- Cape Pillar and Tasman Island are used for recreational deep sea fishing.
- Coastal water quality should be monitored, given the problems with sewage waste water treatment.
- Pirates Bay is under pressure from recreational fishing including gill netting.
- The Tasman Peninsula and Norfolk Bay Marine Farming Development Plan (2005) identifies sites 15 zones for marine farming (finfish and shellfish) at Wedge Bay, Port Arthur and Norfolk Bay.
- Blackman Bay is a growing area for marine farming licenses. The Blackman Bay Marine Farming Development Plan (February 2001) identifies 23 zones for marine farming (shellfish only).
- Parson's Bay has water quality impacts from a leaching settlement pond, salmon and oyster farms, recreational boating and fishing.
- Introduced marine pests include *Carcinus maenas*, *Undaria pinnatifida*, *Asterias amurensis* and extensive beds of *Maoricolpus roseus*.
- Strengthening of the East Australia Current will bring about localised changes to marine biodiversity in south-east Tasmania (e.g. the spread of *Centerostephanus rodgersii*). Incipient urchin barrens created by the sea

urchin *Centerostephanus rodgersii* are increasingly threatening rocky reef systems.

Coastal lands

- The 5 main coastal areas within the Tasman Catchment (Carlton River, Blackman Bay, Norfolk Bay, Pirates Bay, Port Arthur) are generally in a modified condition (Temby 2007).
- The Tasman is on the tipping point for coastal development pressures. Shacks are changing to more permanent dwellings
- According to the planning scheme subdivisions should preserve native vegetation, but bulldozing is common
- Education of local government and RPDC staff is required re coastal development (e.g. planning, habitat issues) and a review of the process to evaluate development applications.
- Long Spit, the Porpoise Hole and the northern coastline of Blackman Bay are important feeding and roosting habitat for migratory wading birds. Lagoon Beach, Sloping Main North, Fortescue Bay and Pirates Bay are high priority sites for resident and migratory shorebird species.
- The predominant rocky shoreline areas of the Tasman are not undergoing accelerated erosion, and hence do not have the management issues related to development on sandy shores.
- The Three Capes Walk proposal raises concerns about the increased pressure on infrastructure, coastal values, weeds and diseases, soil compaction etc.
- Crescent Bay has near-pristine dune systems that require protection.
- Fortescue Bay has a high conservation value but marram grass is now present and spreading.
- From Taranna to Saltwater River, subdivisions could affect vegetation and slope stability.
- The Blackman Bay Dunalley area is a hotspot for land-based aquaculture – an issue as remote, pristine areas are being used. An oyster and abalone hatchery and nursery is adjacent to the Denison Canal. Shore-based facilities for marine farming operations and abalone research are located on the southern and western coastlines of Blackman Bay.
- Controlling the spread of feral pacific oysters along Tasman beaches is an issue, (e.g. White Beach).

4. Land resources

- Tunnel erosion on steep hills with soils developed from sandstones (e.g. Head North West Head to Koonya and Nubeena).
- Slopes in Mt Koonya area (e.g. where interface between dolerite and underlying sedimentary rocks) are prone to landslip if cleared.
- Soil information is lacking.

5. Aboriginal values

- Coastal development in the Tasman is becoming an increasing pressure on Aboriginal heritage sites, predominantly middens, which are highly concentrated around the coasts of the Tasman.

- There is a need for policy to reflect the impacts from coastal development pressures, and relationships built between Local and State Government, and the Tasmanian Aboriginal community through the TALSC, in regard to protecting Aboriginal heritage values.
- There is a property at Saltwater River containing important art sites owned by the Aboriginal community and managed by the TALSC for its cultural significance.

Stakeholder needs

Stakeholder feedback includes the following points.

