Planning Panels Victoria

Warburton Mountain Bike Destination

Inquiry and Advisory Committee Report No. 1

Environment Effects Act 1978

Planning and Environment Act 1987

20 June 2022

VICTORIA State Government

Environment Effects Act 1978

Inquiry and Advisory Committee Report No. 1 pursuant to section 9(1)

Planning and Environment Act 1987

Advisory Committee report pursuant to section 151

Warburton Mountain Bike Destination – Report No. 1

20 June 2022

Sarah Carlisle, Chair

Elissa Bell, Deputy Chair

Colin McIntosh, Member

Deanne Smith, Member

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Glossary and abbreviations

Note: Legislation and government departments are Victorian unless notes otherwise.

4WD	4 wheel drive
Alternatives Assessment Report	Alternatives Assessment Report prepared by Council (Attachment II to the EES)
Biodiversity 2037	*Protecting Victoria's Environment – Biodiversity* 2037
Biosis Bushfire Assessment	Bushfire Assessment prepared by Biosis (Appendix G to Technical Appendix D)
CEMP	Construction Environmental Management Plan
CFA	Country Fire Authority
Chamber	Warburton and District Chamber of Commerce and Industry
CHMP	Cultural Heritage Management Plan
Council	Yarra Ranges Shire Council, the Proponent
CTMF	Cool Temperate Mixed Forest
CTR	Cool Temperate Rainforest
D#	Document number

DBH	Diameter at breast height
DELWP	Department of Environment, Land, Water and Planning
DELWP FFR	Forests Fire and Regions portfolio of DELWP
DELWP IAU	Impact Assessment Unit of DELWP
Economic Feasibility Study	*Developing Warburton as a World Class Mountain Bike Destination, and Economic Feasibility Study*, TRC Tourism, August 2021 (Attachment A to the Alternatives Assessment Report)
EES	Environment Effects Statement
EE Act	*Environmental Effects Act 1978*
EE Act Advisory Note	*Advisory Note – Use of impact assessment and risk assessment in environment effects statements*
EE Act Guidelines	*Ministerial Guidelines for assessment of environment effects under the EE Act*
EMF	Environmental Management Framework
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EVC	Ecological Vegetation Class
FFG Act	*Flora and Fauna Guarantee Act 1988*
GDE	Groundwater Dependent Ecosystems
GED	General Environmental Duty under the *Environment Protection Act 2017*
HO	Heritage Overlay
IAC	Warburton Mountain Bike Destination Inquiry and Advisory Committee
Incorporated Document	*Warburton Mountain Bike Destination Project* Incorporated Document, January 2022
MNES	Matters of National Environmental Significance
Native Vegetation Guidelines	*Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017)
Native Vegetation Handbook	*Assessor's handbook – Applications to remove, destroy or lop native vegetation* (DELWP, 2018)
NP Act	*National Parks Act 1975*
OEMP	Operations Environmental Management Plan
Oz Gentrification	Oz Gentrification, Displacement and Homelessness (S2638)
Park Management Plan	Yarra Ranges National Park Management Plan
PE Act	*Planning and Environment Act 1987*
Planning Scheme	Yarra Ranges Planning Scheme

Project	Warburton Mountain Bike Destination project
Proponent	Yarra Ranges Shire Council
PSA	draft Yarra Ranges Planning Scheme Amendment C198yran
RFI1	Request for Information dated 10 February 2022
RFI2	Request for Information dated 18 February 2022
RSP	Upper Yarra Valley and Dandenong Ranges Regional Strategy Plan
S#	Submission number
SCO	Specific Controls Overlay
Scoping Requirements	scoping requirements for the EES
SRZ	Structural Root Zone (of a tree)
Stage 1	Southern section of the proposed trail network, including the Wesburn Park and Mount Tugwell trail heads
Stage 2	Northern section of the proposed trail network, including the Warburton Golf Course and Mount Donna Buang trail heads
TMP	Traffic Management Plan
TPZ	Tree Protection Zone
VHI	Victorian Heritage Inventory
VNPA	Victorian National Parks Association
WWWCHAC	Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation
Yarra Strategic Plan	*Yarra Strategic Plan 2022-32 (Burndap Birrarung burndap umarkoo)*

Overview

Project summary	
The Project	Warburton Mountain Bike Destination
Brief description	A mountain bike destination centred around Warburton, consisting of: - a network of 177 kilometres of mountain bike trails across Mount Donna Buang, Mount Little Joe and Mount Tugwell - four trail heads providing facilities for riders (car parking, picnic areas, toilets, bike wash stations and shuttle bus facilities) - associated infrastructure including two new bridges, boardwalks and multiple waterway crossings
Project location	Land in the Yarra Ranges National Park, State forests and some private land around Warburton
The Proponent	Yarra Ranges Shire Council
EES	Warburton Mountain Bike Destination Environment Effects Statement, October 2021
The draft Amendment	draft Yarra Ranges Planning Scheme Amendment C198yran
Exhibition	26 November 2021 to 25 January 2022
Submissions	Number of Submissions: 2,707

Inquiry and Advisory Committee process	
The IAC	Sarah Carlisle (Chair), Elissa Bell (Deputy Chair), Colin McIntosh and Deanne Smith
Directions Hearing	11 February 2022 by videoconference
Hearing	Over 15 days from 15 March to 7 April 2022, mainly by videoconference with two in person sessions held at the Box Hill Institute Lilydale Lakeside Conference and Events Centre on 31 March and 1 April 2022
Site inspections	Unaccompanied, 7 and 8 March 2022
Parties to the Hearing	Appendix C in Report No. 2
Citation	Warburton Mountain Bike Destination (EES) [2022] PPV
Date of this report	20 June 2022

Executive summary and primary recommendations

Overview

The Warburton Mountain Bike Destination (the Project) is a world class mountain biking destination proposed to be centred around Warburton. Yarra Ranges Shire Council (Council) is the Proponent for the Project.

The Project will consist of up to 177 kilometres of mountain bike trails (155 kilometres of which will be new trails), providing a range of mountain bike experiences to suit all levels of riding. The trail network has two main parts – a northern section and a southern section. The northern section is located mainly in the Yarra Ranges National Park. The southern section is located mainly in Yarra State Forest. Trail heads and associated infrastructure is also proposed, including two new bridges for riders (one across the Yarra River and one across Old Warburton Road).

The Environment Effects Statement (EES) includes two alternative trail alignments for the network in the National Park:

- Trail 1, nicknamed 'Drop-a-K', heads west from the Mount Donna Buang summit and is Council's preferred alignment.
- The alternative alignment, Trails 45 to 47, heads east from the Mount Donna Buang summit.

The EES, having assessed the merits of both alignments, concludes that Trail 1 is preferred notwithstanding its potentially more significant environmental impacts, as it would deliver greater benefits in terms of attracting a wider range and higher numbers of users, which would have flow-on economic and social benefits.

The EES was exhibited for eight weeks between November 2021 and January 2022, together with draft Yarra Ranges Planning Scheme Amendment C198yran (PSA) which would provide planning approval for the Project. The Warburton Mountain Bike Destination Inquiry and Advisory Committee (IAC) received 2,707 submissions during public exhibition, and accepted six late submissions. Submissions both supported and opposed the Project (the majority supported the Project).

The Hearing was held for 15 days over four weeks from 15 March to 7 April 2022. The IAC heard evidence and submissions from Council, the Victorian National Parks Association (VNPA), Mr Tsyrlin (an expert in the Mount Donna Buang Wingless Stonefly), several local environment and community groups, several mountain bikers and mountain bike clubs, local businesses and business associations, other businesses associated with mountain biking, and individual submitters, many of whom live in Warburton.

Due to COVID restrictions, the bulk of the Hearing was held by video conference. While this presented the occasional technical challenge, it enabled all parties the opportunity to present evidence and submissions to the IAC, and to see and hear the presentations of other parties. Some in person sessions were held in Lilydale for those submitters who wanted to present in person. Both the online Hearing and the in person sessions were open to the public, and many observers listened in at various stages of the proceedings.

Context for assessment

This report provides an analysis of the EES, the draft PSA and the environmental effects of the Project, having regard to the draft evaluation objectives in the EES Scoping Requirements and relevant policy and legislation. The IAC has considered the exhibited material, all written submissions received in response to the exhibited material, and evidence, submissions and other material provided to the IAC during the Hearing.

The IAC has prepared two reports:

- Report No. 1 provides the key considerations, findings and recommendations of the IAC.
- Report No. 2 provides the Appendices.

Report No. 1 has three parts:

- Part A provides background information about the IAC process, a summary of the Project, information about the Project alternatives and a summary of the Project rationale.
- Part B provides the review and analysis of the environmental impacts of the Project, generally using the themes (chapter headings) in the EES, although more complex issues are dealt with in their own chapters.
- Part C provides the IAC's integrated assessment of the Project and a summary and conclusions in relation to Project implementation.

Summary of environmental impacts

The summary of the IAC's findings in relation to the environmental impacts of the Project are:

(i) Impacts that are unacceptable and require Project modifications

These are:

- impacts on the significant ecological communities of Cool Temperate Rainforest (CTR) and Cool Temperate Mixed Forest (CTMF)
- impacts on the threatened Mount Donna Buang Wingless Stonefly.

To reduce impacts to CTR and CTMF to acceptable levels, Trail 1 and Trails 45 to 47 need to be removed.

The removal of Trails 1 and 45 to 47 will also address impacts to the Stonefly, as these are likely the only trails that would intersect Stonefly habitat. However if these trails are not removed, Stonefly no-go zones need to be mapped and trails realigned to avoid the no-go zones.

(ii) Impacts that are acceptable subject to revised or additional mitigation measures

These are:

- biodiversity and habitat impacts (other than rainforest communities and the Stonefly)
- traffic and parking impacts
- bushfire and emergency response impacts.

(iii) Impacts that are acceptable, no additional mitigation measures are required

These are:

- surface water impacts
- groundwater impacts

- geotechnical hazards
- Aboriginal cultural heritage and historic (post-contact) heritage
- social impacts.

Summary of findings and conclusions

Overall, the IAC concludes that the rationale for the Project is essentially sound. Provided it is well built, well maintained and well operated, the IAC sees no reason why it should not attract substantial visitor numbers and generate economic and social benefits to Warburton, the Upper Yarra Valley and to the state of Victoria more broadly. However, the Project's potential economic and social benefits must be carefully balanced against its environmental impacts.

Biodiversity and habitat impacts

Threatened ecological communities

Victoria's rainforest areas have significantly diminished over time, and a significant proportion of the State's remaining rainforest was lost in the 2019/2020 Black Summer bushfires. The stands of CTR and CTMF remaining on Mount Donna Buang are among the most significant in the State. Most of the stands that could be impacted by the Project are currently in undisturbed parts of the forest (with no or limited human access).

The Project's impact on the rainforest stands on Mount Donna Buang through direct clearing of vegetation is likely to be low. However, there is potential for significant impacts from the spread of pathogens, in particular Myrtle wilt. Myrtle wilt affects Myrtle Beech trees, which are a key rainforest species. Most trees infected with Myrtle wilt will die, and while wilt is endemic in the rainforest, in a disturbed forest it can have a devastating impact.

Most of the rainforest stands within the Project area are in the vicinity of (and are directly intersected by) Trails 1 and 45 to 47. The IAC considers that these trails cannot meet the evaluation objective of avoiding and minimising potential adverse effects on listed threatened species and their habitat and listed ecological communities. It therefore recommends these trails be removed.

Trails in the vicinity of CTR or CTMF stands will need to be carefully considered to ensure that they are sited to as to manage the risk of individual beech trees being wounded and infected, and spreading that infection to the stands.

Mount Donna Buang Wingless Stonefly

The Stonefly is a species of significance to science and is highly sensitive and vulnerable to environmental changes. Suitable habitat for the Stonefly is extremely limited, and is restricted to elevations above 900 metres within a kilometre of the summit of Mount Donna Buang. The thresholds for impact on the Stonefly are unknown, and once an event has occurred, it may not be possible to manage a way out of it.

Council made significant efforts to overcome concerns in relation to the Project's impacts on the Stonefly, introducing a number of additional mitigation measures in its final versions of the Project documentation. While the IAC acknowledges Council's efforts, it was not persuaded that they would be sufficient to reduce impacts to acceptable levels.

The IAC does support any Project activities (including trails) within known or suitable Stonefly habitat (Stonefly no-go zones). The mapping of known and suitable habitat available to the IAC

was not comprehensive and has not been overlaid with the proposed trail network. However it appears that Trails 1, 45 and 46 (and possibly also Trail 47) are the only trails likely to intersect habitat. The IAC has recommended these trails be removed due to their unacceptable impacts on the significant stands of CTR and CTMF in the National Park.

In the event that Trails 1 and 45 to 47 are not removed, the measures designed to mitigate impacts to the Stonefly will need to be strengthened, and the IAC has made recommendations in this regard. However to be clear, the IAC does not consider that the strengthened mitigation measures will reduce impacts to the Stonefly to acceptable levels. It reiterates that any trails that intersect Stonefly no-go zones must be realigned or removed.

Other biodiversity and habitat values

The IAC is satisfied that impacts on other biodiversity and habitat values can, with the application of mitigation measures, be managed to an acceptable level. The IAC finds:

- Efforts have been made to minimise the extent of vegetation to be removed, and vegetation removed can be offset, consistent with the Native Vegetation Guidelines. Critical is the fact that native vegetation will only be removed to a height of 2.5 metres above the trails, leaving the mid-storey and forest canopy intact.
- There remains some risk that significant habitat trees will need to be removed during construction of the Project, and over the life of the Project to ensure that construction workers and those using and maintaining the trails are kept safe. Trail closure should be an option for avoiding the loss of high value habitat trees. Where loss is unavoidable, offsets should be provided.
- The trail network traverses high quality, high value habitat, and the Project has the potential to degrade this through edge effects and human disturbance, including the introduction and spread of weeds and pests. However apart from Trails 1 and 45 to 47, the IAC is satisfied that mitigation measures can be applied to manage the risks of habitat disturbance to within acceptable levels to meet the evaluation objective.
- The Project is unlikely to have a significant effect on the Leadbeater's Possum or its habitat. The IAC is satisfied that the trail alignment has been designed to avoid Leadbeater's Possum habitat where possible. Where known or suitable habitat is intersected, the impacts on the possum can be managed largely through the retention of the mid-storey and forest canopy.
- With some adjustments, the mitigation measures are appropriate to manage the risks to other significant flora and fauna species (including those that are listed under state and national legislation) to acceptable levels.

Surface water, groundwater and geotechnical hazards

The IAC considers that with some adjustments, the mitigation measures are appropriate to ensure that residual impacts on surface water values are managed within an acceptable level. In relation to specific key surface water issues raised in submissions:

- The IAC supports 'closed loop' systems for the bike wash stations to ensure that there is no unintended release of chemicals into the sensitive environments within the Project area.
- The section of Trail 1 proposed in the Coranderrk Creek closed drinking water catchment will not present unacceptable risks to drinking water quality, or set a precedent for future recreational infrastructure within drinking water catchments.

The IAC is satisfied that the mitigation measures to protect groundwater values and manage geotechnical hazards are appropriate, can be implemented, and will assist in ensuring that the residual impacts are managed within acceptable levels. The evaluation objective of maintaining the functions and values of groundwater, surface water and floodplain environments and minimising effects on water quality and beneficial uses can be met.

Heritage

Overall, the IAC is satisfied that the residual impacts on Aboriginal cultural heritage and historic heritage, after implementation of the mitigation measures, will meet the evaluation objective of avoiding or (where avoidance is not possible) minimising impacts.

Based on the information available to the IAC, impacts on known sites of Aboriginal cultural heritage significance will be avoided. While there is potential for sites or artefacts to be discovered during construction, the Cultural Heritage Management Plan is the appropriate mechanism to manage any unexpected finds.

While impacts will not be completely avoided for the five listed historic heritage sites that will be intersected by the trails, avoidance is not necessary to achieve acceptable outcomes that are consistent with the legislative and policy framework. The mitigation measures will ensure that impacts to known heritage sites, and to sites that have been nominated for inclusion on the Victorian Heritage Inventory or are areas of archaeological potential, are managed appropriately to an acceptable level.

Traffic and parking

The traffic and parking evidence presented to the IAC by Council was at odds with the residents' experience of traffic congestion and parking issues, particularly on weekends. It seems that congestion and parking issues are more significant than the expert evidence suggested. That said, the issues raised in submissions largely relate to existing conditions, not the Project.

It will be important for Council to continue to work towards effective resolutions of the current traffic and parking issues before introducing more visitors into the town. Without effective management of existing traffic and parking concerns, the cumulative impacts of the Project could make conditions worse.

An integrated transport solution is needed for the Project that addresses the relationship between Project generated traffic and existing road infrastructure, parking provision and wayfinding. Identifying the appropriate solutions is likely to require a fuller understanding of existing conditions.

Critically, an Operations Traffic Management Plan will be required to manage the impacts of the Project during operations. These impacts are expected to be more significant than impacts during construction, and the IAC found it curious that the Environmental Management Framework (EMF) provided for a Construction Traffic Management Plan but no Operations Traffic Management Plan.

The IAC is, however, confident that solutions to traffic and parking issues can be found. While the IAC has recommended extensive changes to the mitigation measures to ensure traffic and parking impacts are managed to within acceptable levels, there are no traffic or transport impacts that prevent the Project proceeding and no modifications to the Project are required.

Land use and amenity

The IAC concludes that noise, visual impacts and air quality can be acceptably managed through the exhibited mitigation measures. Land use impacts will be minimised through the implementation of the Construction Environmental Management Plan (CEMP) and Operations Environmental Management Plan (OEMP) and through a communication and engagement plan.

Minimising noise is an important input into the final design of the lower parts of the trail network, to maintain the amenity of the residential area of Martyr Road. Depending on the final design, it may be that a noise barrier is not required along Martyr Road. Even if noise levels are potentially higher than background noise, residents along Martyr Road may prefer to maintain the outlook over the golf course than have a noise barrier constructed.

Detailed design should consider the need to deliver infrastructure items that are considerate of the landscape and retain visual amenity as far as practicable. Community consultation is advisable prior to finalisation of the bridge designs to ensure that visual impacts are appropriately managed.

Impacts to air quality are expected to be short-term, intermittent and minimal with the implementation of mitigation measures.

Bushfire and emergency management

Bushfire was a key concern raised by submitters. The Project is in an extreme bushfire risk location, with only one road in and out (the Warburton Highway). Introducing more people into the area will increase the risk of a fire starting, and increase the complexities associated with evacuations should they become necessary. Bushfire risks will need to be very carefully managed, and the Project's emergency response should place no reliance on the existing bushfire shelter options in Warburton, East Warburton, Millgrove and Wesburn.

The Emergency Management Plan will be a key measure for effectively managing bushfire risk. This Plan must be prepared prior to construction of the Project, and be tested for implementation prior to commencement of operations. Council will need to consult with all relevant emergency response authorities and local emergency response volunteers in preparing the Plan.

Another key mitigation measure will be to close the trails on high risk days. This will reduce the ignition risk, and reduce the complexities associated with evacuating the area (given mobile phone coverage in the Project area is patchy). The trigger for closing the trails should be aligned with the trigger for closing the National Park. The new national fire danger rating system provides an opportunity for alignment. The IAC considers that the trigger should be a fire danger rating (under the new system) of 'High'.

The details of the content required in the Emergency Management Plan are set out in mitigation measure BM08 in the EMF. The IAC has recommended that BM08 be replaced with a new mitigation measure BEM01 that improves the clarity, comprehensiveness and accountability of the Project's emergency management response.

With the implementation of these strengthened measures, the IAC is satisfied that the residual impacts on bushfire and emergency management will be able to be managed to acceptable levels. The Project will be capable of meeting the evaluation objective of minimising potential adverse social effects at local and regional scales.

Socio-economic impacts

While the economic benefits of the Project are difficult to precisely quantify, the increased visitation expected to be generated by the Project will undoubtedly provide an economic boost to the area and to local businesses. It will provide new job opportunities that will likely benefit locals, particularly during the operations phase. It will also provide opportunities for new businesses to establish to support the needs of increased tourism.

The IAC acknowledges that the economic benefits of the Project are likely to be less than estimated, perhaps even substantially so, due to the removal of Trails 1 and 45 to 47. However the IAC was not persuaded that the economic and social benefits of including these trails would outweigh the significant environmental impacts of these trails. Further, Council indicated that the southern trail network (outside the National Park) would likely proceed even if permission could not be secured for trails within the National Park, suggesting that the Project will remain viable without Trails 1 and 45 to 47.

The Project will have social impacts, both positive and negative. The most significant negative impact will likely be to exacerbate the affordable housing challenges in the area, through the 'AirBnB effect'. However access to secure affordable housing is a much broader issue, which requires a broader strategic and systemic response. There is a limit to what the Project can and should be expected to do to counter these issues.

The IAC strongly encourages Council to continue to pursue its efforts to address affordable housing issues in the municipality more broadly. It will need to closely monitor the supply of affordable rental housing as the Project gains popularity, and proactively respond to arising issues, employing whatever levers it has available (including actively facilitating and encouraging the development of short term accommodation in the area).

The Project has the potential to deliver some very significant social benefits, including increased participation in mountain bike riding at all levels from the beginner to the elite, across genders, abilities and age groups, as well as the increased training and education opportunities.

One of the key ways in which socio-economic impacts can be managed is through effective ongoing stakeholder communication and engagement. The local community is among the most important stakeholders, and effective communication and engagement with the local community will be very important in building trust and social cohesion.

The IAC is confident that while there will be the need for some adaption on the part of the local community, the Project will not destroy the social cohesion of this robust, close knit local community. The IAC is confident that conflicts between mountain bikers and other recreational users of the area can be managed to an acceptable level through the proposed mitigation measures.

Matters of national environmental significance

Overall, the IAC is satisfied that the residual impacts on matters of national environmental significance, after implementation of the mitigation measures, will meet the evaluation objective of avoiding or (where avoidance is not possible) minimising impacts.

The appropriateness of trails in the Yarra Ranges National Park

Mountain biking is not inherently inconsistent with the objectives of the NP Act or the aims and strategies in the Yarra Ranges National Park Management Plan. That said, the use must be

carefully sited, designed, constructed and maintained to ensure that it does not compromise the protection and conservation values of the National Park. These values go beyond the impacts on specific threatened species and communities and native vegetation removal.

Trails 1 and 45 to 47 are in pristine and currently undisturbed parts of the National Park that contain important habitat for threatened species (including the Stonefly), possibly support a number of as yet unknown species, and contain extremely high quality stands of rainforest vegetation. The scientific and conservation values of these areas are high. The IAC has determined that Trails 1 and 45 to 47 should be removed due to their unacceptable residual impacts on rainforest communities and the Stonefly.

The remaining trails in the National Park (Trails 2 to 8) are in less pristine, more highly disturbed parts of the Park where the conservation values are not as high. These trails are considered acceptable having regard to the objectives of the NP Act and the Park Management Plan's aim to protect sensitive environments.

Integrated assessment

The IAC's integrated assessment has had regard to relevant legislation and policy, the evaluation objectives in the Scoping Requirements, the principles of ecologically sustainable development, and net community benefit.

Broadly speaking, while the Project is consistent with the objects of the NP Act, Trails 1 and 45 to 47 should be removed to strike the appropriate balance between the objectives of that Act to protect and preserve the environmental, scientific and conservation values of national parks, and the objective to make national parks available for the enjoyment, recreation and use of the public.

The Project has a number of competing policy objectives under the *Planning and Environment Act 1987* and the Yarra Ranges Planning Scheme. These must be balanced in favour of net community benefit and sustainable development. The IAC considers that, subject to the removal of Trails 1 and 45 to 47, the Project achieves an appropriate balance of competing policy objectives, and achieves an appropriate balance between its economic, social and environmental impacts. The draft PSA is supported, subject to the IAC's recommended changes.

Bushfire is a key consideration under Clause 71.02-3 of the Planning Scheme. The policy framework requires the prioritisation of the protection of human life over all other policy considerations. The Project is in an extreme bushfire risk area, and the risk of fires will need to be very carefully managed to protect not just Project users but also (and critically) the local community.

