Track Strategies
Trevallyn Nature Recreation Area and Kate Reed Nature Recreation Area
Trevallyn Nature Recreation Area
Kate Reed Nature Recreation Area

Track Strategies

Summary of Consultation and Field Assessment

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Parks and Wildlife Service

December 2008
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# Introduction

This Summary of Consultation and Field Assessment (‘the Summary’) has been collated as part of the development of track strategies for the Trevallyn Nature Recreation Area and the Kate Reed Nature Recreation Area. The document is also available on-line from the Parks and Wildlife Service website (www.parks.tas.gov.au).

The Summary is being released by the Parks and Wildlife Service (PWS), to inform the community of progress on the strategies and to provide an outline of information gathered to date.

The Summary informs the preparation of the Draft Track Strategies, which are well advanced, and due for release and community consultation in February 2009.

The Track Strategies, in part a recommendation of the Trevallyn Nature Recreation Area Management Plan 2008, aim to rationalise track systems, ensure tracks are environmentally sustainable, minimise conflict between different types of users and ensure activities are consistent with reserve management zones.

The first stage of consultation included a survey of track users and key stakeholder interviews, to help gain a better understanding of their use of the trail networks, their preferences, and to identify potential areas of conflict or impact on reserve values. An audit of reserve tracks has also been undertaken to gather information on track conditions and management issues.

PWS has also undertaken natural and cultural values assessments for Kate Reed Nature Recreation Area. These assessments will also guide management decisions within the Track Strategies, to ensure the conservation of the reserve’s natural and cultural values. The Trevallyn Nature Recreation Area Management Plan details natural and cultural values within the Trevallyn Nature Recreation Area.

While the Summary is available to the general public, it is primarily aimed at updating track users, and others interested in track management, on progress concerning strategies for the Trevallyn and Kate Reed Nature Recreation Areas.

This document contains three sections.

- A summary of the results from the track user surveys.
- An outline of the common themes and issues discussed in key stakeholder interviews.
- A summary of the observations from the field audit of tracks.
2 Track User Survey Summary

2.1 Survey Distribution, Promotion and Response

A Track User Survey was implemented to gain a better understanding of the level of track use in the reserves, the extent and diversity of track users and their track preferences.

A variety of methods and media were used to distribute and promote the track user surveys as widely as possible. The aim was to generate responses from as many different individuals and groups that might use, or be interested in the management of, tracks within these two reserves. The response to the track user surveys was very positive with over 550 responses to both surveys combined. The Trevallyn Nature Recreation Area (NRA) survey received a greater number of responses with 354 completed surveys, compared with Kate Reed NRA where 203 surveys were completed.

However, the track user surveys for Trevallyn and Kate Reed Nature Recreation Areas (NRAs) should not be read as surveys based on a representative sample of the general population. Responses may be biased towards users of the Trevallyn and Kate Reed NRAs and those with an interest in the management of these areas.

The distribution and promotion of the survey included the following methods.

- Hard copy surveys sent to all 40 individuals or groups who provided a submission on the Draft Trevallyn NRA Management Plan.
- 220 hard copy surveys were placed in letterboxes in Trevallyn and Prospect that shared a boundary with the two reserves.
- Over 30 signs advertising the surveys were placed at entry points and key locations in the two reserves.
- Hard copies of the surveys were available for collection and drop off at the Parks and Wildlife Service office at Prospect.
- Signs advertising the surveys were placed in 13 bike stores, outdoor stores and equestrian stores in Launceston and Kings Meadows.
- Major user groups forwarded direct links to the on-line survey via group e-mail lists, newsletters and internet forums.
- Surveys were promoted as both a ‘feature’ and ‘news’ item on the Parks and Wildlife Service website (www.parks.tas.gov.au) and a separate page outlining the purpose of the survey and provided a direct link to the on-line survey page.
- Surveys were promoted through a general article in the Examiner newspaper on 30 July 2008. During the period the survey was open, a mention of the survey was made in Louise Padgett’s weekly cycling column on 14 August 2008.

2.2 Trevallyn NRA Results

Below is an outline of the key results from the Trevallyn NRA track user survey. It does not cover every question asked in the survey or provide detailed analysis of the results. Detailed results and analysis will be provided in the final track strategies. The results in this section are simply an outline of some of the key findings.

2.2.1 Characteristics of Respondents

- 354 individuals responded to the Trevallyn NRA track user survey.
70% of respondents were males and 30% females. This result is likely to be influenced by the large number of respondents who indicated mountain biking was their main activity; this group was dominated by males (90%). In comparison the other two major user groups, walkers and dog walkers, there was a more even spread of males and females, with dog walking slightly favoured by females.

There was a spread of people in all age groups with the exception over 85 years where no participants were recorded. This indicates that the tracks within the reserve have appeal to both the young, old and everyone in between. The vast majority of users (70%) fell within the 25-54 year age group and over half of all users (54%) were 25-34 years old.

![Age Profile for Major User Groups (Trevallyn NRA)](image)

### 2.2.2 Main Activities

The two dominant track based activities at Trevallyn NRA were clearly mountain biking (51% or 179 respondents) and dog walking (23% or 81 respondents). Walking (12% of 43 respondents) was the only other activity that received a sufficient number of responses to be considered a dominant activity at Trevallyn NRA.

It is possible that there is some survey sampling bias in these results. This survey was not a random sample but a voluntary survey that was circulated and promoted as widely as possible through a range of different mediums to capture as many different users of the reserve as possible. It is possible that some groups may be under represented due to their awareness of the survey. However, every major entry point into the reserve had a sign advertising the survey for the 3 weeks it was open. Therefore, regular users of the area were likely to have been aware of the survey.
2.2.3 Frequency of Use

- The vast majority of users (74%) indicated they use the area weekly or more frequently.
Dog walkers appear to be most frequent users with over half of all dog walkers indicating they used the reserve daily and over 80% of dog walkers used the reserve two to three times a week or more frequently.

Most mountain bike riders reported riding once a week (35%) and a further 29% indicated they rode two to three times a week. Most walkers reported walking at Trevallyn NRA 2-3 times a week (33%) followed by those who walk in the reserve once a week (24%).

### 2.2.4 Length of Use

![Length of Use by Main Activity (Trevallyn NRA)](chart)

- There is clearly a long history of use of the Trevallyn Nature Recreation Area with 58% of respondents using the area for 6 years or more, and the highest number of responses for those using the area for over 10 years (40%).

### 2.2.5 Reasons for Visiting

- ‘Fitness / Exercise / Health’ was the most common reason for people visiting the Trevallyn NRA with 90% of all respondents indicating this was a reason for visiting. The only groups where this was not the dominant motivation for visiting was dog walkers and horse riders where ‘Exercising the Dog or Horse’ was the most popular reason. The other popular response for all user groups was the motivation of ‘Fun / Enjoyment’ with 64% of all respondents indicating this was a reason for visiting Trevallyn NRA.

- ‘Experiencing Nature’ was a reason for visiting the area (40%), but was given less focus than recreation related motivations.

