

REVIEW OF ENVIRONMENTAL FACTORS

for

Horse Riding in Wilderness Pilot



Kosciuszko National Park

March 2014

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BACKGROUND

Increasing visitor opportunities

The NSW Government is committed to providing a diverse range of sustainable visitor and recreational experiences to ensure a broad spectrum of the community can enjoy NSW national parks and reserves. Horse riding in national parks provides an opportunity to experience and appreciate these natural environments. Horse riding also has significant heritage value for many people in the community, and horse riding in national parks supports the maintenance of these cultural traditions and connections. Many national parks are on land where horse riding previously occurred, or continues today.

The *Strategic Directions for Horse Riding in NSW National Parks* is guiding the provision of improved horse riding opportunities across the national parks system. A feature of the strategy is a commitment to undertake a targeted trial of horse riding in wilderness.

Horse riding in wilderness

Approximately 30 per cent of the total area covered by NSW national parks is declared wilderness. There is a history of recreational horse riding in a number of NSW wilderness areas, prior to their declaration as wilderness. Following declaration, the past policy position has been to exclude horse riding from wilderness areas.

In recognition of strong historical usage and contemporary community interest, the NSW Government has committed to trialling horse riding in five wilderness locations through a two year pilot. The pilot program will enable NPWS to determine whether potential impacts on park and wilderness values can be managed within acceptable thresholds. The proposed trial is underpinned by a monitoring framework intended to provide early identification of impacts and apply appropriate management responses to minimise environmental risks.

The pilot program has been developed in accordance with the requirements of the *Wilderness Act 1987* and the *National Parks and Wildlife Act 1974*. In particular, the choice of trial locations, access arrangements, group size limits and the monitoring framework are intended to support the management principles for wilderness areas, including:

- protection of the unmodified state of the area and plant and animal communities;
- preserving capacity of areas to evolve in the absence of significant human interference; and
- providing opportunities for solitude and appropriate self-reliant recreation.

The horse-riding in wilderness pilot program involves five proposed locations:

- Kosciuszko National Park
- Mummel Gulf National Park
- Deua & Monga National Parks (two locations)
- Curracabundi National Park

Horse riding will occur on management tracks and trails (which are already vehicle accessible and used for park management purposes such as bush fire hazard reduction), and existing or historical bridle tracks (not vehicle accessible), on a casual and transitory basis, and will be generally accessible and open to the public for that purpose during the trial period. Consistent with the principle of protecting the unmodified state of wilderness areas, no new tracks or trails will be constructed and maintenance actions will be limited to those needed to maintain existing trails or

to ensure they are distinguishable and safe for use. Similarly, in accord with the principle of self-reliance, no new facilities will be developed to support the trial.

Locations for the pilots were canvassed taking into account environmental attributes and values, safety, other park users, connectivity and community interest.

A monitoring framework will be implemented and results publicly reported throughout the two year period. The framework establishes baseline data on current condition and use of the trial locations, using standard site monitoring techniques including stratified sampling. Results will be tracked to provide early identification of any potential adverse impacts to allow for management intervention. Implementation of the monitoring framework is a key element in supporting protection of the unmodified nature of the wilderness areas and their capacity to evolve without significant human interference.

Environmental assessment

In recognition of the level of community interest and the wilderness values of these areas, NPWS has prepared a precautionary Review of Environmental Factors (REF). Each REF has been undertaken using existing procedures and templates.

An REF has been prepared for all pilot locations, except for Curracabundi National Park. A separate REF will be prepared for that location after public consultation on the plan of management for that park has occurred.

KOSCIUSZKO NATIONAL PARK

Table of Contents

1. Brief description of the proposed activity	6
2. Proponents details.....	9
3. Permissibility.....	10
3.1. Legal permissibility	
3.2. Consistency with NPWS Policy	
3.3. Type of approval sought	
4. Consultation.....	14
5. Proposed activity(ies)	15
5.1. Location of activity	
5.2. Description of the proposed activity	
5.3. Objectives of the proposal	
6. Reasons for the activity and consideration of alternatives	26
7. Description of the existing environment.....	31
8. Impact assessment.....	41
8.1. Physical and chemical impacts during construction and operation	
8.2. Biological impacts during construction and operation	
8.3. Community impacts during construction and operation	
8.4. Natural resource impacts during construction and operation	
8.5. Aboriginal cultural heritage impacts during construction and operation	
8.6. Other cultural heritage impacts during construction or operation	
8.7. Matters of national environmental significance under EPBC Act	
9. Proposals requiring additional information.....	56
9.1. Lease or licence proposals under s.151, NPW Act	
9.2. Telecommunications facilities	
9.3. Activities within the Sydney Drinking Water Catchment	
10. Threatened species assessment of significance (7 part test)	58
11. Summary of impacts.....	60
12. Conclusions	61
13. Supporting documentation.....	62
14. Fees	62
15. Signature of proponent	63

1. Brief description of the proposed activity

Please provide a brief description of the work to be conducted:

Description of proposed activity(s)*	<p>The proposed activity is the two-year pilot trial for horse riding on existing trails within Kosciuszko National Park. The trial route is shown at Figure 1, and covers approximately 32 km. It starts at the Pinch River camp off the Barry Way and traverses the Nine Mile Trail until the intersection with the Ingeegoodbee Trail (around 10.4 km). From there, the route proceeds along the Ingeegoodbee Trail north-west only as far as the Tin Mine Huts, and to the south-west along Ingeegoodbee Trail to the park boundary which adjoins the NSW-Victorian state border (about 21.6 km in total).</p> <p>Three alternative route options were exhibited for public consultation as part of the plan of management amendment process from 7 June 2013 to 29 July 2013. These are discussed in Section 6.</p> <p>A monitoring framework will be applied to the wilderness pilot to ensure there are no unacceptable impacts on park or wilderness values. This is considered an acceptable and appropriate mechanism to ensure a precautionary approach is taken to implementation of the trial.</p> <p>At the conclusion of the two year pilot, an assessment of the outcomes will be undertaken.</p> <p>The overarching goals of the proposed activity are to:</p> <ul style="list-style-type: none"> - improve opportunities for sustainable recreational horse riding in NSW national parks; - provide opportunities in unique wilderness locations that recognise the strong historical usage and ensuring the natural and cultural values of the national park and wilderness are protected; - deliver an enhanced community awareness of existing and improved recreational horse riding opportunities in national parks; - build support in the horse riding community for national parks and collaborate on practical park management actions, including encouraging participation in volunteering.
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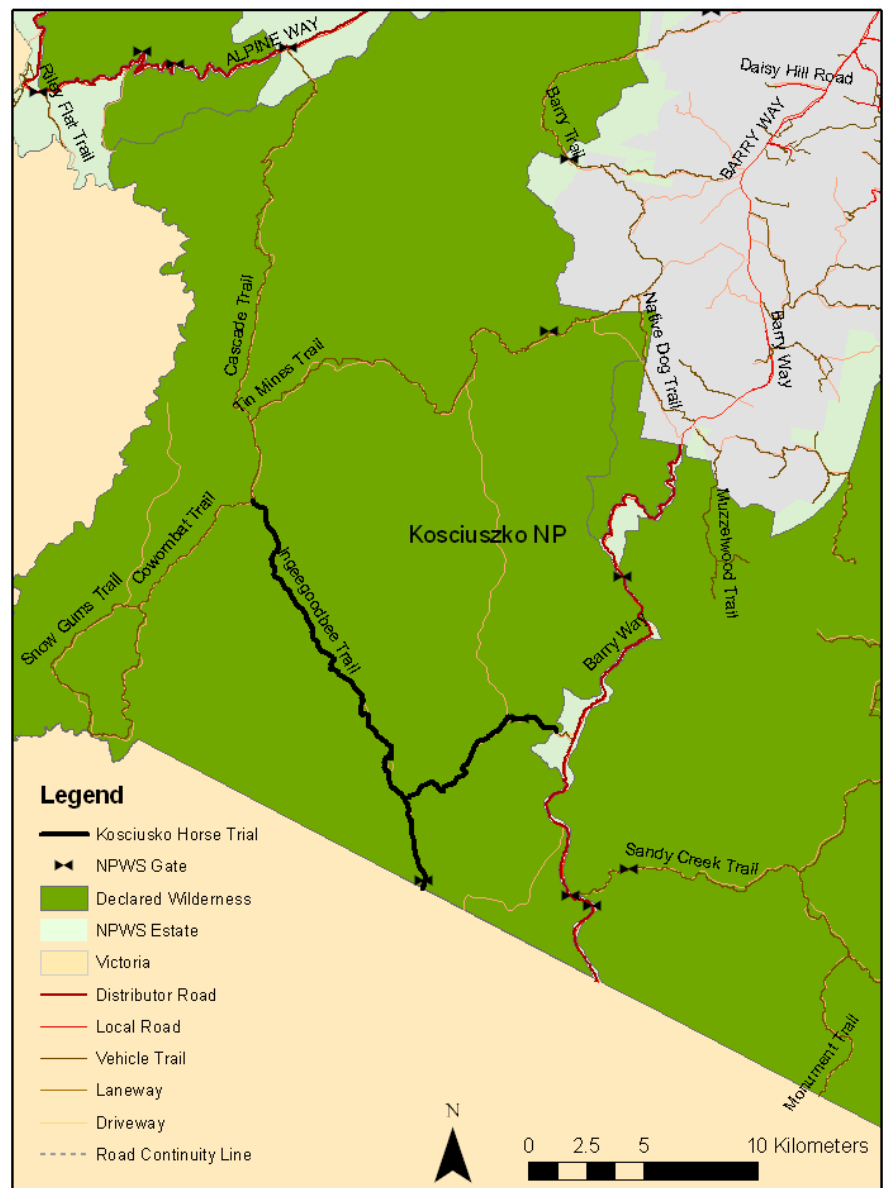


Figure 1: Proposed Wilderness Pilot Route, Kosciuszko National Park

	<p>In order to minimise environmental impact while providing an appropriate riding experience for the user, the pilot trial will:</p> <ul style="list-style-type: none"> - use existing management trails; - endeavour to avoid or minimise impacts on other users of the park, with horse-riding group sizes limited to a maximum of 8 to support opportunities for solitude, inspiration and appropriate self-reliant recreation - apply a monitoring framework, including thresholds and management responses - be subject to normal operating park management requirements, including seasonal opening/closure of trails, and management of trail access due to environmental impact, wet weather, fire, etc - involve NPWS working with horse riding groups to build awareness about good riding techniques, including following the Code of Practice for Horse Riding, and to assist in on-going maintenance and surveillance of track condition. <p>Horse riding will occur on a casual and transitory basis, and will be generally accessible and open to the public for that purpose during the trial period, subject to normal winter seasonal closures in the park which occur between the June and October long weekends. No physical works are proposed. Other existing and legally permissible uses of the pilot location, such as bush-walking and bike riding, will be able to continue.</p> <p>Casual overnight camping at three (3) designated locations along the pilot route will be permitted. However, no formal camping areas or facilities will be developed, and camping will not occur within 500 metres of the existing historic huts or further than 100 metres from the existing management trail.</p>
Estimated commencement date?	April 2014
Estimated completion date?	April 2016

****Note a comprehensive description of the proposal is contained at section 5.2 of this form.***





2. Proponents details





Name	Ms Melinda Murray
Organisation	Office of Environment and Heritage
ACN /ABN (if applicable)	ACN: ABN: 30 841 387 271
Section/Division (OEH proponents only)	NSW National Parks & Wildlife Service
Position	Director, Park Services and Strategy
Address	PO Box 1967
	Suburb: Hurstville
	State: NSW Postcode: 2220
Phone numbers	Business: Mobile:
Fax	
Email	Contact information not required – internal OEH proponent

3. Permissibility

3.1 Legal permissibility

Indicate whether the activity is permissible under the legislation. Section 1.10 and Appendix 1 of the *Proponents Guidelines for the Review of Environmental Factors* provides guidance on permissibility. Include explanation where necessary.