The IAC has recommended substantial changes to the bushfire and emergency planning requirements for the Project to ensure that emergency planning and management is clear, robust and effective, that accountabilities are clear, and that the Project's bushfire response does not rely on existing bushfire infrastructure that has been provided for the protection of the local community. The IAC regards this as an appropriate response to the policy imperative to prioritise the protection of human life.

Project implementation

The planning controls in the draft PSA constitute an appropriate mechanism to facilitate the Project. The exhibited Specific Controls Overlay (SCO) mapping should be adjusted to reflect the IAC's recommendations, including the removal of Trails 1 and 45 to 47.

The EMF meets the Scoping Requirements and is broadly appropriate. The mitigation measures contained in the EMF have been appropriately translated into, and will be given ongoing force and effect through, the CEMP and OEMP. The monitoring, auditing and reporting requirements in the EMF are appropriate, and have been translated into the Environment Management Plans, which will ensure there is appropriate accountability, transparency and enforceability in relation to the construction and operation of the Project.

Primary recommendations

Based on the reasons set out in this Report, the IAC recommends:

1. **Modify the Project as follows:**

   Remove Trails 1, 45, 46 and 47 from the Project, as they pose an unacceptable residual risk of significant impact to Cool Temperate Rainforest and Cool Temperate Mixed Forest stands located in the Yarra Ranges National Park.

2. **Amend the Environmental Management Framework as shown in Appendix F. Ensure that the various plans to be approved under the Incorporated Document are consistent with the revised Environmental Management Framework, including the IAC's recommended changes to the mitigation measures.**

3. **Amend draft Yarra Ranges Planning Scheme Amendment C198yran as follows:**
   a) **Amend the text of the Incorporated Document as shown in Appendix G.**
   b) **Amend the exhibited Special Controls Overlap mapping to:**
      - **remove Trails 1, 45, 46 and 47**
      - **include the whole of the Warburton Golf Course site at 17 Dammans Road, Warburton**
      - **include the land required for the trail heads at Wesburn Park and Mount Tugwell and the two bridges proposed to be constructed as part of the Project.**

Further recommendation

The IAC makes the following further recommendation:

4. **Seek agreement with Parks Victoria to align the closure of the National Park with the closure of the trails, on 'High' fire danger days (as described in the Australian Fire Danger Rating System).**

PART A: INTRODUCTION AND BACKGROUND

1 The IAC process

1.1 The Environment Effects Statement

Council prepared an Environment Effects Statement (EES) for the proposed Warburton Mountain Bike Destination (the Project) in October 2021. The EES consists of:

- a main report (Chapters 1 to 19)
- six Technical Appendices
- seven Attachments, one of which is draft Yarra Ranges Planning Scheme Amendment C198yran (the draft PSA) which would provide planning approval for the Project.

1.2 The Inquiry and Advisory Committee

The Minister for Planning appointed an Inquiry and Advisory Committee (IAC) on 8 December 2021 to consider the EES and the draft PSA. The IAC comprises:

- Sarah Carlisle, Chair
- Elissa Bell, Deputy Chair
- Colin McIntosh
- Deanne Smith.

The IAC was appointed:

- as an Inquiry under section 9 of the *Environment Effects Act 1978* (EE Act) to consider the EES
- as an Advisory Committee under section 151 of the *Planning and Environment Act 1987* (PE Act) to consider draft PSA.

The IAC was assisted by staff at Planning Panels Victoria:

- Amy Selvaraj, Senior Project Officer
- Tom Milverton, Project Officer.

This is Report No. 1 of the IAC. Report No. 2 contains the Appendices.

1.3 The IAC's role

The Minister for Planning signed Terms of Reference for the IAC on 21 November 2021. The Terms of Reference set out the scope of the IAC's role and how it was to conduct the IAC process. A copy is provided in Appendix A in Report No. 2.

(i) The scope of the IAC's remit

Clause 5 of the Terms of Reference requires the IAC as an Inquiry to:

> a. review and consider the environment effect statement (EES), submissions received in relation to the project, the predicted environmental effects, and the other exhibited documents;
>
> b. consider and report on the potential environmental effects of the project (including the preferred and alternative alignments), their significance and acceptability having regard to the draft evaluation objectives in the EES scoping requirements and relevant policy and legislation;

c. identify any measures it considers necessary and effective to avoid, mitigate or manage the environmental effects of the project within acceptable limits, including any necessary project modifications; and

d. advise on how this relates to relevant conditions, controls and requirements that could form part of the necessary approvals and consents for the project.

Clause 6 requires the IAC as an Advisory Committee to:

a. review draft planning scheme amendment (PSA) C198yran and incorporated document, which has been prepared to apply a Specific Controls Overlay and establish planning approval for the project, along with any public submissions received in relation to the draft PSA;

b. provide a report to the Minister for Planning as to whether the draft PSA contains provisions and controls that are appropriate for the project; and

c. recommend any changes to the draft PSA that it considers necessary.

It is worth noting that it is not within the IAC's remit to recommend whether or not to approve the Project or adopt the draft PSA. Rather, the IAC is required to assess the Project's impacts, identify measures to avoid, mitigate or manage the Project's impacts (including any necessary Project modifications), and advise on whether the provisions of the draft PSA are appropriate or require changes. The IAC's recommendations reflect these key aspects of its remit.

(ii) The IAC's reporting obligations

Clause 7 describes the IAC's reporting obligation:

7. The IAC is to produce a report of its findings and recommendations to the Minister for Planning to inform his assessment under the EE Act and to assist the Minister to make a decision about the draft PSA.

Clause 26 sets out what the IAC must consider:

26. The IAC may inform itself in any way it sees fit, but must review and consider:

a. the exhibited EES and draft PSA;

b. all submissions and evidence provided to the IAC by the proponent, state agencies, local councils and submitters;

c. any information provided by the proponent and parties that responds to submissions or directions of the IAC; and

d. any other relevant information that is provided to, or obtained by, the IAC.

Clauses 33 and 34 set out what must be included in the IAC's report:

33. The IAC must produce a written report for the Minister for Planning containing its:

a. analysis and conclusions with respect to the environmental effects of the project and their significance and acceptability, based on the EES documents and public submissions, as well as documentation and evidence presented to the IAC;

b. advice on acceptability of effects of the preferred alignment of Drop A-K, compared to those of the alternative alignment examined within the EES (combination of trails 45, 46 and 47);

c. recommendations for any feasible modifications to the project, necessary to achieve appropriate environmental outcomes, including in relation to variations to the proposed design and/or environmental monitoring and management measures;

d. findings on whether acceptable environmental outcomes can be achieved, having regard to legislation, policy, best practice, and the principles and objectives of ecologically sustainable development;

e. recommendations on specific measures appropriate to prevent, mitigate or offset adverse environmental effects to achieve acceptable environmental outcomes, having regard to legislation, policy, best practice, and the principles and objectives of ecologically sustainable development;

f. recommendations for any appropriate conditions that may be lawfully imposed on any approval for the project, or changes that should be made to the draft PSA in order to ensure that the environmental effects of the project are acceptable having regard to legislation, policy, best practice, and the principles and objectives of ecologically sustainable development;

g. recommendations about the structure and content of the draft management plans provided with the EES, including with respect to mitigation and monitoring of environmental effects, as well as contingency measures; and

h. specific findings and recommendations about the predicted impacts on matters of national environmental significance and their acceptability, including appropriate controls and environmental management.

34. The report should include:

a. information and analysis in support of the IAC's findings and recommendations;

b. a list of all recommendations, including cross-references to relevant discussions in the report;

c. a description of the public hearing conducted by the IAC, and a list of those persons consulted with or heard;

d. a list of all submitters in response to the exhibited EES and the draft PSA; and

e. a list of the documents tabled during the proceedings.

1.4 Scoping Requirements

The Minister for Planning issued Scoping Requirements for the EES in November 2020 covering:

- general approach
- content and style
- project description
- project alternatives
- applicable legislation, policies and strategies
- evaluation objectives
- an Environmental Management Framework (EMF).

The Scoping Requirements set out the specific environmental impacts that must be assessed, and evaluation objectives against which each impact is to be assessed (see Table 1). These objectives reflect the decision of the Minister for Planning regarding the need for an EES, and the technical studies have responded to these objectives in their assessments.

Table 1 Evaluation objectives

Specific environmental effect	Evaluation objective
Biodiversity and habitats	Avoid and where avoidance is not possible, minimise potential adverse effects on native vegetation and animals (particularly listed threatened species and their habitat and listed ecological communities), as well as address offset requirements consistent with state and Commonwealth policies

Specific environmental effect	Evaluation objective
Water and catchment values	Maintain the functions and values of groundwater, surface water and floodplain environments and minimise effects on water quality and beneficial uses
Social, economic, amenity and land use	Minimise potential adverse social, economic, amenity and land use effects at local and regional scales
Cultural heritage	Avoid, or minimise where avoidance is not possible, adverse effects on Aboriginal and historic cultural heritage.

1.5 Exhibition and submissions

Clause 18 of the Terms of Reference provided for submissions to be lodged through the Engage Victoria website and collected by Planning Panels Victoria.

The EES was exhibited from 26 November 2021 to 25 January 2022. A total of 2,707 submissions were received during exhibition, including:

- three submissions from government agencies – Environment Protection Authority (EPA) (S1522), Parks Victoria (S1523) and Melbourne Water (S2467)
- 21 submissions from environment groups
- 45 submissions from mountain biking businesses and associations
- 29 submissions from local businesses and business groups (non-mountain biking)
- six from local community groups
- 2,603 from individuals.

A full list of submitters is provided in Appendix B of Report No. 2.

(i) Government agencies

The IAC invited the following government agencies to make a written submission and/or participate in the Hearing:

- Parks Victoria, who is the public land manager for the Yarra Ranges National Park
- the Forests Fire and Regions portfolio of the Department of Environment, Land, Water and Planning (DELWP FFR), who is the public land manager for the state forests
- the Country Fire Authority (CFA).

Parks Victoria had already provided a written submission during exhibition (S1523), but agreed to participate in the Hearing. The CFA provided a written submission (D14), and participated in the Hearing. DELWP FFR provided a written submission, and offered to take any questions on notice and assist the IAC in any way (D13).

Melbourne Water made a written submission during exhibition (S2467) which mainly covered issues relating to water quality, catchments and floodplain management. At the Directions Hearing the IAC asked Melbourne Water whether the scope of its statutory responsibilities had expanded following the integration of the Port Phillip and Westernport Catchment Management Authority on 1 January 2022. Melbourne Water responded that it had assumed additional responsibilities under the *Catchment and Land Protection Act 1994* , but that it was not necessary for Melbourne Water to expand the scope of its original submission (D11).

The IAC thanks these government agencies for their assistance and participation in the process.

(ii) Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation

The Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation (WWWCHAC) is the Registered Aboriginal Party representing the Traditional Owners of the land on which the Project is proposed to be located. The WWWCHAC was consulted by Council in the early stages of the project development, and is working with Council to finalise a Cultural Heritage Management Plan (CHMP) for the Project.

The IAC invited WWWCHAC to make a submission to the IAC, and/or to participate in the Hearing (D5). The WWWCHAC did not take up the invitation.

(iii) Key issues raised in submissions

Submissions both supported and opposed the Project. The majority of submissions (around 85 per cent) supported the Project.

Supportive submissions highlighted a number of benefits associated with the Project, including:

- the provision of world class mountain biking opportunities that are currently lacking in Victoria
- the unique and spectacular natural environment that the Project would traverse, and the resulting increase in connections with and care for the natural environment by users of the Project
- the quality and sensitivity of the design, and the consideration of the environment in the design which will establish Victoria an international leader in eco-tourism
- the social and economic benefits the Project will bring to Warburton, the region and the State, including through:
  - job creation and direct and indirect visitor expenditure
  - reducing weekend peaks and weekday troughs of tourist economic spend, including by encouraging multi-day stays
  - addressing issues faced (or to be faced) by the local community, such as the phasing out of native timber harvesting
  - providing reasons for youth to 'stay in the Valley'
- the ability of the Project to complement other tourist-related activities in the Yarra Valley, such as wineries, restaurants and farm gates
- the Project's ability to attract users from a broad range of locations (locals from the Yarra Valley, day-users from Melbourne, and interstate and international locations)
- the physical and mental health benefits of mountain biking
- the inclusive nature of mountain biking as a sport and recreation, including for older people, women, teenagers and families, and the inclusive nature of the design (which caters for all skill levels and will attract new entrants to the sport)
- creating pride and a sense of place by encouraging tourists to the area who can appreciate the natural beauty and township of Warburton.

Broadly speaking, the main issues raised in opposing submissions were:

- concerns about the use of the National Park for mountain biking, and the proposal to include a substantial trail network in the National Park
- impacts on fauna in the Project area (including the Leadbeater's Possum, the Mount Donna Buang Wingless Stonefly, the smoky mouse and burrowing species such as crayfish

and platypus) from threats such as collision, habitat loss, habitat fragmentation, edge effects, noise, decreases in water quality, and increased predation

- impacts on vegetation within the Project area including the Myrtle Beech and threatened ecological communities Cool Temperate Rainforest (CTR) and Cool Temperate Mixed Forest (CTMF), including through:
  - direct loss of native vegetation
  - the spread of weeds and pest species, in particular the pathogens known as Myrtle wilt and Cinnamon fungus
  - the lack of suitable biodiversity offsets
- a perceived lack of rigour in some of the field work undertaken as part of the technical assessments
- impacts on water quality, particularly surface waters, and water catchments including through storm water runoff and silt entering the waterways (some of which feed into key catchments supplying Melbourne's drinking water)
- landslip and erosion risks
- bushfire risks, including:
  - the number of additional people in the Project area and the risk of loss or life or injury as a result of a bushfire
  - the ability of emergency services to adequately respond in the event of a bushfire to trail users and to increased visitors in the Warburton valley
  - the adequacy of last resort infrastructure to cater for increased numbers of people
  - the ability of the road network to adequately respond in the event of a bushfire
- land use and amenity issues, including:
  - impacts on Wesburn Park, in particular the equestrian facilities, impacts on dog walkers (including the loss of part of the only off-leash park in the area) and impacts on the use of the Park as an emergency staging area
  - impacts on residential amenity, including noise and privacy
- impacts on indigenous and non-indigenous heritage
- traffic and parking impacts, including:
  - how an increase in visitors to Warburton might affect traffic flow and parking conditions
  - the ability of road infrastructure to cater for increased demand
  - impacts of the proposed shuttle bus service on traffic, and whether local roads are capable of accommodating shuttle buses
  - road safety concerns
- a range of social impacts, including:
  - impacts on housing availability and affordability, including through the conversion of existing long term rental housing stock into short stay accommodation
  - the impacts of an increase in tourism in a small town, and concerns over whether this will change Warburton's quiet and peaceful character
  - concerns over whether Warburton has the necessary infrastructure to support the influx of new tourism
  - safety issues for bushwalkers and horse riders
  - the limited capacity of medical and emergency response services to respond to emergencies associated with accidents at the facility, and the impact this may have on existing medical services and resources in and around the township

  - social conflict (in particular, a perception that mountain biking is a male dominated sport and is not inclusive)
  - perceived negative impacts of the Project on the social fabric of Warburton
  - rude or aggressive behaviour from mountain bikers
- maintenance and enforcement issues, including:
  - the difficulties (and cost) associated with regular maintenance of such an extensive network of trails
  - how to prevent litter
  - how to prevent illegal trail construction
  - how to enforce restoration of damage caused by the Project and illegal trail construction.

1.6 Hearings

The Directions Hearing was held via video conference on 11 February 2022, with 13 participants and between 50 and 80 observers. At the Directions Hearing, the IAC introduced itself and its team, explained its role, made various declarations, discussed exhibition and submission issues, and discussed various directions in relation to the Hearing dates, site inspections, experts and cross examination, and the public availability of tabled documents.

The main Hearing was held, mainly via video conference, over 15 days between 15 March and 7 April 2022. While attendance varied, around 80 people attended on the highest attendance days. Various community groups and individual submitters expressed a preference to appear before the IAC in person. The IAC held two in person days at the Box Hill Institute Lilydale Conference Centre. The Hearing participants are listed in Appendix C of Report No. 2.

All documents and materials tabled during the IAC process were assigned a document number, recorded on the IAC's document list, and published on the Engage Victoria website. Tabled documents are shown in Appendix D of Report No. 2.

1.7 Site inspections

The IAC undertook a comprehensive site inspection prior to the Hearing. The locations and features included on the site inspection itinerary were informed by suggestions from the various parties. The list of locations and features visited and the associated maps are D28. In some cases, access to particular locations or features was limited.

1.8 Evidence

Table 2 lists the evidence presented at the Hearing.

Table 2 Evidence presented at the Hearing

Expert	Firm	Area of expertise/nature of evidence
Council		
Matt Looby	Biosis	Biodiversity and habitats (involved in preparation of the EES)
Brett Lane	Nature Advisory	Biodiversity and habitats (independent peer review evidence)

Mark Potter	Fire Risk Consultants	Bushfire (independent peer review evidence)
Colleen Peterson	Ratio Consultants	Planning and social impact (independent peer review evidence)
Brett Young	Ratio Consultants	Traffic and transport (independent peer review evidence)
Simon Harrow	GHD	Water quality (involved in preparation of the EES)
James Gourley	GHD	Surface water and hydrology (involved in preparation of the EES)
Gerard McHugh and Glen Jacobs	World Trail	Trail design (non-expert evidence) (involved in preparation of the EES)
VNPA		
Dr Charles Meredith	Independent consultant	Ecology, ecological assessment and park management
Dr David Cheal	Centre for Environmental Management, School of Health and Life Sciences, Federation University	Ecology (botany)
Dr Mary Cole	Agpath Pty Ltd	Plant pathology, mycology and soil microbiology
Mr Tsyrlin		
Edward Tsyrlin	Submitter and expert	Mount Donna Buang Wingless Stonefly

1.9 Project documentation

The EES was exhibited together with Project documentation consisting of the draft PSA (including the Incorporated Document), the EMF, a draft Construction Environmental Management Plan (CEMP) and a draft Operations Environmental Management Plan (OEMP). The CEMP and the OEMP incorporate the mitigation measures set out in the EMF.

The IAC directed Council to circulate 'Day 1' versions of the Project documentation before the commencement of the Hearing, tracked against the exhibited versions. Council circulated Day 1 versions on 10 March 2022:

- Incorporated Document (D48)
- EMF (D49)
- CEMP (D50)
- OEMP (D51).

The IAC directed Council to circulate further versions of the Project documentation with its closing submissions, showing any further changes that Council proposed to make as a result of submissions or evidence presented at the Hearing. Council circulated Final Hearing Versions of the:

- EMF (D157)
- CEMP (D158)
- OEMP (D159).

Council did not propose any further changes to the Day 1 version of the Incorporated Document.

Parties were given the opportunity to provide written comments on the Final Hearing Versions within 5 days of the close of the Hearing. Three parties elected to do so (D163, D164 and D165). Many of the comments made in these documents did not relate to the drafting of the Part C versions, but rather sought to revisit matters of merit. This was contrary to Direction 39 of the IAC's Directions dated 14 February 2022, and the IAC has not had regard to these comments.

The IAC has reviewed the Day 1 version of the Incorporated Document and the Final Hearing Versions of the EMF, CEMP and OEMP, as well as the comments made by the parties on the Final Hearing Versions (insofar as they were relevant). The changes in the Day 1 and Final Hearing Versions included some substantive changes, and other drafting changes made for clarity. The IAC generally supports Council's changes in the Day 1 version of the Incorporated Document and the Final Hearing Version of the EMF, except where otherwise stated in this Report.

The IAC has recommended several further changes to the EMF and the Incorporated Document, and has provided marked up versions of both in Appendices F and G of Report No. 2. The IAC recommended versions are marked up against Council's Day 1/Final Hearing versions, not the exhibited versions.

1.10 Terminology

The EES generally refers to mitigation and contingency measures. These are referred to in this Report as 'mitigation measures'.

The EES refers to environmental impacts, and environmental effects. The terminology used in the EE Act is 'significant effects'. The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) refers to 'significant impacts'. This Report uses both interchangeably.

1.11 Procedural issues

(i) Requests for Information

The IAC prepared a Request for Information that was provided to Council on 10 February 2022, the day before the Directions Hearing (RFI1, D8).

Council notified the IAC at the Directions Hearing that while it initially intended to call economic evidence, it had decided not to do so. The IAC issued a further Request for Information dated 18 February 2022 (RFI2, D18) relating mainly to *Developing Warburton as a World Class Mountain Bike Destination, and Economic Feasibility Study* undertaken by TRC Tourism (Economic Feasibility Study). The Economic Feasibility Study is one of the technical reports and studies supporting the EES, and includes modelling of predicted visitor numbers and predicted economic benefits to be generated by the Project.

Council responded to the RFIs through submissions, evidence and Technical Notes.

(ii) Confidential submission

Oz Gentrification, Displacement and Homelessness (Oz Gentrification) requested to present its submission to the IAC in a closed session. The main author of the Oz Gentrification submission raised concerns about their identity being revealed to Council officers and persons who were supportive of the Project. They had concerns around personal safety.

The IAC agreed to hear the submission in a private online session, with only the submitter, the IAC members and a legal representative of Council present. Council's legal representative gave an undertaking not to reveal the identity of the submitter to Council officers.

Oz Gentrification's original submission (S2638) was lodged by an intermediary on Oz Gentrification's behalf. Neither Oz Gentrification nor the intermediary requested that the original submission be kept confidential. The original submission was placed online via the Engage Victoria website in accordance with the IAC's Terms of Reference (Clause 20).

(iii) Independence of the VNPA witnesses

Council's Part C submission raised concerns in relation to the independence of two of the VNPA's witnesses, who were current members of the VNPA (a matter which was not brought to the attention of the IAC). Council submitted that their evidence could not be regarded as at arm's length or truly independent.

The IAC has had regard to the matters raised by Council in weighting Dr Cheal's and Dr Meredith's evidence.

(iv) Edward Tsyrlin

Council engaged Mr Tsyrlin to provide advice in relation to impacts of the Project on the Mount Donna Buang Wingless Stonefly in 2018. He produced a report in 2019 addressing initial recommendations in relation to Trail 1. Mr Tsyrlin was then engaged by Biosis to provide further advice to inform the Biodiversity Assessment for the Project (EES Technical Appendix A). He conducted further surveys for Stonefly for the alternative trail alignment (Trails 45 to 47), and produced a report in 2021 that provided recommendations in relation to Trails 45 to 47. Both Mr Tsyrlin's 2019 and 2021 reports are appended to Technical Appendix A (Appendices 10 and 11 respectively).

Mr Tsyrlin made a submission to the IAC (S1164), and requested to be heard by the IAC. On his request to be heard form he nominated himself as an expert witness in relation to the Stonefly.

The IAC wrote to Mr Tsyrlin, seeking to clarify how he intended to participate in the process, including whether he was intending to present technical advice and expert opinions to the IAC, and (if so) whether he would be comfortable being cross examined by other parties. Mr Tsyrlin responded yes to both questions (D21). The IAC directed Mr Tsyrlin to circulate a statement at the same time as other expert reports were due to be circulated. An opportunity was provided to other parties at the Hearing to cross examine Mr Tsyrlin.

Council made extensive submissions in its Part C submission (D140 at paragraphs 331 to 348) in relation to Mr Tsyrlin's involvement in the Project, his evidence and the advice he provided to the Project. In summary:

- Mr Tsyrlin had been asked at various stages both prior to and in the Hearing to confirm that the exhibited mitigation measures reflected his recommendations in his 2019 and 2021 reports, but had elected not to do so
- Council had updated the Project documentation twice, to reflect the concerns raised in Mr Tsyrlin's submission (S1164) and evidence statement (D40), to include express requirements that Donna Buang Road between Ben Cairn and Road 26 and the trails from the Mount Donna Buang Trail Head would be closed between July and September to protect the Stonefly

- Mr Tsyrlin's advice on the suitability of the mitigation measures changed over the course of his involvement in the Project, culminating in seeking a position of 'zero impact' at the Hearing which, in Council's submission, is not an appropriate standard
- at the Hearing, under cross examination by Council, Mr Tsyrlin indicated that although he had not reviewed the mitigation measures in detail, he described them as 'excellent'
- Mr Tsyrlin's evidence at the Hearing (which consisted of oral evidence and a presentation (D136)) that had not been previously communicated to Council, and was not contained within the body of his evidence statement (D40)
- the IAC should "*proceed with caution*" in relying on Mr Tsyrlin's submission as independent expert evidence, as it is plainly not independent
- Mr Tsyrlin gave oral evidence on the adequacy of the mitigation measures that was not covered in his written evidence and was not the subject of detailed or comprehensive assessment
- this made it "*exceedingly difficult*" for Council to properly test his views on the adequacy of the mitigation measures
- Council attempted to further engage with Mr Tsyrlin after he presented at the Hearing, to ascertain whether any further mitigation measures should be considered
- while he responded (D160), he indicated an unwillingness to participate in further engagement with Council (following the presentation of his evidence) on the basis of legal advice from an unnamed source.