- Only 26% of respondents indicated a reason for visiting Trevallyn NRA was that it was the ‘Closest Suitable Location’. Similarly only 8% of respondents indicated that it was the ‘Only Suitable Location’. This suggests that there are other suitable alternatives in the region, often closer to where people live, but due to the various attractions and qualities of the area people are drawn from a large area to the reserve.
2.2.6 Positive and Negative Experiences

The vast majority of track users reported that they have positive experiences when they use the area with 79% of respondents reporting either frequently or always having positive experiences with other people they meet on the tracks.

88% of respondents reported either never or rarely having a negative experience with other people they have met on the tracks. Only 11% of respondents indicated that they sometimes had issues with other users.

Despite reports of conflict or issues between users, when responses to the questions on negative and positive experiences were examined together, it is clear that the vast majority of users have a positive experience with other users most of the time. Generally different user groups appear to get on with each other.

2.2.7 Rating of Track Experiences

Table 1: Track Experience Ratings

<table>
<thead>
<tr>
<th></th>
<th>Mountain Biking</th>
<th>Dog Walking</th>
<th>Walking</th>
<th>Running / Jogging</th>
<th>Horse Riding</th>
<th>Orienteering</th>
<th>All Tracks Combined*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Excellent</td>
<td>103</td>
<td>41</td>
<td>106</td>
<td>56</td>
<td>123</td>
<td>44</td>
<td>57</td>
</tr>
<tr>
<td>Good</td>
<td>111</td>
<td>44</td>
<td>65</td>
<td>35</td>
<td>126</td>
<td>45</td>
<td>78</td>
</tr>
<tr>
<td>Average</td>
<td>30</td>
<td>12</td>
<td>14</td>
<td>7</td>
<td>28</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>Poor</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Very Poor</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total responses</td>
<td>252</td>
<td></td>
<td>188</td>
<td></td>
<td>280</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: some people would rate tracks for activities not their ‘main’ activity, so totals will not match main activity totals. *respondents were not specifically asked to rate tracks for all activities combined, but totals have been combined to give an overall rating of the tracks as a whole.
• For all user groups the rating of the track experiences was favourable with the vast majority rating the track experiences either Excellent or Good. When all responses were combined 88% of track users rated the track experiences Excellent or Good. For all activities, with the exception of dog walking, slightly more users rated the track experiences Good than Excellent.

2.2.8 Management Issues

• An open response question allowed respondents to identify what they thought was the most significant issue for the management of tracks at Trevallyn NRA. In total 324 unique responses were recorded from 276 individuals. The most common issues raised (with number of responses in brackets) are listed below.
  o Managing Multi-use and Conflict (79)
  o Track Maintenance and Sustainability (62)
  o Mountain Biking (37)
  o Signage and Maps (27)
  o Unauthorised Tracks (21)
  o Nothing / Leave Tracks as They Are (16)
  o Education and Promotion (14)
  o Safety (14)

2.2.9 Other Comments and Suggested Improvements

• A final open response question allowed respondents to write comments identifying any other issues or comments they would like to make in relation to improving the track network. In total there were 217 unique responses from 180 individuals. The common themes were:
  o Happy As Is (30)
  o Signs and Maps (27)
  o Trail Design and Construction (23)
  o Maintenance (17)
  o More Mountain Bike Specific / Single Tracks (17)
  o Managing Conflict (13)
  o Unauthorised Track Building (11)
  o Volunteer Support and Consultation (10)
  o Dogs (10)

2.2.10 User Profiles

Although there are inherent problems in stereotyping, it is useful to identify if there are obvious characteristics that are typical amongst user groups. Looking at the most common responses to various questions gives an indication of the typical characteristics of respondents in each group and these have been outlined below. It should be noted that survey respondents may not always be representative of the user group. For example, it is likely that the many school groups that orienteer in Trevallyn NRA, were not respondents to the survey and the age of the ‘typical’ group below is therefore skewed. Moreover, these profiles are more accurate where there are a greater number of respondents in each category.

A typical mountain biker at Trevallyn NRA:

• Is a male aged between 25-34 years and lives in Trevallyn or Launceston’s suburbs.
• Rides their bike at Trevallyn NRA once a week and has been riding there between 3-5 years. Also rides regularly at Kate Reed NRA.
• Rides for a combination of fitness and exercise, fun and for an adventure or challenge.
• Is likely to belong to the Launceston Mountain Bike Club or know other riders in the club.
• Commonly enters the reserve through the Gorge Road top car park whether riding or driving to the area.

A typical **dog walker** at Trevallyn NRA:
• Is a female aged between 45-54 years and lives in Trevallyn.
• Walks their dog at Trevallyn NRA on a daily basis and has done so for more than 10 years.
• Walks for exercise, health and fitness and to exercise their dog.
• Does not belong to any dog walking or other clubs.
• Either walks in from surrounding suburbs or drives and parks at the start of the road to the Hoo Hoo Hut or various points along that road.

A typical **walker** at Trevallyn NRA (without a dog):
• Is a male or female aged between 45-54 years and lives in Trevallyn.
• Walks mainly at Trevallyn NRA 2-3 times a week and has walked there for over 10 years.
• Walks for exercise, health and relaxation.
• Is unlikely to belong to any club.
• Commonly walks in from the surrounding neighbourhood or drives a car to start a walk from the Hoo Hoo Hut.

A typical **runner or jogger** at Trevallyn NRA:
• Is a male aged between 45-54 years.
• Runs at Trevallyn NRA 2-3 times a week and has been using Trevallyn for over 10 years.
• Runs for fitness, exercise, health and enjoyment.
• May belong to a club but not necessarily a running or athletic club.
• Either runs in from the Cataract Gorge or Duck Reach or parks their car at the start of the road to the Hoo Hoo Hut.

A typical **horse rider** at Trevallyn NRA:
• Is female aged between 15-19 years.
• Rides at Trevallyn NRA once a month as part of the Launceston Pony and Riding Club and has done so for more than 5 years.
• Rides to exercise their horse and for their own exercise and fitness.
• Drives a horse float and parks at the Equestrian centre car park or rides their horse to the reserve entering along Reatta Road near Esk Water.

A typical **orienteer** at Trevallyn NRA:
• Is male aged between 55-64 years.
• Participates in formal orienteering events once a month with the Esk Valley Orienteering Club where they are a member and have been using Trevallyn NRA for over 10 years.
• Participates in orienteering for exercise, health and fitness and competition.

A typical **cyclist (on road)** at Trevallyn NRA:

• Is either male or female aged between 25-54 years.
• Rides regularly on the roads at Trevallyn NRA and has done so for more than 10 years.
• Rides for fitness, exercise and health and the enjoyment of the activity.
• Does not belong to any club.
2.3 Kate Reed NRA Results

2.3.1 Characteristics of Respondents
- 203 individuals responded to the Kate Reed NRA track user survey.
- 80% of respondents were males and 20% females. As with Trevallyn NRA, this was strongly influenced by the large number mountain bikers; with this group dominated by males (85%). In comparison the non mountain bike users of Kate Reed NRA comprised 58% males and 42% females.
- The spread of ages among Kate Reed NRA respondents was not as great as at Trevallyn NRA with only one user under the age of 15 and no users over the age of 74. The vast majority of users (71%) fell within the 25-44 year age group, with the most common age group 25-34 years (37%). This represents a slightly younger age profile than Trevallyn NRA and is probably explained by the greater dominance of mountain bikers at Kate Reed NRA, compared with Trevallyn NRA where there was a greater mix of users.