- Development pressures across the Peninsula are increasing, particularly in coastal zone. Clearing of understorey and loss of habitat is associated with new developments. Land use planning is inadequate to address these issues.
- The process to evaluate development applications needs review and environmental assessment required to ensure protection of habitat and wetlands.
- The Tasman is a very important area for tourism but has inadequate resources to manage its reserves.
- Greater resources are needed for the Parks and Wildlife Service in the Tasman (including to support local bushcare groups etc). Regulation and responsibility have increased but with reduced resources for implementation.
- Ongoing support is lacking for NRM works and programs (including PMP, which offers a good way to bring groups of landowners together).
- Delivery of the PMP did not manage expectations and clearly identify farmers' needs.
- Resources are required for continued support for farming sector (including for PMP). Land managers should be engaged via ongoing professional support and technical extension. NRM programs need to assess service providers against the needs of farmers.
- Greater communication and co-ordination is needed between the tourism services of Tasman Council and NRM South.
- Land use planning controls are lacking for development with septic tanks.
- Community awareness is lacking about NRM issues e.g. dogs on beaches and wildlife risk (to penguins, hooded plovers etc), and land clearing.
- Some actions by local Council can lead to more problems.
- Community education is needed first, including the reasons behind NRM. Then follow up with regulation. Use local signage.
- Education of Council staff is needed re NRM issues including weeds.
- NRM policy and legislation are not being implemented and enforced e.g. State Coastal Policy, legislation prohibiting coastal zone clearing, declared weeds, vegetation clearing regulations for fire management.
- In the past the Peninsula had a dedicated Weeds Officer that undertook enforcement, but now there is no position of enforcement.

- There is a lack of support and process for groups to take action if policy or guidelines are breached.
- Too much NRM funding is spent on reports and publications and funds are not reaching groups on the ground.
- Lack of co-ordination between funding organisations. The Government invents new funding schemes without co-ordination and money is wasted.
- More NRM funding is needed for on-ground activities.
- The Tasmanian Land Conservancy and Bush Heritage are better land managers than Government. The Crown Lands Department has a limited awareness of environmental issues.
- Resources and education are needed for policy and legislation implementation.
- Local groups want to focus on on-ground works and don't have resources for administration including for grant application.
- People are central to NRM. Engagement needs to be built around people's needs, issues and capacity.
- Volunteer groups need support and education from paid staff, including strategic planning (to ensure best outcomes with limited resources) and feedback on activities.
- A local NRM facilitator with local knowledge is critical for community engagement.
- Tourism can provide:
 - a partnership that supports the protection of our unique landscapes, flora and fauna
 - opportunity to increase support from general community and the tourism industry for NRM programs
 - a platform for increasing general awareness, understanding and active participation in the conservation of the environment
 - opportunities for more responsible use of natural resources and improved environmental practices
- Tourism needs:
 - excellent reciprocal partnerships with all stakeholders, mostly PWS, Forestry and NRM
 - collaborative planning to ensure all legislative and desired parameters are observed
 - support with facets of visitor service delivery, such as interpretation
 - information and education of industry.

Current Status of NRM

Tasman Landcare Group

Local Government NRM Officer

Catchment Management plans

No Tasman Catchment Management plan exists.

Related NRM Management Plans

Tasman National Park and Reserves Management Plan 2001

Fortescue Bay Site Plan 2003

Pirates Bay Visitor Services Zone Site Plan 2007

Draft Tasman National Park and Reserves Fire Management Plan 2006

Tasman Weed Management Strategy (funded for development in 2008)

Current NRM South activities

- Implementation of the Integrated South East Coastal Management Strategy
- NRM Incentives
- Property Management Planning
- Determine baseline condition benchmarks and establish reference sites for key foreshore habitats
- Establishing surface water quality baselines to set trigger levels for Resource Condition Targets (region wide activity).
- Update of A Directory of Important Wetlands in Australia (Tasmanian Wetlands)
- Improving council-based information and data systems
- Implementation of the Southern Weeds Strategy
- Support for the Care Community to address targets
- Implement Threatened Species recovery plans
- Establishing baseline data for monitoring vegetation condition

References

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