Council submitted that together these matters must be considered by the IAC in weighting Mr Tsyrlin's evidence. The IAC has had regard to the matters raised by Council in weighting Mr Tsyrlin's evidence.

(v) Late production of material

The IAC notes that a significant amount of material was provided to the IAC very late in the process, including a very extensive Part C submission which appended a lot of new information (albeit in response to issues that had arisen in the course of the Hearing), and the correspondence between Council and Mr Tsyrlin regarding mitigation measures to protect the Stonefly (D160). Much of this material (which included the views of people who had participated in the Hearing as expert witnesses) was not able to be tested. The IAC has weighted the material accordingly.

1.12 Report structure

The volume of material before the IAC is significant. It includes the EES including the various Technical Appendices and attachments, the 2,707 submissions, 11 statements of evidence, 170 tabled documents and the submissions of 78 parties who spoke to the IAC at the Hearing, as well as its observations on its site inspections. The IAC has had to be selective in referring to the more relevant or determinative material in its Reports. All submissions and materials have been considered by the IAC in reaching its conclusions, regardless of whether they are specifically mentioned in the Reports.

The IAC has prepared two Reports:

- Report No. 1 – Key considerations, discussion, findings and recommendations
- Report No. 2 – Appendices.

1.13 Recommendations

The IAC has provided primary recommendations in the Executive Summary, addressing its key tasks under the Terms of Reference. Detailed recommendations for changes to specific mitigation measures and/or provisions in the Incorporated Document are provided in each issue-based Chapter.

1.14 Limitations

The IAC received a number of submissions that were critical of the consultation process undertaken by Council in relation to the EES and the Project more broadly. Other submissions felt that Council's consultation in relation to the Project and the EES process had been excellent. Some went as far as questioning why the Project even needed an EES.

The IAC has commented on matters relating to consultation to the extent that they are relevant to its Terms of Reference (which is primarily in relation to the role of ongoing community consultation and engagement in minimising the impacts of the Project). It has not otherwise addressed these matters.

1.15 Acknowledgements

It is not possible to acknowledge all who contributed to the EES process, through the original written submissions, suggestions for locations and features to include on the site inspection, the evidence, and the presentations of the parties to the IAC.

The IAC thanks all who participated in this process. It appreciates the way in which all parties participated in the Hearing both online and in person. The IAC particularly acknowledges Council for its assistance in setting up and hosting the online Hearing sessions and document sharing platform, providing technical support to the IAC and to the parties, and arranging a local venue for those who wanted to present in person.

The IAC particularly thanks the office of Planning Panels Victoria for its ongoing support and assistance throughout the process, with special acknowledgment to Amy Selvaraj, Senior Project Officer.

2 The Project

2.1 Introduction

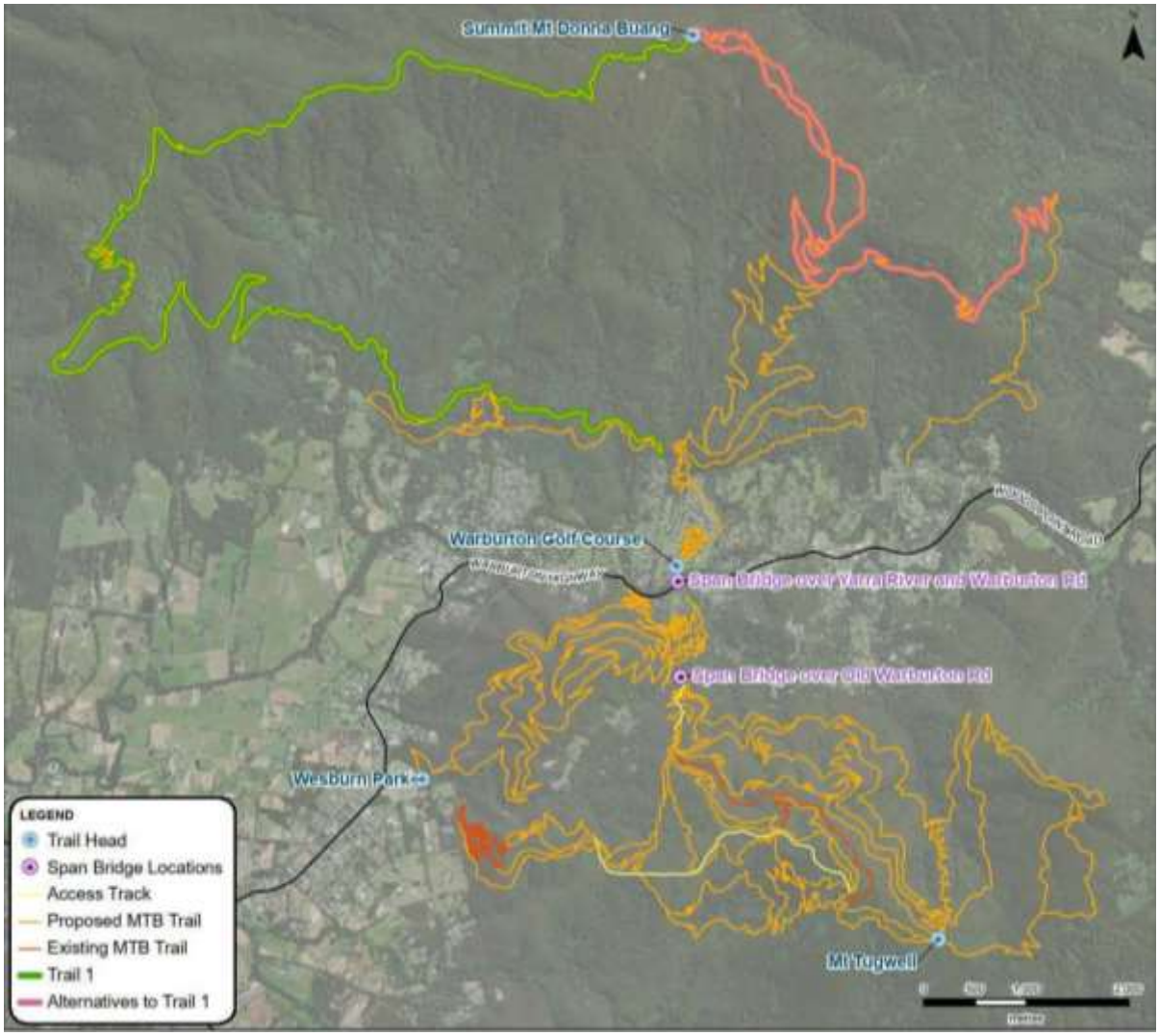
This chapter provides a high level overview of the key elements of the Project drawn from the EES documentation, particularly EES Chapter 3. This provides context for the discussion of specific issues in Parts B and C of this Report. Readers should refer to EES Chapter 3 for more detailed information about the Project.

2.2 Project area

Figure 1 outlines the Project area. Key locations include:

- the Yarra Ranges National Park, where most of the northern trails are proposed
- Yarra State Forest, where the southern trails are proposed
- Warburton Golf Course, where a Visitors Hub and the main trail head is proposed
- Wesburn Park, Mount Donna Buang summit and Mount Tugwell summit, where secondary trail heads are proposed.

Figure 1 Project area



Source: EES Figure 1-2

2.3 Key elements of the Project

(i) Trails

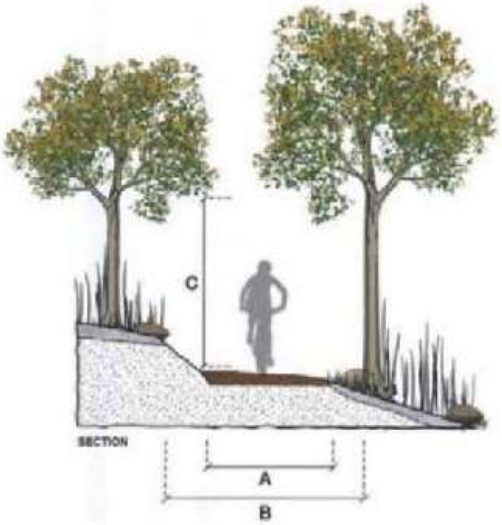
The total trail network is proposed to be around 177 kilometres, located across three main areas – Mount Donna Buang, Mount Little Joe and Mount Tugwell. The network will incorporate:

- 12 kilometres of existing informal trails around Mount Tugwell (including the formalised 'Hey Hey My My' Trail) that will be upgraded to current design standards
- 10 kilometres of existing vehicle roads and tracks
- up to 155 kilometres of newly constructed mountain bike trails.

EES Table 3-1 describes the length, general location and degree of difficulty of each of the 66 trails (noting that Trail 1 and Trails 45, 46 and 47 are alternatives).

A typical trail cross-section is shown in Figure 2.

Figure 2 Trail dimensions



Source: EES Figure 3-7

Typical dimensions are:

- A – bench width (or trail width) of between 1.2 and 1.4 metres
- B – total average impact width of between 1.2 metres and 3.3 metres
- C – vegetation clearance height of 2.5 metres.

Gradient varies with topography and the style and difficulty of the trail. Typically, the maximum trail gradient would be less than 15 per cent, with the majority of the trails under 10 per cent.

Elevated structures (boardwalks and small bridges typically less than a metre above ground level) are proposed to allow trails to cross over waterways and sensitive areas such as soft ground or rocky terrain.

(ii) Trail heads

The main trail head and Visitors Hub is proposed on the southern side of Warburton Golf Course. The existing car park (currently 30 spaces) would be upgraded to around 215 car spaces with room for future expansion if required. The Visitors Hub would allow direct bike access to the northern and southern trail networks, and would include a shuttle bus stop (with shelter) to transfer riders

to other trail heads, toilet and shower facilities, picnic tables, comprehensive visitor information and bike wash stations.

Three other trail heads are proposed:

- a new trail head on top of Mount Tugwell, off Mount Bride Road – car parking (7 spaces and one disabled space) for pick up and drop off only, a bus turnaround bay, drainage upgrades, a bike wash down station, toilets and a picnic area
- Mount Donna Buang – minor upgrades to the existing visitors' facilities and car park including drainage upgrades, a shuttle bus drop-off and installation of a bike wash down station
- Wesburn Park – upgrades to existing facilities including an additional 120 parking spaces, parking for larger groups, drainage upgrades, bike wash stations and a shuttle bus area.

An access point is also proposed at Dee Road (at an existing access point to the O'Shannassy Aqueduct Trail).

(iii) Bridges

Two bridges are proposed:

- Yarra River bridge (shared use) to:
  - provide a crossing over the Yarra River, Warburton Highway and Dammans Road
  - connect the northern and southern trail networks
  - provide access to Warburton township
- Old Warburton Road bridge (mountain bike use only).

The Yarra River bridge is proposed to be a combined suspension and truss bridge spanning around 121 metres, to avoid the need for construction within the river corridor. The Old Warburton Road bridge is proposed to be a truss-style bridge spanning around 23 metres across Old Warburton Road and the uphill ground slope. The ramp has been curved to avoid impacts on nearby trees.

(iv) Existing road and vehicle tracks

Some existing gravel roads and tracks are proposed to be incorporated into the trail network. The tracks are currently open to public vehicle access, but with limited use:

- Mineshaft Hill Track will connect a number of the trail sections. No construction activities are required.
- Cemetery Track (south of Edwardstown Road) will be closed to public access and repurposed as a mountain bike trail. The track is currently extensively damaged by recreational 4 wheel drive (4WD) vehicle use, causing significant environmental impact and making it impassable to DELWP management vehicles.
- Mount Bride Road, Edwardstown Road and Cemetery Track (north of Edwardstown Road) will be upgraded (resurfaced with gravel) where necessary to accommodate shuttle bus traffic. No widening of the existing roads would be required.

(v) Micro-siting the trails

A 20 metre wide corridor will be set aside for the trails, and an inspection would be undertaken before construction commences to determine the exact alignment of the trail within the 20 metre wide corridor. This allows any specific environmental values to be identified and protected (including with suitable buffers where possible), and for specific construction treatments to be determined.

Micro-siting would seek to allow for large trees and other sensitive areas or features to be avoided. It would also allow for the natural contours to be considered, to make the most of the existing terrain and avoid the need for significant excavation or soil disturbance.

(vi) Construction techniques

Construction techniques are summarised in Section 3.3 of the EES. A variety of construction methods are proposed, including construction using small excavators, construction by hand in particularly sensitive areas, rock armouring on steep gradients and wet sections, and raised embankments on wet and boggy sections or to protect tree roots that cannot be avoided. Information is provided in relation to construction teams, timeframes, where compounds would be located, the materials that will be used, how disturbed areas would be rehabilitated and how traffic and waste would be managed.

2.4 Project operations

(i) Visitor numbers

Economic modelling undertaken for the Project anticipates that the number of visitors per year will increase from just over 130,000 in 2022 (the first year of operation) to just over 220,000 in 2032. The extent and variety of the trail network is expected to attract overnight visitors, interstate visitors and international visitors. Overnight visits are expected to make up around one third of total visits. Visitor numbers are likely to be higher on weekends and in the warmer months.

(ii) Hours of operation

Night riding will not be permitted in the National Park, but will be permitted in the State forest.

(iii) Events

Council expects that the Project will attract mountain bike events. Local and regional scale events will likely be held regularly throughout the year. Local and regional events are small-scale events with up to 300 participants, but only a small number of spectators or assistants. State and national events are also contemplated.

The Project will potentially attract major international events, but these would require extensive planning and approvals as well as additional investment and development of suitable infrastructure. Therefore, the EES did not assess impacts related to international events.

Anticipated events are summarised in Figure 3.

Figure 3 Summary of events

Event type	Frequency	Duration	Total visitors per day
Local events	30 per year	3 hours	350 (300 participants, 50 spectators)
Regional events	10 per year	3-12 hours	1000 (400 participants, 600 spectators)
State events	Every 2 years	3 days	3000 (1400 participants, 1600 spectators)
National events	Every 4 years	4 days	7200 (2700 participants, 4500 spectators)

Source: Table 2 of Ms Peterson's expert witness statement (Document 33)

2.5 Project staging

The Project will be delivered in stages. Stage 1 is fully funded, and Stage 2 is yet to be funded.

The EES states that the exact trails and infrastructure to be delivered under each stage has not yet been determined and will be finalised once the final design has been approved and costed. Council provided further information in relation to staging, in response to Q11 in RFI1. The answers are in Technical Note 3 – RFI1: Indicative Project Staging (D54).

Indicatively:

- Stage 1 includes the majority of the trail network to the south of Warburton, including the Wesburn Park and Mount Tugwell trail heads, and the Old Warburton Bridge
- Stage 2 includes the trail network to the north of Warburton (mostly in the National Park), the main trail head at the Warburton Golf Course and the trail head at the Mount Donna Buang summit, and the Warburton Highway Bridge.

There will be 'sub-stages' within each Stage. The trail heads at the Golf Couse and Wesburn Park are proposed to be constructed first, with the two new bridges following, before trail construction starts. Trails will be constructed in 17 to 34 kilometre sections over 4 to 9 months, and would be opened once construction is complete.

D54 indicates that part of the rationale for staging the Project (apart from funding) is to manage socio-economic effects, by allowing gradual social change and to allow local businesses to plan for and adapt to the increasing visitor numbers progressively.

2.6 Tenure

The Project is proposed to be located on a mix of public land (national park and state forest) and private land. The IAC asked Council what would happen if it could not secure suitable tenure over the land needed for the Project (D8, RFI1 Q2). Council's answers (D71) are summarised in Table 3.

Council indicated that tenure for Stage 2 elements would not need to be obtained until Year 3, providing plenty of time for negotiations. If negotiations with private landowners were unsuccessful, viable alternatives would be pursued. If suitable alternatives could not be found for any of the elements listed below, Stage 2 would be abandoned.

Council confirmed that it does not propose to use any powers of compulsory acquisition for the Project.

Table 3 Tenure arrangements

Land	Stage	Status
Wesburn Park – trail head, Trail 43	1	- Public land, Council is the Committee of Management, no negotiations with Parks Victoria required
3300 and 3310 Warburton Highway, Warburton – Trails 11, 17, 18, 19 and 20	1	- Private land adjacent to Dolly Grey Park - Negotiations underway - If negotiations are unsuccessful, investigate alternatives for connecting trails from the O'Shannassy Aqueduct Trail to main trail head/Warburton township (there are viable opportunities on both public and private land) - If tenure cannot be secured, Trails 11, 17, 18, 19 and 20 will be lost - Trails 18 and 19 are existing informal mountain bike trails that are already well utilised - Losing these trails would reduce the diversity of trails close to Warburton township but would not result in significant impact to the Project
42 Edward Street, Wesburn – Trail 44	1	- Private land - Negotiations underway - If tenure cannot be secured, the trail can be re-routed through the road reserve instead of crossing the property - Would require a planning scheme amendment so that the Special Controls Overlay (SCO) applies to the road reserve
660 and 670 Old Warburton Road, Wesburn	1	- Private land - Trails are proposed adjacent to (but not on) these properties on tramway reserves (Crown land) - Despite this, Memoranda of Understanding have been proposed with the owners so that the interface between the Project and these landowners can be appropriately managed - Discussions are ongoing
Golf Course – main trail head, Trail 10	2	- Private land - Exact location of the trail is yet to be finally determined, so Ms Peterson recommended (and Council endorsed) applying the SCO to the whole of the land rather than just the 20 metre corridor - Requires a long term lease from the Golf Club - Negotiations underway

Land	Stage	Status
		- If negotiations are unsuccessful, investigate alternatives for locating the main trail head, and connecting trails from the O'Shannassy Aqueduct Trail to the Warburton township (there are viable opportunities on both public and private land) - If no suitable alternatives could be found, Stage 2 would be abandoned
Trails in the National Park – Trails 1 to 8, Trails 45 to 47)	2	- Public land (National Park) - Requires a lease or other suitable tenure arrangement between Council and Parks Victoria. Any lease cannot exceed 21 years, and must be approved by the Parks Victoria Board and the Minister for Energy, the Environment, Energy and Climate Change under section 19G of the *National Parks Act 1975* (NP Act) - If suitable tenure could not be secured, Stage 2 would be abandoned
40 Martyr Road, Warburton – Trail 9	2	- Private land - Negotiations underway - If negotiations are unsuccessful, investigate alternatives for connecting trails from the O'Shannassy Aqueduct Trail to main trail head/Warburton township (there are viable opportunities on both public and private land) - If no suitable alternatives could be found, Stage 2 would be abandoned

2.7 Project approvals

(i) Legislative and policy context

The key elements of the legislative and policy contexts are described in Appendix E in Report No. 2. The evaluation objectives set out in the Scoping Requirements are described in Table 1.

(ii) Project approvals

Clauses 16 and 17 of the Terms of Reference set out the main approvals and consents that will be required for the Project:

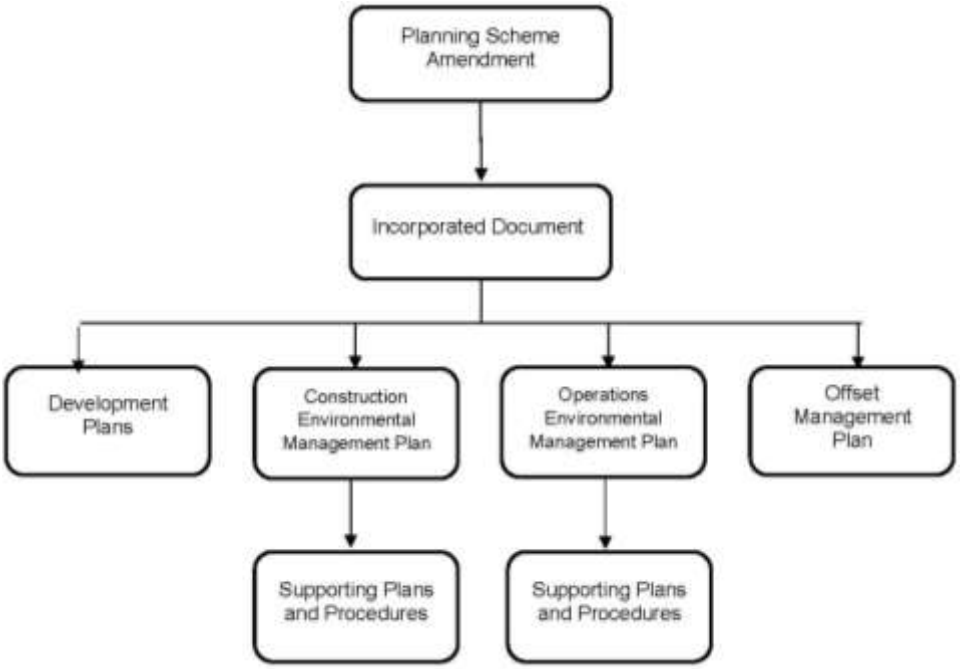
- planning approval, proposed to be in the form of the draft PSA
- an approved CHMP under the *Aboriginal Heritage Act 2006*
- a permit to remove listed flora under the *Flora and Fauna Guarantee Act 1988* (FFG Act)
- approval for works within the Yarra Ranges National Park under the *National Parks Act 1975* (NP Act)
- permits for works potentially affecting historic heritage sites under the *Heritage Act 2017*
- approvals for works on waterways under the *Water Act 1989*.

2.8 Environmental Management Framework

EES Chapter 16 includes the proposed EMF. The EMF provides integrated measures to mitigate and manage the potential environmental impacts of the Project.

The EMF will be implemented through the Project documentation, primarily through the Incorporated Document and the environmental management plans (the CEMP and the OEMP) required under the Incorporated Document (see Figure 4). The mitigation measures will be given force through the CEMP and OEMP.

Figure 4 Implementation of the Environmental Management Framework



Source: EES Figure 16-2

Drafts of some of these documents were exhibited with the EES:

- Biodiversity Offset Strategy and Plan (EES Attachment IV)
- CEMP (EES Attachment V)
- OEMP (EES Attachment VII).

3 Project alternatives

3.1 Introduction

The EES includes two alternative alignments for part of the northern trail network:

- Trail 1 (Council's preferred alignment)
- Trails 45, 46 and 47.

Both alternatives are located within the National Park.

This chapter addresses the IAC's general approach to assessing the Project alternatives, and whether the EES's exploration of Project alternatives has met the Scoping Requirements. The risks of the Project alternatives, including on a comparative basis, are addressed in the issue-specific chapters in Parts B and C of this Report. The issue of whether trails in the National Park should be avoided entirely is dealt with in Chapter 17.

