Office of Environment & Heritage
NSW National Parks & Wildlife Service

Kosciuszko Thredbo Pty Ltd

Po Box 92

Thredbo NSW 2625

Notice Number	DOC12/47686
File number	FIL 09/15781
Date	26 November 2012

BY EMAIL

DIRECTION TO CARRY OUT REMEDIAL WORK

BACKGROUND

A. The Office and Environment and Heritage ("OEH") within in the Department of Premier and Cabinet ("DPC") has responsibility for the administration and enforcement of the *National Parks and Wildlife Act 1974* ("the Act") and associated Regulations.

B. Downhill Mountain Biking is permitted on approved existing management trails only within the alpine resort areas under the Kosciusko National Park Plan of Management 2006 (POM) Action 8.11.1.11

C. Andrew Harrigan, holds the position of Manager, Visitor and Business Services, National Parks and Wildlife Service within OEH.

D. The Manager, Visitor and Business Services holds delegated authority on behalf of the Director-General of DPC for the purposes of section 91K of the Act.

E. Kosciuszko Thredbo Pty Ltd is the leaseholder of the land (Lessee) identified as Lot 29 in Deposited Plan number 727592 and known as Thredbo/Thredbo Village/Thredbo Resort ("the land"). The lease known as the 'Head Lease') was signed 13 March 2007 by the Minister for the Environment of the State of New South Wales ("the Lessor"). The land is land reserved or acquired under Part 11 of the Act and is identified in Attachment 1 of this Direction.

F. The Head Lease defines Riding as riding of bicycles on existing formed roads or tracks, or otherwise with the written consent (subject to conditions) of the Lessor.

G. *Mastacomys fuscus* (Broad-toothed rat) is an animal listed as a vulnerable species in Part 1 of Schedule 2 of the *Threatened Species Conservation Act 1995* (TSC Act). The vegetation in the land is consistent with *Mastacomys fuscus* habitat for upper alpine areas.

H. Since 2009, OEH and the Lessee have jointly inspected the environmental condition of the 3.5 kilometre Thredbo downhill mountain bike track ("Thredbo Downhill") on the land on an average of two times per year, in accordance with POM Action 8.11.1.11 . Thredbo Downhill is marked in blue in Attachments 1 and 2 of this Direction. Attachment 3 documents the first inspection report held by OEH in 2009.

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I. On 6 February 2012 OEH and the Lessee inspected the Thredbo Downhill.

J. On 14 May 2012 OEH and the Lessee inspected the Thredbo Downhill.

K. The 6 February and 14 May 2012 inspections found that the Lessee had cleared three separate areas adjacent to the Thredbo Downhill ("the activity") being an area of land approximately 363m^2 ("the Cleared Area") for new mountain bike tracks. The cleared area is marked red and labelled as upper section, middle section and lower section in Attachment 4 of this Direction. The cleared area was cleared back to exposed soil. The cleared area in the middle and lower sections is shown in photographs, two for each section in Attachment 5 of this Direction.

L. On 25 May 2012 OEH wrote to the Lessee requesting information regarding the planning, environmental assessment, environmental management and lease approval processes undertaken by the Lessee in the carrying out of the activity.

M. On 18 June 2012 OEH received a letter from the Lessee which enclosed a map prepared by the Lessee and dated February 2012 of all existing mountain bike tracks on the land that is Attachment 6 of this Direction. Attachment 6 shows the Thredbo Downhill in thick red and other tracks in black, light blue and thin red lines ("other tracks"). The letter from the Lessee is Attachment 7 of this Direction.

N. The activity was not carried out with consultation or consent of the Lessor or OEH or the Director General of DPC.

O. OEH has estimated from Attachment 6 that these other tracks show a larger area cleared by the Lessee of approximately 2000m^2. Subject to considerations of existing use rights and whether the activity was exempt development under the *State Environment Planning Policy (Kosciusko National Park-Alpine Resorts) 2007,* the other tracks may have been cleared without the approval of the Department of Planning and Infrastructure and/or Lessor approval.

P. The Lessee has engaged World Trail Pty Ltd ("the Consultant"), acceptable to OEH, to prepare the Remedial Action Plan in accordance with this Direction.

Q. The Lessee has also instructed the Consultant to prepare a master plan for mountain bike trails in Thredbo.

SITE ASSESSMENT

R. From direct observation the cleared area has exposed soil and made it vulnerable to erosion.

S. The clearing of the cleared area to bare dirt resulted in damage to the habitat of native animals by removing vegetation, causing fragmentation of habitat and increasing the chances of soil erosion and exotic weed species invasion contrary to Section 156A of the Act.

T. The affected habitat may include the habitat of *Mastacomys fuscus.*

U. From consideration of Attachment 6 and knowledge of the alpine area, clearing for the other tracks would have exposed soil and made it vulnerable to erosion. The clearing for the other tracks may have removed and damaged vegetation.

V. There are statements from the Department of Planning and Infrastructure that the activity would probably have required development approval and that it was not carried out as part of any development authorised under the *Environmental Planning and Assessment Act 1979.* None of the other defences, exclusions or exceptions under s.156A of the Act apply.

W. The three areas marked red in Attachment 4 form the **"Remediation Area".**

OPINION

X. I, Andrew Harrigan, Manager, Visitor and Business Services, OEH am of the opinion that:

a) Damage has been caused to the land being damage to native vegetation.

DIRECTION TO CARRY OUT REMEDIAL WORKS

Y. I, Andrew Harrigan, Manager, Visitor and Business Services, OEH in order to:

a) Control, abate or mitigate the damage to the land.
b) Maintain, remediate or restore the damaged land.

require the Lessee perform the following works to mitigate the damage and to restore the damaged habitat and native vegetation in the Remediation Area on the land within the time specified, if any, for each work, or where no time is specified, **for a period up to 5 years**.

REMEDIAL WORKS

1. Prohibition on removal or damage of native vegetation

To meet remediation objectives of control of erosion, mitigation of any further damage to native vegetation and to facilitate sustainable mountain biking the Lessee must not remove or damage undisturbed or regenerated areas of native vegetation for mountain bike tracks within 25 metres of the Remediation Area, before:

a) notifying the Lessor in writing; and
b) complying with any reasonable directions of the Lessor; and
c) receiving written approval from OEH or approval from OEH for a Thredbo mountain bike strategic plan (the Bike Plan) whichever occurs first.