![Age Profile of User Groups (Kate Reed NRA)](chart)

2.3.2 Main Activities
- The dominant track based activity undertaken by respondents at Kate Reed NRA was clearly mountain biking (83% or 168 respondents). The other activities that respondents indicated were their main activities were walking (5% or 10 respondents), running/jogging (4% or 9 respondents), dog walking (4% or 8 respondents) and orienteering (2% or 4 respondents).
2.3.3 Frequency of Use

Kate Reed NRA does not appear to have the high frequency of use evident at Trevallyn NRA, where many users, particularly dog walkers, used the reserve on a daily basis. The majority of mountain bike riders tended to use the area either once a week (37%) or 2-3 times a week (32%). Among non mountain bike users, their use of the area was less frequent with over 50% of non mountain bike users only using the area once or month or less frequently.
2.3.4 Length of Use

- Kate Reed Nature Recreation Area does not have the strong historical use that Trevallyn NRA has and is not well known in the general community. As a result it is not surprising that 73% of all users, and 77% of mountain bikers had only been using Kate Reed NRA for 5 years or less.

2.3.5 Reasons for Visiting

- ‘Fitness / Exercise / Health’ was the most common reason for people visiting the Kate Reed NRA with 94% of all respondents indicating this was a reason for visiting. This reason was the most popular motivation for both mountain bikers and all other users.

- The other popular response for all users was the motivation of ‘Fun / Enjoyment’ with 69% of all respondents indicating this was a reason for visiting Kate Reed NRA. However, this can be largely attributed to mountain bike riders where this was a reason for 78% of that user group, compared to 26% of non mountain bike users. Both ‘Adventure / Challenge’ (54%) and ‘Thrill / Excitement’ (43%) were the next most popular reasons for mountain bike riders visiting Kate Reed NRA. This result is comparable to that seen among mountain bike riders at Trevallyn NRA.

- As was the case with Trevallyn NRA, ‘Experiencing Nature’ was a reason for visiting the area (35%) but was given much less focus than recreation related motivations. It was the third most popular reason (41%) among non mountain bike users of Kate Reed NRA.

- ‘Experiencing Nature’ was a reason for visiting the area (40%), but was given less focus than recreation related motivations.

2.3.6 Positive and Negative Experiences

- The vast majority of track users report that they had positive experiences when they use the area with 82% of respondents reporting either frequently or always having positive experiences with other people they meet on the tracks. It is interesting to note that the most common response for non mountain bike users was ‘sometimes’
(38%) having positive experiences with other users. This may suggest either negative or ambivalent attitudes to other users of the area.

- When asked about negative experiences with other users, 83% of respondents reported either never or rarely having a negative experience with other people they have met on the tracks.

### Positive Experiences with Other Users (Kate Reed NRA)

<table>
<thead>
<tr>
<th></th>
<th>All Users (n = 202)</th>
<th>Mountain Bikers (n = 167)</th>
<th>Non-MTB (n = 34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>30%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Frequently</td>
<td>50%</td>
<td>50%</td>
<td>40%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>20%</td>
<td>10%</td>
<td>40%</td>
</tr>
<tr>
<td>Rarely</td>
<td>0%</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>Never</td>
<td>0%</td>
<td>0%</td>
<td>40%</td>
</tr>
</tbody>
</table>

#### 2.3.7 Rating of Track Experiences

- 81% of track users rated the track experiences at Kate Reed NRA as either ‘Excellent’ or ‘Good’, with the most common rating being ‘Good’. Looking at the responses for
specific activities, it appears that Kate Reed NRA is highly desirable for mountain biking with 49% of respondents rating the track experiences for mountain biking as ‘Excellent’ (the most common response). For all other activities the most common rating given to the track experiences was ‘Good’.

2.3.8 Management Issues

- In total 193 unique responses were recorded from 154 individuals (or 76% of survey respondents). These most common issues raised (with number of responses in brackets) are listed below.
  - Trail Bikes and 4WD Vehicles (56)
  - Track Maintenance and Sustainability (51)
  - Mountain Biking (20)
  - Managing Multi-use (12)
  - Signage (10)
  - Unauthorised Tracks (8)
  - Weeds (8)

2.3.9 Other Comments and Suggested Improvements

- In total 114 unique responses were recorded from 98 individuals (or 48% of survey respondents). The most common themes (with number of responses in brackets) are listed below.
  - Signs and Maps (21)
  - Motorbikes (16)
  - Trail Design and Construction (15)
  - Track Maintenance (11)
  - Access for Mountain Bikes (10)
  - Volunteer Support and Consultation (8)
  - Happy As Is (8)

2.3.10 User Profiles

- Given the low number of non mountain bike respondents (34) and the diverse nature of the activities represented a profile has only been developed for mountain bikers at Kate Reed NRA (noting all the previous issues in trying to generalise the characteristics of a diverse group).

A typical mountain biker at Kate Reed NRA:

- Is a male aged between 25-44 years and lives in one of Launceston's suburbs.
- Rides their bike at Kate Reed NRA once a week and has been riding there between 3-5 years. Also rides regularly at Trevallyn NRA.
- Rides for a combination of fitness and exercise, fun and for an adventure, challenge or thrill and excitement.
- Is likely to belong to the Launceston Mountain Bike Club or know other riders in the club.
- Commonly rides to the reserve entering either at the Silverdome top car park or main fire trail. If driving to Kate Reed N RA, parks over the bridge outside the boom
gate or the top car park of the Silverdome depending on the time of the day or week.
3 Key Stakeholder Consultation Summary

3.1 Stakeholder consultation process

Meetings with key stakeholders were seen as important to gather information about reserve use patterns, user preferences, management issues and potential solutions to problems. Stakeholders are likely to have a strong knowledge of the reserve’s track systems, based on current and historical use.

Meetings were held with 37 key stakeholders representing 17 different organisations or individuals. Stakeholders were identified by the consultant and Parks and Wildlife Service staff, based on a knowledge of reserve use and submissions on the draft Trevallyn NRA Management Plan.

Stakeholder meetings were used to record information relating to the following issues.

- Their use of reserve track systems (history, frequency, tracks used, group sizes).
- The experiences sought and opportunities provided at each reserve.
- Any differences between Kate Reed and Trevallyn NRAs from either a user or management perspective.
- Preferred or high value tracks within the networks and tracks of low value or not used.
- Any conflicts with other users (frequency, locations or ‘hot spots’).
- Their interest in future track development, maintenance, monitoring and consultation.
- Any management, maintenance or priority issues needing immediate attention.