(i) Scoping requirements

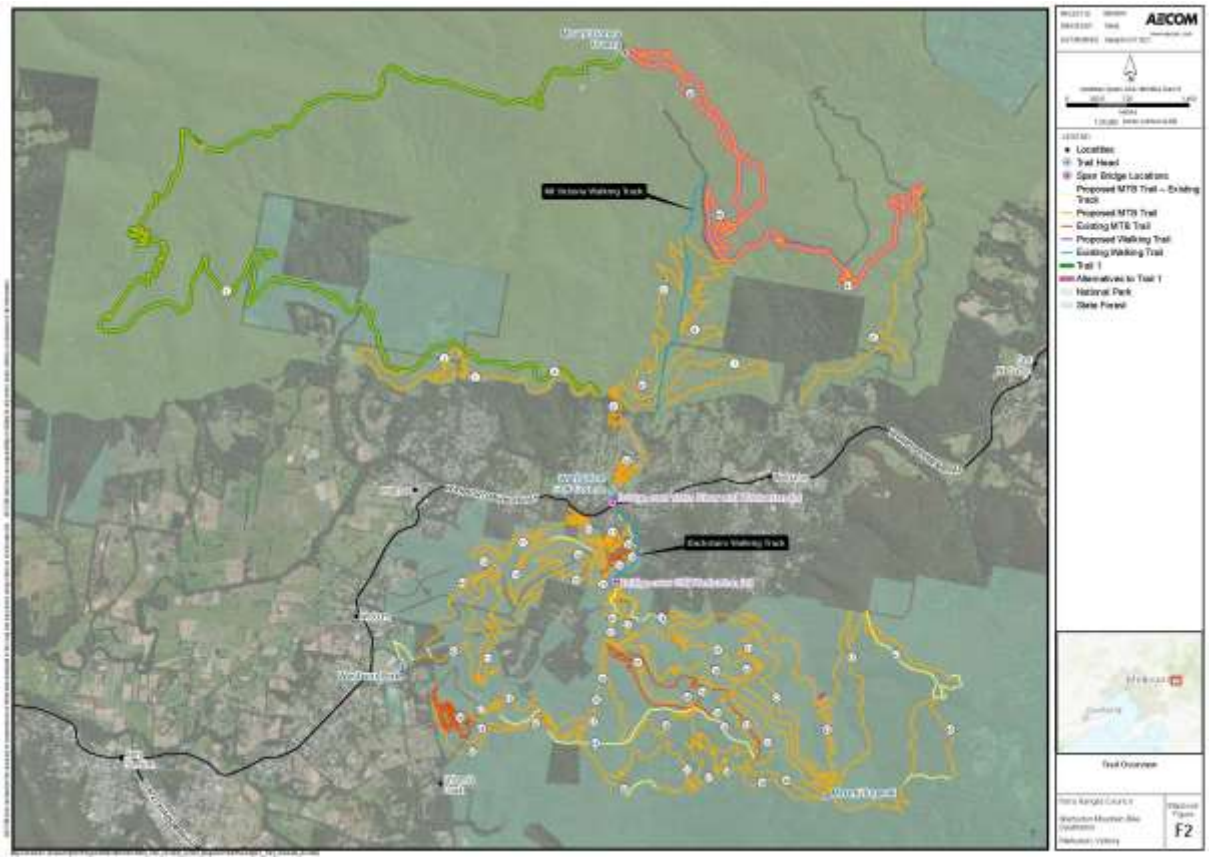
The Scoping Requirements required the EES to include feasible alternatives capable of substantially meeting the Project's objectives that may offer environmental or other benefits. The Scoping Requirements required the assessment of alternatives to include (among other things):

- a description of alternatives considered in the design process, including alternative trail alignments and locations of trail heads and site access roads
- an assessment and comparison of the technical feasibility and environmental implications of alternative options considered
- the basis for selecting the proposed Project layout and design, particularly where trails and trail heads are located within areas of particularly high conservation value such as within the National Park
- a comparison of benefits and impacts associated with including or excluding trails or trail heads within areas of particularly high conservation value
- a description of how information arising during the EES process was used to refine the preferred trail alignments and other project alternatives.

(ii) What did the EES say?

The Alternatives Assessment Report (Attachment II to the EES) summarised the assessment of alternatives considered prior to, and as part of, the EES process. It focused on identifying alternatives that could avoid and minimise significant effects *"without undermining the Project objectives".* As part of this assessment, several trails were identified to be carried forward through the EES for a full assessment. These trails are described below and shown in Figure 5. Trail 1 (Council's preferred alternative) is shown in yellow/green. Trails 45 to 47 are shown in pink/orange.

Figure 5 Project alternatives



Source: Figure F2 from IAC Consolidated Mapbook (D24(a))

3.2 The alternatives

(i) Trail 1

Trail 1 is known as 'Drop a-K' due to its drop of over 1,000 metres in elevation from start to finish. Trail 1 starts at the summit of Mount Donna Buang and extends east, then south east before turning west southwest and descending down to exit the National Park and finish at the main trail head at the Warburton Golf Course via Trails 9 and 10. Trail 1 has a total length of 22 kilometres.

(ii) Trails 45, 46 and 47

Trails 45 to 47 were proposed as an alternate package to Trail 1. Trails 45 and 46 travel southwest from the Mount Donna Buang summit before linking to Trails 5 and 6 which zig-zag their way further south to link up with Trails 9 and 10 to finish at the Golf Course. Trail 47 runs west from the top of Trail 6, then northwest to join Trail 8 where it meets Donna Buang Road. Trails 45 to 47 have a combined length of 15 kilometres.

(iii) Trails 5 and 50

The Alternatives Assessment Report also identified Trails 5 and 50 as being high priority for alternatives due to their intersection with CTR or CTMF vegetation. This initial assessment found no viable alternatives for these trails that would achieve the Project objectives. For example, for Trail 5 to avoid CTR it would need to be even steeper which would change its difficultly rating from intermediate.

(iv) Alignments that completely avoided trails in the National Park

Through RFI1 (D8) the IAC sought details of any assessment of alternative alignments that completely avoided the National Park. Council responded in D71 (response to Q14). Council advised that since the original feasibility study in 2013, the Project had included trails in the National Park. A trail network without any trails in the National Park was investigated as Case 2 in the Economic Feasibility Study, but it was determined that this would not satisfactorily achieve the Project objectives.

3.3 Evidence and submissions

Council's preferred alignment for the Project was Trail 1. Council submitted:

> The experience offered by Trail 1, riding through and being close to the types of vegetation and scenic views located on Mount Donna Buang, is unparalleled anywhere else in the region, and is the eco-tourism product that will provide a unique market differentiator to attack high economic yield visitors.

Council submitted that Trails 45 to 47 had been assessed as part of the EES process as an alternative to Trail 1, in the event that Trail 1 was not supported.

Council submitted there were two stages to the Project design, being conceptual design followed by detailed design. At the conceptual design stage Ecological Protocols were developed, described as the overarching principles intended to guide a trail design with minimal environmental effects. The Ecological Protocols included:

- an assessment of the risk to the identified value
- a protocol (for example, avoid CTR/CTMF)
- where appropriate, mitigation measures (for example, minimise length of trails in CTR/CTMF).

Detailed design involved identifying, flagging and mapping the route on the ground. Council explained that the entire trail network had been walked at this stage and all construction treatments identified and quantified.

The Impact Assessment Unit of DELWP (DELWP IAU) provided an informative presentation to the IAC outlining the EES process to date and reiterated the need for the IAC's report to provide advice on the acceptability of effects of the preferred alignment (Trail 1) compared to the alternate alignment (Trail 45 to 47). In response to a question by the IAC, DELWP IAU advised it would be useful to understand the acceptability of effects excluding all trails in the National Park.

The VNPA was critical of the EES's failure to consider alternatives from the start that completely avoided the National Park. It submitted that while much effort and expense seems to have been devoted to identifying and assessing the proposed alternative (Trails 45 to 47):

> With respect, it is difficult to see that this is anything more than an exercise to satisfy a requirement within the scoping guidelines [sic] about feasible alternatives which really, given the matters outlined above, ought to have been framed as a requirement to explore a broader range of alternatives including avoiding siting trails in the National Park. Indeed, it is difficult to see how Trails 45, 46 and 47 are not equally "within areas of particularly high conservation value" and therefore usefully characterised as a project alternative (see EES Scoping requirements at 3.4).

It submitted that the assessment of project alternatives appears to have been informed by a commitment to Trail 1, and that it is "*wholly unsurprising*" that the EES concluded that Trail 1 is the alternative that best meets the Project objectives. It submitted:

> Ultimately on the materials before it, the IAC cannot be satisfied that the environmental impacts in the [National] Park are acceptable so as to recommend Trails 1 or the alternatives 45, 46 and 47, or any other trails in the National Park, should proceed.

Dr Meredith gave evidence for the VNPA on park management and ecological impacts. He did not express a particular view about whether Trail 1 or Trails 45 to 47 should be preferred. Rather, he considered that the National Park was not an appropriate location for a mountain bike facility, at least of the scale proposed. He considered that this would have been identified early had a proper project scoping process been undertaken, with an initial assessment of constraints and opportunities. He explained how, for alignments within the National Park, an initial assessment could have maximised the use of Mount Donna Buang Road, and would have drawn hard boundaries to avoid drinking water catchments and areas of CTR/CTMF.

3.4 Discussion

In assessing the Project alternatives, a key consideration is whether either alternative poses risks that are too significant for mitigation measures to be applied, such that avoidance should be the only approach. Or alternatively, if it is considered that mitigation measures will be ineffective in reducing the residual risk to an acceptable level. This is considered in the issue-specific chapters in this Report.

The suitability of trails in the National Park is another key issue. Many submitters, including the VNPA, opposed both Project alternatives on the basis that they are an inappropriate use in the National Park (at least at the intensity proposed). This is addressed in Chapter 17.

The IAC accepts that Dr Meredith's proposed approach of identifying constraints and opportunities at the outset could have been a useful process. However, the IAC is not aware of any relevant policy or standard requiring a proponent to undertake a such an analysis at the outset (confirmed by Dr Meredith in response to a question from the IAC). The IAC therefore accepts the approach taken by Council, to undertake a full assessment of all trails, including the Project alternatives and the other trails in the National Park. The IAC considers that whichever approach was taken, the outcome may have been the same, as the main issue is the acceptability of key residual risks that affect certain trails.

The IAC is satisfied that the identification and assessment of Project alternatives in the EES met the Scoping Requirements. The Scoping Requirements required the EES to include feasible alternatives capable of substantially meeting the Project's objectives. Council took the position early in the development of the Project that options that completely avoided the National Park would not meet the Project objectives. While the IAC neither endorses nor rejects this view, it considers that it is a legitimate approach for Council as the Proponent to have taken.

The IAC is otherwise satisfied that the EES adequately described how the requirements listed in Chapter 3.1(i) were met.

3.5 Findings

The IAC finds:

- The EES's assessment of Project alternatives broadly met the Scoping Requirements.

4 Project rationale

4.1 Introduction

The project rationale is discussed in EES Chapter 2. Supporting reports and studies include:

- Alternatives Assessment Report (EES Attachment II)
- the Economic Feasibility Study attached to the Alternatives Assessment Report)
- EES Technical Appendix E (the socio-economic impact assessment report prepared by RMCG).

(i) What did the EES say?

Project objectives

Council's objectives for the Project are:

- Facilitate tourism growth and associated positive economic and jobs growth in the Yarra Valley region.
- Create iconic mountain bike trails eligible for International Mountain Bike Association Gold Ride Centre status.
- Create spectacular riding experiences that have a competitive advantage over existing mountain bike destinations and leverage Warburton's beautiful township, rural valley and surrounding forested slopes.
- Enhance the health and well-being of the community.
- Maintain the significant biodiversity and heritage values within the project area and provide opportunities for the community to connect with and appreciate their importance.

Table 2-3 in the EES summarises how Council considers the objectives will be met.

Overall rationale

EES Chapter 2 states:

> The project has the potential to bring substantial economic and social benefits to the local and regional economy through direct and indirect expenditure from visitors and local residents and associated job and wealth creation and through the increasing health and wellbeing of those people that use the mountain bike trails. The project would also contribute to the reduction in environmental impacts associated with the building of informal trails within natural areas.

Chapter 2 explains that mountain biking has grown in the Yarra Valley in recent times, mainly through informal user constructed trails. Council identified an opportunity to formalise mountain biking activity, to support a more sustainable economic future for the area based on tourism. The EES argues that the Project will grow tourism because:

- it is close to Melbourne and an international airport, providing a large catchment of potential users from Melbourne, interstate and overseas
- it has an extensive and diverse trail network, which will attract a wide range of users from novice riders to highly skilled mountain biking professionals
- the diversity of trails will attract newer audiences to mountain biking, including women, family groups and differently abled riders
- the Project will qualify for International Mountain Bike Association Gold Level Ride Centre status, which, if awarded, would make it the first Gold Level Ride Centre in Australia and one of only seven worldwide (another attractor for international visitors)

- the spectacular scenery, topography and forest environment offer a unique rider experience, attracting a wide range of users.

Warburton is considered an ideal location for the Project because the existing tourism industry provides a base for the supporting services and facilities (such as accommodation, cafes and restaurants) needed to sustain the new tourism demand that the Project is expected to generate.

The modelling

The Economic Feasibility Study was based on modelling undertaken by MCa Consultants to estimate the likely number of trail users in three scenarios:

- Case 1 Base Case (the full trail network is delivered)
- Case 2 Reduced Trail Network (no trails in the National Park)
- Case 3 (no Trail 1).

The likely number of trail users was then input into economic modelling (also undertaken by MCa Consultants) to estimate the economic benefits of the Project in the three case scenarios.

The outcomes of the modelling are discussed in more detail in Chapter 15.2.

In summary, the modelling predicted that in Case 1 (full trail network), the annual number of trail users will be 221,545 in 2031, when the Project is fully operational. Around two thirds would be day visitors and one third overnight visitors. The modelling estimated that in Case 1, the Project will generate:

- a spend in the Yarra Ranges area of around $143.3 million over 10 years (to 2031)
- regional income of around $17.7 million per year from 2031
- 84 jobs during the construction phase, and a further 229 jobs during the operational phase.

Trail 1 is considered the iconic trail in the network, and a main attractor of users to the Project. The modelling predicted that the number of users would reduce substantially in Cases 2 and 3 (without Trail 1), with a consequential reduction in the predicted economic benefits of the Project. See Chapter 15.2 for more detail.

(ii) Request for Information

The IAC issued RFI2 (D18) seeking clarification of a number of aspects of the Economic Feasibility Study. Council responded in Appendix A to its Part B submission (D71). Responses are discussed below.

4.2 Evidence and submissions

(i) Council

Council's Part B submission summed up the Project rationale as follows:

> The objective for the Project is summed up in the word 'Destination'. The Project objective has always been to establish Warburton as a tourism destination for mountain bikers, a new tourism demographic Warburton is not currently attracting. Increased tourism through mountain biking has the potential to result in flow-on benefits in many other areas, including increased spending in the local economy, increased job opportunities and new business opportunities.

Council's Part A submission elaborated on EES Chapter 2, highlighting the unique rider experience offered by the rich diversity in topography and terrain, including the substantial elevation changes

(Trail 1 drops over 1,000 metres in elevation, while the trail networks on Mount Tugwell and Mount Little Joe drop around 790 metres and 516 metres respectively).

Council pointed to the locational advantages of Warburton, including its proximity to the airport and metropolitan Melbourne and its ability to attract mid-week visitation. Council pointed to the fact that one third of the trail users are expected to be overnight visitors, and described this as "*extremely important*", as overnight visitors spend more in the region than day visitors.

Council submitted that the growing popularity of mountain biking has put increased pressure on the natural environment through the construction of informal trails, which are common around Mount Tugwell. Council submitted that the construction of an extensive professionally built network will satisfy regional mountain biking demand and is therefore expected to reduce informal trail building activity.

Council called Glen Jacobs and Gerard McHugh from World Trail to give evidence at the Hearing about the mountain biking industry and about the Project design. World Trail has been designing and building mountain bike destinations for over twenty years, and was heavily involved in the design of the Project.

World Trail's evidence was that there is currently over 70,000 mountain bike users in Victoria (21 per cent of the national total). Surveys of Victorian users undertaken to inform the 2021 Victorian Mountain Bike Strategy revealed that:

- physical and mental health is the largest motivator for riders
- one of the primary barriers for riders is that trail networks are too far from home
- usage on already overused trail networks is growing
- there is a strong community desire for a new destination close to Melbourne
- there is growing diversification of participation (including families and women)
- there is a lack of diversity in trail types and difficulty
- there is a lack of trail maintenance models
- there is significant frustration at the closure of informal trails, coupled with the delay in delivering new trail projects.

World Trail identified six key elements to a successful mountain bike destination, all six of which are met by the Project:

- Connectivity – connections to key mountain bike markets, connectivity of the trails to the town and its supporting services, a 'ride in ride out' experience where visitors can park their car at their accommodation at the start of their visit, and access everything they need on foot or on bike.
- Quality Trails – trails that cater for a wide variety of skills, capabilities and experience and offer rider progression.
- Progressive Expansion – the ability for the trail network to grow and expand over time, to maintain attraction to users.
- Natural Features – these enhance the rider experience and help to showcase the destination and feed into critical social media sharing and advertising streams.
- Hospitality and Accommodation – good access to accommodation, food and beverages close to the trail network.
- Events – these provide further exposure.

World Trail's evidence was that the Project has a number of other key advantages which in their opinion will make the Project Australia's leading mountain biking destination (in the Case 1 full trail network scenario):

- the longest network of trails in Australia (177 kilometres), with a high degree of diversity in terms of setting, skill level and trail types
- an outstanding natural setting and spectacular scenery
- a ski resort style 'ride in ride out' experience with the township nestled at the bottom of the trail network
- a large population within the local catchment area
- a location close to an International Airport
- year round riding opportunities (although there will be some seasonal closures in the snow season)
- supporting infrastructure to host international riding events, without requiring the entire trail network to be shut down
- shuttle access roads on both sides of the valley
- attractions for other types of cyclists (road, gravel and touring cyclists), including the Lilydale to Warburton Rail Trail
- easy access to the Yarra Valley wineries, distilleries, breweries, cafes, wildlife sanctuaries and music festivals.

World Trail pointed to the increasing demand for 'flow' trails and long distance wilderness trails. Flow trails are targeted towards beginner and intermediate level riders with minimal climbing, long descents and point-to-point trails supported by a shuttle bus service. Wilderness trails are often the 'hero' or 'flagship' trail in a mountain biking destination. The Project has both, Trail 1 being the iconic long distance wilderness trail and flow trails making up 21 per cent of the trail network.

World Trail's evidence was that constructing a professionally built network of trails would discourage the construction of informally built trails. Their evidence was that professionally built trails deliver superior environmental outcomes than informal user-built trails, as they are specifically sited to avoid environmentally sensitive areas and designed to reduce erosion, sediment runoff and the like.

World Trail also described the many socio-economic benefits that it considered would flow from the project. These are discussed in Chapter 15.

(ii) Submitters

Supportive submissions considered the Project would cement Warburton as a leading mountain bike destination which will attract users (and spending) from not just Melbourne, but from interstate and overseas. They highlighted that Victoria currently lacks world class mountain biking opportunities, resulting in many mountain bikers opting to travel outside Victoria for their mountain biking experiences (including to Derby in Tasmania, and to mountain biking destinations in New Zealand), taking their tourism spend with them.

Few submitters disputed the proposition that the Project will generate tourism. Some, however, questioned the characterisation of the Project as 'eco-tourism'. For example, the Upper Yarra River Reserve Committee of Management submitted that the Project is more accurately characterised as a sport and recreation project in a natural environment setting. The Upper Yarra River Reserve Committee of Management also questioned whether the need for the Project had been adequately demonstrated.

Several submitters felt that the Project failed to appropriately balance the objective of achieving Gold Level status against the environmental impacts of the Project, particularly the impacts on the National Park. For example, the Upper Yarra Sustainable Development Alliance submitted:

> Pursuing a Gold Ride Centre status should not be used to guide this development above the social, economic and environmental factors in our community.
>
> The well-being of our community and the surrounding environments should be the guiding principles in tourism development, now and into the future.

Submissions from mountain bikers supported World Trail's contention that a professionally built trail network would reduce illegal trail building activity, with many saying that they would much rather spend their time riding trails than building them. Several spoke to their experiences and observations in locations like Derby in Tasmania that there is little to no illegal trail construction in areas where high quality professionally built facilities exist.

4.3 Discussion

The IAC considers that the rationale for the Project is essentially sound. Mountain biking is a popular sport which is growing. There is a ready and growing demand for professionally built mountain biking facilities close to Melbourne. The IAC accepts that Warburton is well located to tap into the mountain biking demand not just in Melbourne, but also interstate and overseas, due to its proximity to the airport. Provided the Project is well built, well maintained and well operated, the IAC sees no reason why it should not attract substantial visitor numbers.

There is little hard evidence to support Council's (and World Trail's) claims that providing professionally built trails will discourage informal trail construction. However many of the mountain bikers who appeared at the Hearing supported these claims. On balance, the IAC thinks it likely that there will be some reduction of illegal trail construction if the Project proceeds.

The emphasis placed on Gold Level Ride Centre status in the EES prompted the IAC to ask Council what the implications were of achieving or not achieving this status (Q10 in RFI1). Council provide a lengthy and detailed response (D71, responses to Q10 and Q24(a)), the key points of which were:

- the process of seeking Gold-standard accreditation is in some ways as important as the award itself, as designing and operating projects in line with the criteria are "*the foundation for overall project success*"
- if the Project achieved Gold status, it would be one of only seven in the world and would draw international attention and international visitors to the area, as well as being able to attract international events
- international visitors would bring in high-yield visitation to the area, potentially staying for multiple nights or weeks
- this would bring significant economic benefit to the Warburton region.

With regard to the predicted visitor numbers, it is clear from Council's response to RFI2 (D71) that the modelling was heavily reliant on assumptions. That said, a number of those assumptions were informed by research, surveys and other independent data sources including:

- Victorian Government population projections (which, until COVID-19, have tended to underpredict population growth in Victoria)
- data from the national Ausplay survey undertaken by Sports Australia (mountain biking participation rates)

- data from the National Tourism Survey undertaken by Tourism Research Australia (visitor numbers, splits between day and overnight visitors, and likely spend per visitor category).

Council's response to Q78 in RFI2 indicates that according to MCa Consultants (who conducted the modelling), the visitor number projections could vary up or down by 15 per cent. While it is hard to say whether the modelling has accurately predicted the number of visitors, the IAC is broadly satisfied that the Project will attract tourism, will deliver economic benefits, and will result in a revitalisation of Warburton and the local economy. Economic benefits are discussed in detail in Chapter 15.2.

The Project has been thoughtfully designed to include a diverse range of trail styles and difficulty ratings that will deliver rider experiences that are attractive to a diverse group of riders. The spread of difficulty ratings of the trails is relatively even (23 per cent 'easy', 36 per cent 'intermediate' and 27 per cent 'difficult'), and the IAC is confident that the Project will appeal to a broad range of riders, including novice riders and groups (such as women, families and differently abled riders) that have not been traditionally well represented in mountain biking.

The IAC is satisfied that the Project has a number of characteristics that will contribute to its success, including its location close to Melbourne and the airport, its spectacular setting and its unique natural environment. Further, the IAC accepts that Case 1 (with the full trail network) is likely to attract more visitors, and generate more economic benefits, than Case 2 (no trails in the National Park) or Case 3 (no Trail 1).

That said, some of the very features that contribute to the Project's likely success – namely its beautiful setting and sensitive and unique environment – also mean that the Project has the potential to generate significant impacts. The potential socio-economic benefits the Project may deliver must be carefully balanced against its potential environmental impacts. The environmental impacts must be able to be managed to acceptable levels if the Project is to be supported. This is explored in Parts B and C of this Report.

4.4 Overall conclusions on project rationale

The IAC finds:

- The rationale for the Project is essentially sound. Provided it is well built, well maintained and well operated, the IAC sees no reason why it should not attract substantial visitor numbers and generate economic and social benefits to Warburton, the Upper Yarra Valley and the State more broadly.
- However, the Project's potential economic and social benefits must be carefully balanced against its environmental impacts.
- The IAC accepts that Case 1 (with the full trail network, including Trail 1) is likely to attract more visitors, and generate more socio-economic benefits, than Case 2 (no trails in the National Park) or Case 3 (no Trail 1).
- Whether Case 1 can be supported depends on whether the environmental impacts can be appropriately managed.

PART B: ENVIRONMENTAL EFFECTS OF THE PROJECT

Part B includes issue-specific chapters addressing the impacts of the Project, generally based on the themes addressed in the main EES chapters. More complex biodiversity and habitat issues and bushfire and emergency management have been addressed in separate chapters, as they were key concerns raised by many submitters. The final two chapters in this Part draw together the IAC's advice on matters of national environmental significance, and its assessment of the acceptability of having trails within the Yarra Ranges National Park.