2. Remedial Action Plan

a. The Lessee must retain the consultant to prepare a Remedial Action Plan (RAP) in respect of the unauthorised clearing in the cleared area and in accordance with Direction 3.
b. The RAP must contain the headings set out in Direction 3 and contain recommendations in respect of actions to restore the cleared area to an appropriate level. The recommendations should include the time period for which the RAP should operate.
c. The RAP must be in writing and must be submitted to Andrew Harrigan Manager, Visitor and Business Services by 15 January 2013.

3. Content of Remedial Action Plan

a. Soil stabilisation to avoid or control erosion.
b. Weed control.
c. Replanting of native vegetation.
d. Fencing or otherwise closure of a mountain bike track to protect vegetation.
e. Detailed Rehabilitation Plans for tracks or sections of track to be closed and a schedule for implementing their closure and rehabilitation works in the Remediation Area.
f. Restoration of any known habitat of *Mastacomys fuscus*
g. Reference to joint inspection with OEH and the consultant, of the Cleared Area following snow melt.
h. Compliance with any reasonable Direction made in writing by OEH with respect to Directions 3 a – f. during or following an inspection of the Cleared Area.
i. Timeframes and costing.
j. Such other matters as the appropriately qualified person thinks suitable to include in the RAP.

(**Note** once the RAP is received it will be reviewed and the recommendations will be given effect to by a variation to the Remedial Direction. The variation will include the time by which the works in the RAP must be completed and for reporting of that work over the period of the life of the RAP.)

4. Closure and rehabilitation of tracks

a. The Detailed Rehabilitation Plan(s) for the Remediation Area shall be prepared in accordance with *the OEH Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park*.

b. The Lessee must comply with the approved schedule for implementing the Detailed Rehabilitation Plans in the RAP.

5. Reporting

a. The Lessee must prepare an Implementation Report documenting the implementation of the RAP and submit this report to the Manager, Visitor & Business Services OEH every six months in the first year following receipt of approval of the RAP. The first Implementation Report must be submitted by 31 May 2013. The second Implementation report must be submitted by 30 November 2013. Each report thereafter must be submitted by 30 November each year.

b. The Implementation Report shall:

i. Make reference to the recommendations of the most recent report following the joint (OEH and Lessee) biannual monitoring of Thredbo Downhill.
ii. Include photographs from permanently established photo points of each section of existing track identified for closure and rehabilitation in the RAP.

6. Records

a. The Lessee must keep a copy of all the records that are required to be made under Direction Number 2, 3, 4 and 5:

i. In a legible form, or in a form that can readily be reduced to a legible form; and
ii. For at least 5 years from the date of this Direction.

DEFINITIONS

In this Direction the following definitions apply

"Exotic species"	means species introduced from outside of the area concerned; in the case of New South Wales, from overseas and/or interstate. **Note:** The source of this definition is Harden, G.W. ed. 1990-2002. *Flora of New South Wales: Volumes 1 – 4*, University of NSW Press.
"Lessee"	means Kosciuszko Thredbo Pty Ltd
"Remediation Area"	means the three areas located on the land shown schematically on the map in Attachment 4 outlined in red and marked "Cleared Area".
"Implementation Report "	means each calendar year commencing from 31 May 2013 then 30 November each year for the duration of this Direction.
"Weed"	means a plant growing in an area where it is not wanted.

WARNING AND INFORMATION ABOUT THIS DIRECTION

- It is an offence against section 91Q of the Act to fail to comply with this Direction. The maximum penalty that a court may impose for this offence is:
    - for a corporation, $220,000 plus $22,000 for each day the offence continues and
    - for an individual, $110,000 plus $11,000 for each day the offence continues.
- If you fail to comply with this Direction DPC may authorise any other person to carry out the works and may then recover the cost from you (section 91O of the Act).
- This Direction is issued under section 91K of the Act.
- Under section 91K(3) of the Act this Direction may be varied or revoked by a further notice.
- Under section 91T(1) of the Act, if you are aggrieved by the decision to make this Direction you may appeal to the Land and Environment Court within 30 days of this Direction being served on you. However, even if an appeal is lodged, you must comply with this Direction, unless the Court orders otherwise.
- Under section 188E of the Act, your obligation to comply with the requirements of this direction continues until the Direction is complied with, even if the due date for compliance is passed.
- DPC may conduct inspections to determine whether this Direction is being complied with.
- Words and expressions have the same meaning as words and expressions used in the Act, except where a word is specifically defined in this Direction.
- For the purposes of this Direction, "national parks legislation" means the Act and the regulations under the Act.
- A Remediation Direction will not negate the potential for prosecution. A Remediation Direction is separate to any potential prosecution.

