A Weed Management Plan for the Minnow Catchment

Prepared by Greg Taylor

for Mount Roland Rivercare Catchment Inc,

February, 2018

This is a community driven weed management plan, initiated and produced voluntarily by Mount Roland Rivercare Catchment Inc (MRRCI). It provides an overview of weed status within the Minnow catchment, and offers recommendations for strategic and coordinated management.

MRRCI seeks the support and involvement of land managers in the implementation of this plan.

Support provided by the Committee of MRRCI is gratefully acknowledged. Special thanks to Richard Sands for producing the map. Many thanks also to those Stakeholders who provided feedback throughout the preparation of this Plan.

Contents

Cover picture: Lower Minnow Catchment, as viewed from top of Minnow Falls

1 Why this plan has been developed

Formulation of this Weed Management Plan implements a key recommendation of the Minnow Action Plan (Stronach, 2016), available at: www.rivercare.org.au The Minnow Action Plan, prepared by MRRCI, notes that '*A number of environmental weeds have been identified as important for control in the catchment including Spanish heath (highest priority), willow, Montpellier broom, Elisha's tears, blue periwinkle and blackberry. ... Containment, eradication and best practice management (including long-term follow up) of these priority weeds is crucial in minimising spread and whole of catchment impacts*.' (Page 10)

This weed management plan aims to provide an overview of the status of weeds within the Minnow catchment, and offers recommendations for strategic and coordinated management in future

2 Broader Planning Context

This plan operates within the context of the Kentish Municipal Weed Management Plan, available at: http://www.kentish.tas.gov.au/ More broadly, the planning context includes the Cradle Coast Regional Weed Management Strategy and the Cradle Coast Weed Hygiene Action Plan, and State and National Weed Management frameworks, including the current *Weed Management Act* (1999) and the new Tasmanian Draft Biosecurity Bill.

3 Overview of weeds from a municipal perspective .

While the Kentish Municipality does have environmental weed issues of significance, it is less impacted by weeds than its immediate municipal neighbours of Meander Valley and Latrobe. In these municipalities, and especially in Meander Valley, environmental weeds have consumed vast tracts of land, significantly compromising social, environmental and economic values. The proliferation of Gorse is just one example of this. While Kentish has largely escaped these impacts till now, it is reasonable to expect that without active and successful weed control, Kentish will in time come to demonstrate a weed profile similar to its immediate neighbours.

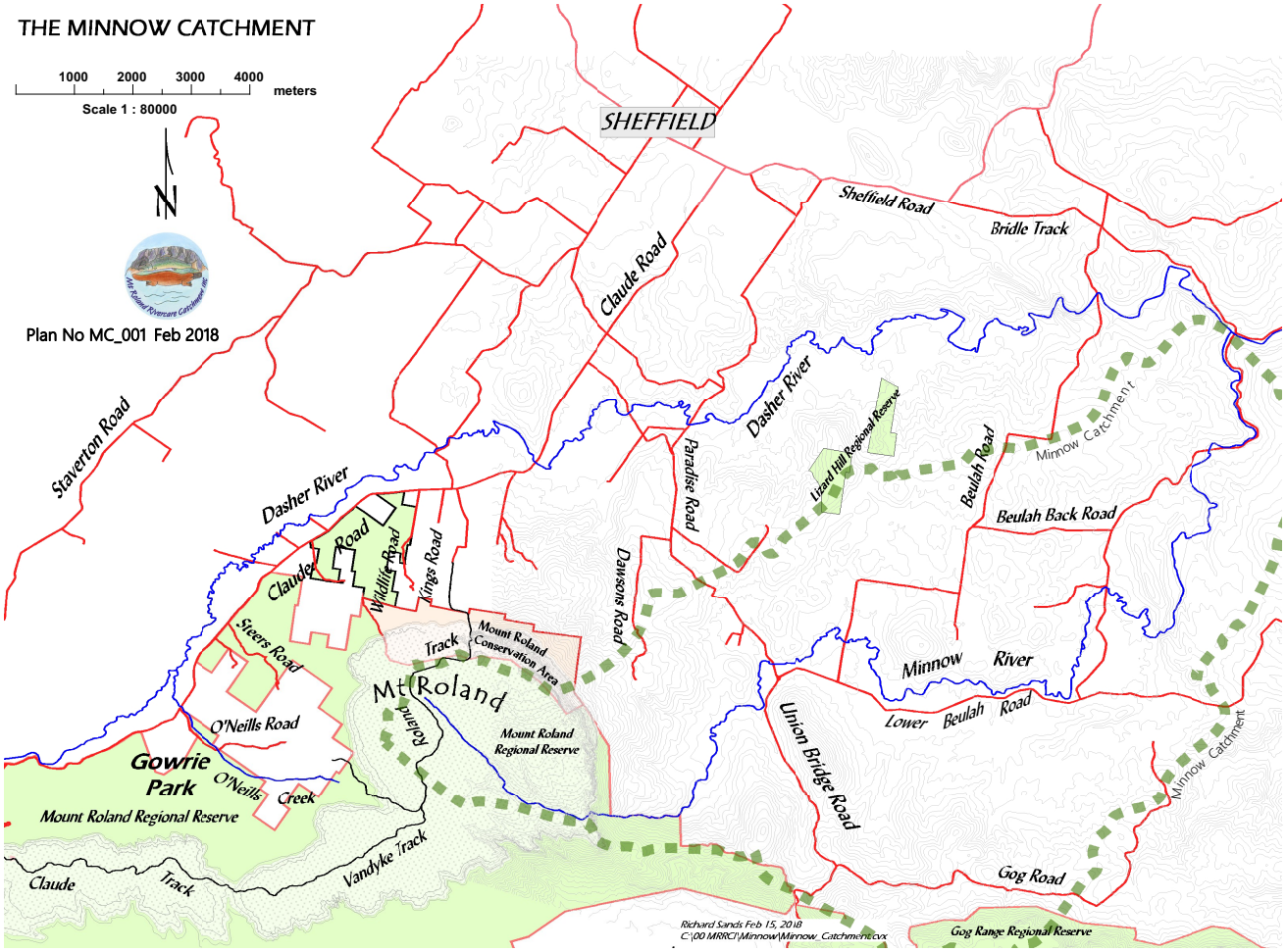
4 Overview of weeds within the Minnow catchment