	National Parks and Wildlife Act 1974 (NPW Act) The location of the proposed activity is on land reserved under the NPW Act.
Justification: consider the following matters	
	Objects of the Act (s.2A) <p>The activity has been designed to be consistent with the objects of the Act regarding the conservation of natural and cultural heritage, demonstrated by careful site selection, group size limits and application of a monitoring framework to provide early detection and response to any environmental risks. It also supports the public use and enjoyment objects of the NPW Act by providing additional opportunities for horse riding to occur in a sustainable manner, thereby facilitating public appreciation of park and wilderness values and community heritage.</p> <p>The activity has also been developed to support application of key ESD principles, as follows:</p> <ul style="list-style-type: none"> • precautionary principle – after carefully considering and weighing potential environmental risks, it is considered that the activity is capable of proceeding subject to application of a focused monitoring framework to target and detect key changes in the environment and support management interventions to address these; • inter-generational equity – the activity as proposed will support protection of environmental quality for future generations, as well as providing current and future generations with new sustainable opportunities to experience and enjoy natural and cultural heritage; • conservation of biodiversity and ecological integrity – the location of the trial along existing management trails is a key element in avoiding risks to biodiversity values, together with group size limits and the monitoring framework; • improved valuation, pricing and incentives – the activity, via the monitoring framework, provides a mechanism to limit cost impacts associated with environmental risks (such as track damage and rehabilitation) by allowing early detection and intervention. Opportunities also exist to work with horse riders and other track users to undertake collaborative repair and maintenance works. <p>The activity gives effect to the public interest in protecting the values of this area and its appropriate management, by:</p> <ul style="list-style-type: none"> • site selection of the trial locations; • group size limits; and • the monitoring framework.
	Reserve management principles (s.30E-30K) <p>The proposed activity is consistent with and supports the management principles for national parks. In particular it:</p> <ul style="list-style-type: none"> • has been designed to minimise risks to biodiversity and cultural heritage; • promotes public appreciation and understanding of the park's natural and cultural values; • provides for sustainable visitor use and enjoyment that is compatible with the conservation of the park's natural and cultural values; and • provides for appropriate monitoring.
	Title and relevant sections of plan of management or Statement of Interim Management Intent (or drafts):

<p><u>Kosciuszko National Park Plan of Management – 2006 (as amended)</u></p> <p>The plan of management for Kosciuszko National Park provides a range of horse riding recreation opportunities. Horse riding is permitted on minor and major road corridors and management tracks, including the Back Country Zone and Bicentennial National Trail.</p> <p>An amendment to the plan of management was adopted by the Minister for the Environment on 10 February 2014. The amendment enables the two year wilderness pilot to proceed.</p> <p>The amendment occurred following public consultation in mid-2013, and statutory consultation with the Regional Advisory Committee and National Parks and Wildlife Advisory Council.</p>	
	Leasing, licencing and easement provisions of Part 12
<ul style="list-style-type: none"> Part 12 of the <i>NP&W Act 1974</i> is not relevant to this activity. 	
	Management powers and responsibilities of NPWS (s.8 and s.12) – for internal NPWS projects
<p>The activity is permissible under s.8 (3)(b) <i>arrange for the carrying out of such works as the Director-General considers necessary for or in connection with the management and maintenance thereof</i>, and s.12 (f) <i>the provision of facilities and opportunities for sustainable visitor or tourist use and enjoyment on land reserved under this Act</i>.</p>	
<p><u>Special note: for lease proposals under s.151 NPW Act involving new buildings or structures</u></p> <p>Section 151A(5) of the NPW Act states that the Minister must not grant a lease under s.151 for visitor or tourist uses that authorises the erection of a new building or structure unless the plan of management identifies the purpose as permissible and the general location for the new building. If relevant to the proposal indicate whether this requirement has been met, or will be.</p>	
N/A – no new buildings or structures proposed.	
	<i>Wilderness Act 1987 (for activities in wilderness areas consider objects of the Act, management principles, s.153, etc)</i>
<p><u>Justification:</u></p> <p>The <i>Wilderness Act 1987</i> states that a wilderness area shall be managed so as to:</p> <ul style="list-style-type: none"> (a) restore (if applicable) and to protect the unmodified state of the area and its plant and animal communities, (b) preserve the capacity of the area to evolve in the absence of significant human interference, and (c) permit opportunities for solitude and appropriate self-reliant recreation (whether of a commercial nature or not). <p>The proposed wilderness trial in Kosciuszko National Park has been developed to be consistent with these management principles. In particular:</p> <ul style="list-style-type: none"> the choice of trial locations along existing management trails – to protect the unmodified state of the area and biodiversity, and capacity to evolve no new trails or supporting facilities – enabling appropriate self-reliant recreation of a non-mechanical or motorised nature, and recognising the unique inter-dependent nature of, and skills involved in, the rider-horse relationship and its cultural significance to many in the community application of group size limits – to protect the unmodified state of the area and biodiversity, capacity to evolve, and support the sense of solitude application of a monitoring framework including thresholds and management responses – providing a precautionary system for assessing environmental change and taking action, in order to protect the unmodified condition of wilderness and preserve evolutionary capacity. 	
	<p><i>Environmental Planning and Assessment Act 1979 (EP&A Act) (consider aims and objectives of relevant environmental planning instruments, zoning and permissible uses, development controls, etc)</i></p> <p><u>Explanatory note:</u> Clause 65 of State Environmental Policy (Infrastructure) 2007 provides that development for any purpose may be undertaken within specified OEH lands without consent. This removes the need for development consent under Part 4 of the EP&A Act, meaning that most activities within NPWS land are assessed under Part 5. However, proponents should still confirm that the SEPP is applicable to their particular proposal, and provide consideration of other environmental planning instruments that would otherwise apply to the proposal if it were not occurring on NPWS land.</p>

Justification:

Part 5 of the *EP&A Act 1979*, requires the NPWS to assess the likely environmental impacts of activities proposed to be undertaken within the national parks system. An “activity” includes:

- (a) the use of land, and
- (b) the subdivision of land, and
- (c) the erection of a building, and
- (d) the carrying out of a work, and
- (e) the demolition of a building or work, and
- (f) any other act, matter or thing referred to in section 26 that is prescribed by the regulations for the purposes of this definition.

As currently proposed, the horse riding pilot trial is not considered to meet the definition of an “activity”. Nevertheless, given the level of public interest and the wilderness location this precautionary REF has been prepared as if the proposal were an activity.



Heritage Act 1977 (for activities likely to affect items or places of historic cultural heritage value)

Justification:

A search of the NPWS Historic Places Register HHIMS was undertaken and the results are discussed below. There are no aspects of the activity that trigger assessment or approval under the Heritage Act 1977.



Threatened Species Conservation Act 1995 (TSC Act) (is the activity consistent with the biodiversity conservation objectives of the Act?)

Justification:

A search of the OEH Wildlife Atlas was completed and discussion of threatened species matters occurs below. The activity as proposed is considered to be consistent with the objects of the TSC Act.

The proposed activity is not considered likely to affect threatened species either directly or indirectly. The monitoring framework will assist in reducing the risks of potential impact.

The activity is not a threatening process under the TSC Act and no critical habitat is present.



Rural Fires Act 1997 (is the activity consistent with the objectives of protecting life and property and protection of the environment?, is it consistent with bush fire management plans?)

Justification: The *Rural Fires Act 1997* is not relevant to this activity.



Fisheries Management Act 1994 (will the activity affect fish or marine vegetation, including threatened species? Is approval required under the Act?)

Justification: The activity does not require approval under the Fisheries Management Act. Group size limits, the use of existing trails and the monitoring framework will support protection of fish habitat.



Commonwealth legislation (including the Environment Protection and Biodiversity Conservation Act 1999 (EP&BC Act) and the Telecommunications Act 1997)

Kosciuszko National Park is included in the National Heritage listing for the Australian Alps National Parks and Reserves. The listing recognises the unique natural features of this alpine environment, including landscape and flora and fauna values, together with a long history of human interaction. That includes Aboriginal uses, grazing and horsemanship, and more contemporary recreational use (snow sports). The listing also reflects the history of scientific endeavour and research in the Alps.

The park also contains threatened species listed under the EPBC Act. These are discussed below.

The proposed activity will not have a significant impact on national heritage values, threatened species or other matters of national environmental significance under the EPBC Act 1999.

3.2 Consistency with NPWS policy

Indicate whether the activity is consistent with NPWS policy, including an explanation where necessary:

Provide details of relevant Government and NPWS policy	<p>This activity is strategically consistent with the <i>NSW 2021</i> commitment to encourage a diverse range of recreational activities in the reserve system and will assist in implementing:</p> <ul style="list-style-type: none"> • Goal 22 – working with the community to protect our local environment and provide more opportunities to enjoy parks, waterways and natural bushland • Goal 27 - encourage increased participation in sporting activities to support healthy lifestyles.
	<p>The activity is consistent with the <i>OEH Corporate Plan 2014 – 2017</i> and is aligned with the organisation's strategic vision and goals as follows;</p> <ul style="list-style-type: none"> • Vision – “Our environment and heritage is valued, protected, enjoyed and supports a prosperous and healthy NSW” • Goal – “Ensure vibrant natural assets for the health and prosperity of NSW”. • Purpose – “To enrich life in NSW by helping the community to conserve and enjoy our environment and heritage” • Role – “Encourage communities to experience and enjoy national parks and value their local environment”.
	<p>The activity is an identified priority in the <i>NPWS Delivery Plan 13/14</i>. The Delivery Plan incorporates annual agency priorities and ensures project delivery efforts are focussed and aligned to agreed outcomes and programs.</p>
	<p>This activity is consistent with the <i>Strategic directions for horse riding in NSW National Parks</i> adopted in 2012. The strategy commits to establishing five wilderness pilots across NSW, to trial horse riding in wilderness locations for a two year period.</p>
	<p>The activity is consistent with the <i>NPWS Horse Riding Policy Directive (2012)</i>. That policy specifically notes the intention to trial horse riding in up to five wilderness locations within parks, using existing trails, without provision of new facilities (excepting signage and park user information), subject to a monitoring program and the park plan of management.</p>
	<p>The activity is also consistent with the principles of the <i>NPWS Code of Practice for horse riding in parks (2010)</i>. The aim of the code is to provide practical details to help guide horse riders and NPWS staff to sustain the use of horses in parks by maximising safety and enjoyment while minimising any potential impacts on the park's natural and cultural values.</p> <p>In addition, the activity is generally consistent with the guidelines and policies of the Australian Alps Horse Riding Code managed under the Australian Alps National Parks Co-operative Management Program</p>
	<p>The proposed activity is consistent with the published <i>NPWS Horse Riding Regional Work Plans</i>. These were developed by NPWS for eight priority regions working in consultation with local horse riders to identify and prioritise new opportunities for horse riding in each region.</p> <p>The Southern Ranges Region Work Plan includes actions to implement the horse riding in wilderness trial in Kosciuszko National Park.</p> <p>The proposed activity provides further horse-riding opportunities and builds upon experiences associated with the Bicentennial National Trail, a multi-purpose trail 5,330 km in length available to horse riders that extends down the east coast of mainland Australia from Cooktown in far north Queensland to Healesville in Victoria. The 182 km section of the BNT located within Kosciuszko National Park utilises a series of management trails, linked by short sections of public road. The BNT is available for trekkers using various forms of non-motorised transport including walkers, horse riders and cyclists. Management and use of the BNT occurs under a Memorandum of Understanding (MoU) between the BNT Board and NPWS.</p>

3.3 Type of approval sought

OEH proponents



Internal NPWS approval* or authorisation, including expenditure

***Note:**

- NPWS does not grant park approvals (eg. leases, licences, consents, etc) to itself.
- NPWS has a range of general powers to undertake activities on-park, for example sections 8 and 12 of the NPW Act.

4. Consultation

Specify the details of consultation, including who was consulted, how, when and the results of the consultation. Section 2.6 of *Proponents Guidelines for the Review of Environmental Factors* provides guidance on consultation.