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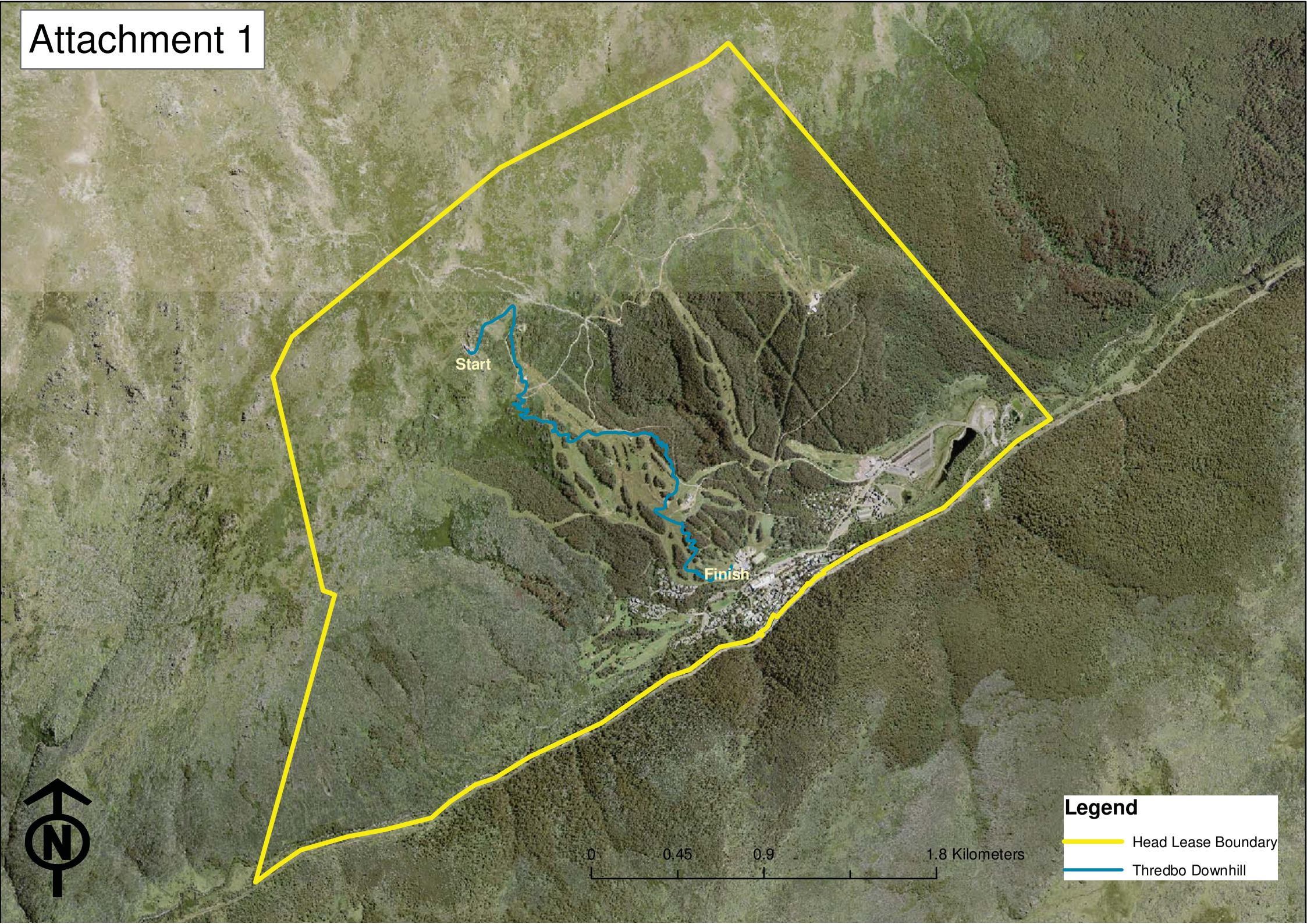
Andrew Harrigan, 26.11.2012
Manager,
Visitor and Business Services,
National Parks and Wildlife Service, OEH
Department of Premier and Cabinet
(by Delegation)

Attachments:

1. OEH map of the land (Head Lease Boundary area) and Thredbo Downhill.
2. OEH map of Thredbo Downhill.
3. OEH 2009 Thredbo Downhill Environmental Monitoring Report.
4. OEH Map of the three cleared areas.
5. OEH four photographs of the middle and lower cleared areas.
6. Lessee map of Thredbo downhill mountain bike trails – February 2012.
7. Lessee letter enclosing attachment 6.


Attachment 1
Start
Finish
N
0
0.45
0.9
1.8 Kilometers
Legend
Head Lease Boundary
Thredbo Downhill


Attachment 2
Start
Finish
N
0
0.125
0.25
0.5 Kilometers
Legend
Thredbo Downhill

Thredbo Downhill Mountain Bike Trail Environment Condition Assessment May 2009

Department of Environment, Climate Change and Water NSW

NSW National Parks and Wildlife Service

Contents

Acknowledgements
This report was prepared from information collected from a field assessment undertaken by Mel Schroder, Environmental Management Officer (Monitoring) Environmental Services Unit, Resorts and Paul Cochran, Environment Officer, Kosciuszko Thredbo Pty Ltd, May 28 2009.

Thredbo Downhill Mountain Bike Trail –

Environment Condition Assessment, May 2009

1.1 Introduction

The sport of mountain biking has undergone a rapid increase in popularity within Kosciuszko National Park over the past decade. The increase in the use of natural areas for recreation, including mountain bike riding can lead to change in environmental conditions. The risk of environmental impacts from downhill mountain biking is increased due to the preference for steep slopes. The environmental impacts associated with mountain bike riding on natural systems have been highlighted in a number of studies (Marion & Wimpey 2007, White et al 2006). The initial building of a track has the greatest ecological impact however if a trail is established in a suitable location, designed and managed appropriately then it has been demonstrated that it can become a sustainable recreational pursuit within a natural area (Marion & Wimpey 2007).

Downhill mountain biking, where cyclists descend steep terrain is permitted only in resort lease areas under the Kosciuszko National Park Plan of Management (DEC 2006). Thredbo provides the only downhill mountain bike trail identified within the POM. Action 8.11.1.11 identifies that a program be developed to monitor the environmental impact of this activity and develop adaptive management actions to reduce ongoing impacts. A biannual monitoring program will be developed in coordination with Kosciusko Thredbo Proprietary Limited (KT).

The downhill mountain bike trail at Thredbo traverses 3.5 kilometres, from the top of the Kosciuszko Express quad chair to the valley terminal (Refer to Map 1). The gradient of the trail varies with some short steep sections with a slope of 45º. The trail travels through a range of vegetation communities on its descent including alpine heath, open forest with a heath understorey and the ski slopes where introduced grasses dominate. The downhill mountain bike trail was first established in 1994. The initial track followed the summer maintenance trail, although this has been altered over time with most of the upgrades and changes occurring over the last five years to meet the needs of the growing sport. KT describes the track as currently at a mature age of development and it is unlikely that significant additions or additions would be undertaken for the next few years (E. Diver personal communication).

The trail is inspected daily by the KT sub-lessee. All maintenance work is undertaken by KT. The trail is open from November until the last weekend in April or closed earlier if conditions are unsuitable. The trail is also closed during periods of wet weather this is determined by the sub-lessee. When the trail is open it is delineated with flagging tape which is erected either side. Whilst the trail exhibits soil erosion primarily through the development of ruts in a number of locations and damage to tree roots considerable resources have been allocated by KT to remediate erosion. The emphasis of this remediation has been on the steeper higher elevation parts of the track.

A coordinated biannual monitoring program by DECCW and KT has commenced with the first investigation in May 2009. Monitoring will include identifying areas of erosion or

vegetation damage and developing strategies and recommendations in consultation with KT to improve ongoing management of the trail.

2.1 Methodology

Monitoring will be undertaken biannually in November, prior to the commencement of the trail opening and in May, following the closure. Monitoring will include walking the trail and collecting information regarding soil erosion points and vegetation damage. Information will be collected using field capable geographic information software (Arc PAD). This hand held device allows information to be collected in the field capturing geo-locality data. This will also be used to capture data on the location of remediation works to identify maintenance requirements. A series of photo points will also be maintained.