The Minnow catchment is relatively small, some 80 sq. km, and lies entirely within the Kentish Municipality. From a weed management viewpoint, it can be divided into two distinct parts – the upper catchment and the lower catchment.

The upper catchment includes most of the summit plateau and eastern flanks of Mount Roland, and is contained within the Mount Roland Regional Reserve. This upper catchment contains mostly intact native vegetation, and is largely free of weeds.

The lower section of the Minnow catchment includes the area around Beulah. It has modified vegetation, with land use dominated by farming and forestry operations, though significant pockets of native vegetation remain. This lower catchment is populated by a range of environmental weeds, including amongst others Spanish Heath, Gorse, Elisha's Tears, Blackberry, Montpellier Broom and Willow.

Because the weed issues of the upper and lower catchments are quite different, they will be discussed separately below.



5 Upper Minnow catchment

The upper Minnow catchment includes most of the summit plateau and eastern flanks of Mount Roland, and is contained within the Mount Roland Regional Reserve.

5.1 Overall weed status

No weeds have been identified in the upper Minnow catchment. Much of the upper catchment is remote and difficult to access, and hasn't been examined. However, those parts which have been surveyed, including all areas accessed by the main summit walking track, and a traverse of the summit plateau to the top of the Minnow Falls, reveal no evidence of weeds. It appears that this area is at least substantially weed free at present, though further surveys would be beneficial.

Minnow catchment on the summit plateau, looking east to the top of Minnow Falls

However, the potential for weed invasion of the upper catchment was clearly demonstrated by a recent weed survey (October 2017), where the track to the summit starting from O'Neills Road was surveyed for weeds. Along the walking track to the summit plateau, around 20 different weed establishments were noted, all of these on the firetrail, many in the region of Blackheart Creek and Ferny Creek, all still single plant establishments. Species were a type of exotic lawn grass, and dandelion. While these particular weed species probably pose no real threat – they will be browsed by wildlife – this does demonstrate the potential for weeds to be transported into the Reserve.

A weed found on the walking track – October 2017

It was also noted in the October 2017 survey that the start of the Mount Roland walking track, and associated car park, is an area of a major weed infestation. Weeds in this area have been largely controlled in recent years, through the combined efforts of MRRCI, the Parks and Wildlife Service and Kentish Council, but still there are significant seed bed reserves, particularly of *Kunzea ericoides*. Recreational users, machinery and vehicles accessing the Reserve from this point will pass through the seed bed area.