The Key Stakeholder meetings were held with:

- Dianna Dickenson John Gregory (TIS);
- Roy Skabo (Friends of Trevallyn Reserve);
- John Brammall (Esk Valley Orienteering Club);
- Launceston City Council (Chris Moore, Andrew Smith, Jody Bush, Trevor Galbraith, Kristy Bracic);
- Ginni Woof (Launceston Pony and Riding Club);
- Patrick Dickson (Launceston Walking Club);
- Ian Ferrier (Mountain Bike Tasmania and Mountain Designs);
- Launceston Mountain Bike Club (LMBC) (Ian Smith, Jody Bush, Kim Curtis, Ben Mather, Rowena Fry, William Van Den Bosch, Robby Holmes, Doug Miller, Paul Hunt, Adrian Cooper, Tim Dyke, Julie Blake);
- Jim Ferrier and Richard Edwards (dog walkers);
- Rob Potter (track builder, downhill rider and former vice president of LMBC);
- Anna Povey (environmental consultant, Friends of Trevallyn);
- Jack Birrell, Phil Dent, Martin Quinn and Nik Preece (Informal MTB group);
- Chris and Barbara Bullard (dog walkers);
- Ben Mather (Tassie Trails and LMBC);
- SRT staff (Nic Deka, Linton Kerber);
- Neil Ross (National MTB Coach)
• Simon French (Dirt Art – trail design and construction company);
• PW S staff (Anthony Ross, Donna Stanley, Adam Smith); and,
• Clarence Blake (former NSW Parks Ranger).

In addition to key stakeholder meetings, surveys were sent to another 25 stakeholders with an interest in Trevallyn NRA as listed below.

- West Tamar Council.
- Meander Valley Council.
- Aurora.
- Hydro Tasmania.
- Transend.
- Esk Water.
- Gunns.
- Cable Hang Gliding Australia.
- Paringa Archery Club.
- PCYC.
- Newstead Harriers.
- Launceston Ramblers.
- Launceston Environment Centre.
- Launceston Field Naturalists.
- Birds Australia.
- Tasmanian Expeditions.

During meetings and phone conversations some stakeholders provided details of other individuals or organisations. Where possible these people were contacted via phone. Similarly during the distribution of survey promotional material some individuals in various retail outlets also had discussions regarding the track strategies. The conversations with the individuals below were also documented.

- Paul Turner (Bike Central).
- Nathan Jackson (Cycle Torque and Coffee).
- Mark Padgett (Brooks High School teacher and multisport competitor).
- Tasmanian Aboriginal Land and Sea Council (TALSC).

3.2 Summary of common issues discussed

3.2.1 Management Plan context

It was clear from stakeholder meetings that there would be benefit in further promoting the outcomes of the Trevallyn NRA Management Plan 2008, particularly with people who provided submissions on the plan. This promotion should also indicate that the track strategies will address track based issues in further detail.

There was a lack of awareness concerning the status of the management plan, with many not knowing what has happened since their submissions were considered by PW S and the Resource Planning and Development Commission (RPDC). Most users did not know the
‘final impact’ of the plan on different user groups (noting that some of this still has to be clarified through the track strategy). For example, many mountain bike riders did not understand that the plan allows for their use, subject to tracks being designated through the track strategy. Similarly, dog walkers were unsure of the areas and tracks that the management plan allowed them to use, subject to the track strategy.

3.2.2 Use of both reserves

Based on discussion with stakeholders, Trevallyn NRA appears to have a much higher level of use, diversity of use and history of use than Kate Reed NRA. Many stakeholders only had an interest in Trevallyn NRA and rarely used Kate Reed NRA. To some extent Kate Reed NRA has been largely undiscovered, with the exception of mountain bikers who have in recent years increased their use of the area dramatically. It is possible that there are other users, such as dog walkers, who use Kate Reed NRA in large numbers but due to difficulties in identifying such users (ie. we don’t have draft plan submissions and consultations which occurred at Trevallyn NRA) they have not been interviewed for Kate Reed NRA. The ‘Friends of Kate Reed’ group is no longer active in the reserve.

3.2.3 Private land near Kate Reed NRA

A large area of private land, adjacent Kate Reed NRA, is actively used by mountain bike riders. The current landowner does not support this use and has raised concerns about damage to his fence. Only some users were aware of the tenure and extent of the private land but all riders see the private land as a critical part of the ‘Kate Reed’ track network. Riders generally agreed that if access to the area was unavailable, the experience and attraction of Kate Reed NRA would change dramatically.

If access to the private land was unavailable more unauthorised track building is likely to occur in the NRA to maintain the experience or length of track sought by riders. This may occur along the private land boundary, to replace lost links/loops in the system, or in other parts of the NRA (ie particularly on the main hill). Other users believe the use of the area would decrease because a major loop and hill will be lost and new replacement tracks could not duplicate that riding experience. In any case, the demand for mountain bike tracks is such that users are not likely to abandon the area, they just may not use it as frequently.

3.2.4 Experience provided at each reserve

Anecdotally, and confirmed by an initial scan of survey results, mountain bike riders appear to be the main group using both reserves in significant numbers. The two reserves offer very different mountain bike riding experiences. Many mountain bike riders see Kate Reed NRA as a mountain bike area, where the tracks have been built by mountain bikers for mountain bikers. The tracks used are largely narrow, single track and are technical by their ‘tight and twisty’ nature but at the same time offer ‘flow’ sought by riders. Many riders prefer this type of technical challenge on a smooth surface compared with Trevallyn NRA, where the technical challenge is often provided by rough, rocky loose surfaces on poorly constructed and eroded tracks. The tracks in Kate Reed NRA provide many loops, with riders able to ride nearly all the tracks in Kate Reed NRA over a 1.5 to 2 hour session. Kate Reed NRA appeals to some riders because it is not heavily used by other user groups, and the chance of conflict is significantly less than at Trevallyn NRA.

Despite the apparent attraction of Kate Reed NRA, Trevallyn NRA holds some unique appeal to riders. The topography provides many more significant slopes and the opportunity for long or steep climbs and descents. Some riders deliberately seek out these bigger climbs to increase their general fitness or when training for specific events such as Wildside MTB. Similarly, other riders deliberately seek out the rough rocky sections to provide a different technical challenge unavailable at Kate Reed NRA. The other major
attraction over Kate Reed NRA is the size of Trevallyn NRA, the diversity of the environment and the apparent isolation. Some riders see it as a natural bush experience, with nicer scenery and outlooks. Conversely, Kate Reed NRA is smaller, is surrounded by highways with constant noise, and weeds impact on the naturalness of some areas.

3.2.5 Management / engagement between Parks and Wildlife Service and users

Many stakeholder believe that the implementation of the management plan will only be successful if the PWS actively engage and work with users to manage the area in a partnership. They believe an inclusive management approach is critical to establishing the trust and goodwill of track users.

Most users highly value the two areas and are willing to work with PWS staff in the maintenance and upgrading of the track networks, and to generally protect, monitor and conserve the natural values of the areas. If this enthusiasm for both areas can be harnessed the management benefits and synergies will be extensive. Stakeholders have indicated that it is important that this is seen as a partnership with strong involvement of users in both decision making, implementation and education programs. To attract potential volunteers, these processes must actively involve users.