Arc PAD software will continue to be used as part of the biannual monitoring. Previously collected data will be recalled on the device in the field to assess the current state of past erosion points and vegetation damage.

A map will be prepared twice yearly using the geographic information software (ArcGISversion9.2) to display information. The data collected will be provided to KT for use in their geographic information system.

3.0 Results

An initial assessment was undertaken in May 2009. The track had been closed in mid- April due to early snow falls and post-season maintenance commenced from early May. This included the removal of flagging from either side of the trail and the placement of hay bails or loose hay spread in areas where erosion was occurring.

Data collected in the survey included identifying:

1. The location of current soil **erosion** where no remediation has been implemented.
2. The location of **temporary remediation works** following recent soil erosion.
3. The location of **built structures** such as, board and chain, packing crates, rock boulders, soil mounds, imported soil and timber pole stabilisation.
4. Other management issues

3.1 Erosion

The main issue on the trail is scouring from water movement and rut formation along steep sections of the trail (Refer to Photo1 and 2). This has lead to tree roots being exposed and the edge of the trail increasing in depth thus increasing water movement. Rutting has also occurred on the trail where it traverses the ski slopes. Erosion in these areas is likely to be increased due to the type of vegetation present (shallow fibrous rooted grasses) and rock removal to allow for slashing and grooming of the ski slopes.

Higher elevation areas of the track where soils are exposed exhibited signs of frost heave (freezing). Exposed soils experiencing frost heave can lead to vegetation damage (on roots) and erosion of soil down slope through the freezing and unfreezing process (Good 2006).

Refer to Map 1, which identifies the location of erosion points and tree roots exposed or damaged.

photo1: Erosion from water channelling along the edge of the trail

photo 2: Track rutting

3.2 Temporary remediation works

Temporary remediation works were implemented following the closure of the 2009 season. This included the use of hay spread across the trail in areas where soil erosion had occurred.

Monitoring in December will determine the effectiveness of placing hay on the trail between seasons and whether this technique assists in protecting the exposed soil from low winter temperatures and ongoing erosion.

photo 3 and 4 : Hay spread across trail to prevent soil erosion

3.3 Built Structures

The steep sections in the upper part of the trail have undergone track formalisation through the building of permanent structures to remediate soil erosion and vegetation damage.
The use of rocks placed on concrete (photo 5) in the steeper section of the track has worked effectively in reducing erosion and provides a more aesthetic outcome.
The use of board and chain has also been effective in protecting the soil and allowing native vegetation to re-establish either side of the area. Photo 6 shows a section of board and chain.

photo 5: Use of rock laid on concrete

photo 6 – Board & Chain

3.4 Other Management Issues

At the start of the track a number of weeds are prevalent including Yarrow (*Achillea millefolium*)photo 7, which is an environmental weed and identified as a high priority for treatment in the KNP Pest Management Strategy (DECC 2008). This weed is currently treated in the Thredbo village and other areas of KNP. The location of the weed close to track edges could lead to the transport of seed (through soil movement in tyres) downhill to other non-infested areas.

The location of some trees along the trail that traverses the sub-alpine open forest need to be annually assessed for their risk to riders and treated as per their risk level. KT should be responsible for completing the risk assessment. Photo 8 identifies a tree in a dangerous position (refer to map1 for location). KT requires approval from DECC for tree removal.

The sub-lessee of KT which organises use of the trail investigates the trail daily for risks prior to its use. If there are any issues these are directed to KT for remediation. All riders that use the trail go through an orientation program regarding risks prior to using the trail.

photo 7:Yarrow

photo 8: Problem tree

4.0 Conclusion

The current environmental impacts of the bike trail are associated with parts of the trail where there is poor design and/or placement. These impacts could be reduced with the development of a formalised Mountain Bike Management plan for the trail which identifies where critical management actions should be implemented and provides engineering solutions to erosion problems. In the absence of a formalised plan biannual monitoring will continue to identify where there are impacts and provide information on their location allowing for temporary remediation works to be undertaken.

The major environmental issue with the trail is from a combination of tread ware and water movement. Tread ware compacts the soil and causes erosion below the surrounding soil level. This hinders the effort to divert water leading to an acceleration of erosion and a tunnelling effect. This has been rectified on the higher slopes by the use of built structures such as rock boulder placement and board and chain in vegetated areas which has helped maintain a narrow track to reduce tread disturbance. The use of these techniques on the lower slopes within the open forest vegetation community would reduce current erosion issues. The use of packing crates at a number of locations has been useful in protecting soil however the width of the crates is much larger than the desired track width therefore these would be more effective in areas where native vegetation does not occur. The timber used in packing crates often breaks down rapidly therefore providing only a temporary solution.

Temporary remediation works have been implemented following the closure of the trail in April, using hay bails and hay spread across the track. These techniques should help to protect the soil over the winter months. Monitoring in November will determine whether these techniques provided a restorative process over the eight months the trail is closed.

Priority for track remediation should be given to areas of native vegetation particularly where tree roots are exposed (Refer to Map 1). In open grassed areas (ski slopes) the use of a hardened slightly raised surface with an out slope gradient design could be used to prevent water tunnelling which would reduce erosion. This type of track would also have limited impact on ski slope maintenance or grooming.

Defining the trail with flagging tape during the season is a positive outcome in reducing other trails from being formed and preventing riders to enter sensitive areas.

5.0 Recommendations

The following recommendations are made to assist KT in managing the trails to minimise environmental impacts.

- Weed control at the head of the trail should be undertaken to prevent seed dispersal at the commencement of flowering of weed species (January – February).
- Construct permanent built structures using natural materials where possible in vegetated areas, particularly where tree roots are exposed.
- Consideration should be given to closing the trail during periods of wet weather (during the season) for a period of time until the surface has sufficiently drained. Riding on the wet surface may lead to increased compaction and soil movement.