If the car park and start of the Mount Roland walks is to remain as presently situated, it is imperative that weed populations surrounding the start of the walk continue to be vigorously controlled, and active and thorough weed hygiene procedures implemented. If these measures are not in place, then the walk commencement point and parking area should be relocated so that it is away from the weed infestations.

There are two separate weed threats in relation to recreational users accessing the Reserve via O'Neills Road, the first is localized, the second generic. Firstly, there is the existing seedbed of mostly *Kunzea ericoides* seed which users traverse just as they enter the reserve. Here a boot cleaning station, situated as recreational users leave the *kunzea* seed bed area and before heading further into the Reserve may have the potential to remove any *kunzea* seed picked up in the first steps of the walk. Thus, relocating the existing boot scrub a further 100m or so up the track may have merit. At present walkers scrub their boots, then walk through the seed bed area, then proceed up the mountain.
The second threat in relation to recreational users is more generic. This relates to weed seed embedded in the gear or clothing of recreational users due to inadequate personal

weed hygiene measures. For instance, recreational users may arrive at O'Neill's Road with weed seeds lodged in socks, or shirts, or packs, Velcro, or whatever. No amount of boot scrubs will counter this problem. To minimize this risk a program to educate and encourage appropriate practices by recreational users could be considered. We are all educated (mostly by our mothers) to wipe our boots or remove them before entering the home – maybe a similar procedure should apply to our special natural places.

Here it may also be useful to look internationally at measures adopted in WHA across the globe to determine best practice – some of those measures may be adapted for use in Tasmanian situations.

These are general issues relating to preventative weed management in any natural place frequented by recreational users, and there seems to be value in further study to identify better solutions to adapt to a range of local conditions. It's an issue which includes this particular Regional Reserve, but goes far beyond.

5.2 How weeds enter the upper catchment: actions to minimize this risk

Weeds could be introduced to the upper catchment in a range of ways, including the following:

A. Seeds transported on clothing and equipment of recreational users, including walkers, bike riders and horse riders
B. Seeds or plant material transported on vehicles or machinery
C. Seeds transported and deposited by birds
D. Seeds transported by wind
E. Seeds transported by wildlife

Method of weed introduction	**Action recommended to reduce that risk**
Seeds transported on clothing and equipment of recreational users	Establish adequate weed hygiene stations at each of the major points of access for recreational users. These stations to include educational components, and facilities for clean down, as appropriate. Also to display priority weeds, and a procedure for reporting of weeds. Support establishment of an educational program to alert recreational users to this issue more generally.
Seeds or plant material transported on vehicles or machinery	Establish and apply operational procedures that require thorough clean down of any vehicle or machinery prior to entering the upper catchment. Only in emergency situations could this procedure be waived.
Seeds transported and deposited by birds	As far as practical, control populations of weeds that produce seed attractive to birds, where those weeds are growing within striking distance of the upper catchment, and have the potential to establish there. Such weeds would include: Elisha's Tears, Hawthorn, Blackberry, Holly and Cotoneaster.
Seeds transported by wind	Because seeds of some weeds can travel vast distances on the wind, this method of weed introduction is very difficult to counter. However, populations of weeds with wind dispersed seeds that are found in close proximity to the upper catchment will present the greatest threat, and these populations should be controlled to prevent seed set. Examples of such weeds would include Pampas, Ragwort and Thistles.
Seeds transported by wildlife	Very difficult to prevent. Monitor fringes of high risk weed populations and control new outbreaks prior to seed set.

5.3 Upper Catchment Monitoring and control

Implementation of these actions will help to reduce the threat of weed introduction, but it will not remove that threat. Therefore, it is also important to establish a mechanism to provide for periodic monitoring of the site. Monitoring should be particularly vigilant when there are disturbances to vegetation – eg fire, landslip, erosion, machinery disturbance – as weeds will opportunistically invade under these conditions. Extreme weather events associated with climate change will significantly increase disturbance to native vegetation, and therefore will increase the risk of opportunistic weed invasion. Scheduled monitoring after significant disturbance – bushfire, flood, strong wind, etc – is recommended.

Given that the area enjoys intensive recreational use, there are opportunities to facilitate community reporting of weed sightings, to supplement other monitoring programs. Consideration could be given to providing recreational users with an information brochure, and/or web site link, that includes a pictorial list of the highest priority weed species that are possible invaders, together with a weed hotline number/email to report suspect plants.