5 Biodiversity and habitats – methodology issues

The Project area includes a number of Ecological Vegetation Classes (EVCs) and FFG-listed threatened ecological communities, including areas of CTR and CTMF. The Project area also contains threatened species (including the Mount Donna Buang Wingless Stonefly and the Leadbeater's Possum), as well as suitable habitat for those and a number of other threatened species.

The Project will have many impacts on biodiversity and habitats, some more significant than others. This chapter provides a general introduction to biodiversity and habitat issues, and deals with methodology issues raised by the VNPA on the approach taken by the EES to assess impacts to biodiversity. Specific biodiversity and habitat issues are addressed in the following chapters.

5.1 Introduction

Biodiversity and habitats are discussed in:

- EES Chapter 8
- Technical Appendix A (the Biodiversity Technical Report prepared by Biosis)
- the Biodiversity Offset Strategy prepared by Biosis (Attachment IV to the EES).

The evaluation objective is:

> Avoid and where avoidance is not possible, minimise potential adverse effects on native vegetation and animals (particularly listed threatened species and their habitat and listed ecological communities), as well as address offset requirements consistent with state and Commonwealth policies.

The EMF proposed the following measures to manage impacts to biodiversity and habitats:

- mitigation measures BM01 to BM78 to be applied during the construction and operations phases (see Tables 16-2 and 16-8 in the EES)
- monitoring and reporting requirements during the construction and operations phases (see Tables 16-15 and 16-24)
- inspection requirements during the operations phase (see Table 16-23).

Specific measures and requirements are proposed for each type of impact on biodiversity and habitats.

5.2 Key issues

Key issues raised by the VNPA on the methodology of the EES were:

- whether the risk assessment approach is appropriate for assessing biodiversity and ecological risks
- whether the EES has appropriately classified and mapped rainforest areas within the Project area.

5.3 Approach to the assessment of risks

(i) EE Act Advisory Note and Guidelines

DELWP has published the following under the EE Act, which are relevant to the approach taken to the assessment of risks in the EES. Both are summarised in Appendix E of Report No. 2:

- *Advisory Note – Use of impact assessment and risk assessment in environment effects statements* (EE Act Advisory Note)
- *Ministerial Guidelines for assessment of environment effects under the EE Act* (EE Act Guidelines).

(ii) What did the EES say?

The risk assessment was undertaken as a *"screening tool to prioritise the focus of the impact assessments and development of mitigation measures"*. The EES refers to the EE Act Advisory Note and states that in accordance with this:

> The risk assessment is a tool to identify and assess impacts and mitigation measures but does not form the main basis for prediction and assessment of impacts.

The EES defines risk as being a combination of the magnitude and likelihood of a potential consequence occurring. The EES used project-wide consequence criteria rather than discipline specific criteria, to enable consistency across the range of potential environmental impact.

The risk assessment then assessed the consequence and likelihood of individual risk pathways. The initial assessment accounted for standard or initial mitigation measures. Risk pathways were then re-assessed accounting for additional mitigation measures, to provide a residual risk rating ranging from 'very low' to 'very high'.

The construction and operation impact assessments followed, where the risk assessment was used as a *"basis for describing and quantifying the impacts related to the highest rated risk pathways in terms of magnitude, extent and duration".*

(iii) Request for Information

Risk registers are to be included as attachments to the CEMP and OEMP but were not included in the exhibited documents. The IAC requested an update on the status or existence of the risk registers in RFI1 (D8) (Q92). Council responded (D71) that it was "*Council's intention to update the risk assessments to reflect the outcomes of the IAC process and attach them to the CEMP and OEMP (as relevant)"*.

(iv) Evidence and submissions

Relying on the evidence of Dr Meredith, the VNPA was critical of the approach taken to risk assessment for biodiversity and ecological risks. Dr Meredith was critical that neither Technical Appendix A nor the EES main report defined what residual risks are acceptable. He considered an appropriate ecological risk assessment would have identified that certain residual risks (for example, the residual risk of Myrtle wilt in the National Park) were unacceptable, and should have indicated that the Project should not proceed as designed.

Mr Looby gave evidence for Council. He oversaw the preparation of Technical Appendix A. Mr Looby's opinion was that an ecological risk assessment of the nature outlined by Dr Meredith was

not required. Instead, the EES had followed the EE Act Advisory Note and used a project-wide risk assessment to focus which risks should be given further assessment during the impact assessment.

Mr Looby noted that while the risk assessment adopted project-wide definitions for consequence and likelihood, the impact assessments that followed gave more consideration to the potential impacts, in light of the parameters commonly used in the EE Act Guidelines, being:

- extent – related to the geographic extent
- magnitude – related to a worst-case scenario
- duration – time based.

The IAC asked Mr Looby to walk through an example of the risk assessment, to understand how mitigation measures had been considered in the risk assessment process. Mr Looby responded that some residual risks ratings (such as vegetation clearance) will always inherently be very high, as it is not possible to proceed with the Project without removing some vegetation.

The IAC asked DELWP IAU its view on the adequacy of the risk assessment in Technical Appendix A. DELWP IAU responded (D89) that the approach was generally consistent with the intention of the EE Act Advisory Note that any risk assessment undertaken *"should be primarily used as a tool to identify and prioritise potential environmental issues/effects, as well as determine and justify the level of effort and investigation applied to each aspect of the impact assessment"*. DELWP IAU noted that a risk assessment is not mandatory under the EE Act Advisory Note.

DELWP IAU reiterated that its focus was on the adequacy of data and analysis used to predict impacts, and the rationale for conclusions on residual impacts. It highlighted that consistent with the Scoping Requirements, *"the focus of the EES should be on assessment of predicted impacts and their significance, including residual impacts following mitigation"* (IAC's emphasis).

(v) Discussion

The intent was for the Project risk assessment to highlight risks to be further considered during the impact assessment. The IAC accepts that this is an appropriate approach, consistent with the EE Act Advisory Note.

The IAC considers that for most risks, the impact assessment clearly articulates the actual impacts of the Project in the context of extent, magnitude and duration, relevant policy guidance and the application of mitigation measures. The policy guidance has been drawn from a number of sources, such as the significant impact criteria under the EPBC Act. The IAC considers Technical Appendix A provides a well-documented and thorough explanation of its approach in most parts. There were, however, a couple of areas where the impact assessment did not clearly describe the expected magnitude, extent and duration of the impact, and/or provide an analysis of any uncertainty (particularly for indirect impacts).

The IAC accepts that some risks (such as vegetation clearance) are a certainty, resulting in direct impacts. Some risks have a less direct risk pathway, resulting in indirect impacts which may or may not eventuate and therefore a residual risk of harm remains. An example is the risk of Project activities resulting in wounding of a Myrtle Beech tree under conditions which lead to wound infection by spores, ultimately resulting in Myrtle wilt.

In some cases, particularly for Myrtle wilt and Stonefly impacts, the likely effectiveness of mitigation measures was unclear, with the impact assessment merely stating they will be implemented, and as a result risks will be "*minimised*". This did not assist in understanding the likely effectiveness of mitigation measures. Nor did the absence of final risk registers and Council's

response to the RFI. Some of these issues have been the subject of submissions and evidence, and are discussed in relevant Chapters below.

The IAC considers that a tailored ecological risk assessment may have been a helpful way to address and explain notable residual risks of indirect impacts of the Project. Further discussion of uncertainty and use of a worst-case scenario in assessing all impacts could also have assisted (such as was provided in evidence and submissions during the Hearing). Both of these approaches are supported in the EE Act Advisory Note.

Only 'very high' and 'high' risks were the subject of detailed impact assessment. For remaining lower order risks where there was no impact assessment, the IAC considers that the risk assessment provides adequate guidance as to the likelihood of those risk pathways occurring and the effectiveness of the mitigation measures in question.

(vi) Findings

The IAC finds:

- The approach taken in the EES to the environmental risk assessment was consistent with the EE Act Guidelines and Advisory Note.
- In most areas, the impact assessment was thorough, well researched and documented its rationale clearly.
- In some areas however, detailed analysis was lacking. This is explored further in the following Chapters.

5.4 Classification and mapping issues

(i) What did the EES say?

Sections of the trail network are proposed to traverse areas containing threatened ecological communities CTR and CTMF.

The EES identified that CTR and CTMF are largely confined to an area between Mount Donna Buang summit, Mount Victoria and Ben Cairn in the National Park, along Trails 1, 45, 46 and 47. In addition, the Alternatives Assessment identified Trail 5 (also in the National Park) as needing further consideration due to CTR/CTMF, and there is a small area of CTMF in the State Forest which is intersected by Trail 50.

While the EES included both of these communities in EVC 31 (Cool Temperate Rainforest), they were defined and mapped as either 'pure CTR' or CTMF based on field observations. 'Pure CTR' was distinguished by Myrtle Beech and southern sassafras being the dominant canopy trees, whereas CTMF had a dominant eucalypt canopy with Myrtle Beech being a sub-canopy tree. Areas determined to be CTMF were assessed for their condition using benchmarks available for Montane Wet Forest (EVC 39) as this was the EVC that was considered it most resembled.

(ii) Evidence and submissions

Dr Cheal gave ecological evidence for the VNPA. His evidence was that the area of CTR should be recalculated to include *"so called"* mixed forest, consistent with the Rainforest Technical Committee report of 1987 and *A field guide to rainforest identification in Victoria* (D107). Dr Cheal considered that rainforest should be defined based on scientific criteria, whereas the EVC

classification system was a non-scientific (albeit useful) planning tool. Dr Cheal avoided referring to EVCs.

Dr Cheal stated that the components of rainforest must be able to regenerate in the absence of disturbance. He considered the eucalypt layer was determinative on fire history which had enabled it to establish.

Relying on Dr Cheal's evidence, the VNPA submitted if the effects on CTR and CTMF were aggregated, the potential effects on rainforest would be greater than suggested in the EES.

Mr Looby disagreed with Dr Cheal, based on his site observations. He considered that key factors leading to an appropriate classification as CTMF included having a eucalypt overstorey, sub-canopy of medium-sized Myrtle Beeches and on more exposed terrain at higher elevations than CTR. He considered this was different to where CTMF was located surrounding CTR and where it would, in his evidence, eventually evolve to the climax state of this community (being CTR). In the occurrences he observed, he thought it was questionable if the CTMF community would develop to CTR given the exposure and recent fire history of the sites.

Council retained Mr Lane to undertake a peer review of Technical Appendix A, and to present independent evidence to the IAC about biodiversity issues. Mr Lane accepted there were two views as to how CTMF should be classified, but considered these did not change the fact that CTMF is listed as threatened under the FFG Act and the EES clearly states the potential effects on it from direct removal. He considered using the Montane Wet Forest EVC 39 benchmark to determine the habitat hectare for CTMF was a conservative approach. If the CTR EVC 31 benchmark had been used, it would have resulted in a lower condition score due to the structural differences with actual rainforest on the ground.

Mr Lane gave evidence that usual practice is to map threatened communities over EVC mapping, for example with hatching. He stated the CTMF should have been mapped as Montane Wet Forest with hatching to demonstrate it was the FFG Act-listed threatened community. Mr Looby did not specifically respond to this.

(iii) Discussion

The IAC notes Dr Cheal's evidence on the scientific definition of rainforest but does not have all the information needed to make a determination on this issue. The IAC notes CTR is a specific ecological community which has been defined by the Scientific Advisory Committee adopting the definition of rainforest provided by the Rainforest Technical Committee. CTR is also the name of an EVC. On the other hand, CTMF is a recognised ecological community but does not have its own EVC.

Either way, the IAC does not consider this to be a determining factor, as both communities are listed under the FFG Act, and native vegetation calculations (which is a separate consideration) have taken a conservative approach to calculating the impacts. The IAC considers it has suitable information before it to assess potential impacts on both ecological communities.

The IAC accepts Mr Lane's evidence as to usual practice for mapping threatened communities, however considers the figures in the EES adequately communicate where the listed communities have been identified.

(iv) Findings

The IAC finds:

- The EES has appropriately presented information regarding CTR and CTMF such that impacts can be assessed.
- As both CTR and CTMF are listed as threatened communities under the FFG Act, the IAC finds they are both significant.
- The figures in the EES have adequately depicted where the listed communities have been identified.

6 Native vegetation

6.1 Introduction

The trail network is proposed to traverse dense forest with high quality native vegetation. Some vegetation will be lost as a result of the construction of the Project, in particular the trail network. There may also be a need to remove hazardous trees during the operations phase, to keep riders and maintenance workers safe.

(i) Key policies and strategies

A key strategy of Clause 12.01 (Biodiversity) of the Planning Scheme is to ensure that there is no net loss to biodiversity as a result of clearance. This is achieved through the three-step approach:

- avoid the removal, destruction or lopping of native vegetation
- minimise impacts from the removal, destruction or lopping of native vegetation
- offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

(ii) Native Vegetation Guidelines and Handbook

The *Guidelines for the removal, destruction or lopping of native vegetation* DELWP, 2018 (Native Vegetation Guidelines) describe how the impacts of native vegetation removal are to be assessed, and how offsets are calculated to compensate for native vegetation loss. The *Assessor's handbook – Applications to remove, destroy or lop native vegetation* (DELWP, 2018) (Native Vegetation Handbook) provides further detail for assessing an application to remove native vegetation. Both are described in more detail in Appendix E in Report No. 2.

Key points include:

- Definitions:
  - Canopy tree is a mature tree (able to flower) that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type.
  - Large tree is a native canopy tree with a diameter at breast height (DBH) greater than or equal to the large tree benchmark for the relevant bioregional Ecological Vegetation Class (EVC).
- Deemed loss:
  - Unless an arborist report deems otherwise, trees are deemed lost if more than 10 per cent of the Tree Protection Zone (TPZ) or any of the Structural Root Zone (SRZ) is encroached by compaction or excavation.
- Two types of offsets:
  - Species offset – required when the removal of native vegetation has a significant impact on modelled habitat for a rare or threatened species (where the proportion of habitat value to be removed is greater than 0.005 per cent of the habitat value in the 'Habitat importance map' for that species)
  - General offset – required when the removal does not have a significant impact on any habitat for rare or threatened species.
- Two methods for calculating native vegetation losses where understorey vegetation is removed:

- Appendix 3 B.1 sets out the method to be used for removal of understorey plants where canopy trees are not removed, in which case the full area to be removed is mapped and the condition score is halved to adjust the amount of offsets required.
- Appendix 3 B.3 sets out the method to be used for removal of understorey plants and some canopy trees.

(iii) Request for Information

In the IAC's RFI1 (D8), the IAC asked:

- whether information was readily available to describe the impact on EVCs in the context of the local area (National Park and State Forest), rather than the bioregional extant distribution (Q50)
- for further information demonstrating offset requirements are available and able to be secured (Q51).

Mr Looby's exert witness statement (D34) provided responses.

6.2 What did the EES say?

(i) Overview

Calculation of tree loss

A sampling approach was undertaken to assess impacts on trees. Observations made at ground level included assessment of the general condition of the tree (health and structure), and whether the tree could be retained. The Arborist Report (Appendix 9 to Technical Appendix A) identified 14 large trees – with a diameter at breast height (DBH) of more than 20 centimetres – as hazardous and recommended their removal.

The Arborist Report concluded that provided appropriate track construction methods can be implemented, *"no live trees would need to be removed or adversely impacted by the trail"*. Appropriate measures included:

- trail diversions
- minor realignments
- locating trails up-slope of trees where feasible
- placing additional soil over lateral roots to provide long-term root protection.

The EES assumed no large trees or canopy trees (defined above) would be removed. The intention is to micro-site the trails so as to avoid direct removal and excessive pruning and minimise TPZ encroachment for certain species[1], based on their ecological importance and/or very scattered nature. This leaves some small eucalypts, tree-forming acacias and pomaderris that are 3 metres tall that may be directly removed for construction. The result is:

> … trail construction impacts would be limited to understory vegetation only in all but very few instances where the occasional small eucalypt, silver wattle or blackwood that qualifies as a canopy tree will be removed/lopped.

The loss of large old and hollow bearing trees is recognised as a Threatening process under the FFG Act. It is not proposed to remove any large or hollow-bearing trees for construction. If any

[1] Myrtle Beech, Tree geebung, Southern Sassafras, Banyalla, Cherry Ballart, Lemon Bottlebrush and Mountain Tea-tree as per Technical Appendix A, page 302.

hazardous trees require pruning or treatment during construction or operation, this will be done in consultation with the land manager, ecologist and arboriculture specialist.

How was the construction footprint determined?

To calculate the required amount of native vegetation removal, the EES developed a trail construction footprint of variable width which catered for both machine-built and hand-built trails. The EES assumes that vegetation pruning/removal will need to occur to a height of 2.5 metres above the trails, leaving the canopy intact.

How were native vegetation losses calculated?

Based on the assumption that no canopy trees would be removed or deemed lost, the EES used the partial clearing method defined in Appendix 3 B.1 of the Native Vegetation Handbook to calculate the native vegetation losses. The EES considered adopting this approach would appropriately capture, or even overestimate the habitat score loss for the Project. The EES states this concept *"has been used for the last decade and accepted by DELWP across Victoria (Mount Buller, Falls Creek, Dinner Plain, Omeo, Harcourt MTB projects to name a few)".*

Avoid, minimise

Measures to avoid and minimise effects of the trails on biodiversity are outlined in the EES (see Section 6.3 of Technical Appendix A and Section 8.5 of the EES main report).

Offsets

For each Project alternative, species specific offsets were required for 13 species. This represents significant impacts on these species' habitat at the state level. Species are the same for both Project alternatives, with one exception – the Trail 1 (preferred) alignment is above the threshold for Leadbeater's Possum and the alternative alignment (Trails 45 to 47) is above for wavy fork-moss. No general offsets or large tree offsets were required.

A credit register search and broker analysis did not find suitable credits or offsets available on the market. The Biodiversity Offset Strategy indicated that one public land site and two privately owned sites may be available. Next steps included further assessment of site suitability including considerations of tenure, costs and native vegetation condition.

The Biodiversity Offset Strategy stated that in consultation with the Technical Reference Group for the EES, it had been decided that offsets could be addressed at a strategic level and the Offset Management Plan would be provided prior to commencement of vegetation clearance.

(ii) Mitigation measures

Proposed mitigation measures to manage potential effects on native vegetation and trees are summarised in Table 4. An asterisk indicates that changes were made to the exhibited versions. These changes are reflected in the Final Hearing Versions of the EMF, CEMP and OEMP.

Table 4 Proposed mitigation measures for native vegetation removal

Mitigation ID	Mitigation Measure	CEMP/OEMP
BM10	Trail maintenance	OEMP
BM62*	Habitat trees – no removal unless deemed hazardous in which case treatment is to be discussed with land manager, arborist and	Both

Mitigation ID	Mitigation Measure	CEMP/OEMP
	ecologist. Any hazardous tree considered for removal would be assumed a habitat tree unless deemed otherwise	
BM67*	Native vegetation (trees including mid-storey species) removal is subject to the following constraints: - No trees with DBH greater than 10 centimetres to be removed in National Park (unless condition 3 applies) - Within State Forest trees less than 20 centimetres DBH in single age stands of eucalyptus and mid-storey (for example regrowth following bushfire) may be removed - Excluding areas of suitable habitat for Leadbeater's Possum, any small dead trees (less than 20 centimetres DBH) within 2 metres of the trail may require removal if significant defects are identified. Such trees would be felled and kept as habitat logs	Both
BM68	Environmental induction to include tree protection methods, TPZ and SRZ and identification of hazardous trees	CEMP
BN69	Micro-siting to avoid and minimise impacts to trees and adequate implementation of sympathetic management measures	Both
BM70	Recording impacts and conditions of trees where hazardous or excessive pruning required	Both
BM71	Micro-siting to avoid dense vegetation	CEMP
BM72	Avoid large hollow-bearing trees	Both

In addition, the micro-siting protocol (Attachment 1 to the CEMP) identifies measures to avoid trees through direct removal or consequential loss, and to manage the risks of hazardous trees. It states:

> If hazardous tree removal or excessive pruning is required the ecologist to be consulted on 'tree values' (hollow-bearing status) and the need for additional offsets.

Table 6-4 of the CEMP outlines monitoring and report requirements. It anticipates information to be recorded daily and reported to Council and rectified in a timely manner. Council is required to notify the relevant land manager/authorities responsible for secondary approval where required. Similar provisions are provided in the OEMP.

(iii) Conclusions

EES Chapter 8 concluded:

- The vast majority (around 90 per cent) of native vegetation impacts would occur in three EVCs that have a bioregional conservation status of Least Concern – Damp Forest, Wet Forest and Shrubby Foothill Forest.
- The preferred alignment (Trail 1) would require up to 37.047 hectares of understorey vegetation removal in total. The Project alternative (Trails 45, 46 and 47) would require 35.754 hectares of understorey vegetation removal in total. In the National Park, Trail 1 would require 9.51 hectares of understorey vegetation removal, and Trails 45 to 47 would require 9.15 hectares of understorey vegetation removal.

- Based on advice and recommendations from the project arborist, no large trees will need to be removed or offset as construction measures are unlikely to cause tree decline where TPZ and SRZ encroachment occurs.
- In total 13 species would require species offsets under the Native Vegetation Guidelines totalling 263.637 species habitat units for Trail 1, and 240.087 species habitat units for Trails 45, 46 and 47.
- Impacts to EVCs in the Project area equate to less than 0.03 per cent of bioregional extant distribution of these vegetation types.

The Alternatives Assessment Report noted that there is slightly less native vegetation removal for the alternative alignment (Trails 45 to 47), compared to the preferred alignment (Trail 1).

6.3 Avoid, minimise and offset requirements

(i) Key issues

The key issues are:

- avoid and minimise requirements
- appropriateness of the offset strategy.

(ii) Evidence and submissions

Relying on Mr Looby's evidence, Council submitted *"considerable effort"* was applied to avoiding and minimising the likely magnitude, extent and duration of trail construction and operation impacts. Mr Looby's evidence was that principles of avoidance and minimisation underpinned the screening process of project alternatives. In his experience, the responses applied to this Project were *"extensive in nature"*.

Mr Looby's evidence statement provided the proportional impacts on EVCs across major public land tenures based on the DELWP 2005 modelled area of an EVC. The proportional impact generally was minor (less than 7 per cent).

The IAC asked World Trail whether Trails 2 and 3 were necessary considering they are adjacent to the existing O'Shannassy Aqueduct trail. World Trail responded the intent of these trails was to allow for passive surveillance of mountain biking from rail trail riders so they might be encouraged to try it out.

Mr Lane's peer review considered the EES did not include an avoid and minimise statement as required by the Native Vegetation Guidelines. Despite this he considered a range of measures had been included in the EES which address this requirement.

Council provided an update on land manager/owner consultations for the two of the three candidate offset sites:

- DELWP had indicated 'in-principle' support (D60) for Woi Wurrung State Forest to provide necessary offsets, subject to a Crown Land Memorandum of Understanding as required by the Native Vegetation Guidelines.
- Council had received an offer from the owner of one of the private land sites to either establish an offset site on that property or sell the property (to Council).

Mr Looby gave evidence that since exhibition he had visited two of the three candidate offset sites and could confirm that both sites were appropriate and suitable to achieve the *"no net loss"* objective.

Clause 9.3 of the Incorporated Document (Day 1 version) provides that in *"exceptional circumstances"* the Secretary to DELWP may vary the timing for requirements to provide evidence of secured offsets prior to the removal of native vegetation. The IAC asked Mr Lane if he was satisfied the clause was worded appropriately given the nature of the Project. Mr Lane responded that Clause 9.3 was "*interesting*". In his opinion it spoke to practical difficulties that may arise in securing offsets prior to removal and allowed some flexibility on timing. However none of the Clauses (9.1 to 9.4) eliminated the need to find the offset and the provision would still be under the control of DELWP.

Dr Meredith gave evidence that the discussion of avoidance in the EES fails to address the option of *"not building in areas of high environmental value"*.

Mr Walker (S2022) submitted the exhibited offset strategy was *"preposterous"*. He submitted offsets are a *"clumsy mechanism"* which either fail or provide inadequate results. If offsets worked, he submitted we would not have declining species. He considered *"there are no equivalent places left to provide offsets"*.