- Priority for future works should concentrate on native vegetation communities which currently demonstrate impacts from erosion.
- Ongoing community education of bike riders is a significant part of ensuring the trail is used appropriately. Due to the nature of the trails location (a central point of entry to the site) informative material could be displayed at the bottom or top of the Kosciuszko Express quad chair during the mountain biking season.
- Cooperative biannual monitoring by DECCS and KT in May and November of track conditions to produce a report including map and photos which compare with the previous inspections.
- KT to conduct an annual tree risk assessment along the track and undertake controls as necessary to reduce risk.
- Develop a Mountain Bike Management plan which incorporates these recommendations

References

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Personal Communication, Mr Euan Diver, Kosciusko Thredbo Proprietary Limited, 25th June 2009

Appendix 1: Data collected on Arc Pad 28/5/2009

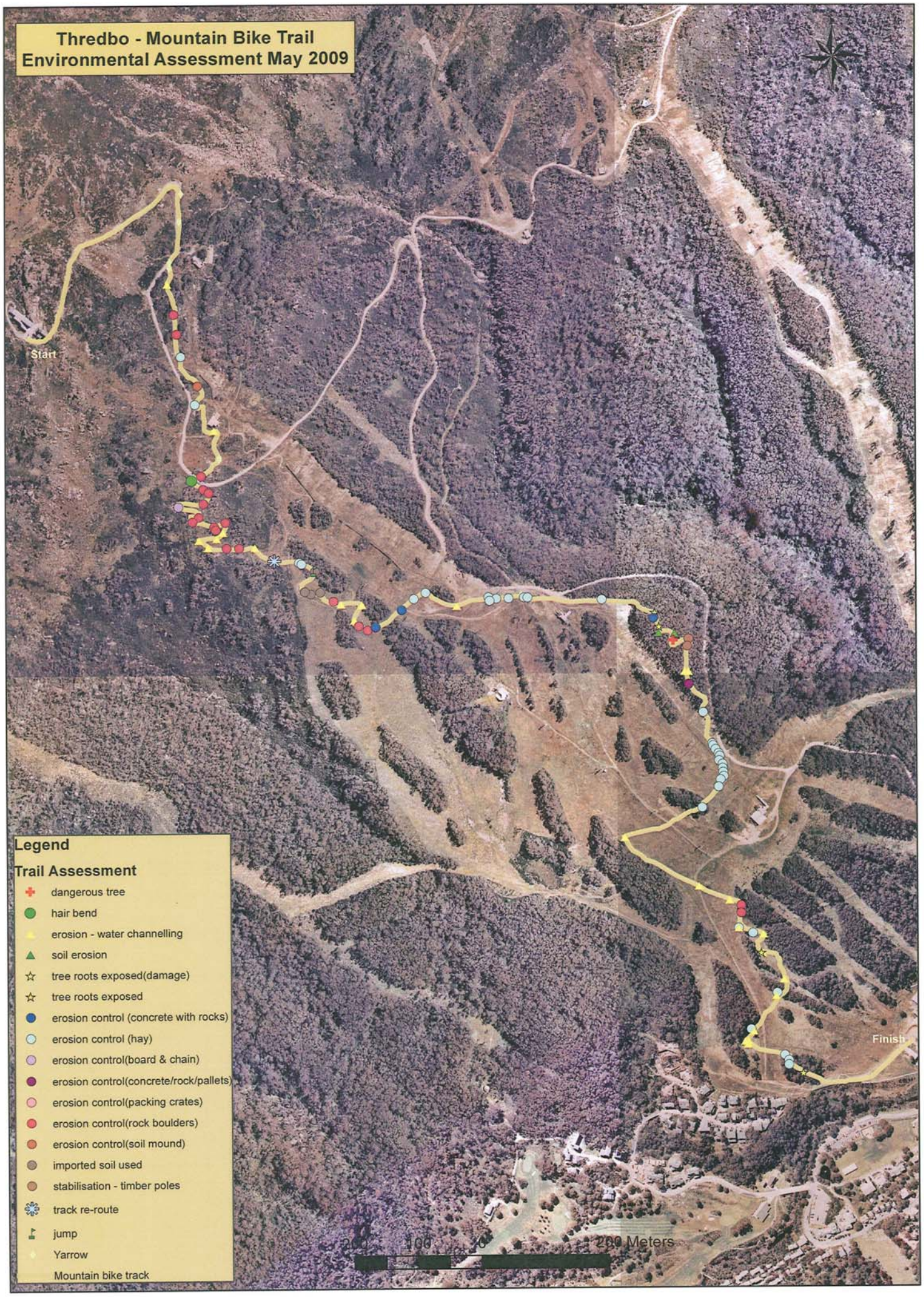
Each site is numbered on Map 1.