There also need to be resources allocated to enable timely weed control, should weeds be identified. The best outcomes – both environmentally and economically - will be achieved when weeds are controlled before they have the opportunity to set seed.

5.4 Upper Catchment: Conclusion

The upper Minnow catchment is a very significant part of the Mount Roland Regional Reserve, however the Reserve includes far more than just the Minnow catchment, and there are issues relating to the whole Reserve which are not of direct relevance to the Minnow Catchment, and therefore are not discussed here.

However, there is a great opportunity to broaden the scope of this plan, so that its focus area includes the entire Mount Roland Regional Reserve, not just those elements within the upper Minnow catchment. An enlarged plan would be more complex, however the actual principles would be substantially the same as described here, and this would greatly expedite preparation of a whole of Reserve plan. Given the iconic nature of the whole Reserve, and the various pressures – both present and future – that are on the Reserve, there is considerable merit in preparing a weed hygiene plan for the entire Reserve that will formalize present and future weed management.

Completing a weed hygiene plan for the entire Mount Roland Regional Reserve would also consolidate and formalize the on ground weed works implemented by MRRCI around the Reserve since 2011. The works of the Parks and Wildlife Service, and other land managers including Kentish Council, DPIPWE, Crown Land Services, Department of State Growth, Hydro Tasmania and Treloar Transport and many private land owners would also be acknowledged, along with grant funding support from Tas Landcare and Cradle Coast NRM. All the works have aimed to protect the Reserve from the threats of weed invasion, and have been guided by the same principles described here. Around 70 individual weed sites have been controlled annually, or as needed. Detailed records of works have been maintained, including gps mapping records to Australian standards.

RECOMMENDATIONS:

1. Work with the land manager to support development and implementation of a weed hygiene plan for the Mount Roland Regional Reserve. The plan should build on this Minnow Catchment plan, and incorporate and reference on ground weed control works performed around the Reserve since 2011.
2. Until that plan is developed and implemented, continue control of documented weed sites close to the Reserve, and any new outbreaks, on an annual basis. Also implement priority actions as appropriate from the discussion of the upper Minnow catchment above.

6 Lower Minnow catchment

The lower Minnow catchment extends from the edge of the Mount Roland Regional Reserve, through the plantation, farmland and native bush around the Beulah area, through to the confluence of the Minnow and Dasher Rivers just near the Bridle Track.

6.1 Lower Minnow catchment overall weed status

The lower section of the Minnow catchment is dominated by farming and forestry operations, though there are still some large areas of native vegetation. This lower catchment is populated by a range of environmental weeds, including Spanish Heath, Gorse, Elisha's Tears, Blackberry, Montpellier Broom and Willow.

Presently the lower Minnow catchment is typical of many Tasmanian rural landscapes. In patches it is weedy, in other areas it is fairly weed free. The challenge for weed management in this type of rural landscape where weeds still have much potential for new invasion and further spread is twofold: Firstly, manage the existing weed populations to at least contain them within their current boundaries. Secondly, prevent the introduction of new weed species. These two challenges are discussed in detail below.

6.2 Existing weed populations in the lower catchment

The three most common weeds in the lower Minnow catchment are Blackberry, Spanish Heath, and Willow. Other environmental weeds with significant distribution include Foxglove, Blue Periwinkle, various thistles, Elisha's Tears, Gorse, and Montpellier Broom. Forestry wildlings – typically Radiata Pine – are also present in significant quantities, usually on the fringes of plantations or former plantations.

Weed	**Legal Weed status**
Blackberry	WONS (Weed of National Significance) Note that all WONS are Declared weeds in Tasmania
Willow	WONS
Gorse	WONS
Montpellier broom	WONS
Elisha's Tears	Declared weed Tasmania
Spanish heath	Declared weed Tasmania
Ragwort	Declared weed Tasmania
Slender thistle	Declared weed Tasmania
Foxglove, Blue Periwinkle, Scotch thistle, Radiata pine	Not declared, though locally significant

6.3 Status of specific weeds within the lower catchment

While it is important to recognize the legal status of weeds in the lower Minnow catchment, it is also important to recognize that local priorities for weed control are determined by a local risk assessment, and will not necessarily reflect the legal status.