Provide details of consultation*:	<p>Statewide consultation: Consultation on horse riding matters has been an ongoing process over many years leading to adoption of the 2006 <i>Recreational Horse Riding Policy</i>. The policy had been subject to review since 2002, including considerable internal and external consultation. The policy sought to provide a balanced approach to the various issues raised during the review process.</p> <p>A Horse Riding Consultative Group has met since mid-2011, comprising key horse riding stakeholders and National Parks and Wildlife Service (NPWS) staff. The non-statutory group was established to provide a forum to discuss opportunities and issues relating to horse riding in national parks and associated policies and procedures, including the implementation of a 2006 MoU established with the Liberal National Coalition.</p> <p>In April 2012, the Minister for the Environment released the <i>Draft strategic directions for horse riding in NSW national parks and reserves</i> to outline the NSW Government's commitment to improved horse riding opportunities. The draft strategy was publicly exhibited from 20 April to 30 June 2012 and over 200 submissions received. After considering public submissions the final strategy was released in late 2012.</p>
	<p>Regional work plans consultation: In early 2013, NPWS consulted with local stakeholders to identify horse riding opportunities and prepare work plans for eight priority regions. The final work plans were publicly released in April 2013.</p> <p>That includes a Southern Ranges Region Horse Riding Work Plan, developed following a workshop in Tumut and including priority actions related to implementation of the horse riding in wilderness pilot in Kosciuszko National Park.</p> <p>Consultation with Regional Advisory Committee NPWS has consulted with the Regional Advisory Committee, which represents a diversity of local community views, on significant horse riding proposals.</p>

	<p>Public Exhibition of Plan of Management proposed amendment</p> <p>The proposed amendment to the plan of management for Kosciuszko National Park was exhibited between 7 June 2013 and 29 July 2013. Three alternative route options were exhibited for the wilderness pilot. Seventy four submissions were received and assessed. A copy of the submissions report is provided as Attachment 2.</p> <p>In accordance with statutory requirements the draft amendment and submissions were considered by both the RAC and National Parks and Wildlife Advisory Council. The recommendations of both groups were provided to the Minister for the Environment for consideration.</p> <p>The Minister for the Environment, after considering the draft amendments, submissions, and views of the RAC and Council, adopted the final amendments to the plan of management in February 2014.</p>
	<p>OEH Website</p> <p>Consultation and feedback on horse riding matters has been facilitated through the OEH website which provides key information on horse riding, policy updates and contact details.</p> <p>http://www.environment.nsw.gov.au/policies/HorseRideStrat.htm</p>

***Notes:**

- Proponents should provide evidence that the relevant NPWS (Parks & Wildlife) office supports the proposal in-principle.
- There are specific consultation and referral requirements for certain proposals requiring a lease or licence under s.151A of the NPW Act. Refer to the *Leases and Licences Referral Policy and Procedures* for more information.

5. Proposed activity(ies)

5.1 Location of activity

Description of premises location	The wilderness pilot trail lies within the southern part of Kosciuszko National Park, close to the Victorian border.
	The trial route is shown at Figure 1, and covers approximately 32 km. It starts at the Pinch River camp off the Barry Way and traverses the Nine Mile Trail until the intersection with the Ingeegoodbee Trail (around 10.4 km). From there, the route proceeds along the Ingeegoodbee Trail north-west only as far as the Tin Mine Huts, and to the south-west along Ingeegoodbee Trail to the park boundary which adjoins the NSW-Victorian state border (about 21.6 km in total).
Site reference	<p>South-eastern corner of the Australian mainland between latitudes 35°30'S and 37°02'S and longitudes 148°10'E and 148°53'E.</p> <p>Easting: E148 17 50.3 (centre of trail) Northing: S36 46 16.5 (centre of trail)</p>
	<p>AMG zone: (54, 55, 56 or 57) Zone 55 Reference system: (eg. GDA94, WGS84, AGD) WGS84</p>
Local Government Area	Tumbarumba / Snowy River
NSW State electorate	Albury / Monaro
Catchment	Southern Rivers Catchment Authority, Snowy Monaro Region
National Park	Kosciuszko National Park

5.2 Description of the proposed activity

Include a full and comprehensive description of the activity. All aspects of the proposed activity should be described. See Section 3.2 of *Proponents Guidelines for the Review of Environmental Factors* for further guidance.

Description of the proposed activity – include pre-construction, construction, operation and remediation:

The activity involves the provision of an appropriate, safe and sustainable horse riding experience in declared wilderness, on established trails, subject to a monitoring framework for a two year trial period between 2014-2016.

No new construction or trail work is proposed. Any physical works will be limited to routine trail maintenance undertaken for normal operating requirements, to ensure the trail is safe and accessible (eg. removal of fallen debris).

Informal designated overnight camping areas will be identified for use (possibly using small-scale, discrete marker symbols). These are necessary given the length and rugged nature of the trail, which means it would be challenging for many riders to safely enter and leave the trial location in a single day. No new facilities will be constructed and the monitoring framework will include assessment of potential impacts in these areas.

Baseline monitoring sites have been established at key locations along the trial route and baseline data has been collected. The methods for choosing and establishing each baseline sites are detailed in Attachment 6. The baseline sites (quadrats) are marked by temporary pegs or stakes, which were installed by hand and have no impact on park or wilderness values.

As discussed below and in Attachment 6, remote sensing cameras are also being temporarily installed in discrete targeted locations as a key mechanism to enable counting of horse usage. In Kosciuszko National Park, the use of cameras will also be important in ensuring the impacts of wild horses can be accounted for in the monitoring program and in determining management interventions if required. The cameras are attached using non-intrusive, non-damaging techniques (such as cable ties). Small-scale signage will similarly be installed to inform the community about the purpose of the cameras, consistent with privacy requirements.

Horse riding access is subject to:

- a maximum size limit of 8 horses per riding group. This is consistent with group size limits on other recreational users in the national park, taking account of the unique alpine values present;
- no camping within 500 metres of the existing historic huts or further than 100 metres from the existing management trail;
- standard park management operational requirements including winter season closures between the June and October long weekends, and any need to restrict access due to fire, weather, or track conditions;
- application of the monitoring framework and any management actions or interventions implemented in response to the monitoring thresholds being reached. That may include small-scale works needed to repair or rehabilitate sites. The need for further environmental assessment of any repair or rehabilitation works will be considered on a case-by-case basis.

Subject to the above, during the two year trial period access will be available on the identified trails on a casual and transitory basis. No pre-bookings are required. Given the remote location it is expected that horse riding numbers will be low across the two year trial period, but this will be assessed as part of the monitoring program.

Standard compliance and enforcement measures will be applied by NPWS to regulate the undertaking of the activity.

The following images provide a snapshot of the trial location and were collected during baseline monitoring visits.



Nine Mile Trail – halfway up



**Nine Mile Trail – top just before junction
with Ingeegoodbee Trail**



Junction with Ingeegoodbee Trail



Small Creek Crossing just to the south of the Ingeegoodbee / Nine Mile Trail junction



First large clearing (Freebodies swamp) heading in a north westerly direction on the Ingeegoodbee Trail



Ingeegoodbee Trail deep water crossing



Ingeegoodbee Trail – crossing on trail



Ingeegoodbee Trail – crossing on trial



Ingeegoodbee Trail - timber bridge crossing



Ingeegoodbee Trail, bank crossing point

Construction:

No construction of new trails or related, supporting infrastructure will be undertaken as part of the pilot.

As noted above, any physical works will be limited to routine trail maintenance undertaken for normal operating requirements, to ensure the trail is safe and accessible (eg. removal of fallen debris). Small-scale rehabilitation or repair works may be undertaken if identified as required via application of the monitoring framework.

The size of the proposed activity footprint:

The total pilot trail length is approximately 32km utilising existing management trails as below:

- Nine Mile Trail - around 10.4km
- Ingeegoodbee Trail – around 21.6km

Ancillary activities, such as advertising or other signage (including any temporary signs, banners or structures promoting an event or sponsorship arrangements), roads, infrastructure, bush fire hazard reduction:

Trail closures may be implemented due to various factors such as wet weather, high fire danger and track damage (including management responses identified in the monitoring framework). Seasonal closures occur in the park as part of standard operating procedure in the alpine areas, including closure between the June and October long weekends.

Park access information is provided to the community via notices and the OEH website.

Signage required to support the trial within the wilderness area may include: use of remote cameras; and discrete, small-scale track and camping area markers.

Proposed construction methods, materials and equipment:

No construction of new trails or related infrastructure will be undertaken as part of the pilot. Any routine maintenance undertaken will follow standard procedures for operating in wilderness areas.

The baseline monitoring locations are identified using basic marker pegs or stakes.

Receival, storage, and on site management for materials used in construction:

No construction of new trails or related infrastructure will be undertaken as part of the pilot. Access for monitoring purposes is via 4WD vehicle and all recording materials are removed from the park at the conclusion of the monitoring visit.

Earthworks or site clearing including extent of vegetation to be removed:

No earthworks or site clearing will be undertaken as part of the pilot.

Environmental safeguards and mitigation measures:

The activity is supported by a range of environmental safeguards to ensure protection of the park's values, the unmodified nature of the wilderness area, the ability of the area to evolve without significant human interference, and opportunities for the community to access and enjoy the area's solitude, peace in self-reliant ways.

Choice of trial location

The Nine Mile and Ingeegoodbee trails are formed management trails, already used for essential park management purposes such as bush fire hazard reduction. They are also accessed by bushwalkers and mountain bike riders. Use of these areas avoids the need to open or provide new access for horse riders, ensuring that only existing modified areas are used.

Group size limits

As noted above, a limit of 8 horses applies to any group. This is established in the plan of management amendment and is consistent with other size limits applied by the plan in other wilderness areas.

Camping limits

The restriction on proximity to the huts (no closer than 500 m) and distance from the trail (no more than 100 m) are specified in the plan of management amendment. These will protect the values of the huts and areas surrounding the trail. The planned identification of designated informal camping areas and monitoring of these areas will further assist in safeguarding values.

Monitoring framework

The draft monitoring framework is at Attachment 5, and the baseline monitoring methods are at Attachment 6. The monitoring approach has been developed taking account of existing research literature and best practice techniques, internal and external peer review and consultation, and refinement following field visits and baseline survey to ensure it is pragmatic and workable.

The monitoring framework seeks to establish whether horse riding on wilderness trails can occur in a sustainable way and within appropriate limits of acceptable change. Specifically, it aims to:

- a) detect impacts that may occur to key values as a result of horse riding, on the pilot wilderness trails, within the two year trial period
- b) define thresholds for implementing management interventions to protect key values from irreversible damage
- c) detect whether interventions are successful in ensuring key values are protected from irreversible damage and inform when interventions should cease.

The monitoring framework focuses on key variables including track and soil condition, weeds and visitor experiences.

For the trial in Kosciuszko National Park, sixteen monitoring sites have been established and baseline data collected. This provides the key information to determine the condition of the area before the trial commences, and future monitoring visits will report change against this data.

The monitoring thresholds (i.e. what level of change will prompt management intervention) and the related management responses (i.e. what actions will be implemented) are being developed and refined in a two-stage process allowing for further expert and community input:

1. internal and external expert consultation will develop initial thresholds and management interventions
2. local community consultation will refine and recalibrate the initial thresholds and interventions to ensure they take account of specific local circumstances and environmental conditions.

The thresholds and management responses will be finalised and in place in advance of the first monitoring visit occurring, which is scheduled within six months of the trial commencing.

Throughout the trial period, data from monitoring will be used to indicate whether impacts are occurring and threshold triggers are being reached. It is also used to assess if any required management interventions are keeping impacts to within acceptable limits. Outcomes from the monitoring work will be regularly updated and released on the OEH website. At the conclusion of the two-year period, overall analysis of the monitoring outcomes will be a key part of the trial's evaluation.

Mitigation measures / potential intervention:

As noted above, the final monitoring thresholds and management responses are being developed through a consultative process and will be in place prior to the first monitoring visits occurring. As an example only, the following are an illustration of the types of management responses that could be applied if thresholds of change are met:

- work with horse riding groups to improve education, awareness and compliance with the Horse Riding Code of Practice;
- implement remediation activities whilst horse riding continues (e.g. regeneration, fencing, weed control, silt fencing, track maintenance), including joint projects with user groups;
- temporary track (or section) closure combined with remediation activities;
- permanent track closure if impacts cannot be mitigated in a reasonable timeframe.

Wild horse impacts

It is recognised that the presence of wild horses in Kosciuszko National Park, and associated damage caused by these, poses a challenge for the monitoring program. In particular, how to account for use and impacts of wild horses separate to recreational horse riders. Two techniques will assist in addressing this issue:

- use of remote cameras, which enables accurate counts of horses and distinction between wild and ridden horses
- integration of existing data from current wild horse monitoring programs.

In addition, it is expected that recreational horse riders may provide information on identification and movement of wild horses along the trial route, including any observed impacts.

Examples of impacts associated with wild horse access to the area, which were recorded during baseline monitoring, are shown below.



Wild horse impacts near creeks and water crossings – Ingeegoodbee Trail



Trails formed by wild horse access – Ingeegoodbee Trail

Sustainability measures – including choice of materials (such as recycled content) and water and energy efficiency

No materials are required

Construction timetable and staging, hours of operation:

N/A – no construction is proposed.