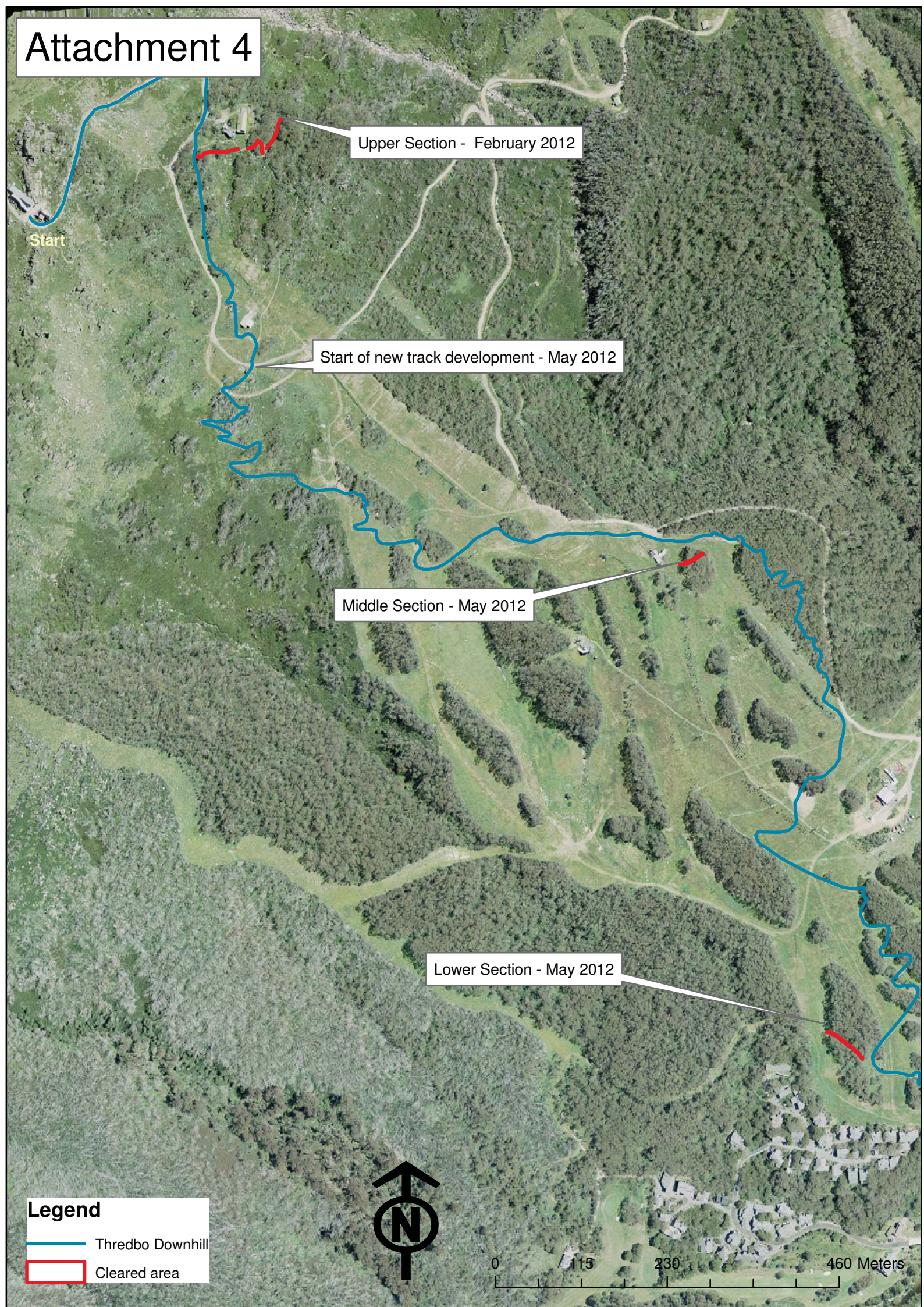
	VEGETATION DESCRIPTION	EROSION / EROSION CONTROL	TREATMENT	COMMENTS
0	open forest /heath understorey	water pooling	erosion - water channelling	minor soil erosion
1	shrubs/rock	rock improvements	erosion control(rock boulders)	Improvements rock boulders
2	open forest	rock fixed up	erosion control(rock boulders)	erosion has been fixed
3	ski run/ introduced vegetation	hay used to fix erosion	erosion control (hay)	erosion fixed
4	ski slope	mound built to stop water channel	erosion control(soil mound)	erosion fixed
5	ski slope	corner erosion	erosion control (hay)	hay bail
6	ski slope	water channelling	erosion - water channelling	scattered rocks used to try break up water movement
7	open forest/ heath understorey	rock placement	erosion control(rock boulders)	minimal erosion
8	open forest/ heath understorey	sharp corner	hair bend	
9	open forest/ heath understorey	rock	erosion control(rock boulders)	rock improvement
10	open forest/ heath understorey	edge build up/branches	erosion control(rock boulders)	rock improvement
11	open forest/ heath understorey	edge build up/branches	erosion control(rock boulders)	rock improvement
12	open forest/ heath understorey	board chain chick wire	erosion control(board & chain)	rock improvement
13	open forest/ heath understorey	rock use	erosion control(rock boulders)	rock improvement
14	open forest/ heath understorey	bank erosion	erosion control(rock boulders)	rock improvement
15	open forest/ heath understorey	bank erosion	erosion control(rock boulders)	rock improvement
16	open forest/ heath understorey	bank erosion	erosion control(rock boulders)	rock improvement
17	open forest/ heath understorey	timber rock mix	erosion control(rock boulders)	rock improvement
18	open forest/ heath understorey	erosion /water runoff	erosion - water channelling	rock improvement
19	open forest/ heath understorey	erosion /water runoff	erosion - water channelling	rock improvement
20	open forest/ heath understorey	erosion of bank	erosion - water channelling	branches or hay to fix
21	open forest/ heath understorey	water channelling	erosion - water channelling	branches or hay to fix
22	open forest/ heath understorey	rock /branch	erosion control(rock boulders)	already fixed
23	open forest/ heath understorey	rock /branch	erosion control(rock boulders)	need fixing already fixed
24	heath	water channelling	erosion - water channelling	need fixing already fixed
25	heath	packing crates through wet area	erosion control(packing crates)	

	VEGETATION DESCRIPTION	EROSION / EROSION CONTROL	TREATMENT	COMMENTS
26	heath	re-routing of track	track re-route	needs some revegetation
27	heath	hay	erosion control (hay)	part of revegetation for snow making
28	heath	hay	erosion control (hay)	
29	heath	built up edge	imported soil used	
30	heath	jump	jump	
31	heath	built up site	imported soil used	future erosion
32	heath	built up site	imported soil used	future revegetation
33	heath	built up site	imported soil used	future revegetation
34	heath	loose rocks	erosion control(rock boulders)	future revegetation
36	ski slope - introduced grass	bank erosion/water tunnelling	erosion - water channelling	machinery
37	ski slope - introduced grass	bank erosion/water tunnelling	erosion - water channelling	machinery
38	ski slope - introduced grass	concrete improvement	erosion control(rock boulders)	machinery
39	ski slope - introduced grass	rock boulders	erosion control(rock boulders)	machinery
40	ski slope - introduced grass	rock concrete	erosion control (concrete with rocks)	improved mgt of slope
41	ski slope - introduced grass	rock concrete	erosion control (concrete with rocks)	improved mgt of slope
42	ski slope - introduced grass	hay	erosion control (hay)	improved mgt of slope
43	ski slope - introduced grass	hay	erosion control (hay)	improved mgt of slope
44	ski slope - introduced grass	water channelling	erosion - water channelling	improved mgt of slope
45	ski slope - introduced grass	hay	erosion control (hay)	improved mgt of slope
46	ski slope - introduced grass	snow making	erosion control (hay)	improved mgt of slope
47	ski slope - introduced grass	introduced grass	erosion control (hay)	hay
48	ski slope - introduced grass	introduced grass	erosion control (hay)	hay
49	ski slope - introduced grass	introduced grass	erosion control (hay)	hay
50	ski slope - introduced grass	introduced grass	erosion control (hay)	hay
51	ski slope - introduced grass	structure	erosion control (hay)	hay
52	ski slope - introduced grass	tree roots uncovered	tree roots exposed	hay
53	open forest/ heath understorey	concrete rocks	erosion control (concrete with rocks)	fix
54	open forest/ heath understorey	tree roots exposed	tree roots exposed	fix
55	open forest/ heath understorey	erosion	soil erosion	fix