Blackberry: Blackberry has established so widely in the Tasmanian landscape that it has come to be seen as 'normal'. While it can be effectively controlled in some situations – eg pasture – in other places, such as streamsides or bushland it presents many significant challenges that are often too great for land managers to deal with. So Blackberry remains uncontrolled, and spreads further. However there is some hope with regard to Blackberry management. Biological controls, introduced into Tasmania in 2007, have started to show noticeable impact on some varieties of existing Blackberry populations, at least in the Kentish municipality. These impacts should be monitored.
Recommendation: Control Blackberry as realistically feasible, and monitor impact of Blackberry biocontrol.

Spanish Heath: This is the highest priority weed for management within the lower Minnow catchment. Although it is wide ranging in the catchment, particularly on the roadsides, at this stage it has only occupied a small percentage of its potential habitat. However, given that it thrives in this environment, and further, that each mature plant may shed millions of seeds annually, future spread at an alarming rate is certain, unless controlled.

This process of spread can be explosively accelerated by roadside slashing, and very unfortunately this is happening on road reserves around Beulah. Slashing to control roadside vegetation usually occurs in late spring or early summer, just as – coincidentally - the Heath is carrying a full load of ripened seed. As a result of slashing, the very fine and abundant Heath seed is carried by the roadside slasher, and effectively spread across the landscape. This is a great threat to the catchment.

Slashed Spanish Heath on the road to Beulah

If Spanish Heath continues to be slashed it will very rapidly spread to become the dominant weed of the road reserve, and from there spread onto adjoining private and public lands and infect those, seriously degrading social, environmental and economic values of the whole area. This process is already well underway in some areas, just starting in others.

If the current slashing processes cease, the spread of Heath will be slowed. But the existing populations will still continue to spread along roadsides at a quite rapid rate, moved by wind, and carried by the air turbulence of passing vehicles.

Recommendations:

1. Produce a map showing distribution of Spanish Heath within the Minnow catchment.
2. As an urgent priority, and certainly before the next roadside slashing season, meet with the manager of road reserves with the aim of ensuring that Spanish Heath in roadsides is not slashed.
3. As a priority, provide support as possible to the road reserve land manager to develop, implement and maintain an efficient and cost effective Spanish Heath control program.
4. Identify managers of land that borders infected roadside areas, and encourage and support control of the Heath that has spread from the road reserve onto those lands.

Willow: Willow has been controlled historically by MRRCI on one stretch of the Minnow, and this has no doubt helped curb the extent of Willow in the lower Minnow catchment. At present Willows (usually Crack Willow) are occupying only a small percentage of their potential range. However the Willow problem is still significant at present, with many small to medium size Willows, scattered along the waterways. If left uncontrolled, Willows are highly likely to become the dominant riparian vegetation, as they are in the lower Dasher and Mersey, just a few kilometres further downstream.

Willows revealed by recent plantation clearance

Recent logging of plantations along the Minnow and its tributaries reveals the extent of Willow infestation in those areas. With the plantation trees removed, the Willows are very clearly visible. Implementing Willow control at this time is relatively easy, and cost effective, and it is an opportunity for forestry managers to contribute positively to management of the waterway. A strategic and prioritised management control program, informed by complete mapping of Willows in the catchment, by taxa where possible, has the potential to effectively curb the spread of Willows, and maybe ultimately eliminate Willows from the catchment. This would be a noteworthy outcome.

Recommendations:

1. Produce a map showing distribution of Willow species within the Minnow catchment.
2. Encourage cooperative working relationships with land managers of riparian areas, and implement a strategic and prioritised Willow control program.

Elisha's Tears: Elisha's Tears is well established in the lower Minnow catchment, and because its seed is spread by birds, there is significant potential for this weed to spread further, particularly into areas of native vegetation, especially in damp and shady gullies and along riverbanks. In many situations, this weed is relatively easy to control, and many known populations of significance could be eradicated quickly.
Recommendation: Map the distribution of Elisha's Tears, and control as practical. Priority areas for management would include any that are close to the Mount Roland Regional Reserve, and other natural areas of value.

Thistles and Ragwort: Thistles of various sorts are common across the Tasmanian landscape. Ragwort is locally common, though biocontrols have been helpful in reducing the threat of weed spread.
The seed of Thistles and Ragwort is highly mobile, being wind dispersed. Controlling any existing populations of these weeds will reduce the threat of weed spread.
Recommendation: Control Thistles and Ragwort to prevent set of fresh seed.