Note: if the activity involves building or infrastructure works, it may require certification to Building Code of Australia or Australian Standards prior to commencement. Further information on the types of projects requiring certification, and how to obtain certification, is contained the NPWS *Construction Assessment Procedure* at: <http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm>

5.3 Objectives of the proposal

Clearly state the objectives of the proposal. See section 3.2 of *Proponents Guidelines for the Review of Environmental Factors* for further guidance.

Provide details of objectives of the proposal	<p>The key aim of the wilderness pilot is to meet the NSW Government's commitment to provide sustainable horse riding recreational experiences to ensure a broad spectrum of the community can enjoy and appreciate national parks and reserves.</p> <p>The overarching goals of the proposed activity are to:</p> <ul style="list-style-type: none"> - improve opportunities for sustainable recreational horse riding in NSW national parks; - provide opportunities in unique wilderness locations that recognise the strong historical usage and ensuring the natural and cultural values of the national park and wilderness are protected; - deliver an enhanced community awareness of existing and improved recreational horse riding opportunities in national parks; - build support in the horse riding community for national parks and collaborate on practical park management actions, including encouraging participation in volunteering.
	<p>Currently, most of the horse riding areas in Kosciuszko National Park are located within the Back Country Zone. Recreational horse riding is primarily undertaken across the expansive snow plains and low wooded ridges of the northern end of the park. The north-south aligned Long Plain, which extends for a distance of some 30 km, and the neighbouring Coolleman, Currango, Kiandra, Nungar and Tantangara Plains are all popular riding locations, as are the numerous smaller plains and low intervening divides that characterise this part of the park. Vehicular access for riders intending to visit these places is principally provided by the Snowy Mountains Highway and various subsidiary branch roads such as Long Plain and Tantangara Roads.</p> <p>Recreational horse riding in the park tends to be a seasonal activity, especially in the northern end where key access roads are closed on an annual basis between the June and October long weekends.</p> <p>The wilderness pilot in the southern part of Kosciuszko National Park will expand the range of horse riding opportunities available to the community.</p>

6. Reasons for the activity and consideration of alternatives

Section 3.2.1 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

Reasons for activity:

In 2012 the NSW Government released the *Strategic Directions for Horse Riding in NSW National Parks*. The strategy committed to trialling horse riding in selected wilderness areas in NSW national parks, through establishment of five wilderness pilots. The initiatives proposed in the strategy are consistent with the NSW Government's commitments in *NSW 2021* to work with the community to protect our local environment and to provide more opportunities to enjoy parks and natural bushland. The NSW Government is committed to increasing the level of access to allow horse riders the opportunity to experience a wider range of national parks.

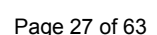
Horse riding is a popular recreational activity that has strong cultural associations for many Australians. Many national parks are on land where horse riding occurred for over a century and a half. Kosciuszko National Park is a popular horse riding destination and is increasingly attracting recreational horse riders from distant places in NSW and interstate. In addition, there has been a strong historical social and cultural connection of horse riding in the Snowy Mountains. This is recognised as one of the key values of the area supporting its inclusion on the National Heritage List.

In order to address community interest in further horse riding opportunities in national parks, the implementation of the wilderness pilots will enable NPWS to determine whether the environmental and social impacts can be managed within acceptable thresholds.

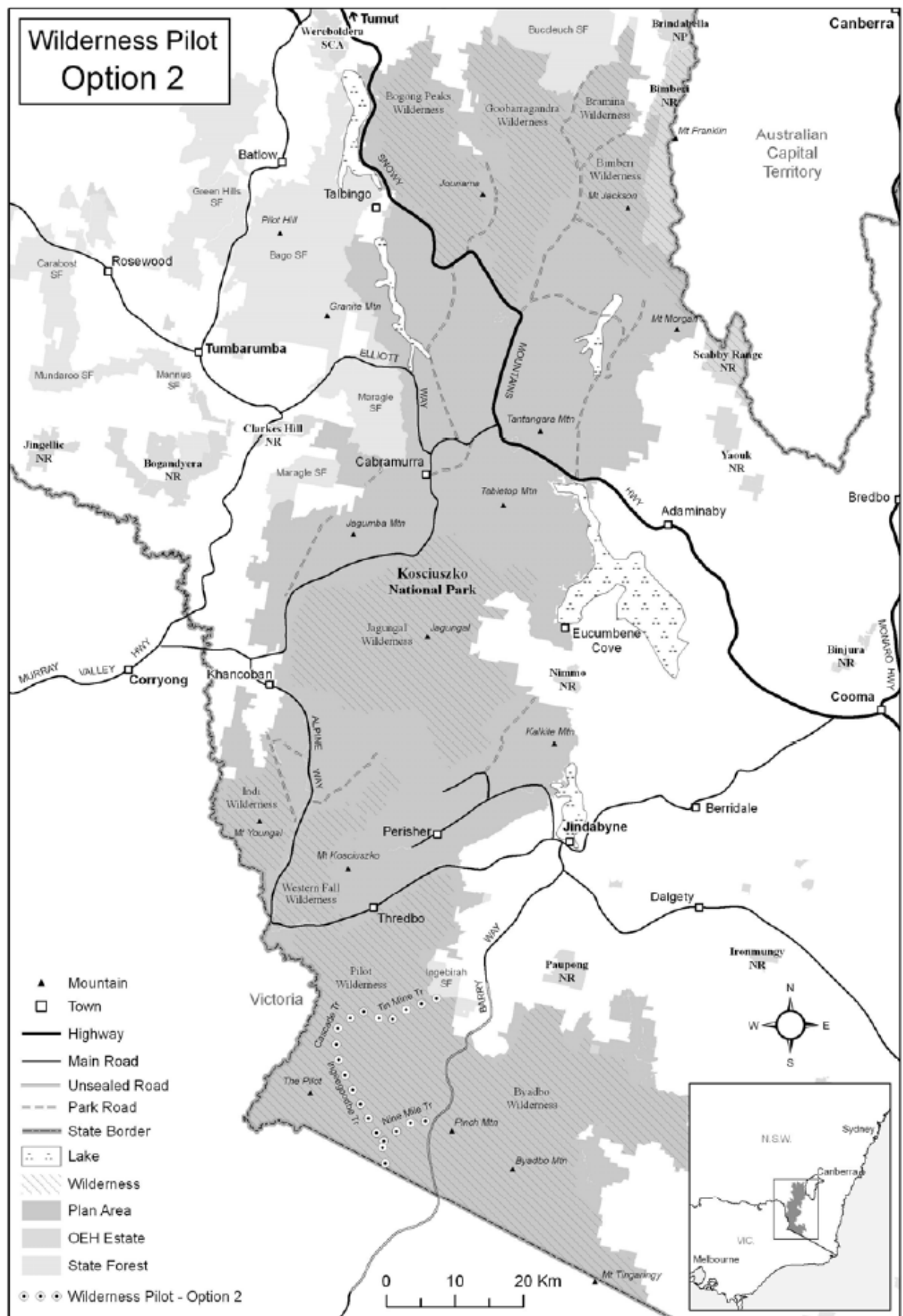
Alternatives:

Three route options were canvassed during public exhibition of the draft plan of management amendments in mid-2013.

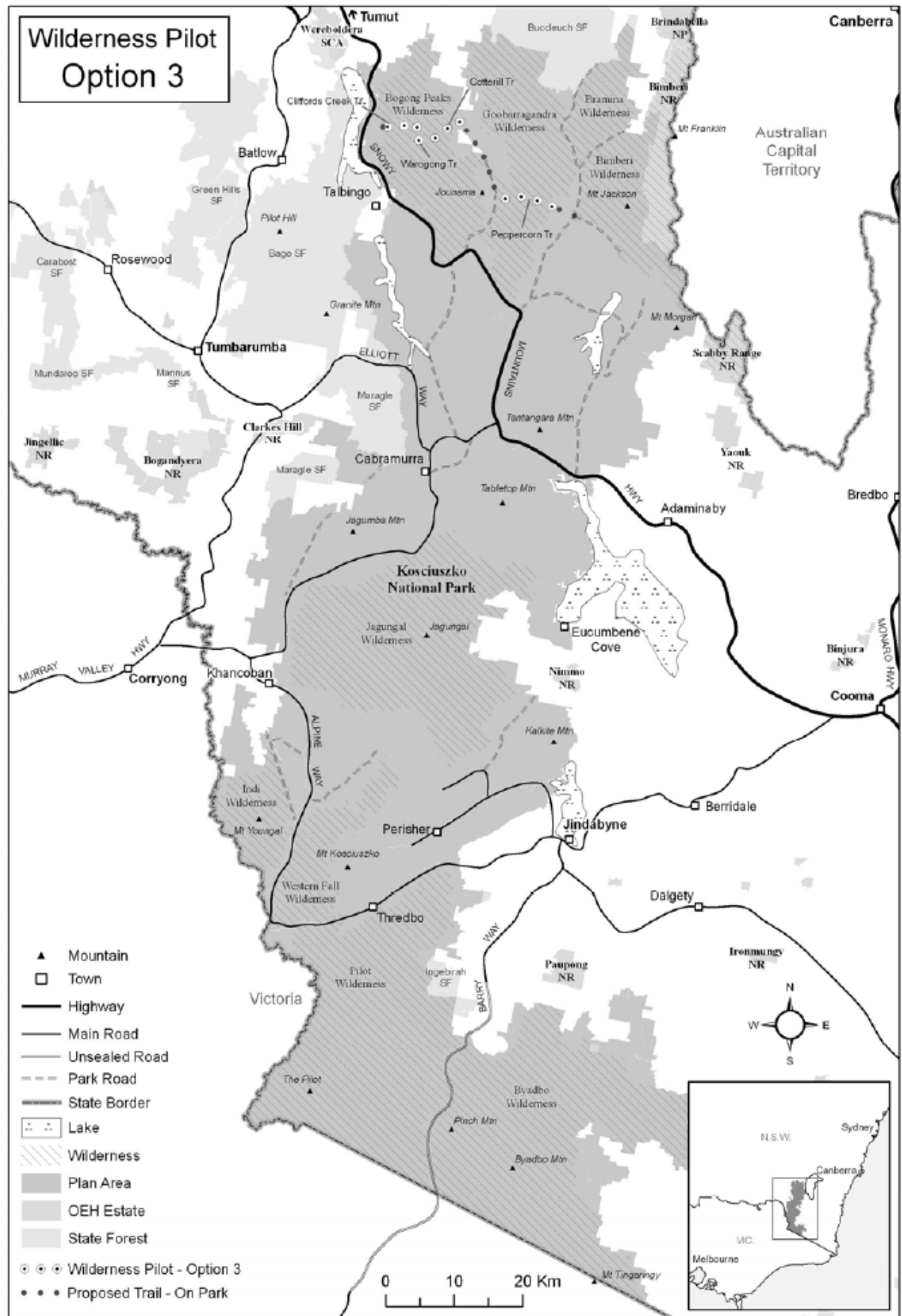
Review of Environmental Factors – Horse Riding in Wilderness Pilot – Kosciuszko NP



Option 2 - a trail of horse riding in wilderness in the south of Kosciuszko National Park, which would form part of the southern wilderness component of the Snowy Mountains Heritage Trail.



Option 3 - a trail of horse riding in wilderness in the north of Kosciuszko National Park, which takes in the northern wilderness component of the Snowy Mountains Heritage Trail.



Do nothing:

Under the 'do-nothing' option horse riding would continue to be restricted to the current locations within the national park. While this option would remove any potential impacts associated with the activity, it is not consistent with the Government's commitments to expand opportunities for horse-riding, including via a trial in wilderness areas. It would also diminish the ability to provide well-managed and monitored access to this area, limiting the scope for some community members to experience and appreciate it (e.g. if they are unable to walk-in) or to support and celebrate cultural and historical connections.

Justification for preferred option:

Following consideration of submissions and recommendations of the RAC and Advisory Council, the Minister for the Environment adopted a plan of management amendment providing for a reduced Option 2 (southern route).

Key issues considered in that decision-making process included:

- the various and strong views on the three options proposed
- concerns from some adjoining land managers regarding traversing of their land implied by some options
- potential environmental impacts, including the historic huts
- pragmatic requirements for a two-year trial and monitoring program.