	VEGETATION DESCRIPTION	EROSION / EROSION CONTROL	TREATMENT	COMMENTS
56	open forest/ heath understorey	erosion/tree root	soil erosion	fix
57	open forest/ heath understorey	problem tree	dangerous tree	fix
58	open forest/ heath understorey	bank improvement	stabilisation - timber poles	minor soil erosion
59	open forest/ heath understorey	bank improvement	stabilisation - timber poles	minor soil erosion
60	open forest/ heath understorey	minor erosion	erosion - water channelling	minor soil erosion
61	open forest/ heath understorey	minor erosion	erosion - water channelling	minor soil erosion
62	open forest/ heath understorey	concrete/rock/pallets	erosion control(concrete/rock/pallets)	
63	open forest/ heath understorey	hay	erosion control (hay)	
64	open forest/ heath understorey	hay	erosion control (hay)	water channelling
65	ski slopes - introduced grass	hay	erosion control (hay)	water channelling
66	ski slopes - introduced grass	blocked off	erosion control (hay)	water channelling
67	ski slopes - introduced grass	water tunnelling	erosion - water channelling	water channelling
68	ski slopes - introduced grass	water tunnelling	erosion - water channelling	water channelling
69	ski slopes - introduced grass	hay	erosion - water channelling	water channelling
70	ski slopes - introduced grass	wired log/filled with dirt	erosion control(rock boulders)	
72	ski slopes - introduced grass	rock/hay	erosion control (hay)	
73	ski slopes - introduced grass	channelling	erosion - water channelling	
74	ski slopes - introduced grass	hay bale	erosion control (hay)	
75	ski slopes - introduced grass	water channel	erosion - water channelling	
76	ski slopes - introduced grass	water channel	erosion - water channelling	
77	ski slopes - introduced grass	tree roots	tree roots exposed(damage)	
78	ski slopes - introduced grass	erosion channelling	erosion - water channelling	
79	ski slopes - introduced grass	water channelling	erosion control (hay)	
80	ski slopes - introduced grass	water channelling	erosion - water channelling	
81	ski slopes - introduced grass	water channelling	erosion control (hay)	
82	ski slopes - introduced grass	water channelling	erosion - water channelling	
83	ski slopes - introduced grass	hay bail	erosion - water channelling	
84	ski slopes - introduced grass	water tunnelling	erosion - water channelling	
85	ski slopes - introduced grass	water tunnelling	erosion - water channelling	hay used
86	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used

	VEGETATION DESCRIPTION	EROSION / EROSION CONTROL	TREATMENT	COMMENTS
87	open forest/ heath understorey	physical barriers	erosion control (hay)	hay used
88	open forest/ heath understorey	bank erosion	erosion control (hay)	hay used
89	open forest/ heath understorey	tree root	tree roots exposed(damage)	hay used
90	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
91	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
92	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
93	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
94	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
95	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
96	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
97	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
98	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used
99	ski slopes - introduced grass	water tunnelling	erosion control (hay)	hay used

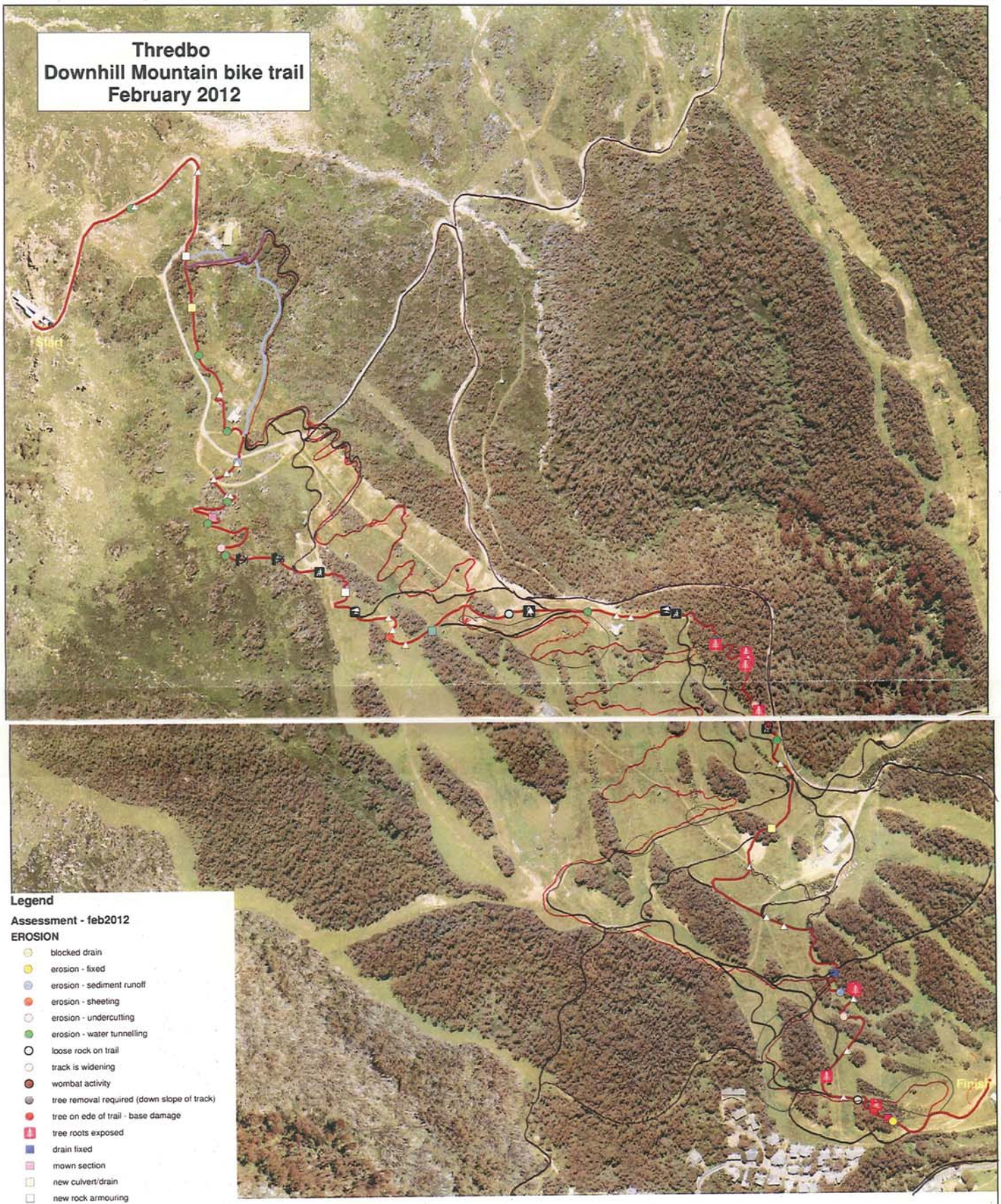

Thredbo - Mountain Bike Trail
Environmental Assessment May 2009
Start
Finish
Legend
Trail Assessment
dangerous tree
hair bend
erosion - water channelling
soil erosion
tree roots exposed(damage)
tree roots exposed
erosion control (concrete with rocks)
erosion control (hay)
erosion control(board & chain)
erosion control(concrete/rock/pallets)
erosion control(packing crates)
erosion control(rock boulders)
erosion control(soil mound)
imported soil used
stabilisation - timber poles
track re-route
jump
Yarrow
Mountain bike track
100
0
200 Meters