Many users, particularly at Trevallyn NRA, expect that current activities and opportunities (which have largely occurred in an unregulated way) will essentially be retained as is. There may be strong opposition to any major changes in management of track based activities in both areas, particularly from dog walkers and mountain bikers. Riders and dog walkers believe that they have been the dominant users of the areas (and in the case of Trevallyn NRA - for a long period of time) and have a ‘right’ to be there. Many users focus on the ‘recreation’ element of the ‘Nature Recreation Area’ classification (rather than a balance with conservation) and believe that the area is an urban reserve that should be managed differently to a national park.

This passion among dog walkers and mountain bikers, in particular, is probably a combination of their attachment to, or strong ownership of, the areas (through extensive historical use). It may also be due to the lack of obvious alternatives in Launceston. There are no comparable areas (in the size, track experiences, terrain and environment) close to Launceston, where you are able to walk a dog (ie. off lead) or ride a mountain bike. These users are keen to ‘fight’ for what they have, even if this use has not been consistent with reserve regulations in the past.

Stakeholders suggest that PWS will need to maintain a strong presence in the reserves and to actively manage unauthorised activities. Otherwise, a perception of limited management presence may encourage some users to ignore regulations, particularly where management decisions are unpopular (eg. track closures).

PWS may also need to make some compromises in track management, to keep users on side and harness potential volunteers (eg. for track work and other conservation work). A cooperative approach from PWS staff will be more effective than an oppositional approach - which would only serve to create more problems (ie unauthorised track building) than it solves.

A consistent issue among mountain bikers was the need for the track strategies, along with associated maps and signage, to recognise them as legitimate users. Riders want to feel like they are welcome, that they are acting legally and that they can slow down and talk to other users without fearing negative reactions.
3.2.6 User reference group

There was broad support for the concept of convening a ‘user reference’ group for both reserves, to assist in the management of track and other issues. However, many users were not aware that this was a recommendation in the Trevallyn NRA management plan. Stakeholders believed this process would allow PWS to demonstrate its willingness to work with users and also to promote a shared understanding of the similarities and differences between user groups. They also saw the group as a medium to disseminate consistent information which could then be shared and used to educate their own specific groups. Some groups wished to see volunteer opportunities extend beyond track work to general reserve conservation work (ie. rehabilitation, weed identification, weed removal/spraying, fencing and signage). This would allow users to demonstrate their commitment to reserve protection, not just providing more tracks for their chosen activity.

3.2.7 User monitoring and notification of Parks and Wildlife Service staff

Irrespective of formal arrangements such as reference groups discussed above, nearly all individual users indicated that they informally monitor both reserves when they are using the tracks. They believed that they would often be aware of management issues before PWS staff, including maintenance issues (eg. erosion issues, fallen trees and damaged fences) and would be willing to notify the PWS if there was a clear process. Similarly, nearly all users said they would report illegal activity such as 4WDs and trail bikes, unauthorised track construction, undesirable behaviour (drugs and sexual behaviour) if they knew what number to ring or who to approach. Signage was seen as the key method to communicate this message along with ‘codes of conduct’ or use.

3.2.8 Further consultation

Every stakeholder interviewed indicated an interest in future consultation, particularly around final locations and designations of tracks, track reroutes or closures. While everyone was supportive of the track strategy and associated consultation, many believed that ‘Parks’ needed to work hard on a range of fronts, to build stakeholder relationships.

3.2.9 Professional trail builders

Some of the consultation involved talking to individuals with particular expertise and experience in trail building. In recent years some of these trail builders have set up companies specialising in trail design and construction. These individuals expressed an interest in being involved, on a commercial basis, in any track construction, upgrading and rehabilitation including the facilitation of volunteer labour.

3.2.10 Maps and signage

There was a strong interest in the maps used as part of discussions with stakeholders. Any map produced for either reserve will be well received by users. Some of the bike and outdoor stores also indicated an interest in having maps of the tracks in each area, along with maps or directions for visitors unfamiliar with how to get to both reserves.

There is also a recognition that signage is inadequate, particularly for users unfamiliar with the area. Most recognise the need to provide some sort of guide to the standard of the tracks for different skill/experience/fitness for users. Several stakeholders commented on finding lost walkers who have entered Trevallyn NRA through Cataract Gorge, following maps with inadequate details or confusing scale. They typically enter Trevallyn NRA thinking they are still in the Cataract Gorge reserve and that there will be the same level of directional signage and information.
However there are some people concerned that the signage needs to be minimised and sensitive to the natural setting. There is a feeling among some users that the attraction of the area is that it is a large natural bush area that is not overly modified or showing signs of management intervention (both in terms of signs but also things like the track surfaces, and visitor facilities).

3.2.11 Conflict and issues between users

Conflict between users does not appear to be a major issue for stakeholders. The three most common issues were dogs not under control when off lead (more often cited by other dog walkers), mountain bikers startling walkers/dog walkers through a silent/quiet approach, and dog faeces on the tracks.

Although not a direct conflict, several different users (including mountain bike riders) commented on the illegal track construction as an issue (with all recognising that mountain bike riders were responsible). Many believe the recent incident, where wire was strung across tracks, was deliberately targeting mountain bikes and that it indicates some users are strongly opposed to riders, possibly in association with the proliferation of new tracks.

3.2.12 Unauthorised track construction

Most stakeholders are confident that, with a clear plan and a commitment from PW S staff to work in partnership with riders, the enthusiasm of unauthorised track builders can be harnessed in a more positive manner. This will require PW S to work through clubs, with recognised trail builders or well known riders in Launceston, in the design, upgrading, maintenance of existing/new tracks and rehabilitation of closed tracks.

There was no dispute that unauthorised tracks were being constructed by mountain bike riders. However, key stakeholders suggests that there are two distinct groups building tracks; those building downhill style tracks or building technical features into existing tracks, and those building new cross country single tracks.

The first group are believed to be younger riders, largely building technical features and ‘downhill’ style tracks concentrated in the area at the back of Cataract Gorge, on the hill behind New World Avenue. There appears to be only minor sections of track in Kate Reed NRA where this type of building has occurred. There is a sense of ‘ownership’ of some of these tracks, with track builders quick to ‘deal’ with new unplanned building on ‘their’ tracks through internet forums and general ‘word of mouth’. It is possible that some of these riders are naïve and unaware of their impacts on the environment or on the experience of other users. They may simply see track building occurring in the area and try building themselves. Sometimes this results in more difficult or technical aspects of tracks, that more experienced riders have constructed or deliberately left, being modified or made easier.

The alternate argument is that there are some downhill track builders who will continue to build tracks until another suitable alternative is provided. They are aware that they should not be building tracks or technical features but believe that downhill riding is an acceptable form of riding and the Trevallyn/Gorge area provides the only suitable location in Launceston. They perceive they have a low probability of being caught, with some taking an oppositional attitude that ‘you can’t catch me so how can you stop me’.