The preferred option, as detailed in this REF, will provide for appropriate sustainable horse riding access to fulfil the NSW Government's commitments to trialling horse riding in wilderness locations. It will increase community accessibility and opportunities to enjoy and appreciate the park's values. In addition, it will be undertaken in a manner, and with safeguards in place, to ensure consistency with the management principles for wilderness. Namely: protection of the unmodified state of the area and plant and animal communities; preserving evolutionary capacity; and enabling opportunities for solitude and appropriate self-reliant recreation.

Special note: for visitor use, tourism and other proposals requiring a lease or licence under s.151 NPW Act

Proposals seeking a lease or licence under s.151 NPW Act must address the site suitability requirements of the sustainability assessment criteria adopted by the Director General of NPWS (**see below**). For further information on completing the assessment of site suitability, refer to the criteria and supporting guidelines at: <http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm>

Site suitability (lease or licence proposals under s.151 NPW Act)

Site character	N/A – the activity is not subject to the provisions of s.151
Landscape context	N/A
Application of site suitability matrix	N/A

Strategic site assessment (if required by the matrix) <i>Attach any separate assessment report</i>	N/A

7. Description of the existing environment

Include a comprehensive description of the existing environment and surrounds that will be, or are likely to be, affected by the proposed activity. Sensitive areas of the environment should be identified in this section.

Section 3.4 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

Description of the existing environment:

Kosciuszko National Park is the largest park in New South Wales (673,492 ha). The park is internationally recognised as a UNESCO Biosphere Reserve and is nationally important for the protection of water catchments, landscapes, biodiversity, examples of natural features and processes (e.g. glacial features of the main range and limestone areas), and Aboriginal and European history. The park protects the headwaters of the Snowy, Murray and Murrumbidgee Rivers and provides about 40% of the water flows into the Murray-Darling Basin.

The Australian Alps are covered by a mantle of vegetation, thanks to the bogs and fens that fill high country valleys and hollows. These wetlands act like sponges, retaining water from rain and melting snow. As a result, they help prevent erosion and keep the slopes moist. Some alpine peat bogs are metres deep and contain plant matter 15,000 years old, giving scientists valuable information about climate change over the years.

KNP contains representatives of almost all of the alpine flora and fauna communities in NSW as well as the only consistent snow cover. The park is home to many rare and endangered flora and fauna.

The proposed wilderness pilot route is located in declared wilderness within the park. The main access point to the proposed wilderness pilot route is off the Barry Way at Pinch River Camp.

Sections of existing track within the proposed project area include the Nine Mile Trail and Ingeegoodbee Trail. These are existing management trails which provide access for park management purposes, as well as bushwalkers and mountain bikes.

Meteorological data:

The climate of the Australian Alps, in particular, the snowfalls, sets it apart from all other places on the Australian mainland. The mantle of snow that seasonally blankets up to 2500 km² of the park represents the most extensive snow-covered area in Australia.

The climate of the park is principally governed by the passage of weather systems that move from west to east across the southern part of the Australian continent. The north-south aligned Snowy Mountains cut across this moisture-laden westerly air stream, which brings rain and snow to the western escarpment and to a lesser degree the eastern slopes. In summer and autumn this westerly air stream weakens allowing the occasional intrusion of moist easterly air that brings rainfall predominantly to the eastern parts of the park. Dry electrical storms are a common occurrence during the summer months.

Precipitation in the park increases with elevation, with the exposed western crest of the Main Range receiving in excess of 2300 mm of rainfall per year. Snow, which contributes about 60% of the total precipitation received in the alpine area, typically covers the ground for 3-5 months of the year, with snowdrifts only occasionally persisting through summer. The western side of the park receives considerably higher rainfall than the east, which is a distinctive rain shadow region.

In the alpine areas, mean monthly minimum temperatures may be below 0°C for six months of the year, while summer temperatures seldom rise above 25°C. Frost may occur at any time of the year, with some 250 frost days per year being recorded at higher elevations. Elsewhere in the park summer temperatures may reach 30- 35°C and occasionally exceed 40°C at lower elevations.

The prevailing winds in winter are from the western quadrant, with easterly weather episodes usually confined to summer. At high and exposed locations wind speeds of 75 km/h are common, with winds occasionally exceeding 160 km/h.

Topography:

The park includes a variety of landscapes, from steep, forested ridges, to bare granite outcrops. Three Ice Ages have sculptured Kosciuszko's summit leaving behind cirques, glacial lakes and ice-carved rocks. The park contains the continent's highest mountains and unique glacial landscapes.

At 2,228m, Mount Kosciuszko is the highest peak on the Australian mainland. Other notable peaks in the park include Gungahran, Mount Jagungal, Bimberi Peak and Mount Townsend.

The alpine area has quite distinct features, with glacial lakes such as Blue Lake, Lake Albina and Hedley Tarn, and large granite boulders dominating the area.

Surrounding land uses:

The park is located in the southeastern corner of New South Wales, 354 km (220 mi) southwest of Sydney, and is contiguous with the Alpine National Park in Victoria to the south, and the Namadgi National Park in the Australian Capital Territory to the north east. The larger towns of Cooma, Tumut and Jindabyne lie just outside and service the park.

Of the total Snowy River Shire area (602,970 hectares), the dominant land uses are conservation (60%) and agriculture (32%). Jindabyne township made up the majority of the urban land, which comprises 0.4% of the total area. Grazing comprises the majority of agricultural land.

Many tunnels, dams, generators and other parts of the Snowy Mountains Scheme hydro-electric system are located within the park, including the Tantangara Reservoir.

Tourism is one of largest forms of land-use for Kosciuszko National Park. Winter tourism to the alpine area involves snow-boarding, ice-climbing, cross-country skiing and independent camping, with most people accessing the area from the adjacent subalpine ski resorts. Summer pursuits such as mountain biking, abseiling, bushwalking, canoeing, white water rafting and horse riding along bridle tracks.

Geology/Geomorphology:

The bedrock of the entire park consists of rocks formed during the Ordovician to Lower Devonian periods (490–355 million years ago). These include sedimentary rocks laid down in deep marine environments, such as siltstones and shale-forming greywackes, and those deposited in shallow seas such as the limestone found at Cooleman Plain and Yarrangobilly in the north, and at Indi and Cowombat Flat in the south.

The geological significance of the park encompasses features of the Lachlan Fold Belt of Ordovician to Lower Devonian rocks and basalt features from the Tertiary period. The great climatic changes of the Pleistocene are illustrated by the glacial and periglacial features of the park, while Holocene sediments and peats provide valuable information on vegetation changes associated with post-glacial warming. Noteworthy landforms include the mile-high drop from the summits of the Main Range to the Geehi River and the suite of glacial and periglacial features on the Main Range.

The geological and geomorphological features in the park are of national significance including the Ordovician to Lower Devonian rocks that form part of the Lachlan Fold Belt, which are important in understanding the evolution of much of south-eastern Australia, including the history of the Great Dividing Range. These features include:

- the glacial features of the Main Range. The Helms Moraine near Blue Lake is a particularly clear example of glacial transport of one kind of rock onto another. The 'Railway Embankment' moraine near Muellers Pass is another interesting example; it is the site of an early estimate for the date of glaciation and is consequently significant for the history of geology in Australia;
- the periglacial phenomena of the park. They are among the most striking in Australia and demonstrate the widespread effects of cold climate in the Quaternary and in the recent past;
- the role of the park in serving as a benchmark for earth processes in more heavily impacted regions elsewhere in south-eastern Australia. In particular, it offers comparisons with alpine areas in Victoria that until recently were still subject to stock grazing; and
- the Holocene features of the park (sediments and peats) that have revealed valuable information on vegetation changes associated with post-glacial warming.

The following Tertiary geological features also of national significance:

- Round Mountain (near Mount Jagungal): Tertiary basalt flows
- Kiandra, Cabramurra and Yarrangobilly: columnar basalt pinnacles
- New Chum Hill and Golden Crown Diggings: Tertiary sediments.

Soil types and properties:

Kosciuszko National Park is the only part of southeast Australia that protects such a wide range of mountain soils still in their largely natural condition and in one and the same geographic location. This applies particularly to the snow patch soils, alpine humus soils, bog and fen peats and silty bog soils of the alpine and subalpine areas.

The soils of the park are derived from a diverse range of parent materials including alkaline limestones and basalt, and acidic granites and sediments. On a given parent material over a wide altitudinal range, characteristic soil sequences have developed such as alpine humus soils and various podsoles on granites and metasediments, alpine humus soils and krasnozems on basalt, and alpine humus soils, rendzinas and terra rossas on limestone. As well as soils in the proper sense, the park possesses deep weathered regolith mantles of decomposed rock material.

Pressures on soils in the park include vegetation damage and soil disturbance from walkers, horses, vehicles and bicycles initiating erosion, and feral horses trampling meadow soils and bog peats that are easily incised and gullied.

Waterways including wild and scenic rivers:

The alpine rivers of the park are significant in that they form only a very small percentage of all running waters in the country. The lakes of the Main Range are the highest in Australia and the only waterbodies on mainland Australia to have been formed by glaciation. They contain the freshest water on mainland Australia and are the only lakes on the mainland that have a lengthy seasonal ice cover.

The waters of the Snowy River, the Murray River, and Gungahlin River all rise in the park. The headwaters of the Murray, Murrumbidgee, Tumut, Swampy Plains and Snowy rivers all lie within Kosciuszko National Park. These rivers are highly important economically as they provide irrigation water and hydroelectricity.

Other rivers and streams within the park that have been modified, but still have important downstream nature conservation and recreational values, include the:

- Goodradigbee River;
- Snowy River (from near Currowang Falls to the Victorian border); and
- Swampy Plains River (especially the Devils Grip Gorge section).

The park contains a number of natural and artificial lakes. The five small alpine lakes (1.6-14.4 ha) – Albina, Blue, Club, Cootapatamba and Hedley Tarn – are unique on the Australian mainland in that they were formed by glacial action. They are the highest lakes in the country and the only free-standing waterbodies on the Australian mainland that have a lengthy seasonal ice cover. These glacially formed lakes are significant habitats; they are also the highest lakes (1890–2070 m) in Australia.

There are a number of subterranean water bodies within Kosciuszko National Park, those associated with karst systems.

Catchment values:

Kosciuszko National Park is the largest conservation area in the Upper Murray Catchment covering around a quarter of the NSW portion. It is recognised nationally and internationally as a UNESCO Biosphere Reserve and preserves extensive areas of wilderness.

The Upper Murray is a rugged and mountainous catchment that supports vast areas of wilderness and important alpine habitats. The Upper Murray catchment is 15,330 square kilometres in total. Elevations across the catchment range from 2,200 metres around the alpine peaks in the east, to 150 metres at Hume Dam.

The alpine area of Kosciuszko National Park has the ability to store water within the catchment since the majority of rainfall falls as snow. Throughout the months of spring and early summer the ice and snow in the catchment melts and flows into surrounding rivers and streams.

Major NSW tributaries to the Upper Murray include the Geehi, Swampy Plains and Tooma Rivers and Tumbarumba Creek.

The Upper Murray catchment supports a sparse population with around 40 per cent living in NSW. Tumbarumba and Khancoban are the largest towns in the NSW portion of the catchment.

Coastal risk areas:

N/A

Wetland communities including SEPP 14 wetlands:

Blue Lake is recognised as a wetland of international importance under the Ramsar Convention on Wetlands and all of the alpine fens, bogs and lakes within the park are listed in the Directory of Important Wetlands in Australia. The alpine lakes are the only natural wetlands on the Australian mainland with an ice sheet over the lake surface throughout winter, and Blue Lake is probably the only dimictic lake on mainland Australia.

The listing, which also includes Hedley Tarn and most of the catchment of Blue Lake is based upon criteria 1 and 3 of the convention, that is, the area:

- contains a representative, rare or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region; and
- supports populations of plant and/or animal species important for maintaining the biological diversity of the particular biogeographic region.

Parties to the convention are required to manage listed wetlands in ways that maintain or enhance the condition of their ecological character.

Flora (including flora of conservation significance):

There is a long history of flora research and mapping in Kosciuszko National Park. A search of known records is at Attachment 4 together with maps showing locations. **As these contain sensitive information regarding the specific location of species they are not to be made publicly available.**

This section focuses on TSC Act listed species. EPBC Act listed species are discussed later in this REF.

The following threatened flora species were identified within 5km of the proposed pilot trial, listed as **endangered** under the TSC Act.