Attachment 4
Upper Section - February 2012
Start
Start of new track development - May 2012
Middle Section - May 2012
Lower Section - May 2012
Legend
Thredbo Downhill
Cleared area
N
0
115
230
460 Meters

Attachment 5: Photo’s from site inspection May 14 2012

Below: Middle Section Heath disturbance

Below: Lower Section Native Grass and Heath disturbance



Copy provided by Thredbo.

14 June 2012

Andrew Harrigan
Manager Visitor and Business Services
Kosciuszko National Park
NSW Office of Environment & Heritage
PO Box 2228
Jindabyne NSW 2627

Dear Andrew,

Re: Correspondence dated 29 May 2012 (DOC12/20904) – Mountain Bike Trail Development, Thredbo

Kosciuszko Thredbo Pty Ltd (KT) has operated and promoted both recreational and competitive mountain biking at the resort since the early 1990s coinciding with the 1988 Kosciuszko National Park Plan of Management and its 1994 Amendments.

As with the National Parks and Wildlife Service (NPWS), KT also recognises the importance and uniqueness of mountain bike riding at Thredbo and the importance of this recreational activity as part of the resorts and wider regions summer tourism.

As part of promoting and developing mountain biking at the resort, KT has developed multiple mountain biking products by investing in kilometres of cross country single-track, the Thredbo Mountain-cross track (at Friday Flat) and the world-renowned downhill track, the Cannonball Run, now referred to as the 'Thredbo Downhill'.

The iconic 'Thredbo Downhill' (Cannonball Run), being one of Australia's longest downhill courses has been host to national and international competitions, including but not limited to the current Australian Mountain Bike Series, MTBA Gravity Cup, Australian Interschool's MTB Championships and Oceania MTB Championships.

As part of operating and maintaining the iconic 'Thredbo Downhill' (Cannonball Run), KT has undertaken ongoing maintenance to improve the track, which has included armouring, deberming and continual re-routing of the trail. This has been undertaken in accordance with the relevant International Mountain Bicycling Association (IMBA) standards for sustainable trail design and maintenance, which is permitted under clause 4.9(b) of the Head Lease.

As sections of the trail need to be upgraded from time to time to allow for environmental improvements, and as mountain biking on the track is undertaken continuously over summer from about November to May, alternative sections of the track are required to be used whilst maintenance is undertaken. This is particularly relevant where previous trails were not constructed in accordance with the more recent IMBA standards for sustainable trail design. Therefore the re-routing of the trail, a core IMBA trail maintenance solution, is often required.

Since the early 1990s, the 'Thredbo Downhill' (Cannonball Run) has used multiple tracks as part of the overall trail corridor, partly as trial and error and partly to resolve both track maintenance issues and to achieve environmental improvements, whilst also to provide variety with new challenging lines, particularly for competition.

None of these tracks or their re-routing have been subject to or required to have development consent or the Lessor's approval under clause 4.9(b) of the Thredbo Head Lease, as these tracks have been and are currently predominantly located within highly disturbed ski slopes, where the environmental impacts associated with their use are negligible and its recreational land use has already been granted.

To meet the increasing demand for more user friendly trails that are more accessible to the wider public, KT has re-used these existing tracks to create a 'B' line track on a trial basis, as per the conceptual map provided in Attachment A (and illustrated in red). This has been undertaken without requiring the cutting of any old growth or previously undisturbed native vegetation areas (ie trees).

If this track becomes successful, KT is planning to construct a better and more extensive trail network across different areas of the mountain, which may include structures (eg bridges/culverts) and may also include areas of undisturbed native vegetation and in this instance KT would apply for the relevant approval and consent.

Pursuant to clause 4.8(h) of the Thredbo Head Lease, activities such as mountain bike riding are purposes incidental to the use of the Demised Premises, and clause 4.9(b) stipulates that the consent of the Lessor is not required for improvement or development relates to the *"normal use operation or enjoyment of improvements and facilities existing from time to time, and previously authorised or approved by the Lessor"*. The mountain bike trail improvements which are carried out on disturbed ski slopes previously approved and leased for the purposes of recreational activities therefore do not amount to works which require the Lessor's approval under the Head Lease.

KT further notes that the maintenance of the mountain bike trails satisfies the Exempt Development criteria of the Department of Planning (DOP) under the Kosciuszko Alpine Resorts SEPP, 2007 (cl 9(c), Schedule 2) and is allowed under the Plan of Management.

As such, contrary to the third paragraph of your letter dated 29 May 2012, KT:

(a) has not constructed any new mountain bike tracks on the Thredbo ski slopes. The "B" line track is not an improvement which requires the Lessor's consent pursuant to clause 4.13 of the Head Lease;

(b) has not cut through any undisturbed native vegetation and is therefore not in breach of clause 4.22 of the Head Lease;

(c) has complied with the relevant Laws and Plan of Management pursuant to clause 4.25 of the Head Lease; and

(d) is not in breach of clause 9.14 of the Head Lease as it is not aware of any environmental damage or danger to the public.

KT will continue working with NPWS to maintain and improve its mountain bike trails and therefore seeks NPWS' and DOP's input in the ongoing development of better and improved sustainable trails. KT is available to meet on-site to discuss these matters at the end of winter, prior to the 2012/13 Mountain Bike Season commencing. In this respect, KT would also seek NPWS' advice on the roles of NPWS and DOP as the consent authority in this matter and the delineation of those roles.

Should you require any further information regarding the above, please do not hesistate to contact me.

Regards

Jordan Rodgers
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c.c. Daniel James, Department of Planning, Jindabyne