Upper Yarra Sustainable Development Alliance (S2328) and Warburton Environment Inc (S1898) submitted that a detailed offset management plan should have been exhibited with the EES and should be provided prior to any final decisions being made.

Council rejected criticisms that it should have exhibited a completed offset management plan with the EES, submitting that this was not necessary at this stage of the process. Instead, work had been undertaken to document that potential sites exist and that relevant land manager/owners had interest in pursuing discussions. The relevant controls in the Incorporated Document ensured offsets would be secured prior to native vegetation removal and the details of which offset sites would be selected could be decided after the EES process.

Other submitters were concerned offsets would be of *"little use to resident fauna"* due to the distance from the site. Council responded that such submissions misunderstood the offsetting framework.

Friends of Leadbeater's Possum submitted that there was a risk that native vegetation could be impacted in an accident and rescue situation. Mr Looby's evidence acknowledged that emergency response may be required beyond the assessed corridor. Jason Ellis (S2339), a mountain biker with SES experience, submitted most of the area would be inaccessible for airlift and therefore the most likely rescue response would be walk-in, walk-out from previously defined access points along the trails. He considered it unlikely that further damage would be done to vegetation with this type of retrieval. Council responded (D140) that the Emergency Management Plan would be developed *"to allow safe removal of riders from the trail network within the design footprint as proposed".* It submitted this was feasible based on experience of Parks Victoria and DELWP in managing large tracts of recreational trail networks without the need for vegetation removal to recover injured visitors.

(iii) Discussion

Avoid and minimise

The complex layers of policy regarding native vegetation and its habitat values in the area together emphasise the aim of avoiding native vegetation removal where possible, particularly high quality vegetation and vegetation in areas covered by the Environmental Significance Overlay. Efforts to avoid removal should be commensurate with the significance of the vegetation, as per the Native Vegetation Guidelines.

The EES indicates that further avoidance is not possible without undermining the Project objectives. The only remaining option to further avoid or minimise effects on native vegetation is to remove specific trails. If avoiding or minimising vegetation loss were the only (or primary) consideration, priority consideration would be given to the potential need to remove those trails that have the most effects, based on various considerations listed in the Native Vegetation Guidelines including extent, habitat condition, presence of endangered species habitat or communities and the proportional impact on those species' habitats.

However, the policy framework calls for an integrated, balanced assessment. Reducing impacts on vegetation by removing certain trails would prevent the Project from achieving its full tourism and economic potential, and could compromise the ability to fully realise the Project objectives. This is addressed further in Chapter 18.

For present purposes, the IAC considers the EES has sufficiently documented efforts to avoid and minimise effects from native vegetation removal. The IAC accepts that from a native vegetation removal point of view, the trails proposed represent an appropriate outcome for the full trail network of 177 kilometres including trails in the National Park, where key constraints include topography, soils and rich biodiversity values. These factors make it difficult to undertake a review of the chosen alignments to identify any realignments with potentially better outcomes.

Offset strategy

The IAC notes submissions regarding the effectiveness of the native vegetation offset system. However, the IAC is bound to operate within the framework provided by the Native Vegetation Guidelines and Planning Scheme.

In the IAC's view, it would be preferable if an offset management plan was exhibited with the EES. However, the IAC considers the decision to exhibit an offset strategy instead was pragmatic in light of further investigations to be undertaken and uncertainty as to whether and in what form the Project was to proceed. There is a balance between investigating <u>if</u> offsets can be achieved and documenting exactly <u>how</u> they will be secured, managed and monitored. The IAC considers the approach taken was sufficient.

The IAC accepts Council's submission that there are two potential offset sites available with land manager/owners interested to pursue this further. There is however still some uncertainty as to whether offsets can be acquired.

Clauses 9.1 and 9.2 of the Incorporated Document require offsets to be secured before any vegetation is removed. Clause 9.3 allows the Secretary of DELWP to vary that timing requirement "*in exceptional circumstances*". The IAC considers Clause 9.3 is unusual, and given the ecological significance of the vegetation in question, it is particularly important that suitable offsets be secured before removal. In absence of submissions or evidence as to why Clause 9.3 is needed for

this Project, the IAC considers it should be removed and has made a recommendation to this effect.

Some submitters felt that offset sites would only be suitable if they were proximate to the locations where vegetation will be lost. Proximity to the Project site is a relevant consideration under the Native Vegetation Guidelines but not to the extent it is expected occupying fauna will simply relocate to the offset site.

For completeness, the IAC considers there may be some additional vegetation clearance during operations for rescue and recovery efforts but does not consider it to likely be significant considering the proposed approach.

(iv) Findings

The IAC finds:

- The EES has sufficiently documented and justified efforts to avoid and minimise effects from native vegetation removal.
- The Biodiversity Offset Strategy was adequate for exhibition in the absence of a finalised offset management plan.
- Clause 9.3 of the Incorporated Document, allowing the Secretary to vary the timing of offsets in exceptional circumstances, is unusual and the need for it has not been justified. It should be deleted.

(v) Recommendation

The IAC recommends:

1. **Amend the Incorporated Document as shown in Appendix G:**
    a) **remove Clause 9.3.**

6.4 Native vegetation calculations

(i) Key issue

The key issue is:

- accuracy of the native vegetation calculations.

(ii) Evidence and submissions

Mr Lane's peer review considered the approach of developing a trail construction footprint of variable width to calculate potential impacts was comprehensive and sound. To account for any discrepancies in practice, he recommended "*an audit of impacts be undertaken following construction to allow for any necessary adjustments in offset calculations*".

Mr Looby considered an audit could be useful for a number of reasons, including testing the accuracy of the devised variable width method which may be useful for future projects. He suggested a sampling method would be most appropriate to make the task more feasible because of the length of the trail network. He considered a sampling approach reasonable due to the repeating vegetation patterns throughout the landscape.

Mr Lane was of the view that the method in Appendix 3 B.3 of the Native Vegetation Handbook should have been used to recognise the fact that some small eucalypt, Silver Wattle or Blackwood which qualify as canopy trees may be removed or lopped. He recognised that calculations may

need to be confirmed following micro-siting. In response to a question from the IAC, Mr Lane indicated that adopting this approach to calculating the native vegetation losses would likely result in a slightly greater offset requirement, however it was hard to estimate the extent of that increase.

(iii) Discussion

The IAC considers the approach to estimating the construction footprint for the Project is sound and defensible. In particular, the high number of sample points provides confidence in the estimation.

The micro-siting protocol provides for an ecologist to consider the need for additional offsets if hazardous tree removal or excessive pruning is identified as necessary during the pre-construction micro-siting. The IAC notes that this requirement is not included in mitigation measures. The IAC considers this requirement should be reflected in BM70 in the CEMP and has recommended changes to BM70.

The IAC agrees with Mr Lane that a post-construction audit would be appropriate, and that a sampling method as proposed by Mr Looby would be the most practical approach. The sampling method should be devised to provide greater certainty in areas of greater biodiversity value (such as indicated by habitat values, threatened EVCs or the like), and should be approved by DELWP prior to native vegetation clearance commencing. The IAC has recommended a new mitigation measure to this effect be included in the CEMP.

The EES provides a detailed rationale as to why the particular calculation method (for partial removal, using Appendix 3 B.1 of the Native Vegetation Handbook) was used to calculate the offsets required. Having considered the Handbook, and in the absence of specific advice from DELWP, the IAC agrees with Mr Lane's evidence that the calculation methods in Appendix 3 B.3 (which account for both removal of understorey plants and some canopy trees from the same patch of native vegetation) should be used.

(iv) Findings

The IAC finds:

- The approach to estimating the construction footprint for the Project is sound and defensible.
- An audit of actual native vegetation losses would be appropriate following construction, to ensure offsets are accurate.
- The IAC agrees with Mr Lane's evidence that the calculation methods under Appendix 3 B.3 of the Native Vegetation Handbook would be most appropriate for the Project, rather than Appendix 3 B.1. The native vegetation losses should be recalculated accordingly.
- A new mitigation measure should be added to the CEMP to address the two previous findings.
- BM70 should be amended to reflect the requirement in the micro-siting protocol for an ecologist to consider the need for additional offsets if it becomes apparent during micro-siting that trees will need to be removed or excessively lopped during construction.

(v) Recommendation

The IAC recommends:

2. **Amend the Environmental Management Framework as shown in Appendix F:**
   a) **in Section 16.3.3 (Construction):**
      - **insert a new mitigation measure BM19A (Calculating native vegetation offsets)**
      - **amend mitigation measure BM70 (Recording of tree impacts).**

6.5 Tree removal

(i) Key issues

The key issue are:

- hazardous tree removal
- sawdust
- offsets for removal of hazardous trees.

(ii) Evidence and submissions

Parks Victoria highlighted the critical habitat function of old and dead trees which may be present where trails are proposed. Parks Victoria submitted:

> Managing trees solely due to their hazard to mountain bike users may result in significant numbers of old growth trees being removed or impacted through this Project.

Parks Victoria was concerned that the potential for impact creep over time by the removal of such trees had not been assessed. In response to questioning from the IAC, Parks Victoria acknowledged that while public safety is paramount, it needs to be balanced with the critical role of these trees for fauna. Parks Victoria explained that in practice, trees could be trimmed, branches removed or trails could be closed, depending on the factors being weighed.

The VNPA were concerned that once trails were opened, trees that were no risk to public safety would suddenly become a risk. It submitted there had been no quantification or assessment of hazardous tree removal, *"leaving potential impacts unknown"*. Warburton Environment, Friends of Leadbeater's Possum and other submitters were concerned regarding habitat loss from hazardous tree removal and the likely paramountcy of public safety.

Council relied on Mr Looby's evidence that *"there are very few instances where standing trees are felled as part of regular trail operational maintenance"*.

The IAC took Mr Looby to the results of sample site 16 in the Arborist Report, where up to seven trees were determined to be dead with some of these considered hazardous and in need of removal. Mr Looby noted that all but one of these trees was less than 40 centimetres DBH, with the remaining one being 80 to 100 centimetres DBH. He considered this sample site may have been in the State Forest in an area subject to recent disturbance such as fuel burning. He explained that the micro-siting process would consider the potential importance of such trees to provide habitat, and that lopping or removal would be avoided, particularly if the trees provide valuable habitat – for example, to the Leadbeater's Possum. If micro-siting did not fully resolve the issue, Mr Looby considered an ecologist, arborist and the land manager should collectively assess the trees and determine the most appropriate outcome (as provided for in BM62). This would not

necessarily mean felling the tree – it could be lopping certain branches. In Mr Looby's experience, this approach had been successfully implemented on similar projects.

The IAC asked Mr Lane whether he thought offset calculations should include an allowance for offsets to be provided for the loss of any potentially hazardous trees during operations. He considered that this would be reasonable. Council rejected such an approach, submitting it was not aware of any other projects for which offsets were required for what it described as *"post-approval routine maintenance activities"*.

In response to a question from Council, Parks Victoria responded that it is not required to provide offsets for any hazardous tree removals it carries out on land it manages, as such actions are considered counteracted by other conservation actions carried out by Parks Victoria across the State.

Dr Meredith raised concerns with the potential for sawdust to be generated from the removal of hazardous trees or naturally fallen trees across the trails. His evidence indicated that sawdust from chainsaws can create anaerobic soil conditions and leach chemicals from the timber into the soil which may affect soil health and organism growth. Dr Meredith considered that if the trails were not built, there would be no need to remove naturally fallen trees or generate sawdust. He gave the example of a big wind storm (which he regarded as *"rare but not impossible"*) which could take down hundreds or thousands of trees across the trails requiring removal. Council responded in a memo from Mr Looby (D150), that a well-maintained chainsaw would not create fine sawdust, such as from timber milling operations, but instead create small woodchip piles which could be easily collected and removed.

(iii) Discussion

Uncertainty remains as to the potential impacts from the removal or lopping of mature trees (dead or alive).

Only a sample of trees in the Project area have been fully assessed. While this sample resulted in a number of trees being recommended in the Arborists Report for removal during construction (based on hazard), Mr Looby's evidence was that it would still likely be feasible to avoid removing the trees by pruning to remove the hazards, or micro-siting the alignment within the 20 metre approval corridor to avoid the hazardous trees. The IAC did not have the benefit of evidence from the arborist to support Mr Looby's assertions.

The CEMP includes three mitigation measures relevant to potential tree removal, destruction or lopping (BM62, BM70 and BM72). In addition, the micro-siting protocol refers to the potential for additional offsets if hazardous tree removal or excessive pruning is required. It is unclear how these measures are to work in concert with each other, however reading the CEMP as a whole, it would seem that avoiding tree removal during construction is an objective, rather than a firm commitment, and that contingencies have been included in case tree removal is necessary.

The IAC therefore has reservations about supporting the EES finding that micro-siting will be able to avoid the removal (or excessive lopping) of <u>all</u> hazardous trees. At best, the IAC accepts that micro-siting may be effective in avoiding removal or excessive lopping of <u>most</u> hazardous trees. The 30 to 40 metre high tree identified for removal in the Arborists Report is a useful example. The IAC has some doubts as to whether a 20 metre wide corridor is sufficiently wide to avoid having to remove or lop this tree by micro-siting. This is just one example found from the sampling

approach which indicates that for some large hazardous trees, there is potential for limb fall over a wide area such that micro-siting may not entirely remove the hazard.

BM62 (which is in both the CEMP and the OEMP) provides for tree removal to be undertaken in consultation with an ecologist, arborist the land manager. The IAC supports Council's Day 1 change to include the presence of wildlife rescue personnel during tree treatment. However, the proposed mitigation measures provide little assistance in pre-determining the potential impact of the Project when it comes to the necessary removal or lopping of hazardous trees.

The construction impact is unknown due to the sampling approach, but also due to conflicting evidence as to how hazardous trees will need to be managed and if treatment will amount to removal or excessive lopping.

Uncertainty also remains about the likely extent of tree removal during the operational phase. The hazard potential of trees will remain throughout the life of the Project. As trees age or are affected by fire or illness, they may present a new hazard. The IAC accepts the submission of Parks Victoria that there is a potential for *"impact creep"* from the lopping or removal of trees necessary to ensure public safety around trails. The potential extent of this impact has not been assessed, and would be difficult to determine when the impacts may be incremental and occur slowly over time.

In order to resolve this uncertainty, the IAC recommends a hazardous tree assessment be undertaken which addresses the potential impacts of hazardous tree treatment during construction and operations.

For construction, the hazardous tree assessment should be informed by pre-construction surveys undertaken for the final alignment. An arborist would need to be involved to assist in determining whether any treatment would amount to excessive lopping for the purpose of the Native Vegetation Guidelines. In order to assess the potential requirement for hazardous tree treatment during operations, information may be available through Parks Victoria of the required frequency of tree lopping or removal on existing trails (walking or cycling) in similar vegetation types.

The hazardous tree assessment should be provided to DELWP as part of the Development Plans required under Clause 6 of the Incorporated Document. The IAC has made a recommendation to this effect. This will not completely resolve the uncertainty as to the number of trees that could be lost over the life of the Project, however coupled with other measures in the CEMP, the IAC considers this to be satisfactory.

The IAC acknowledges the balancing exercise outlined by Parks Victoria in weighing up the best treatment option where hazardous trees are identified during the operations phase, and considers that closing a trail should remain a live option if necessary to protect significant ecological values such as large hollow-bearing trees which provide threatened species habitat. To ensure trail closure is a live option, the IAC has recommended some additional words be added to BM62.

With regard to whether any necessary hazardous tree removal should be compensated for by offsets, Parks Victoria and Council are different entities with different functions, and the fact that Parks Victoria does not provide offsets does not necessarily mean that Council should not do so. Parks Victoria has a broader conservation function in managing many parks across the state. It therefore seems reasonable that such removals are compensated for by Parks Victoria's wider conservation efforts. Council does not have such a conservation role and therefore it is reasonable that losses associated with the Project are compensated for. The IAC's recommended changes to BM70 in Chapter 6.4 above will ensure that this occurs, as BM70 is included in both the CEMP and the OEMP.

On balance, the IAC accepts Council's submission that fine sawdust can be avoided through well-maintained equipment. It has recommended some adjustments to BM10 to ensure that this happens.

(iv) Findings

The IAC finds:

- The IAC does not consider the EES has adequately assessed the potential impacts from hazardous tree removal. The EES has assumed no removal or excessive lopping will be required. This seems unlikely.
- An assessment of potential hazardous tree removal should be undertaken before construction starts. This assessment should inform required offsets.
- Hazardous trees removed in the operations phase should be recorded, and the offsets adjusted accordingly if required. This will be addressed by the IAC's recommended changes to BM70 (Recording of tree impacts) discussed in the previous chapter.
- BM62 should be amended to ensure trail closure (as an option to avoid tree removal) is considered if high habitat value trees are identified as hazardous.
- Subject to recommended changes, the proposed mitigation measures will reduce the impacts of potential hazardous tree removal to an acceptable level.
- Fine sawdust can be avoided through well-maintained equipment. Changes are recommended to BM10 to ensure this is required.

(v) Recommendations

The IAC recommends:

3. Amend the Environmental Management Framework as shown in Appendix F:

a) in Section 16.3.3 (Construction):

- **amend mitigation measure BM62 (Habitat trees)**

b) in Section 16.3.4 (Operations):

- **amend mitigation measure BM62 (Habitat trees)**
- **amend mitigation measure BM10 (Trail maintenance).**

4. Amend the Incorporated Document as shown in Appendix G:

a) insert a new Clause 11 to require a Hazardous Tree Assessment.

7 Listed ecological communities

7.1 Introduction

Submissions were received regarding potential impacts to the threatened ecological communities CTR and CTMF including:

- direct impacts, from vegetation removal
- indirect impacts, from the introduction or spread of pathogens (particularly Myrtle wilt and Phytophthora).

Impacts of pests, weeds and pathogens more generally are dealt with in Chapter 9.2.

7.2 What did the EES say?

(i) Direct impacts from vegetation removal

EES Chapter 8 concluded:

> At a bioregion scale, the proportional bioregional impact on the remaining mapped rainforest area would be 0.001 per cent in the Highlands Southern Fall bioregion and 0.02 per cent in the Victorian Alps for a trail network with Trail 1, and 0.003 per cent in the Highlands Southern Fall bioregion and 0.007 per cent in the Victorian Alps for a trail network with the alternative.

As noted in Chapter 6.1, the IAC asked for an assessment of the impacts on EVCs (including CTR and CTMF) at a more local scale. Mr Looby provided this assessment in his written evidence (D34), which is discussed below.

(ii) Indirect impacts from Myrtle wilt and Phytophthora

The EES described Myrtle wilt as a fatal fungal disease affecting mature Myrtle Beech trees and posing a significant threat to CTR. The EES explains that the disease-causing pathogen is:

- indigenous to Australia
- exclusively infects Myrtle Beech trees via a stem or root wound
- can be spread between trees via underground root grafts
- listed as a potentially threatening process under the FFG Act.

The most obvious signs of the disease is tree crown wilting. Tree death usually occurs within three years of infection.

The EES acknowledged that the Yarra Ranges National Park Management Plan (Park Management Plan) identifies that Myrtle wilt is present in the Park but does not specify where. It also identified that road and track construction and maintenance and existing recreational activities such as walking can exacerbate disease spread.

There are no documented occurrences of Phytophthora in the National Park or broader Project area based on publicly available information. The EES recognised this fungus has had serious impacts in other National Parks. Contaminated construction and operational equipment (including users and bikes) have the potential to introduce Phytophthora to the Park. However, the EES contends the dominant vegetation communities in the Project area have a low susceptibility.

(iii) Mitigation measures

Proposed mitigation measures to manage potential effects on CTR/CTMF are summarised in Table 5. An asterisk indicates that changes were made to the exhibited versions. These changes are reflected in the Final Hearing Versions of the EMF, CEMP and OEMP.

Table 5 Proposed mitigation measures for Cool Temperate Rainforest and Cool Temperate Mixed Forest

Mitigation ID	Mitigation Measure	CEMP/OEMP
BM40	Micro-siting to avoid CTR/CTMF	CEMP
BM41	Micro-siting to avoid Myrtle wilt	CEMP
BM42	Where Myrtle Beech cannot be avoided, minimise disturbance within the drip line using a design/engineered solution	CEMP
BM43*	Pruning of Myrtle Beech – trail crews to be trained in pruning methods and application of anti-fungal agents	CEMP
BM44	No imported fill to be used within CTR/CTMF	CEMP
BM45	Environmental induction – to identify CTR/CTMF and Myrtle Beech	CEMP
BM46	Maintaining ground surface gradients within CTR/CTMF	CEMP
BM47	Hand building trails within CTR/CTMF	CEMP
BM48	Micro-siting to avoid Myrtle Beech drip line	CEMP

In addition, general mitigation measures to deal with pathogens including hygiene protocols and bike washdowns are proposed (refer to Chapter 9.2).

The CEMP and OEMP include protocols for hygiene during construction and maintenance. Monitoring parameters include for the presence of pathogens such as Myrtle wilt.

(iv) Conclusions

EES Chapter 8 concluded:

> Impacts to CTMF and CTR would be minimised by hand building of all trails that intersect these communities in order to reduce soil disturbance, reduce understorey vegetation removal and minimise the chance of pathogen infection and spread.

The Alternatives Assessment Report concluded:

> The alternative alignment has less than half the impact of Trail 1 on CTR. The alternate alignment has approximately half the impact of Trail 1 on CTMF.

7.3 Direct impacts from vegetation removal

(i) Key issue

The key issue is:

- impacts on CTR and CTMF through vegetation removal.

(ii) Evidence and submissions

Mr Looby's evidence was that impacts to CTR and CTMF would be *"limited to understory vegetation removal and soil disturbance in these communities and there is no intention to remove*

canopy trees or disrupt the micro-climatic envelope provided by the dense closed rainforest canopy or sub-canopy of Myrtle Beech."

Mr Looby reiterated the EES's assessment that the proportional bioregional impact on the remaining mapped rainforest areas is low. He provided a more local assessment in his evidence statement (D34). The localised assessment considered proportional impacts on EVCs on public land. It indicated that for the full trail network (with Trail 1), the proportional impact on the remaining mapped rainforest area on public land would be:

- 0.02 per cent for National Parks
- 0.003 per cent for State Forest.

For the alternative trails (45 to 47) proportional impacts in the National Park were reduced to 0.01 per cent. Impacts in State Forest remained unchanged.

Parks Victoria highlighted the importance of the CTR communities, particularly in the context of significant impacts on rainforest communities across the State from the 2019/2020 Black Summer bushfires.

Friends of the Myrtle Beeches (2396) considered Myrtle Beech trees to be incredibly important to maintaining rainforest canopy, without which eucalypts will proliferate. Friends of the Myrtle Beeches referred to the findings of a paper from the Arthur Rylah Institute[2] that after the 2019 fires in the O'Shannassy Catchment, *"96 per cent of the rainforest that was mapped prior to the fire could no longer be modelled as Rainforest".*

Dr Cheal's evidence was *"it is very difficult to over-emphasise the significance of CTR on Donna Buang"*. He considered both the CTR/CTMF and Myrtle Beech were of the *"highest significance and importance"*, and that they are *"amongst the best-developed examples in the state".* Due to their climatic conditions, CTR/CTMF provide habitat niches for tightly restricted species such as the Stonefly, slender tree-ferns and narrow filmy fern. Dr Cheal stated that the CTR also provided the richest habitats for cryptogams with many species almost endemic to the Project area. He also referenced the effects of recent fires which increased the significance of remnant stands and potential threats.

Dr Cheal concluded that all stands of remnant rainforest are of major significance and must have substantial, inviable, environmental buffers to protect them.

(iii) Discussion

The Arthur Rylah Institute Report referred to by Friends of the Myrtle Beeches and Parks Victoria highlights potential limitations in relying on 2005 DELWP modelled mapping to determine the likely proportional impact of the Project on these listed threatened ecological communities. Even so, the IAC accepts that quantitatively, the potential effects on these communities from direct removal of vegetation will be small from a proportional extent (both at a bioregional scale and a more localised scale).

That said, the IAC also accepts that the significance of the CTR communities within the Project area are greater than the proportional impacts indicate, due to the unique habitat this CTR provides as compared to other areas of CTR elsewhere in the State.