- *Calotis pubescens* (Max Mueller's Burr-daisy) – this species is found near Cascade Hut and there is potential habitat in the area, however no known records are documented.
- *Eucalyptus saxatilis* (Suggan Buggan Mallee)

The Suggan Buggan Mallee is a multi-stemmed, small tree to 10 m tall, with a relatively sparse canopy. It has smooth, yellow-orange to grey or grey-green bark. The Suggan Buggan Mallee is currently known from ten populations in NSW and Victoria. In NSW it is confined to the Lower Snowy area of Kosciuszko National Park. The Suggan Buggan Mallee is endangered due to its limited distribution.



No identified *Eucalyptus saxatilis* are located in the location of the pilot trail.

Fauna (including fauna of conservation significance):

There is also a long record of fauna research and survey in the park. A search of known records and maps are at Attachment 4. **As these contain sensitive information regarding the specific location of species they are not to be made publicly available.**

The following threatened fauna species are identified within 5km of the proposed pilot trial, listed as **vulnerable** under the TSC Act

- **Fauna:**

- *Litoria verreauxii alpina* (Alpine Tree Frog)
- *Callocephalon fimbriatum* (Gang-gang Cockatoo)
- *Calyptorhynchus lathami* (Glossy Black-Cockatoo)
- *Glossopsitta pusilla* (Little Lorikeet)
- *Ninox strenua* (Powerful Owl)
- *Tyto novaehollandiae* (Masked Owl)
- *Climacteris picumnus victoriae* (Brown Treecreeper (eastern subspecies))
- *Chthonicola sagittata* (Speckled Warbler)
- *Daphoenositta chrysoptera* (Varied Sittella)
- *Pachycephala olivacea* (Olive Whistler)
- *Melanodryas cucullata cucullata* (Hooded Robin (south-eastern form))
- *Petroica boodang* (Scarlet Robin)
- *Petroica phoenicea* (Flame Robin)
- *Stagonopleura guttata* (Diamond Firetail)
- *Dasyurus maculatus* (Spotted-tailed Quoll)
- *Falsistrellus tasmaniensis* (Eastern False Pipistrelle)
- *Miniopterus schreibersii oceanensis* (Eastern Bentwing-bat)
- *Myotis macropus* (Southern Myotis)
- *Mastacomys fuscus* (Broad-toothed Rat)

The above listed are predominantly avifauna and not ground nesting or dwelling.

The following threatened fauna species is identified within 5km of the proposed pilot trial, listed as **endangered** under the TSC Act

- *Pseudomys fumeus* (Smoky Mouse)



Ecological communities (endangered ecological communities and regionally significant communities):

No EECs occur within the immediate vicinity of the trial route.

Critical habitat declared under the TSC Act:

No critical habitat has been declared along or in the vicinity of the proposed track for the pilot trial.

SEPP 26 littoral rainforest (or equivalent):

N/A – Not present in the area.

SEPP 44 koala habitat:

White box (*Eucalyptus albens*), which is considered a feed tree for koalas, are found in Kosciuszko National Park in the ecosystem of the lower Snowy River Valley and Byadbo country.

However, no feed trees or core habitat within the meaning of SEPP 44 occur along the proposed track route of the proposed wilderness pilot and there are no current records for koalas in this specific area.

Wilderness (either nominated or declared):

The park contains nine wilderness areas covering about 300,000 hectares. These account for approximately 50% of the total area of the park. These areas represent some of the least disturbed parts of the Australian Alps bioregion. They are places in which natural processes can continue with minimal human interference, places of refuge for rare and threatened plant and animal species, and repositories of genetic material. They also provide natural or natural-appearing settings in which people can undertake self-reliant recreational activities and find solitude, inspiration and a sense of renewal.

The proposed trial route passes through the declared 'Pilot Wilderness Area'.

Aboriginal cultural heritage:

The park is highly significant for Aboriginal people with traditional and historical links to the mountains. This is illustrated by their ongoing sense of belonging and identity, spiritual attachments, surviving traditional knowledge, and family stories and memories. Scientific evidence indicates a long history of Aboriginal use and occupation of the high country and demonstrates successful adaptations to extreme environmental conditions.

A desktop search was undertaken of the Aboriginal Heritage Information Management System (AHIMS).

Search results and maps are at Attachment 3. **As these contain sensitive information regarding the specific location of species they are not to be made publicly available.**

Several sites were in proximity of the trial location, all comprising artefacts, but are considered to be at low risk of adverse impact due to the nature of the activity and its confines to the existing management trail.

National/state/local natural or cultural heritage values:

1. The entire park is listed as a biosphere reserve under the United Nation's Educational, Scientific and Cultural Organization Man and the Biosphere Program.
2. Blue Lake and environs on the Main Range is listed as a wetland of international importance under the Ramsar Convention.
3. The Australian Alps are recognised by the World Conservation Union as one of 167 world centres of biodiversity. At 11%, endemism in the Australian Alps is among the highest for any mountain area in the world.
4. The park is included in the National Heritage listing for the Australian Alps National Parks and Reserves.

The park contains a number of features of international significance. These include:

- soils that are of outstanding scientific value;
- diversity and high degree of endemism of the alpine vegetation;
- outstanding development of subalpine treeless flats and valleys;
- radiation of one genus, *Eucalyptus*, to occupy such a wide variety of habitats;
- high diversity of reptile species, especially above the snowline;
- populations of thirteen vertebrate taxa that are listed as threatened or near-threatened by the World Conservation Union, including the endangered mountain pygmy-possum; and
- the historic and scientific values of certain research undertaken in the park.

Vegetation of cultural landscape value:

(e.g. gardens and settings, introduced exotic species, or evidence of broader remnant land uses)

The alpine flora of the park is especially significant due to its diversity, high degree of endemism and its relationships with alpine vegetation elsewhere in the Southern Hemisphere.

Other significant features of the vegetation include the upper slope and inverted tree-lines, the subalpine treeless flats and valleys, and the box-pine vegetation of the lower Snowy River and Byadbo areas.

Other cultural heritage values:

The park contains numerous physical items of historic heritage significance. A desktop survey was undertaken of the NPWS Historic Heritage Places Register (HHIMS). Search results are at Attachment 3. **As these contain sensitive information regarding the specific location of sites they are not to be made publicly available.**

The park has a long pastoral history, commencing in early 19th century with permanent and seasonal living in bush style homes and huts, and other heritage items such as graves, mines, mills, fences, stockyards and ruins that are different from other areas in Australia, and relevant to many horse riders and family histories. Descendants that have either lived in the mountains all their lives or still have strong ties to this heritage and their ancestors continue to have strong alliances with horse riding in the mountains.

There are strong intangible social heritage values evident in the community, with specific links to horse riding. Horse riding is a long standing tradition within the park, with deep community attachment, and has been occurring for more than 150 years. Many horse riders express a desire to maintain and pass down to future generations their horsemanship, bush skills and lore, history and memories.

Recreation values:

The nationally significant tourism and recreational values of Kosciuszko National Park are based upon the diverse range of natural and cultural settings present within which to undertake recreational activities. The mountainous landscapes and seasonal presence of snow are key attributes of the park. So too is the size and undeveloped nature of the park, which offers many opportunities for solitude and self-reliant and adventurous recreation.

Kosciuszko National Park contains the only snowfield tourism destinations in New South Wales, with the resorts of the Australian Alps offering unique recreational opportunities within the Australian context. The park contains the largest contiguous area of snow country in Australia. The economic benefits derived from snow-based recreation undertaken within the park are substantial.

The park provides for a wide range of recreational opportunities including car touring, bushwalking, alpine and cross country skiing, horse riding, cycling, canoeing, rafting, fishing, wilderness experiences and many other activities.

Recreational horse riding is a popular activity primarily undertaken across the expansive snow plains and low wooded ridges of the northern end of the park. Most of the horses riding areas in the park are located within the Back Country Zone. Horse riding trips in the park vary in duration from a few hours to extended trips of a week or longer, and are undertaken by private parties and commercial groups.

The park is traversed by the Bicentennial National Trail (BNT), an important multi-purpose trail available to horse riders that extends down the east coast of mainland Australia from Cooktown in far north Queensland to Healesville in Victoria. The 182 km section of the BNT located within the park utilises a series of management trails, linked by short sections of public road.

Scenic and visually significant areas:

The aesthetic qualities of the park are exceptional, diverse and seasonally-changeable. The beauty of the place stems from a mix of topographic features including steep-sided river valleys, gently undulating hills and flat-floored valleys.

These landscapes are clothed in a visual mosaic of different vegetation communities including the pastel cloak of eucalypt forests, straw-coloured grasslands and fields of alpine wildflowers. These same scenes take on a very different guise in winter when blanketed by snow.

The aesthetic appeal of the park extends to numerous huts and other infrastructure associated with earlier land uses, many of which display elements of vernacular architecture and design.

Education and scientific values:

There is great potential for both scientific and education activities within the area. The surrounding bushland offers unique opportunities for the study of a variety of flora and fauna. There is a long and well documented history of leading scientific endeavour in the park.

Interests of external stakeholders (e.g. adjoining landowners, leaseholders):

The park is generally surrounded by adjacent landholders predominantly used for agricultural purposes / grazing, with some localised tourism operations. The park is valued for its bushland setting, providing a high quality visual backdrop.

Matters of National Environmental Significance under the EPBC Act:

Kosciuszko National Park includes: the Blue Lake Ramsar Site; a number of nationally listed threatened and migratory species; and is part of the National Heritage listing for the Australian Alps National Parks and Reserves.

A search of listings was undertaken using the EPBC Act protected matters search tool and a copy is available at Attachment 4.

8. Impact assessment

This part of the REF provides an analysis of all possible impacts from the proposed activity and a description of any proposed mitigation measures. Section 3.7 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance on impact assessment and mitigation measures.

8.1 Physical and chemical impacts during construction and operation				
Section 3.8 of <i>Proponents Guidelines for the Review of Environmental Factors</i> provides further guidance				
	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
1. Is the proposal likely to impact on soil quality or land stability?	<input checked="" type="checkbox"/>	Low Negative	Increased use of the trails has the potential to impact on soil quality due to compaction and erosion. Trail incision, trail width, water ponding, siltation	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice. Implement the monitoring framework and initiate identified management interventions if monitoring thresholds are triggered. Interventions may range from rider education, to rehabilitation or trail closure.
2. Is the activity likely to affect a waterbody, watercourse, wetland or natural drainage system?	<input checked="" type="checkbox"/>	Low Negative	The proposed pilot route crosses existing streams and watercourses. Impacts may arise due to bank trampling and depositing of waste materials. The current use of the existing trails by wild horses contributes to sediment runoff impacting watercourses.	As per Issue 1 above. In addition, horse riders are encouraged to abide by the Code of Conduct, which includes guidance on stream crossings.
3. Is the activity likely to change flood or tidal regimes, or be affected by flooding?	<input type="checkbox"/>	N/A	N/A	
4. Is the activity likely to affect coastal processes and	<input type="checkbox"/>	N/A	N/A	

8.1 Physical and chemical impacts during construction and operation

Section 3.8 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
coastal hazards, including those projected by climate change (e.g. sea level rise)?				
5. Does the activity involve the use, storage, or transport of hazardous substances or the use or generation of chemicals, which may build up residues in the environment?	<input type="checkbox"/>	N/A	N/A	
6. Does the activity involve the generation or disposal of gaseous, liquid or solid wastes or emissions?	<input checked="" type="checkbox"/>	Low Negative	Small amounts of manure will be deposited on the trail and in camping areas during the trial period.	Group size limits and the remote nature of the location will reduce the risks of large amounts of manure being produced. The monitoring framework includes a focus on weeds, which may be attributable to manure deposit.
7. Will the activity involve the emission of dust, odours, noise, vibration or radiation in the proximity of residential or urban areas or other sensitive locations?	<input type="checkbox"/>	N/A	N/A	No construction is proposed for the pilot. The proposed trail utilises existing management trails.