The second group tend to be older riders who have ‘been around’, with some making submissions to the management plan. Some have been involved with the PW S previously or the Launceston Mountain Bike Club. These riders are well aware of the management issues associated with both Kate Reed and Trevallyn NRAs.
Most experienced riders know who is responsible for different tracks, with some known by the name of the person responsible for their construction (some of who were interviewed as key stakeholders). These riders clearly know they should not be building tracks but have deliberately set out to increase and link up the single track network in both reserves. It is possible that riders have become frustrated with the available track network and built unauthorised tracks in the absence of an agreed PWS strategy.

More concerning is the suggestion that some riders have deliberately put in new tracks to influence any future management actions, including the track strategy. There is still a perception that mountain biking might not be allowed in Trevallyn NRA or on many of the tracks. Riders have therefore deliberately built some tracks away from areas popular with other users or commonly visited by PWS staff. These builders also believe that once a track is on the ground, it is much harder to close or prevent continued use.

Stakeholder issues with new tracks varied from possible impact on wildlife (eg. loss of large intact bush areas without tracks, potential impact on nesting birds), riders seen to be taking over the area and showing a lack of respect, apparent unnecessary tracks and duplication of tracks in close proximity to others, affect on the experience for others (visual impact) and recognising that some sections were poorly built, environmentally unsustainable and offered poor riding experiences.

Other tracks were seen by most riders, and a variety of other users, as good tracks. These ‘good’ new tracks were appreciated by a range of users as single tracks providing ‘nice’ tracks in ‘nice’ settings or better alternatives, links or loops than existed with the current network of walking tracks and fire trails. Despite seeing some value in new tracks, the orienteering club noted it constantly had to update maps to reflect changes on the ground.

3.2.13 Trail bikes, mini bikes and four wheel drives

Trail bikes, four wheel drives and mini bikes appear to be more of an issue at Kate Reed NRA than Trevallyn NRA but they pose a problem for both reserves. The issue is less prominent at Trevallyn NRA because of the greater presence and surveillance provided by other users and PWS field centre staff and the proximity of neighbours. Kate Reed NRA is relatively isolated due to the highway on two borders and is more desirable for these activities (ie. more wet, poorly drained areas).

Nearly all stakeholders acknowledged the problem and the difficulty in dealing with it. However, some believe that increased PWS management activity (eg. repairing damage to fences, signs, gates, rehabilitating damaged areas) will help discourage illegal activity and associated damage. Some stakeholders believed many members of the public would not be aware of the reserve status of Kate Reed NRA, and would see it as just another piece of easily accessible bush for their enjoyment, and act accordingly.

Suggestions to deal with motorised use varied from improved fencing and physical barriers, to the increased presence of other users and PWS staff or signs. Increased policing of activities in adjacent areas (ie. the unallocated Crown land near the highway off ramp at the Silverdome) will also discourage users from entering the reserve.

All users appear willing to report such activity, and many thought signs encouraging legitimate users to notify the PWS might discourage some use. There is no easy solution and it will be a combination of barriers, signs, public education, presence of other users, alternate designated areas and targeted policing that will reduce motorised activity in the two reserves.
3.2.14 Single use or preferred use tracks

Without dealing with specific tracks or sections of tracks, the option of ‘single use’ (e.g. ‘walking only’ tracks) or ‘preferred use’ tracks (e.g. marking priority MTB tracks where other users give way) was discussed. Many doubted whether these options would work, with people questioning how PWS staff would regulate them and whether users would respect the designations. Some suggested that designating ‘walking only’ tracks contributes to riders building unauthorised tracks elsewhere to compensate. Other people suggested it only results in more tracks needing to be provided, to separately cater for each of the different user groups.

On the whole most people believe the areas have been used as a shared track networks and are happy to share tracks with other users. The only possible exception to the rule proposed by several different groups was a dedicated downhill mountain bike track at the back of Cataract Gorge, that would be single use and single direction.

There was no real objection to the ‘walking only’ designation on the Dam to Aquatic Point track (possibly because the difficult section of stairs near the dam) but the exclusion of dogs and bikes on the South Esk Track was not supported by all users. Some dog walkers and mountain bikers didn’t believe it was important, in an ‘urban’ reserve, to provide an opportunity for people to walk (or participate in their activity) in isolation of other users. They also believed there were alternate walking opportunities nearby, where dogs and bikes are not allowed (i.e. Cataract Gorge Reserve).

The concept of ‘preferred use’ (i.e. recommending the type of use and giving people the choice to use it, while aware of who they might encounter) received stronger support, with some stakeholders suggesting this was more positive than a ‘big stick’ approach. Some thought that by default some tracks would end up this way, without any particular management intervention, but that regulation would again be difficult.

3.2.15 Single or preferred direction tracks

As with ‘single use’ tracks, many questioning how ‘directional’ tracks would be regulated. Dog walkers, walkers and orienteers saw some value in knowing which direction mountain bike riders might approach from, but given that some users would still use the tracks in both directions regardless of signage, it might provide a false sense of security and actually increase the risk. Most thought clear ‘give way’ rules should be implemented across the reserves with mountain bike riders giving way to everyone, walkers giving way to horse riders. Mountain bike riders again believe that by design you can encourage riders to go a certain direction, and this happens anyway. They (and other users) were against overly prescribing where and how people should travel through the reserves. However, there are some riders who believe dedicated ‘single use’ and ‘single direction’ tracks, specifically for downhill sections, would be useful.

Single direction tracks would also effectively halve the distance of tracks provided in each reserve (or double the amount of track that needs to be provided). A track that can be used in both directions is the equivalent of two single direction tracks, because a track walked or ridden one way offers a very different experience, views, and potentially difficulty to the same track in the other direction.

3.2.16 Limiting group size

Given group size limits currently placed on commercial groups in reserves, and current practices among riders, a ‘recommended’ maximum group size of 10 is likely to be reasonably received by users.
No users saw current group sizes as any issue and many questioned why limits were being considered. However, if size became a problem in the future, there was broad acceptance of limits as a potential management tool, but again only as a recommendation rather than a strict rule regulated by PWS. Simply having a statement in the codes of conduct like ‘limit your group size’ might be enough, while discussing strategies to limit large group sizes with clubs, schools and others who might use the reserves as a ‘group’. Some feared that such rules, which are virtually impossible to police, would be seen as over-managing the areas and spoiling their experience/attraction.

3.2.17 Temporary and permanent track closures

There was almost consensus that, unless a track was totally destroyed and rehabilitated, or made so unappealing or difficult to use, then users would continue to use ‘permanently closed’ tracks. Other than barriers and physical work on tracks, providing more attractive alternative tracks, was discussed as a more successful way to keep people off permanently closed tracks. For example, several different users indicated that some of the unauthorised tracks were more attractive to use than the old fire trails, which receive much lower use than in the past.

3.2.18 Classification systems

Mt Wellington provides one of the few shared use classification and signage systems available. However, most user groups feel the system used on Mt Wellington has its shortcomings. Other states generally appear to identify the major, or target, users and then classify and sign the track according to the type of use. As such it is likely that any classification system would have to take into account the three basic user types: walkers, mountain bike riders and horse riders.