[2] A.Tolsma et al., *Post-fire dynamics of Cool Temperate Rainforest in the O'Shannassy Catchment,* July 2019 Arthur Rylah Institute for Environmental Research, Technical Report Series No. 298

The IAC notes that avoiding CTR/CTMF was an objective of the initial Ecological Protocols which informed the design of the preferred alignment, and yet Trail 1 traverses over 6 kilometres and Trails 45 to 47 traverse over 3 kilometres of these communities (see Table 3 in D34). In addition, one trail on Mount Tugwell traverses a small amount of CTMF. While mitigation measures aimed at micro-siting to avoid CTR/CTMF may further reduce potential impacts on these communities, reductions are likely to be minimal where the trails pass directly through stands of these ecological communities. Hand-building trails and avoiding any unnecessary disturbance will be effective in minimising the extent of clearance, but the IAC does not expect this will significantly reduce the projected impacts.

The IAC accepts the conclusion of the EES that Trails 45 to 47 would have *"substantially less impact on CTR and CTMF"* than Trail 1 in terms of direct effects of removal.

7.4 Indirect impacts from Myrtle wilt and Phytophthora

The two primary pathogens discussed that pose a threat to CTR and CTMF are *Chalara australis* (Myrtle wilt) and *Phytophthora cinnamomi* (Cinnamon fungus).

(i) Key issues

The key issues are:

- Myrtle wilt and Phytophthora
- spore monitoring
- effectiveness of mitigation measures.

(ii) Evidence and submissions

Myrtle wilt and Phytophthora

Mr Looby's evidence was that while it was not possible to build trails that would entirely avoid CTR/CTMF or individual Myrtle Beech trees, he considered the risk of Myrtle wilt from the Project was being conflated with risks posed by clear felling logging, which were very different activities in terms of the nature of impacts.

Mr Looby emphasised the mitigation measures that would be implemented, and elaborated that where either of these pathogens was detected, contingency measures would be implemented to limit unnecessary additional disturbances. The risk of spread would need to be addressed on a case by case basis depending on Myrtle Beech tree density and the potential for spread via root grafting.

Mr Looby gave evidence that even in the worst case scenario of an outbreak of Myrtle wilt directly attributable to the Project, the extent and magnitude of the impact would still be relatively restricted to the locality of the outbreak. Mr Looby elaborated on this point in a memorandum circulated in Council's closing (D147) to explain that for the most part, the potential spread would be limited by natural and man-made barriers such as (for Trail 1) the ridgeline to the north and the Donna Buang Road (gravel section) to the south, and (for Trails 45 to 47) natural breaks in Myrtle Beech trees in CTMF.

Mr Looby's evidence was that the signs of Myrtle wilt would be readily detected, allowing mitigation measures to be employed to control an outbreak. His opinion was that there would be a relatively low likelihood of mass disease playing out in the environment.

Mr Looby stated that if Myrtle wilt spread to a number of trees in a stand, these could take decades to replace. His memo indicated that the disease would decline to natural levels within a decade. Part of his response included the statement that *"Annual mortality of trees was calculated at 0.61 per cent of trees per annum in a stand in Tasmania (Packham 1994)."*

Parks Victoria submitted that Myrtle Beech is highly susceptible to Myrtle wilt and that both track formation and heavy use by cyclists could damage trees and increase the risk of infection. It submitted that the EES was not strong in its consideration of the impacts of Myrtle wilt on Myrtle Beech trees and therefore CTR/CTMF.

Relying on the evidence of all three of its experts, the VNPA submitted that the EES downplayed the risks of Myrtle wilt and Phytophthora. The VNPA submitted the proposed tracks provided the perfect environment for pathogen spread due to the wet and damp nature of the vegetation communities present. It submitted that Phytophthora spores had been detected on bike wheels and were able to remain alive in moist conditions. VNPA submitted the proposed bike washdown stations were reliant on the vigilance and compliance of trail users, and the risk of people not using the bike washes was high.

Dr Meredith considered the proportional bioregional impact presented by Biosis in the EES did not account for the potential risk of Myrtle wilt spreading throughout the Project area, which he considered would deliver a very high impact on CTR/CTMF. He noted the absence of evidence of existing Myrtle wilt infections, and was concerned the trails have a high potential to introduce it. He considered that the risks would be higher during operations compared to construction when mitigation could be most effectively managed as construction is undertaken by trained professionals. During operations, there would be a higher potential for accidental tree wounding, including from bikes unintentionally coming off the tracks.

Dr Cole gave evidence for the VNPA about plant pathology, in particular the risks posed by Myrtle wilt and Phytophthora. She emphasised that Myrtle Beech trees were a Gondwanan species that has survived for over 180 million or more years. Her evidence was that Myrtle wilt is the main cause of death in Myrtle Beech trees in Tasmania and mainland Australia. Dr Cole explained that Myrtle wilt appears to have a regeneration role in undisturbed forests, but where there is human disturbance, the rate of damage is increased. She also cited the statistic from the Packham (1994) paper referred to by Mr Looby, but emphasised that the death rate of 0.61 per cent per annum is in undisturbed forests.

Dr Cole was concerned the potential impacts of climate change on soil temperatures may make the environment more suitable for Phytophthora spores, which can lay dormant in the soil for up to 10 years before causing root rot and die back. Dr Cole gave evidence that if Phytophthora were to become an issue in the park, any effects of Myrtle wilt would be amplified. She considered human invasion of at-risk sites always results in the introduction of water moulds such as Phytophthora.

Dr Cole's evidence was that no Australian native plant has resistance to Phytophthora and unlike weeds, pathogens like Phytophthora could not be readily managed. Spores flow downhill with surface and groundwater and the symptoms may take 5 to 10 years to be visible, by which time the organism is widespread. Her evidence was that prior and then constant (monthly) soil baiting is the only way to determine if Phytophthora is present. She considered soil sampling should be carried out every 100 to 200 metres in potentially high-risk areas (such as CTR) and every kilometre in low-risk areas.

Dr Cheal considered the EES *"pays scant regard"* to risks posed by Myrtle wilt. His evidence was that in addition to being a key CTR species, Myrtle Beech trees on Mount Donna Buang occur outside rainforest stands, generally associated with the Wet Forest and Montane Wet Forest EVCs, which is unusual. He considered that this sporadic but widespread occurrence of Myrtle Beeches *"presents problems"* as they *"provide easy stepping stones for Myrtle wilt fungus between rainforest stands".* He therefore considered it was important for measures to protect all Myrtle Beech trees from damage, and to re-route the trails to avoid both CTR/CTMF and any individual Myrtle Beech trees. Mr Looby thought Dr Cheal's analysis of the connectivity between patches was useful.

Considering the significance of these communities, Dr Cheal considered Trails 1, 45, 46 and 47 posed significant dangers to the threatened communities, as construction and use would *"remove the buffering effects of adjoining less-disturbed forests and heighten the spread of Myrtle wilt".* The VNPA submitted Trails 5, 6 and 8 also intersect and therefore impact rainforest and/or scattered Myrtle Beech trees.

Council responded that some submitters were confusing the use of best practice bike hygiene stations as *"an indication that Phytophthora is a significant and likely risk of the Project"*. Council submitted this was misguided and reiterated there was no documented Phytophthora in the Park, suggesting that there is a lack of susceptible vegetation in the region (Council submitted that if it were a key threat it would already be present). Council submitted that therefore, the risk was considered low.

In closing, Council provided correspondence from Dorset Council in Tasmania (D146), responsible for Blue Derby, which indicated no dieback of any tree species had been experienced over their 125 kilometres of trails, though they do experience some root exposure across the network which fortunately has not been found to affect the trees. Council submitted this *"lived experience"* demonstrated the low risk.

Dr Birtchnell (S2514) submitted that a consequence of Myrtle wilt would be reduced canopy cover which would *"significantly alter environmental conditions including soil moisture content and ambient moisture content"* which would have *"flow-on and unacceptable consequences"* for the ecosystem and threatened species.

Spore monitoring

Mr Lane considered that a high concentration of Myrtle wilt spores is required for infection to occur and the still air in densely vegetated areas would reduce the scope for spore dispersal. That said, he considered further assurance could be provided by undertaking pre-construction spore monitoring to determine the location and concentration of spores. The VNPA supported Mr Lane's recommendation to undertake spore monitoring to the extent that would assist in identifying any areas *"where repair is to take place"*.

Council responded by proposing an amendment to BM43 to add:

> Seek the views of an ecologist before conducting pruning of Myrtle Beech in the autumn or winter to confirm the level of risk to Myrtle Beech is acceptable in light of the airborne spore counts and the length of the spore production season.

Dr Cole disagreed with Mr Lane. She stated that spore populations can spread at very low concentrations but the precise concentrations required were unknown. In her evidence, this was not something that should be tested, particularly in the National Park.

Mitigation measures

Mr Lane noted that management advice to reduce the risk of Myrtle wilt was mainly focused on avoiding works in proximity to Myrtle Beech stands and avoiding tree wounding. He recommended micro-siting to further avoid Myrtle Beech branch removal and minimise the length of track in these areas. He also recommended necessary works be timed in late spring-summer and to avoid works in autumn-winter based on usual spore cycles.

Mr Looby was invited to consider the risk or Myrtle wilt separate from removal of CTR and he stood by his assessment that the likelihood was 'almost certain'. Mr Lane considered it would be 'less likely' provided mitigation and contingency measures were applied. Dr Meredith considered the likelihood of Myrtle wilt spread resulting from the Project was 'almost certain'. He agreed with the risk assessment (Risk ID BR15 in Table 28 of Technical Appendix A) that mitigation measures would not change the likelihood very much.

Dr Cole's evidence was that protecting trees from their drip line (as per BM42 and BM48) would not provide the solution as roots could still extend beyond this line. While she didn't have any data specific to Myrtle Beech, she gave an example of a pine with related fungi being found 500 metres from the trunk (indicating the root lengths). Dr Cole did not think the proposal to avoid track maintenance during spore production time (as per Council's proposed change to BM43) was sufficient, as spores could still attach to and be spread by track users. Though Dr Cole conceded it might not be a huge risk, she gave evidence that spore movement on wet clothes or vehicles was demonstrated by literature.

Dr Cheal considered that to avoid inadvertent root damage, a buffer of *"a few metres"* beyond the drip line should suffice to avoid Myrtle wilt spread.

Friends of the Myrtle Beeches submitted that if there was uncertainty around the underground root extent of the trees, the precautionary approach would caution against any disturbance. They suggested that to properly protect Myrtle Beech trees, physical barriers would be required (similar to those in the Rainforest Gallery on Mount Donna Buang), to prevent trail users coming into contact with the trees.

There was conflicting evidence as to the appropriateness and effectiveness of applying anti-fungal agents to wounds to reduce Myrtle wilt risks as proposed in BM43. Mr Looby considered there was a body of evidence and opinion to support it. Mr Lane's evidence was that there is no proven evidence it is effective in reducing the risk, however on balance he considered it was worth trying. Dr Cheal supported the use of a topical fungicide. Dr Cole disagreed, explaining that fungicides kill beneficial microbial organisms as well as pathogens, and that introduction of such toxic chemicals into an otherwise natural environment is a short sighted approach.

(iii) Discussion

Myrtle wilt and Phytophthora

The IAC considers the EES did not provide enough information regarding the potential impact (in terms of extent, magnitude and duration) of the Project introducing or spreading Myrtle wilt into the Project area. Anecdotal evidence of Blue Derby not experiencing any outbreaks is relevant, but environmental factors may play a part. The IAC does not place significant weight on the anecdotal evidence in D146.

As noted in Chapters 6 and (iv), the IAC accepts submissions that the uniqueness of the stands of CTR/CTMF stands on Mount Donna Buang in the National Park increases their significance, particularly in light of the findings in the Arthur Rylah Institute Report. By contrast, there were no similar submissions regarding the uniqueness or importance of the small area of CTMF in the State Forest. The IAC understands the State Forest has already been subject to numerous disturbances including logging, fires and planned burns.

The main risk of Myrtle wilt infections from the Project arises from wounding of trees, whether accidental or deliberate through pruning. The IAC accepts that hand construction methods can reduce the risk of tree wounding during construction. It also accepts that the likelihood of tree wounding during operations by any one individual user may be low. However this probability increases when considering the number of users over the life of the Project (which is likely to extend beyond the 10 years assessed in the EES). In addition, trails could potentially be used by other people or pest animals that could wound trees. The IAC therefore considers that Myrtle wilt infection resulting from tree wounding remains a residual risk.

Even if an outbreak of Myrtle wilt in the National Park was able to be locally contained (on which there is conflicting evidence), the impact may still be of regional or state significance considering the importance of the ecosystem and other cumulative effects of threatening processes to stands elsewhere in the bioregion (for example, fires and pathogens). In the event of an outbreak, the IAC understands the Packham 1994 results to be specific to undisturbed forest (consistent with Dr Cole's evidence), and there is uncertainty as to how much this may be amplified in the face of disturbances.

The duration of potential effects of an outbreak would depend on whether, and how many, trees die as a result of infection. If this happens, it would take decades for trees to grow back and there may be potential for changes to species composition as a result of any canopy gaps (for example, eucalypts invading). In a controlled outbreak there are perhaps measures that can be implemented to ensure preferential recruitment of Myrtle Beech trees. This, however, was not explored in the evidence.

The IAC accepts that the existence of Phytophthora in the CTR/CTMF areas would likely amplify any effects of Myrtle wilt. The IAC accepts the evidence of Dr Cole that the current distribution/viability of Phytophthora is dependent on soil temperatures, and may change in the future with the effects of climate change (it may reach higher elevations). The significance of effects with a causal connection to the Project under such a scenario would need to be understood in the context of potential effects of climate change and the requisite temperature changes.

The risk assessment indicates mitigation measures are unlikely to reduce the initial risk rating for Myrtle wilt below 'very high'. This was supported by evidence. The impact assessment indicates the proposed design response and mitigation measures will 'minimise' the risk, but does not state to what extent they will be effective. Mr Looby's memorandum and Council's closing submission indicated mitigation measures will reduce the likelihood of spread – but again, to what extent they will be effective remains unclear.

The information in Mr Looby's memorandum regarding natural or man-made boundaries that would contain outbreaks was not considered by the other experts, or tested in cross-examination. The IAC notes the distance of Myrtle wilt spread identified in the Packham article adjacent to a disturbed area was up to 180 metres – the IAC was not able to explore this with Mr Looby at the Hearing due to the late tabling of his memorandum.

There was some evidence that in the event of an outbreak, breaking root grafts may assist in containing the spread of infection. But this does not account for the loss of potential benefits from root grafting. An incidence would still require the track to be closed for a period of time – perhaps as long as 10 years for the Myrtle wilt concentrations to return to background levels.

The IAC accepts Dr Cheal's evidence that individual Myrtle Beech trees create 'stepping stones' which can increase the risk of a Myrtle wilt outbreak in the National Park spreading, including to the high value stands of CTR and CTMF on Mount Donna Buang (the 'stepping stone effect'). The IAC notes Mr Looby considered the stepping stone analogy to be useful.

It is difficult to assess the extent of the risk posed by the stepping stone effect, as the distribution of individual Myrtle Beech trees, and their connectivity with stands of CTR/CTMF, is not clear. The mapping in the EES is limited. It only maps EVCs and listed ecological communities where they are intersected by trails – not where they are proximate to trails. Further, there is no clear information before the IAC as to the minimum buffer needed around stands of CTR/CTMF to minimise the risk of the stepping stone effect playing out.

In the IAC's view, to fully understand the issue and options for mitigation, the following is needed:

- advice from a suitably qualified independent ecologist as to appropriate buffers around the CTR/CTMF stands
- mapping which shows the location of the stands, the location of the final alignment of the trails, and the location of any individual Myrtle Beech trees within the buffers.

The ecologist should then assess whether the trails need to be realigned.

The required mapping can build on existing mapping. Some earlier mapping prepared by Practical Ecology shows trail alignments and (albeit modelled) CTR stands (see Maps 1 to 12 attached to the Alternatives Assessment Report). More refined mapping of the trail alignments will be produced through the micro-siting process. The pre-construction surveys can identify the boundaries of the CTR/CTMF stands more accurately, as well as the location of any individual Myrtle Beech trees within the buffers.

Dr Cheal's evidence was that individual Myrtle Beech trees may exist in Wet Forest and Montane Wet Forest areas. The IAC therefore considers that the new mitigation measure should apply to trails in the National Park that traverse Wet Forest or Montane Wet Forest.

Individual Myrtle Beech trees may also be present in the State Forest in the vicinity of some of the Stage 1 trails in the southern section (especially Trails 49 and 50, which traverse Wet Forest). However there was no evidence to suggest this area was of particular significance, or that infections of individual trees in the State Forest would cause a risk to the high value rainforest stands in the National Park. The IAC is therefore satisfied that the mitigation measures and micro-siting procedure will be sufficient to manage the risk of a Myrtle wilt outbreak in the southern section of the trail network.

Spore monitoring

The IAC notes Council's proposed addition to BM43 to seek the views of an ecologist before undertaking maintenance activities in autumn-winter peak spore production season, so the ecologist could determine whether the risk is acceptable *"in light of the airborne spore counts"*. Mr Lane's recommendation for pre-construction spore monitoring did not get picked up by Council's changes in the Final Hearing Versions. In order to assist during operations, monitoring would, in theory, have to be ongoing. No changes were made to the Final Hearing Version of the

OEMP to require ongoing monitoring of spores. In the absence of local spore monitoring results, the IAC is unclear how an ecologist would be able to make the assessment suggested in Council's Final Hearing Version of BM43.

The IAC has considered whether the mitigation measures should be adjusted to require spore monitoring, either pre-construction or on an ongoing basis. The IAC accepts Dr Cole's evidence that it is unknown what spore concentrations are required for Myrtle wilt to spread. It would therefore be difficult to specify appropriate parameters and triggers for a Myrtle wilt spore monitoring program. Dr Cole's evidence in relation to Phytophthora was that once an outbreak is detected, not much can be done to manage it. Accepting this, the IAC is unclear what, if any, benefits monitoring would offer in terms of mitigating the Project's impacts.

Having said that, if there are existing local spore monitoring results available (perhaps for the Rainforest Gallery), reference to spore counts prior to maintenance activities certainly would not hurt. For this reason IAC accepts Councils Final Hearing Version of BM43.

Mitigation measures

The IAC considers there may be some limit to the design and engineering solutions (BM42 and BM44) to avoid impacts to Myrtle Beech from Myrtle wilt. Having said that, the IAC considers BM44 is important to reduce the risk of introducing other pathogens to the area.

It is uncertain if avoiding encroachment of the drip line of individual Myrtle Beech trees (BM42 and BM48) will be enough to prevent risks. Ideally, this buffer should be extended beyond the drip line, but the IAC was not presented with clear evidence on how far the buffers around individual trees should extend. This requires further consideration by the Project ecologist as part of the pre-construction survey and micro-siting process.

Closing tracks to maintenance during spore season will only be effective in preventing wounds from maintenance, and not from accidental wounds or spread of spores from natural vectors such as water and air. The spread of spores from a trail user seems less likely but still possible.

In relation to BM43 (the application of topical fungicide where Myrtle Beech trees are wounded), the IAC accepts the balance of evidence that there is no proof that this would be effective in reducing infection (in the presence of spores) but it is worth trying. The IAC considers the mitigation measure should be strengthened by adding a requirement for an ecologist or plant pathologist to be consulted on the most appropriate product and methods to be used in applying any fungicide, and has made a recommendation to this effect.

The IAC notes Council's submissions that the proposed bike wash facilities are best practice to manage the risk of Phytophthora being introduced or spreading. However Dr Cole was dubious as to the effectiveness of bike wash stations, given they are self-regulated (not every rider will use them), and given the chemicals need to be replaced frequently (up to every half hour) to ensure they remain effective. There remains the opportunity to close tracks should the environment become suitable to Phytophthora, although the timing of this would need to consider the potential for the pathogen to remain dormant for a decade.

7.5 Overall conclusions on listed ecological communities

The IAC considers there is residual risk of Myrtle wilt introduction or spread as a result of the Project. The risk may be compounded by the possibility of infection spreading from individual

Myrtle Beech trees in the National Park to the stands of CTR/CTMF in the National Park, through the 'stepping stone effect' outlined by Dr Cheal, although to what extent remains unclear.

A Myrtle wilt outbreak in the high quality CTR and CTMF communities present in the National Park would result in a significant impact. The sum of the evidence did not support a firm conclusion that the proposed mitigation measures would be effective at minimising impacts. The IAC considers the residual risk to these listed ecological communities remains unacceptably high, and that the evaluation objective with respect to these listed ecological communities has not been met.

Trails 1, 45, 46 and 47 traverse CTR/CTMF stands, and a significant amount of Wet Forest and Montane Wet Forest between the stands which may include individual Myrtle Beech trees that could act as stepping stones spreading an infection to the stands. The IAC therefore recommends these trails do not proceed.

Other trails in the National Park that traverse Wet Forest or Montane Wet Forest located near CTR/CTMF stands need to be considered carefully. A suitably qualified independent ecologist needs to determine an appropriate buffer around CTR/CTMF stands to manage the stepping stone effect. Trails (or sections of trails) within these buffers need to be surveyed for individual Myrtle Beech trees pre-construction, and need to be micro-sited to ensure that the individual trees are not at risk of wounding. If trails cannot be micro-sited to reduce the risk to acceptable levels, they may need to be realigned or (in a worst case scenario) removed altogether.

There was no evidence or submissions that the small patch of CTMF in the State Forest that will be intersected in the vicinity of Trails 49 and 50 was particularly unique or important, or that the introduction of Myrtle wilt in these areas would impact the ecologically significant stands in the National Park. On that basis, the IAC does not consider the residual risk of Myrtle wilt introduction or spread in these areas to be sufficiently significant to justify the removal of those trails.

(i) Findings

The IAC finds:

- Potential effects from direct clearing of CTR/CTMF are low when considered as a proportional impact at either a bioregional or local scale. The alternate trail alignment would have substantially less impact on CTR/CTMF from direct removal than Trail 1.
- However the significance of these communities is greater than proportional bioregional or local impacts indicate, due to the unique habitat they provide as compared to other areas of CTR elsewhere in the state.
- There is potential for significant effects on stands of CTR/CTMF in the National Park from the introduction or spread of Myrtle wilt or other pathogens, and no certainty as to the likely effectiveness of mitigation measures in reducing the risks or impacts of Myrtle wilt and Phytophthora.
- Trails 1 and 45 to 47 that traverse CTR/CTMF stands pose an unacceptable residual risk. They fail to meet the evaluation objective, and should be removed.
- Trails that traverse Wet Forest or Montane Wet Forest areas that are located near CTR/CTMF stands in the National Park require careful consideration in the pre-construction surveys and the micro-siting process. A new mitigation measure is needed in the CEMP to deal with this.

- The IAC is satisfied that the mitigation measures (with some adjustments) and micro-siting procedures are sufficient to manage the risks of a Myrtle wilt outbreak in the southern part of the trail network (Stage 1).
- The IAC was not persuaded that spore monitoring would likely be effective in reducing the impacts of Myrtle wilt. Pruning of Myrtle Beech trees should, however, be avoided during the spore production season.
- Topical fungicide, while unproven in its effectiveness at preventing Myrtle wilt infection, should be applied under the guidance of an ecological expert to any trees that are wounded during construction or operations – although such wounding should be avoided if appropriate buffers are provided.

(ii) Recommendations

The IAC recommends:

5. **Modify the Project as follows:**

   Remove Trails 1, 45, 46 and 47 from the Project, as they pose an unacceptable residual risk of significant impact to Cool Temperate Rainforest and Cool Temperate Mixed Forest stands located in the Yarra Ranges National Park.

6. **Amend the Environmental Management Framework as shown in Appendix F:**
   a) **in Section 6.3.3 (Construction):**
      - **insert a new mitigation measure BM39B (CTR/CTMF and Myrtle Beech buffers)**
      - **amend mitigation measure BM43 (Pruning of Myrtle Beech)**
   b) **in Section 6.3.4 (Operations):**
      - **amend mitigation measure BM43 (Pruning of Myrtle Beech)**

8 Mount Donna Buang Wingless Stonefly

8.1 Introduction

(i) General

Mount Donna Buang Wingless Stonefly is one of two wingless stoneflies found in Australia and the only one found in Victoria. It is a cryptic species that is found within a 1 kilometre radius from the summit of Mount Donna Buang and nowhere else. There have been approximately nine previous observations of the Stonefly in the Project area as recently as 1999. Targeted surveys undertaken by eDNA sampling for this Project identified additional locations in the Project area along Trails 1, 45 and 46.