* If yes, all columns need to be completed. If no, write 'N/A' in the second and third columns

8.2 Biological impacts during construction and operation

Section 3.9 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
1. Is any vegetation to be cleared or modified? (includes vegetation of conservation significance or cultural landscape value)	<input type="checkbox"/>	N/A		No vegetation is proposed to be cleared for the pilot. The proposed trail utilises existing management trails. Routine maintenance (such as removal of debris from the trail) may occur from time to time in accordance with standard management practices.
2. Is the activity likely to have a significant effect on threatened flora species, populations, or their habitats, or critical habitat? [refer to threatened species assessment of significance (7-part test)]	<input checked="" type="checkbox"/>	Low Negative	Threatened species of flora have been identified within 5km of the area. No critical habitat has been identified in the area of the pilot route.	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice. Implement the monitoring framework and initiate identified management interventions if monitoring thresholds are triggered. Interventions may range from rider education, to rehabilitation or trail closure.
3. Does the activity have the potential to endanger, displace or disturb fauna (including fauna of conservation significance) or create a barrier to their movement?	<input checked="" type="checkbox"/>	Low Negative	Threatened fauna species have been identified in the area. The activity has a small potential to disturb fauna.	The proposed activity is unlikely to have a significant impact on fauna species, due to the transitory and casual nature of the activity. Groups size limits, camping locations, seasonal closures and the monitoring program will also reduce potential fauna impacts.
4. Is the activity likely to have a significant effect on	<input checked="" type="checkbox"/>	Low Negative	Threatened fauna species have been identified in the area.	See Point 3 above.

8.2 Biological impacts during construction and operation

Section 3.9 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
threatened fauna species, populations, or their habitats, or critical habitat? (refer to threatened species assessment of significance (7-part test))				
5. Is the activity likely to impact on an ecological community of conservation significance?	<input checked="" type="checkbox"/>	Low Negative	The wilderness landscape is of significant conservation value and the park is listed as biosphere reserve. Horse riding may impact on these values.	The activity has been designed to be consistent with the management principles for wilderness areas. Refer also to the measures in Point 2 above.
6. Is the activity likely to have a significant effect on an endangered ecological community or its habitat? (refer to threatened species assessment of significance [7-part test])	<input type="checkbox"/>	N/A	The activity is to only occur on existing management trails. No EECs are in the immediate vicinity of the proposal or likely to be impacted.	
7. Is the activity likely to cause a threat to the biological diversity or ecological integrity of an ecological community?	<input checked="" type="checkbox"/>	Low Negative	The activity is to only occur on existing management trails, minimising any threats to the biological diversity or ecological integrity of an ecological community.	Refer also to the measures in Point 2 above.

8.2 Biological impacts during construction and operation




Section 3.9 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
8. Is the activity likely to introduce noxious weeds, vermin, feral species or genetically modified organisms into an area?	<input checked="" type="checkbox"/>	Low Negative	Additional visitor use of the area, and introduction of horses, may increase the potential for the introduction of weeds and pathogens into the area.	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice. Implement the monitoring framework and initiate identified management interventions if monitoring thresholds are triggered. Interventions may range from rider education, to rehabilitation or trail closure. In addition, horse riders are encouraged to abide by the Code of Conduct, which provides guidance on reducing risk of weed introductions.
9. Is the activity likely to affect critical habitat?	<input type="checkbox"/>	N/A	N/A	
10. Is the activity consistent with any applicable recovery plans or threat abatement plans?	<input checked="" type="checkbox"/>	Low	The proposed activity, supported by the detailed environmental safeguards, will have no adverse impacts on the recovery strategies or actions for these species as detailed in the Saving Our Species program.	
11. Is the activity likely to affect any joint management agreement entered into under the TSC Act?	<input type="checkbox"/>	N/A	N/A	

* If yes, all columns need to be completed. If no, write 'N/A' in the second and third columns

8.3 Community impacts during construction and operation

Section 3.10 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
1. Is the activity likely to affect community services or infrastructure?		Low Positive	Horse riding wilderness pilot will increase opportunity for local community horse riding groups to experience the park and wilderness environment.	One of the primary reasons the Kosciuszko National park was selected for this pilot was due to the high and increasing demand for further horse riding opportunities in this locality. The pilot is located in the southern end of KNP where no horse riding opportunities currently exist. The monitoring framework includes a social component to assess visitor and user experiences.
2. Does the activity affect sites of importance to local or broader community for their recreational or other values or access to these sites?		Low Positive Low Negative	The provision of access to these trails supports community interest in additional horse riding opportunities in the park. Currently, the trails are used by bushwalkers and mountain bike riders. There is some potential for conflict with horse riders.	The use of remote cameras will provide data on the frequency and intensity of trail use by horse riders and others. The social component of the monitoring framework will assist in determining any impacts (positive or negative) on park visitor experiences associated with the trial. In addition, NPWS will maintain existing communication channels with horse riders, mountain bikers and bushwalkers.
3. Is the activity likely to affect economic factors, including employment, industry and property value?		Low Positive	Horse riding wilderness pilot will increase opportunity for local horse riding groups to experience the park environment.	Local businesses will benefit from passing tourist trade and increased recreational visitors to the park. Wilderness pilot supported by Regional Tourist Organisation and Tourism Snowy Mountains.


8.3 Community impacts during construction and operation

Section 3.10 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
4. Is the activity likely to have an impact on the safety of the community?	<input checked="" type="checkbox"/>	Low Negative	Parts of the Nine Mile Trail are steep and challenging. Interactions between horse riders, mountain bikes and bushwalkers may create some risks.	Information material will be provided prior to the entry point to the trail and on the OEH web advising riders of the condition of the Nine Mile Trail and encouraging access mainly by experienced riders. The social component of the monitoring framework will assist in determining any impacts (positive or negative) on park visitor experiences associated with the trial. In addition, NPWS will maintain existing communication channels with horse riders, mountain bikers and bushwalkers. Also, consistent with standard approaches and codes of conduct, it is expected that all trail users will be respectful of one another and give way in appropriate circumstances. NPWS will implement compliance and enforcement steps in accordance with standard operational practice.
5. Is the activity likely to cause a bushfire risk?	<input type="checkbox"/>	N/A	N/A	NPWS will advise the local RFS that the trail is in use by horse riders for the two year period.
6. Will the activity affect the visual or scenic landscape? This should include consideration of any permanent or temporary signage (eg. signs advertising an event and related sponsorship).	<input checked="" type="checkbox"/>	Negligible Negative	Small scale, discrete signage will be used for remote cameras, trail and camping markers (where necessary) and baseline monitoring sites will be marked by pegs and stakes.	No specific measures required. These have been designed to be discrete, consistent with preserving the wilderness values and visitor experience.

8.3 Community impacts during construction and operation

Section 3.10 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
7. Is the activity likely to cause noise, pollution, visual impacts, loss of privacy, glare or overshadowing to members of the community, particularly adjoining landowners?		Low Negative	Increased use of the trail may impinge on the sense of isolation	<p>Group size limits and the remote nature of the location mean it is unlikely that significant numbers of horse riders will be present at any one time. In addition, the length of the trail (32 km) means that substantial opportunities will remain for visitors to experience privacy and solitude.</p> <p>The social component of the monitoring framework will assist in determining any impacts (positive or negative) on park visitor experiences associated with the trial.</p>

* If yes, all columns need to be completed. If no, write 'N/A' in the second and third columns

8.4 Natural resource impacts during construction and operation

Section 3.11 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
1. Is the activity likely to result in the degradation of the reserve or any other area reserved for conservation purposes?	<input checked="" type="checkbox"/>	Negligible Negative	The proposed activity involves the increased usage on an area, therefore there is potential for some additional impact.	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice. Implement the monitoring framework and initiate identified management interventions if monitoring thresholds are triggered. Interventions may range from rider education, to rehabilitation or trail closure.
2. Is the activity likely to affect the use of, or the community's ability to use, natural resources?	<input type="checkbox"/>	N/A	N/A	
3. Is the activity likely to involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials? This should include opportunities to utilise	<input type="checkbox"/>	N/A	N/A	

8.4 Natural resource impacts during construction and operation

Section 3.11 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
recycled or alternative products.				
<p>4. Does the activity provide for the sustainable and efficient use of water and energy?</p> <p>Where relevant to the proposal, this should include consideration of high efficiency fittings, appliances, insulation, lighting, rainwater tanks, hot water and electricity supply.</p>	<input type="checkbox"/>	N/A	N/A	

* If yes, all columns need to be completed. If no, write 'N/A' in the second and third columns


8.5 Aboriginal cultural heritage impacts during construction and operation

Section 3.12 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance. Addressing matters 1-5 will assist in meeting requirements set out in OEH's 'Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW'..

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
1. Will the activity disturb the ground surface or any culturally modified trees?	<input type="checkbox"/>	N/A	N/A	No construction is proposed for the pilot. The proposed trail utilises existing management trails.
2. Does the activity affect known Aboriginal objects or Aboriginal places? Include all known sources of information on likely presence of Aboriginal objects or places, including AHIMS search results.	<input checked="" type="checkbox"/>	Negligible Negative	Recorded Aboriginal sites exist within the vicinity of the trail route, but impacts are avoidable and unlikely	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice.
3. Is the activity located within, or will it affect, areas containing the following landscape features? <ul style="list-style-type: none"> • within 200m of waters*; • within a sand dune system*; • on a ridge top, ridge line or headland; • within 200m below or above a cliff face; or • within 20m of or in a cave, rock shelter or 	<input checked="" type="checkbox"/>	Low negative	The proposed activity passes through various landscape features, including on a ridge top and within 200m of water.	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice.

8.5 Aboriginal cultural heritage impacts during construction and operation

Section 3.12 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance. Addressing matters 1-5 will assist in meeting requirements set out in OEH's 'Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW'..

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
a cave mouth. *see REF Proponents Guide for definitions.				
4. If Aboriginal objects or landscape features are present, can impacts be avoided?		Negligible Negative	Recorded Aboriginal sites exist within the vicinity of the trail route, but impacts are avoidable and unlikely	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice.
5. If the above steps indicate that there remains a risk of harm or disturbance, has a desktop assessment and visual inspection^ been undertaken (refer to the Due Diligence Code)? <i>^ for activities proposed by OEH, at a minimum this should be undertaken by a OEH employee with Aboriginal Site Awareness training and relevant practical experience, as approved by an Area Manager</i>	<input type="checkbox"/>	N/A	There is no residual risk of harm that is not adequately addressed by the stated safeguards and mitigation measures	
6. Is the activity likely to affect wild resources or access to these resources,	<input type="checkbox"/>	N/A	N/A	

8.5 Aboriginal cultural heritage impacts during construction and operation

Section 3.12 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance. Addressing matters 1-5 will assist in meeting requirements set out in OEH's 'Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW'..

	Applicable?*	Likely impact (negligible, low, medium or high negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
which are used or valued by the Aboriginal community?				
7. Does the activity affect areas subject to Native Title claims?	<input type="checkbox"/>	N/A	N/A	

* If yes, all columns need to be completed. If no, write 'N/A' in the second and third columns

Notes:

- if the above assessment indicates that there is still a reasonable risk or potential that Aboriginal objects, Aboriginal places or sensitive landscape features could be adversely affected by a proposal, then consistent with the precautionary principle it should either be re-considered or further detailed investigations undertaken.
- if it is concluded that an activity will have unavoidable and justified impacts on Aboriginal objects or Aboriginal places then the proponent should consider applying for an AHIP under Section 90 of the NPW Act.

8.6 Other cultural heritage impacts during construction or operation

Section 3.13 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

	Applicable?*	Likely impact (negligible/ maintenance, minor, major, contentious; or N/A)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
1. What is the impact on places, buildings, landscapes or moveable heritage items?	<input checked="" type="checkbox"/>	Minor	Historic huts are located in proximity to the north western end of the Ingeegoodbee section of the trail route.	Ensuring camping is not within 500 metres of historic hut and occurs in designated casual camping areas.
2. Is any vegetation of cultural landscape value likely to be affected (e.g. gardens and settings, introduced exotic species, or evidence of broader remnant land uses)?	<input type="checkbox"/>	N/A	N/A	

*If yes, all columns need to be completed. If no, write 'N/A' in the second and third columns

8.7 Matters of national environmental significance under the EPBC Act

Section 3.14 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance. Also refer to guidelines produced by the Commonwealth Department of Sustainability, Environment, Water, Population and Communities

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
1. Is the proposal likely to impact on matters of national environmental significance under the EPBC Act, as follows:				
<ul style="list-style-type: none"> Listed threatened species or ecological communities 	<input checked="" type="checkbox"/>	Low Negative	Threatened species listed under the EPBC Act (1999) have been identified in the vicinity of the proposed pilot area. Refer Attachment 4D. No	Existing trails are already highly modified and riders are required to stay on these.