There is wide acceptance and understanding of the Australian Standards for Walking Tracks, which PWS have modified to suit the Tasmania context. Given the two reserves are managed by the PWS, the classification for walking should be developed using the PWS system. However, given that these tracks strategies (and the findings within) may be used elsewhere in Tasmania, it would be desirable to refer back to the Australian Standards which are more widely understood and recognised (ie. by Local Government).

All the mountain biking clubs in Tasmania are affiliated with Mountain Bike Australia (MTBA), which has a partnership with the International Mountain Bicycling Association (IMBA). Therefore, clubs tend to endorse the IMBA mountain bike standards. MTBA have recently adapted the IMBA classification system to suit the Australian context. As a result of several visits by Joey Klein and other IMBA representatives to various parts of Australia the IMBA classification system has by default become the unofficial national standard and is used by various land managers in other states. There are other systems in use internationally, with the UK model used in Scotland and Wales being similar to the IMBA system. Given wide acceptance by Australian land managers, and also MTB clubs, it is difficult to go past the IMBA system on the basis of consistency and ease of use for visitors.

The only Australian equestrian classification system, uncovered in the background research, was developed by Horse SA. This uses a colour coded system of symbols based on the IMBA system.
4 Field Audit Summary

4.1 Methodology

A field audit of reserves tracks was undertaken to assess the current status or condition of all tracks and to identify potential track management issues. This information will provide an important basis for generating a final track network for each reserve.

All the known tracks in both reserves were identified and their location confirmed with a hand held GPS during July 2008. The field identification of tracks was undertaken by Keith Ryan and Richard Peck (GJ Walkem & Co). This data was then entered into a GIS system to allow the tracks to be mapped and each discrete section to be identified. This work was undertaken by GJ Walkem & Co.

Over a two week period (17 September to 2 October 2008) all known tracks (authorised and unauthorised) within Trevallyn and Kate Reed Nature Recreation Areas were walked to assess their condition, environmental sustainability, identify hazards and enable their classification for different user groups. A variety of measures and assessments, both objective and subjective, were made during the inspections including the following:

- Average width.
- Average grade.
- Maximum grade.
- Track surface.
- Maximum height of obstacles (avoidable and unavoidable).
- Existing degradation erosion, mud, widening, braiding, trampling vegetation, removal of vegetation (with measures of the depth of erosion and mud).
- Potential for future degradation.
- Exposure (side slope).
- Sight lines.
- Improvements (imported material, drainage, rock work, steps, bridges, boardwalks, hand rails etc).
- Significant Hazards and risk to users.

Photographs of most tracks were taken to identify obvious hazards and risks, to document existing locations of significant degradation, and to provide a baseline record that could be used for future monitoring and assessment of track condition.

During the field work various ‘new’ tracks were identified that were not evident during the initial field work undertaken to GPS the tracks for mapping purposes. These tracks were assessed and also tracked with a hand held GPS. Some of these tracks have not been mapped in this document, or included in proposed track network tracks, to avoid publicising their location. They are either not well formed or not well known among users.

Field work was undertaken by Keith Ryan, Track Strategy Consultant, with assistance from Parks and Wildlife Service staff, Jedtagar! Wheatley and David Van Brecht.
4.2 Summary / General Observations

4.2.1 Type of tracks

In both reserves there are diverse ‘types’ of tracks available. In many ways the diversity of tracks present illustrates the different levels of ‘development’ or ‘construction’ that has occurred over time. The types of tracks include:

**Sealed tracks** – These types of tracks are limited to two specific locations within the Trevallyn NRA; the wheelchair accessible track to the lookout at the Hoo Hoo Hut (see figure 1) and the old motor cycle training circuit. There are no sealed tracks in Kate Reed NRA.

![Figure 1: Sealed Track (Trevallyn NRA)](image)

**Boardwalks** – There are boardwalks in both Trevallyn and Kate Reed NRAs. The largest sections of boardwalk are around the low lying wet areas of Kate Reed NRA (see figure 2), with only small sections of boardwalk leading to lookouts at Trevallyn NRA.
Unsealed vehicle access tracks and fire trails - There are a range of vehicle access tracks in both Trevallyn and Kate Reed NRAs (see figure 3). Some of these have developed for a very specific purpose such as fire management or access to powerline infrastructure, however there are also a number that were developed as general access tracks to allow movement of vehicles and animals across areas that were previously farmland.

Developed walking tracks - Within both Trevallyn and Kate Reed NRAs there are a number of walking tracks that have a surface comprised of imported gravel (see figure 4) or show other obvious signs of construction (e.g. steps, edging, drainage, rockwork and signage - see figure 5). These tracks show a degree of planning and clear construction effort.
Some of these have been constructed over 20 years ago while others have been either built or upgraded in recent years.

Figure 4: Track with imported gravel surface (Trevallyn NRA)

Informal ‘single tracks’ - Historically these tracks have developed through people walking over untracked areas by following the easiest path (typically along animal pads). This causes trampling of vegetation and eventually removal of the ground cover until a track is formed. A lot of the early mountain biking, in Trevallyn NRA particularly, occurred on these types...
of tracks either formed by walkers or formed by following a faint route through the bush until a track is established. Traditionally these routes have been marked using rock cairns to allow navigation and enable easy identification of intersections of well established tracks.

More recently mountain bikers have deliberately removed or ‘raked’ leaf litter, ground cover and rocks off the ‘track’ and lined this material up along track edge. This forms a clear ‘edge’ or corridor, and enable tracks to be ‘ridden in’ (see figure 6). More disturbingly there is evidence that mountain bike riders have deliberately marked out routes using flagging tape and spray paint on rocks and trees and have cut down or removed vegetation in the track corridor (see figure 7).

![Figure 6: Logs marking track Route (Trevallyn)](image1)

![Figure 7: Paint marking of route (Trevallyn)](image2)

On other tracks there is evidence of construction of technical features such as berms (banked corners – see figure 8), jumps (see figure 9) and bridges by moving various combinations of rocks dirt, sticks and logs. This activity has accelerated over the last four to five years.
4.2.2 Length of tracks

Both NRAs have a significant network of tracks that have developed over a long period of time. The Trevallyn Nature Recreation Area has over 36 km of tracks and over 6 km of roads within an area of 440 hectares. Kate Reed Nature Recreation Area has over 16 km of tracks within an area of approximately 123 hectares. Table 1 below highlights the range of different types of track that exist in both reserves. There is also a comparison with the length of tracks in each category from January 2004. This data, along with Maps 1 and 2 clearly highlights the proliferation of unauthorised informal single tracks in recent years in both reserves. Since January 2004 there has been 10km of new unauthorised single tracks formed at Trevallyn NRA and over 8km of new tracks formed at Kate Reed NRA.