Gorse, Broom, Blue Periwinkle and Foxglove: Each of these weeds is present in relatively small amounts in the lower Minnow catchment. Each has the potential to extend far beyond its present range.
Recommendations:

1. Map distribution of Gorse, Broom, Blue Periwinkle and Foxglove within the Minnow catchment.
2. Implement strategic and annual control with the aim of eradicating these weeds from the catchment.

Forestry wildlings: Typically Radiata Pine, these plants spread from existing or former plantation areas into adjoining lands. Good forestry practice would see these weeds managed as part of annual maintenance programs.
Recommendation: Encourage managers of plantations to actively manage their wildlings.

6.4 Lower Catchment: Preventative Weed Management

The principles, cost effectiveness and wisdom of preventative weed management are increasingly well understood by contemporary land managers, and are generally part of a broader and rapidly growing awareness of Biosecurity. Private landowners can help prevent new weed outbreaks by avoiding the introduction of weedy garden plants. Good practices by land managers of all sorts will not only minimize the introduction of new weed populations, but also counter the introduction and spread of other threats, such as phytophthora.

New weeds will continue to find their way into the lower catchment, introduced in a host of ways including on machinery and equipment, soils and gravel, wind, water, birds, vehicles – this list is long. The establishment of new weeds is favoured, particularly if there is disturbance to vegetation. Effective preventative weed management strategies won't completely stop new weed incursions, but will greatly reduce their frequency.

Land managers do have legal responsibilities under the *Weed Management Act* (1999) in regard to their management of Declared Weeds. For example, Spanish Heath responsibilities are outlined at:
http://dpipwe.tas.gov.au/Documents/Spanish-heath_WMP_2011.pdf).
Further advice on enforcement of the *Weed Management Act* (1999) can be sought from DPIPWE. Generally enforcement should be seen as a last resort.

Recommendation: Encourage all land managers to act responsibly in regard to Biosecurity issues, and actively implement their existing Biosecurity policies and procedures. Land managers without Biosecurity policies and procedures should be strongly encouraged to develop them. Land managers who are unwilling to act responsibly undermine the efforts of those who do. Irresponsible land managers should be named and asked to explain their actions.

6.5 Lower Minnow catchment: conclusion

While there are some significant threats from weeds in the lower Minnow catchment, and these are noted above, overall there is potential to control most weed populations with relatively small inputs of cash and/or human resources. With each land manager controlling weeds on its own land, together with sensible measures to prevent the introduction of new weeds, there is every reason to feel optimistic that the impacts of weeds in the lower Minnow catchment will not significantly degrade social, economic and environmental values.

7 Where to from here

A copy of this plan will be distributed to all organisations and private individuals who contributed to its development. The plan will also be available on the MRRCI website http://www.rivercare.org.au/site/ with links from the MRRC I Facebook page.

It is one thing to produce a plan – it is another thing to implement it. All land managers have existing priorities, and will not take on additional tasks without good reasons for doing so.

Active coordination and support to land managers will greatly assist implementation of this plan. Without that support and coordination, it may be that this plan and its recommendations will gain little traction.

Where could this coordination and support come from? Potentially a range of organisations could take on this role if they see it as worthy and fitting within their capabilities. Federal, state or local government, or any major stakeholder could lead the way on this, and MRRCI would welcome expressions of interest from any organisation keen to take on this role.

While there is some enthusiasm for MRRCI to oversee and coordinate implementation of this plan, realistically the potential for that is limited if it is to rely purely on voluntary contributions from its members. However, from time to time opportunities for obtaining grant funding do appear, and it may be possible for MRRCI to secure funding from a grant to support implementation of this plan.

Grant funds are usually highly competitive, and generally only those applications which enjoy the express support of major stakeholders have a chance of success. However, the support of major stakeholders in the development of this plan has been most encouraging, and there appears to be widespread support for its implementation.

There also appears to be a general acceptance that implementation of recommendations will result in long term benefits for all, while failure to act will result in degradation of social, environmental and economic values. As such, a grant application submitted by MRRCI with the strong support of stakeholders has considerable merit.

Mount Roland Rivercare Inc will monitor the implementation of this plan annually for a period of five years, and review the plan as appropriate.

8. Stakeholders who contributed to the development of this Plan

Kentish Council
Sustainable Timbers Tasmania
Parks and Wildlife Service
Cradle Coast NRM
Forico, and
private landmanagers