8.7 Matters of national environmental significance under the EPBC Act

Section 3.14 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance. Also refer to guidelines produced by the Commonwealth Department of Sustainability, Environment, Water, Population and Communities

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/Mitigation Measures
			significant impacts are likely given nature of the activity and the safeguards applied.	Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice. Implement the monitoring framework and initiate identified management interventions if monitoring thresholds are triggered. Interventions may range from rider education, to rehabilitation or trail closure.
• Migratory species protected under international agreements	<input type="checkbox"/>	N/A	N/A	
• Ramsar wetlands	<input type="checkbox"/>	N/A	N/A	
• Commonwealth marine environment	<input type="checkbox"/>	N/A	N/A	
• World heritage properties or national heritage places	<input checked="" type="checkbox"/>	Low Positive	Kosciuszko National park is on the National Heritage List established under the EPBC Act. Horse riding wilderness pilot will increase opportunity for visitors to experience the park environment and to understand the significance of the nationally listed heritage place.	Existing trails are already highly modified and riders are required to stay on these. Group size limit of 8. Casual camping locations to be identified. Seasonal closures consistent with standard park management practice. Implement the monitoring framework and initiate identified management interventions if monitoring thresholds are triggered. Interventions may range from rider education, to rehabilitation or trail closure.

Note:

- referral to the Commonwealth may be required if the activity is likely to have a significant effect on matters of national environmental significance. Refer to the Significant Impact Guidelines at: <http://www.environment.gov.au/epbc/publications/nes-guidelines.html>

9. Proposals requiring additional information

Only complete the following sections if **applicable** to the proposal.

9.1 Lease or licence proposals under s.151 NPW Act

Section 2.2 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance

Proponents must complete and submit a **Sustainability Assessment** together with the REF. This also applies where OEH is the proponent for projects of the kind listed in s.151A, NPW Act.

For information on the sustainability assessment criteria and guidelines, including assessment templates, go to: <http://www.environment.nsw.gov.au/protectedareas/developmentadjoiningdecc.htm>

Note that for **minor activities and uses** (usually events and similar proposals involving less than 400 people) a streamlined and combined REF and Sustainability Assessment template is available (**Template 1**).

Sustainability assessment attached as follows:

- ☐ Special activities and uses (involving more than 400 people) – Sustainability Assessment **Template 2**
- ☐ Built structures and facilities – Sustainability Assessment **Template 3**

9.2 Telecommunications facilities (s.153D, NPW Act)

Section 2.2 and Appendix 1 of *Proponents Guidelines for the Review of Environmental Factors* provide further guidance

1. Are there feasible alternative sites for the facility on land that is not reserved under the NPW Act?	
2. Does the site of any above ground facility cover the minimum area possible?	
3. Is the facility to be designed and constructed to minimise risk of damage to the facility from bushfires?	
4. Has the site and construction of the facility been selected to, as far as practicable, minimise visual impacts?	
5. Is it feasible to use an existing means of access to the site?	
6. Is the facility essential for the provision of telecommunications services for land reserved under the NPW Act or for surrounding areas to be served by the facility?	
7. Will the facility be removed and	

the site restored as soon as possible after the facility becomes redundant (e.g. due to changes in technology)?	
8. Has the site been selected after taking into account the objectives set out in any plan of management relating to the land?	
9. If feasible, will the facility be co-located with an existing structure or located at a site that is already disturbed by an existing lease, licence, easement or right of way?	

If co-location is proposed, please indicate if:

- ☐ The proponent will be the owner of the facility
- ☐ The proponent will be a co-user of the facility

9.3 Activities within the Sydney Drinking Water Catchment

Activities within the catchment are subject to the provisions of the Drinking Water Catchments REP No.1

1. Does the activity incorporate any current recommended practices and performance standards endorsed or published by the Sydney Catchment Authority that relate to the protection of water quality?	
2. If the activity does not do so, how will the activity achieve outcomes not less than these?	
3. Will the activity have a neutral or beneficial effect on water quality?	

10. Threatened species assessment of significance (7 part test)

Address each of the factors set out in s 5A EP&A Act to decide whether there is likely to be a significant effect on threatened species, populations, ecological communities or their habitats, as set out below, or alternatively address the factors in a separate document. In preparing this section, refer to any relevant guidelines published by the DECCW.

Threatened species, populations and communities and critical habitats listed under both the *Threatened Species Conservation Act 1997* and *Fisheries Management Act 1994* should be included. Those listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) should not be included. Impacts on EPBC listed species should be addressed in section 8 above, or in a separate attached assessment. The proponent will still need to separately consider whether referral to the Commonwealth is required.

When you have completed the threatened species assessment of significance (7-part test), include the findings in Biological Impacts section.

List the species, populations and ecological communities, or their habitats which are likely to be affected by the proposal:

The following threatened species have been identified within 5 km of the trial location. Profiles for each species are included at Attachment 4C.

Flora

- *Calotis pubescens* (Max Mueller's Burr-daisy)
- *Eucalyptus saxatilis* (Suggan Buggan Mallee)

Fauna

- *Litoria verreauxii alpina* (Alpine Tree Frog)
- *Callocephalon fimbriatum* (Gang-gang Cockatoo)
- *Calyptorhynchus lathami* (Glossy Black-Cockatoo)
- *Glossopsitta pusilla* (Little Lorikeet)
- *Ninox strenua* (Powerful Owl)
- *Tyto novaehollandiae* (Masked Owl)
- *Climacteris picumnus victoriae* (Brown Treecreeper (eastern subspecies))
- *Chthonicola sagittata* (Speckled Warbler)
- *Daphoenositta chrysoptera* (Varied Sittella)
- *Pachycephala olivacea* (Olive Whistler)
- *Melanodryas cucullata cucullata* (Hooded Robin (south-eastern form))
- *Petroica boodang* (Scarlet Robin)
- *Petroica phoenicea* (Flame Robin)
- *Stagonopleura guttata* (Diamond Firetail)
- *Dasyurus maculatus* (Spotted-tailed Quoll)
- *Falsistrellus tasmaniensis* (Eastern False Pipistrelle)
- *Miniopterus schreibersii oceanensis* (Eastern Bentwing-bat)
- *Myotis macropus* (Southern Myotis)
- *Mastacomys fuscus* (Broad-toothed Rat)
- *Pseudomys fumeus* (Smoky Mouse)

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

The activity is considered unlikely to place any viable local populations of the above species at risk of extinction. As designed, the trial will not involve habitat removal or loss or other actions that could impact habitat or local environmental conditions necessary to support these species.

Some of the listed species are subject to threats that may potentially arise from horses:

- *Mastacomys fuscus* (Broad-toothed Rat) – invasion of habitat by exotic weeds
- *Stagonopleura guttata* (Diamond Firetail) – weed invasion, introduction of exotic pastures and heavy grazing and compaction
- *Calotis pubescens* (Max Mueller's Burr-daisy) – horse browsing and trampling
- *Tyto novaehollandiae* (Masked Owl) – grazing
- *Chthonicola sagittata* (Speckled Warbler) – modification of ground habitat, including through heavy grazing
- *Climacteris picumnus victoriae* (Brown Treecreeper (eastern subspecies) – habitat degradation through grazing
- *Litoria verreauxii alpina* (Alpine Tree Frog) – loss or modification of habitat including damage by wild horses
- *Melanodryas cucullata cucullata* (Hooded Robin (south-eastern form) – modification of ground habitat through grazing and compaction
- *Pseudomys fumeus* (Smoky Mouse) – dieback associated with pathogens and feral herbivore grazing of habitat
- *Myotis macropus* (Southern Myotis) – reduction in stream water quality affecting food resources.

However, given the focus of the trial on existing management trails, the group size and camping limits, seasonal closures, and the monitoring framework, the activity poses a very low risk to survival of local populations of these species.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction.

Not applicable. There are no recorded endangered populations in the immediate vicinity.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
- (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not applicable. There are no recorded EECs or critical EECs in the immediate vicinity that are likely to be affected.

(d) in relation to the habitat of a threatened species, population or ecological community:

- (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and
- (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and
- (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality

The activity is unlikely to involve any significant habitat removal, modification or fragmentation. The remoteness of the location combined with group size and camping limits, and the focus of access along existing trails, will limit the prospect of habitat impacts to very low levels. The monitoring program will assist in early identification of any impacts in key locations and implementation of management responses.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly).

Not applicable. There is no critical habitat in the vicinity.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.

The proposed activity, supported by the detailed environmental safeguards, will have no adverse impacts on the recovery strategies or actions for these species as detailed in the Saving Our Species program.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

Not applicable. The activity is not part of a key threatening process nor will it contribute to the operation of or exacerbate a key threatening process.

11. Summary of impacts

Summarise the impacts and consider the cumulative impacts of the activity based on the classification of individual impacts as low, medium or high adverse, negligible or positive.

Section 3.15 of *Proponents Guidelines for the Review of Environmental Factors* provides further guidance.

Category of Impact	Significance of impacts		
	Extent of impact	Nature of impact	Environmentally sensitive features
Physical and Chemical	Low	Negative	Low-Med
Biological	Low	Negative	Low-Med
Natural Resources	Negligible	Negative	Low
Community	Low	Positive	Low
Cultural Heritage	Low	Positive	Low

12. Conclusions

In conclusion indicate if:

- there is likely to be a significant effect on the environment and an environmental impact statement is required?



No



Yes

Reason(s):

The location of the activity on existing trails, combined with controls on group sizes, camping locations, seasonal opening and the monitoring framework, will avoid risks of significant environmental impact. Where impacts arise the monitoring framework allows for early intervention and management response.

- there is likely to be a significant effect on threatened species, populations, ecological communities or their habitats and a species impact statement is required?



No



Yes

Reason(s):

The location of the activity on existing trails, combined with controls on group sizes, camping locations, seasonal opening and the monitoring framework, will avoid risks of significant environmental impact. Where impacts arise the monitoring framework allows for early intervention and management response.

The species present or potentially present in the area are unlikely to be impacted by the activity, either by direct or indirect impacts.

- the activity is in respect of land that is, or is part of, critical habitat and a species impact statement is required?



No



Yes

Reason(s):

Critical habitat not present

- the activity will require certification to Building Code of Australia or Australian Standards in accordance with the OEH *Construction Assessment Procedure*?



No



Yes

Reason(s):

Not applicable

13. Supporting documentation

Please provide details of documentation included with this application. Supporting information may include, but is not limited to, a Sustainability Assessment (for proposals requiring a lease of licence under s.151A NPW Act), threatened species assessment of significance (7 part test), LEP land use tables, AHIMS search, engineering plans, maps, specialists studies etc.

Document Title	Author	Date
1. Adopted amendments to Kosciuszko National Park Plan of Management	NPWS	February 2013
2. Submissions analysis report for plan of management amendments	NPWS	October 2013
3. OEH HHIMS & AHIMS (Heritage Items) and maps This contains sensitive site information and is not available for public release	NPWS	March 2014
4. OEH Wildlife Atlas (Fauna & Flora) and maps – 4A and 4B This contains sensitive site information and is not available for public release	NPWS	January 2014
4C. Threatened species profiles	OEH	Various
4D. EPBC Act search report	Commonwealth	March 2014
5. Draft monitoring framework	NPWS	February 2014
6. Baseline monitoring methods	NPWS	February 2014

14. Fees

Proponents are required to pay an initial fee of \$170 (a final fee is also required before determination of the REF).

If the activity consists of environmental remediation and the proponent is a community group, OEH may waive the fees on request.

<input type="checkbox"/>	\$170 payment/cheque for initial fee is enclosed
<input checked="" type="checkbox"/>	A waiver of fees is requested. Please provide reasons:
	Internal REF application by OEH/NPWS.

15. Signature of proponent

The REF must be certified by the proponent – not the consultant(s) where consultant(s) are used.

Signature	<i>Endorsed Melinda Murray</i>	Signature	
Name (printed)	Melinda Murray	Name (printed)	
Position	Director, Park Strategy & Services	Position	
Date	31.3.2014	Date	

Seal (if signing under seal):

OEH USE

- **External proponent REF or major REF**
 - ▶ proceed to prepare determination report and determination notice
- **Internal minor REF**
 - ▶ proceed to prepare determination notice (no determination report required)

Determination report templates, determination notices and model conditions are available at: <http://deccnet/epa/REFGuidelines.htm>