Table 2: Current (September 2008) and former (January 2004) track networks

<table>
<thead>
<tr>
<th></th>
<th>Trevallyn Sep 2008</th>
<th>Trevallyn Jan 2004</th>
<th>Kate Reed Sep 2008</th>
<th>Kate Reed Jan 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sealed roads (km)</td>
<td>6.35</td>
<td>6.35</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sealed tracks (km)</td>
<td>0.53</td>
<td>0.53</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Boardwalks (km)</td>
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<td>-</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Unsealed vehicle tracks / fire trails (km)</td>
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<td>13.97</td>
<td>4.35</td>
<td>4.35</td>
</tr>
<tr>
<td>Constructed* walking tracks (km)</td>
<td>5.56</td>
<td>5.00</td>
<td>2.02</td>
<td>2.02</td>
</tr>
<tr>
<td>Informal single tracks* (km)</td>
<td>16.17</td>
<td>6.18</td>
<td>10.09</td>
<td>1.69</td>
</tr>
</tbody>
</table>

* includes tracks with imported gravel, steps, edging, drainage, bridges and other obvious authorised construction work by PW S (or endorsed by PW S).

^many at different stages of formation from pads to well established tracks. It is possible that other tracks exist that were not identified or mapped during the field work.
Map 1: Unauthorised tracks developed since January 2004 (Trevallyn NRA)
Map 2: Unauthorised tracks developed since January 2004 (Kate Reed NRA)
4.2.3 Environmental Sustainability

Despite the large number and diversity of tracks in both reserves, most tracks have developed without any serious consideration of the best location from an environmental point of view. There are very few tracks within either reserve that could be considered environmentally sustainable in their current state. Many tracks, including constructed vehicle tracks, are poorly located and follow fall lines or steep gradients that encourage water to flow down the tracks and subsequently accelerate erosion (see figure 10). When combined with soil disturbance through track use (vehicles, bikes, horses or foot traffic) the level of erosion accelerates (see figure 11). Once this cycle of use and erosion starts without intervention, the track becomes a drainage line and encourages water to flow along the line of least resistance. Often water collects at a low point where drainage is poor. As a result, at the bottom of highly eroded tracks there are often large wet areas where eroded material and mud collect. This introduces additional degradation in the form of widening and braiding to avoid wet and muddy sections (see figure 12).

Figure 10: Erosion channel on vehicle track (Kate Reed NRA)

Figure 11: Erosion accelerated with braking (Kate Reed NRA)
Another situation where track widening and braiding occurs is on tracks popular with mountain bike riders where rocks or other hazards are present on the track. Regardless of the gradient of the track, once a rock or other obstacle exceeds 10-15cm in height it is inevitable that bike riders will ride around this obstacle either forming a new braid or widening the existing track (see figure 13). Obviously the greater number and height of the obstacles the more this occurs. This is evident on both ‘easy’ tracks and more ‘technical’ rocky tracks. It appears to be a combination of both human nature (picking the path of least resistance and increased comfort), and desire for speed (avoiding obstacles enables riders, and walkers, to move faster).

On the more technical steep rocky single tracks that more advance riders might be attracted to, and where you might expect the tracks to remain narrow as riders seek technical challenge, there is clear evidence of braiding and widening illustrating avoidance of these technical features. This may be in part due to the lack of signage and classification of track across the reserves and the diversity of users (and skill levels) of both reserves. There are some tracks which for the most part are relatively easy and can be ridden by most riders with a basic skill level, but often given their poor construction or formation, there will be short technical sections that may be too technical for the skill level of some riders.
So rather than avoiding these tracks completely they simply avoid these technical challenges and subsequently widen the track or form a new line completely. This can then change the nature of the track and riding experience and may have contributed to the formation of new tracks.

For the tracks that are poorly located and constructed, the level of degradation in many respects is simply a factor of time and the level of use. It became apparent during the field work that the tracks present in both reserves virtually illustrate the different stages of degradation and highlight the spectrum of tracks from newly forming routes that still have vegetation cover through to highly degraded and unsustainable tracks showing signs of severe erosion, widening, braiding and mud (see figures 14 - 17 Photos taken on different parts of the Deadmans Knob Track Trevallyn NRA).

Figure 14: Narrow single track     Figure 15: Braiding (two tracks forming)
4.2.4 Risks and Hazards

Risk management is largely about identifying the risks, their probability and likely consequences and then determining the appropriate course of action. In most cases the risks faced by track users at Trevallyn and Kate Reed NRAs are predictable both for users and PWS staff. It must be remembered that on primarily rough bush tracks in a natural environment there will always be risks that should be anticipated by users (ie. rocks, uneven surfaces, steps, fallen trees, wildlife, steep terrain, difficult access for emergency vehicles). Therefore, users who chose to use these tracks accept some of the responsibility for these risks. The major predictable risks to users include:

Risks primarily related to track use

- Users falling
- Users colliding with an obstacle (natural or built infrastructure)
- Users colliding with other users
- Users colliding with a motor vehicle
- Medical incidents (pre-existing or due to exertion)
- Users getting lost or disorientated
- Inappropriate track use

Risks primarily related to natural occurrences

- Falling objects
- Adverse weather
- Fauna (bites/stings)
- Waterways (drowning)
- Soil/Water borne disease
- Fire
For the vast majority of tracks in both Trevallyn and Kate Reed NRAs the likelihood and consequences of each of these risks are reasonably consistent and predictable. Therefore a generic risk assessment was undertaken for each reserve that assessed the likelihood, consequences and management strategy for each type of risk. Many track related risks can be minimised through appropriate signage and improved construction techniques (particularly around track heads and intersections where users make choices about which tracks to use).

Consequently, the field work focused on identifying unusual or unpredictable risks or those likely to lead to major or catastrophic consequences, rather than assessing every individual risk (e.g. every rock and log on every metre of track). The only regular assessment related to risk was the maximum height of obstacles (both unavoidable and avoidable). This was made to assist both the risk assessment but also to aid in classification and signage systems.

As indicated most hazards were predictable given the setting and type of experience sought by track users in both reserves (e.g. rocks, logs, tree roots, fallen trees, steps, drains, water bars, blind corners and steep side slope/exposure). Some of the unusual or unpredictable risks identified included fencing (including barb wire fences), a drain pipe (60cm in diameter) buried vertically in a track (see figure 18), unauthorised and poorly constructed ‘bridges’ over water courses (see figure 19) and other technical features that have been constructed and are unavoidable (e.g. rock and wooden jumps, drops and berms).

Figure 18: Buried drain pipe (Kate Reed NRA)

Figure 19: Bridge over creek (note: on private land just outside Kate Reed NRA boundary)
4.2.5 Unauthorised activity

During the field audit of tracks, there was evidence of a wide a variety of unauthorised activity, impacting on the natural and cultural values of the two areas (see Figures 20 – 24). Some of these were directly related to track based activity (as indicated previously) and others simply impact on the experiences of track users and the natural and cultural values of the two reserves.

Figure 20: 4WD and Trail Bike Activity
Figure 21: Vandalism and damage to property

Figure 22: Removal and Damage to Vegetation
Figure 23: 'Construction’

Figure 24: Fire