The EES identified the species had previously been nominated for EPBC Act listing but was recommended as not eligible based on the following conclusion:

> Despite this restricted distribution, there do not appear to be any direct threats to the species' survival and there is active management addressing development and recreational pressures in the area.

(ii) Requests for Information

Through RFI1 (D8) the IAC sought clarification of how impacts on the Stonefly were considered and whether the Project may amount to a 'direct threat' such that this may change the previous EPBC Act listing advice (Q39 to Q42). Council responded through Mr Looby's expert witness statement (D34) and evidence, discussed below.

8.2 What did the EES say?

(i) Targeted surveys

Biosis engaged Mr Tsyrlin to undertake targeted surveys for Stonefly populations and habitat in the Project Area. Surveys were undertaken in 2019 and 2020, using eDNA sampling. The results are shown in Appendices 10 and 11 to Technical Appendix A.

Targeted surveys for Trail 1 identified two new locations for Stonefly, mapped as WP1 and WP2 in Technical Appendix A. This survey used a reference site just north of Carpark No. 2 on Mount Donna Buang. Trail 1 did not directly cross any waterways where the Stonefly was present (or likely to be present) and so recommended measures focused on eliminating potential contaminants or sediments in permanent or ephemeral waterbodies and ensuring uninterrupted groundwater flow and no increase in sediment from Mount Donna Buang Road.

Targeted surveys for Trails 45, 46 and 47 detected three new locations (Yithan Creek Tributary 2, Cement Creek Tributary 3.1 and Cement Creek Tributary 1). These results extended the distribution of the Stonefly by over 1200 metres in a south-eastern direction. This study also confirmed that:

> The species occupies an extremely narrow ephemeral habitat from the point of the spring origin to approximately 300 metres downstream where the flow volume usually increases, and the spring becomes more permanent.

(ii) Impact assessment

The preferred management action was to avoid building trails in the stream catchment or proximity to Stonefly habitat where an impact on the species is *"probable"*. An alternate mitigation measure proposed was to design trails to demonstrate *"zero impact on the ground"* in terms of erosion and compaction. This would be achieved by trails being on raised platforms which ensures riders cannot get off the trail.

The impact assessment noted that residual risks during operations relate to sedimentation or contamination of waterways, habitat and soil disturbance (trampling). Design parameters to minimise impacts included:

- regular maintenance of elevated structures in headwater habitats
- no chemicals or pollutants for trail maintenance in known habitat
- signage to minimise off-trail usage
- seasonal closure of trails in wet and cold months in the National Park and after extreme rainfall events, to minimise the risk of sedimentation events
- sedimentation control and trail drainage
- support for ongoing monitoring and research.

(iii) Mitigation measures

Proposed mitigation measures to manage the potential impacts on the Stonefly are summarised in Table 6. An asterisk indicates that changes were made to the exhibited versions. These changes are reflected in the Final Hearing Versions of the EMF, CEMP and OEMP.

Table 6 Proposed measures for Stonefly

Mitigation ID	Mitigation Measure	CEMP/OEMP
BM13	Trail closure during extreme weather to minimise erosion and sedimentation	CEMP
BM54	Micro-siting to align trail as close as possible to the verge of Mount Donna Buang Road as per SWM01 within potential range of Stonefly	CEMP
BM55	Construction timing to be between December and February to avoid disruption to critical life cycles	CEMP
BM56	Minimise habitat disturbance MDBWS – work within potential species range to minimise habitat disturbance (e.g., soil compaction and sedimentation) by elevating the trail	Both
BM57	Sediment management as per SWM07	Both
BM58	Minimise sedimentation as per SWM02	Both
BM59	Minimise pollution as per SWM02 and SWM10	Both
BM60	Minimise groundwater impacts	Both
BM61	Environmental induction	Both
SWM02	Erosion and sediment controls – includes reference to suitable locations for stockpiles away from waterways	CEMP
SWM07	Adhere to Stonefly no-go zones – establish no-go zones in the vicinity of sites WP1 and WP2	CEMP

Mitigation ID	Mitigation Measure	CEMP/OEMP
SWM19*	Bike wash facilities to be closed loop	CEMP
BM61A*	Lead indicator monitoring – where changes are identified seek the views of an ecologist and suitable species expert as to the appropriate adaptive management measures to be implemented	OEMP
BM61B*	Stonefly population monitoring and development of adaptive management measures to respond to any identified population changes	OEMP

(iv) Conclusions

EES Chapter 8 concluded that impacts to groundwater dependent ecosystems (GDEs) are expected to be minimal in magnitude, highly localised and short in duration during construction. In terms of impacts on the Stonefly, the EES concluded that there is a potential for residual impacts to the Stonefly and its habitat during both construction and operations, due to the sensitivity of this species to soil and hydrological disturbance. It concluded:

> Micro-siting trail works between Mount Donna Buang, Mount Victoria and Ben Cairn and installing elevated structures in headwater habitats would minimise but not necessarily eliminate the potential residual impacts to this species.
>
> …
>
> Targeted surveys … have located new populations …There is potential that this species is more widespread in the vicinity of Mount Donna Buang and the Project and/or land managers could support ongoing eDNA-based monitoring and detection of more new populations in the Yarra Ranges National Park and Melbourne Water catchment.

The Alternatives Assessment Report concluded:

> **Key threatened species** there is likely to be a comparable level of impact on threatened species habitat between Trail 1 and the alternative.

8.3 Key issues

The key issues are:

- accuracy of mapping presented in the EES
- the need for Stonefly no-go zones
- effectiveness of mitigation measures.

8.4 Evidence and submissions

The Entomological Society of Victoria emphasised the importance of the National Park as containing the *"entire known population of the vulnerable Mt Donna Buang Stonefly"*. It submitted that material prepared for FFG Act Action Statement No. 125 (D99) make the potential threats of the Project to the species *"crystal clear".*

Mr Tsyrlin gave evidence of the unique characteristics of this Stonefly species which make it particularly interesting to science and sensitive to minor habitat disturbances. Of note, its winglessness does not fit with the current theory of Darwinian evolution – being that wingless stonefly species exist at high mountain tops which experience high winds – as it does not come from such an environment. It has an extremely limited distribution, unusually long life-cycle (of two and a half years), inhabits unusual habitat and hatches at the coldest time of year. In short, he stated that research into this unique species is needed before it is lost to science.

Parks Victoria submitted the EES *"may not have duly considered impacts on the endangered and endemic"* Stonefly. Council responded via Mr Looby's evidence that two targeted surveys had been commissioned which documented areas of value and potential impacts and recommend elevated platforms in areas of key habitat.

The Entomological Society submitted the reason the Stonefly had been previously rejected for EPBC Act listing was because the Commonwealth assumed the location of the species in a National Park protected it from any direct threats to its survival. It submitted that a new nomination had since been made, listing the Project as a *"direct threat"* to the species.

Mr Tsyrlin confirmed he had authored the nomination for listing and submitted it in July 2019. He had made an initial nomination around 2001 but it was rejected based on the lack of population data. So, he undertook annual surveys which showed the population has reduced from 6,000 nymphs at Carpark No. 2 to less than 100, and sometimes less than 10. Currently, population numbers are still below 10 per cent of what existed in 2005. During recent surveys he could not find more than four individual specimens at each location. Mr Tsyrlin advised he understood the nomination had not been considered yet as policy dictated that species affected by bushfires were to take precedence. In short, the application was still on foot.

Mr Looby was unaware of the new nomination. In any case, he understood controlled action decisions were generally not amended, as otherwise the goal posts would continue to change.

(i) Accuracy of mapping

Mr Tsyrlin noted a discrepancy in the mapping of Stonefly populations in the EES, being that the reference site to the north of Carpark No. 2 was not recognised as having a viable population of the Stonefly in Map Book 1 (maps F6A and F6B). He was of the understanding Trail 1 had been aligned in this area to avoid known sites to the south of the carpark, but had inadvertently been realigned to be *"only a few metres north"* of this known population that had been incorrectly labelled in the mapping.

Mr Looby agreed there had been a mapping error as described. In his evidence, Trail 1 was located approximately 60 metres from this data point and the alignment was on the other side of the ridge, encroaching into a Melbourne Water catchment and away from the relevant drainage system.

(ii) The need for no-go zones

Mr Looby was asked whether no-go zones had been identified. He responded that there was further work to be done to inform the siting of no-go zones and elevated structures. He summarised that the key advice from the relevant expert (Mr Tsyrlin) was to avoid habitat disturbance and to avoid sedimentation and water quality impacts.

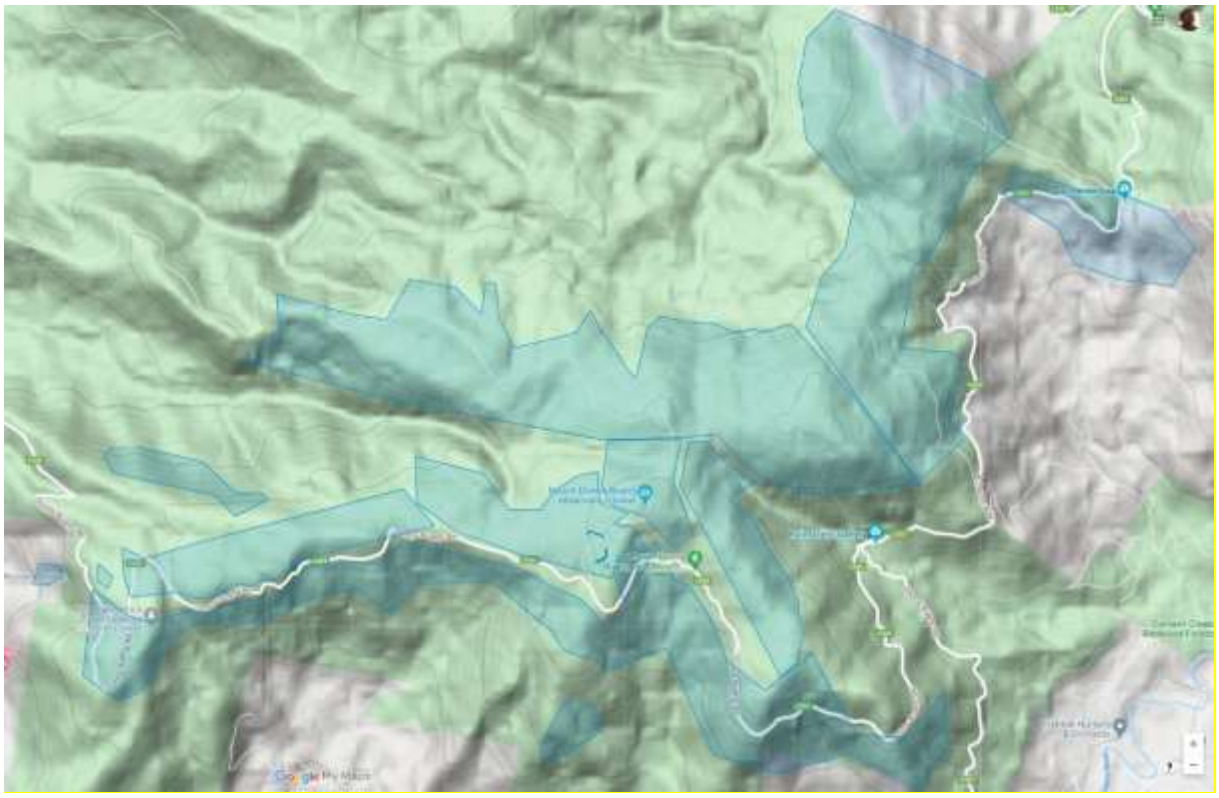
Mr Harrow and Mr Gourley gave evidence for Council in relation to water quality and hydrological issues respectively. They were only aware of WP1 and WP2 which were avoided by the trail alignments (as provided for in SM07). After consulting their maps, they gave evidence that Trails 45 and 46 would intersect the upstream sub-catchments of the three creek tributaries in which Stonefly eDNA had been detected and/or nymphs had been observed, and it would be very hard to avoid these catchments unless the trails were located precisely on the ridgeline. Nevertheless, they considered there was a considerable buffer (of 10 to 20 metres) between the trails and the

waterway (as mapped) which was probably adequate to trap any sediment before it entered the waterways.

Mr Tsyrlin responded that due to the small seeps and trickles that form their habitat, Stonefly could be located some distance from the mapped waterways. This was demonstrated by the mapped locations of Stonefly observations north of Walker Creek, some 200 metres or more from the mapped waterway. He considered that the appropriate buffer depends on many variables which determine where the seeps and trickles first appear on the mountain side. It was not his area of expertise to determine if erosion, sedimentation or excess nutrients would be generated by the Project, but, if they were, in his evidence it was likely to affect the springs downstream.

Mr Tsyrlin presented a map he developed of potentially suitable Stonefly habitat. He considered it was generous but appropriate (see Figure 6). Even if the species had not yet been recorded in some habitat areas (due to budgetary constraints), the potentially suitable habitat may still be appropriate for translocation if required.

Figure 6 Potentially suitable Stonefly habitat



Source: D136 slide 8

Mr Tsyrlin advised that the scope of his involvement in the Project was limited to his two reports (being Appendices 10 and 11 to Technical Appendix A) and had not included reviewing any proposed mitigation measures or developing or commenting on proposed no-go zones. He considered no-go zones were worthy and, in his opinion should match the suitable habitat mapping in Figure 6.

The VNPA submitted that it considered Trails 5, 6 and 8 were also unacceptable because (amongst other effects) they intersect with and therefore impact Stonefly habitat.

(iii) Other proposed mitigation measures

Mr Tsyrlin's expert witness statement (D40) stated that adults of two new populations were observed both on and on the side of the Mount Donna Buang Road between Ben Cairn and Road 26. He considered that opening this section of the road between July and September, when adults are likely to hatch, would risk individuals being run over and could be detrimental to the species. He advised *"less than 5 specimens were observed at each locality, therefore even a minor disturbance or impact could be detrimental".*

Council and Mr Looby advised the existing road closure arrangements would not be changed by the Project. Council's Final Hearing Versions proposed changes to Section 4.2 of the OEMP and BM13 of the CEMP to specify that trails from the Mount Donna Buang Trail Head are also to be closed for construction and operations between July and September.

Mr Lane predominately deferred to the expertise of others in relation to the Stonefly. He cited work by Mr Tsyrlin that found the *"species might be at risk from residual effects of soil compaction and sedimentation".* Although mitigation measures such as detailed micro-siting and the use of elevated structures will be employed, he understood the risks could not be eliminated. In such cases, Mr Lane considered the precautionary principle should be applied.

Dr Meredith gave evidence that the precautionary principle was pretty clear – if the species was rare or localised, in absence of particular knowledge about particular impacts, the precautionary principle would apply to *"leave well alone"*.

Acknowledging difficulties in eliminating risk, the IAC asked Mr Tsyrlin whether, if the aim was to minimise impacts as much as possible, he would have concerns about particular Project activities being undertaken in Stonefly habitat. The following activities raised concerns for him:

- use of fungicide on Myrtle Beech trees to prevent Myrtle wilt
- use of herbicides for weed control on/near the track
- carrying of chemicals
- bikes on the trails having been freshly sprayed with some sort of chemical treatment to reduce the spread of pathogens.

He was less familiar with the potential effects of a mini excavator during construction (as opposed to hand building) but gave evidence that if it generated sediment he would be concerned. He was not concerned by materials such as wood being stockpiled, but did raise concerns with stockpile of loose materials such as soil, sand and cement.

Mr Tsyrlin considered any loss of trees (for example from Myrtle wilt) would increase solar radiation and temperature in the habitat, and gave evidence that the Stonefly was very sensitive to such impacts.

Council asked Mr Tsyrlin to review the proposed mitigation measures. Although he considered that they were commendable, he was uncertain if they would be effective in avoiding significant effects, given the thresholds of resilience for the Stonefly are unknown. This is principally because the mitigation measures are aimed at *"minimising"* certain effects (for example, sedimentation), rather than eliminating them.

Council proposed a new mitigation measure for lead indicator monitoring (BM61A in the Final Hearing Version of the OEMP). Mr Tsyrlin responded that although worthy, this could not prevent accidents and the risks to the Stonefly would remain simply by virtue of more people being in the area.

Council queried if the risks would be suitably reduced if people were there in a controlled manner including physical restraints (that is, boardwalk with rails) and regulatory constraints (local laws, later reiterated in an amended BM56). Mr Tsyrlin remained unconvinced. Council proposed an adaptive management procedure (later provided as BM61B in the Final Hearing Version of the OEMP). Mr Tsyrlin responded that given the species' vulnerability, he was hesitant to give evidence that once an event had occurred it would be possible to manage a way out of it.

Council asked Mr Tsyrlin about the current Stonefly populations in the vicinity of Carpark No. 2 and asked if management measures employed with respect to potential impacts from the carpark were demonstrative of successful adaptive management. Mr Tsyrlin explained that the carpark had presented issues of sedimentation in that heavy vehicles had breached the boundaries of the carpark by a couple of metres and as a result had redirected all runoff through the tyre indentations and inadvertently directed sediment to the top of where the ephemeral trickles began, carrying sediment to the creek. This was identified by Mr Tsyrlin, and Parks Victoria rectified the situation as part of its routine car park resurfacing. Mr Tsyrlin thought this provided an example of how unforeseen events with significant impacts can occur. He disagreed it was demonstrative of the success of adaptive management, stating it was just lucky the issue was noticed early.

Mr Tsyrlin was asked by Council to draw a relative comparison between existing uses or features on the summit (for instance the carpark) and the Project in terms of the mitigation measures proposed. Mr Tsyrlin responded that the key difference was that the Project was intended to increase visitation, which increased risks from human activity, whereas the carpark had not seen such an increase.

In closing, Council submitted that seeking *"a guarantee of zero impact"* on the Stonefly from the Project, as Mr Tsyrlin appeared to be doing, was not appropriate. Council submitted *"scientific certainty is plainly not capable of being established"* and that *"what is required is an assessment of potential impact, mitigation measures to be proposed, and a view as to whether the residual potential impact ought properly be regarded acceptable"*.

Council made submissions on the meaning and application of the precautionary principle, submitting that it should not be invoked to avoid all risks. Council readily accepted that unmitigated, risks to the Stonefly would be significant. However, the aim should be to achieve a *"precautionary and proportionate response to the risk through mitigation and contingency measures"*. Council provided a useful analysis for the application of the precautionary principle (at paragraph 364 of its Part C Submission, D140):

(a) Is there a real threat of serious or irreversible damage to the environment?
(b) Is it attended by a lack of full scientific certainty (in the sense of material uncertainty)?
(c) If yes to (a) and (b), has Council demonstrated the threat is negligible?
(d) If not, is the threat able to be addressed by adaptive management?
(e) Are there measures proportionate to the threat in issue?

Council appended a copy of an email from Mr Tsyrlin (D160) to its Part C submission. Mr Tsyrlin had been provided the (brief) opportunity to review Council proposed additional mitigation measures (BM61A and BM61B). He commented that *"the bike trail will carry inevitable risks to the Stonefly and other invertebrate species already affected by climate change. There is no way around it"*. He conceded that the proposed mitigation measures and monitoring, with clear trigger levels, will likely minimise risks. He then made some specific recommendations in relation to the proposed monitoring program.

Further, Mr Tsyrlin stated that proactive actions aimed at improving the abundance and distribution of the species within suitable habitat through translocation *"may bring this species back from what we see as a gradual decline and improve its resilience to climate change, so far the largest risk to this and other invertebrate species in the area"*. His response (D160) included a list of proactive actions. Council did not provide submissions as to which (if any) proactive actions it would be willing to contribute to, and did not incorporate Mr Tsyrlin's recommendations for the monitoring program into the Final Hearing Version of BM61A.

8.5 Discussion

All other experts deferred to Mr Tsyrlin as the expert in Stonefly. The IAC considers his level of expertise to be significant.

The IAC accepts that the unique characteristics of the Stonefly make it both highly sensitive to potential effects and a significant species to science. Due to its extremely limited distribution the IAC considers any and all populations of this species are important, such that a potentially significant effect on any one of these populations could permanently reduce the viability of the species and push it to the point of extinction. Given the sensitivity of the Stonefly, even highly localised and short (in duration) effects to groundwater dependant habitat could be significant.

The Commonwealth Department of Agriculture, Water and the Environment website currently states in relation to the Stonefly:

> **Species not prioritised for assessment**
>
> The Mount Donna Buang Wingless Stonefly (*Riekoperla darlingtonia*) is a cryptic wingless insect with a body length of about 12 mm. The species is restricted to a few springs and trickles within 3 km range of Mt Donna Buang in the Yarra Ranges, approximately 60 km east-northeast of Melbourne, Victoria. The species was publicly nominated in 2020 for inclusion in the Critically Endangered category on the threatened species list under the EPBC Act. The species has recently been reassessed in Victoria under the Flora and Fauna Guarantee Act 1988 and will be considered by the Commonwealth based on the Victorian assessment, through the *Intergovernmental memorandum of understanding - Agreement on a common assessment method for listing of threatened species and threatened ecological communities.*

This is consistent with evidence and submissions regarding the current status of the nomination.

The IAC agrees with Mr Looby's evidence that a 'listing event' does not affect the validity of previous decisions as to whether a Project is a controlled action or not. This is set out in section 158A of the EPBC Act. The effect of this is that the Stonefly is not a relevant consideration for the controlled action decision. However this does not affect the IAC's finding in relation to the significance and sensitivity of the species (noting that it is listed under the FFG Act).

(i) Accuracy of mapping

The IAC accepts evidence that the reference site north of Carpark No. 2 was incorrectly labelled in the EES figures. This needs to be updated in the Project mapping system.

(ii) The need for no-go zones

Council has not shied away from applying its interpretation of the precautionary principle to the Stonefly. It has proposed a range of extra mitigation measures which may assist in reducing impacts. However, adopting Council's interpretation, the IAC does not consider Council has demonstrated the threat to Stonefly is negligible.

Mr Tsyrlin's recommended mitigation measures generally seek absolutes – 'avoid', 'eliminate', 'ensure zero impact'. In response, Council proposed lead indicator monitoring and an adaptive management approach. In theory, an adaptive management approach may be suitable. In practice, however, the IAC accepts Mr Tsyrlin's evidence that the thresholds for impact on the Stonefly are unknown, and that once an event has occurred it may not be possible to manage a way out of it.

Given the significance and sensitivities of the Stonefly populations, and uncertainties as to appropriate thresholds, it is unclear whether suitable outcomes could be achieved from Council's proposed adaptive management approach. Council's proposal does not demonstrate the capability to monitor effects and respond within biologically necessary timeframes, that is required under the EE Act Guidelines to provide the confidence of acceptable outcomes. Given this, the IAC considers the residual risk of significant impact to the Stonefly, after mitigation measures are applied, would be unacceptable.

The IAC therefore considers the most appropriate response would be traditional no-go zones, that include known locations of Stonefly populations, and suitable habitat areas for Stonefly. All Project activities should be avoided in no-go zones. This approach is supported by Mr Tsyrlin's preferred management action to avoid building trails in the upstream catchment or in close proximity to Stonefly habitat (see Table 2 of Appendix 11 to Technical Appendix A). It is also consistent with the approach taken elsewhere in the EES.

The mapping of known and suitable habitat available to date (primarily that provided by Mr Tsyrlin in Figure 6) is preliminary. However, given the conditions for suitable habitat, it is unlikely that any trails other than Trails 1, 45 and 46 traverse Stonefly no-go zones. The IAC has recommended the removal of these trails, due to their unacceptable impacts on the high quality stands of CTR/CTMF in the National Park (Recommendation 5). However the IAC has included the following discussion in the event that Recommendation 5 is not accepted.

If Trails 1, 45 or 46 proceed, Stonefly no-go zones will need to be identified and mapped, and trails realigned to avoid the no-go zones.

In terms of identifying Stonefly no-go zones, SWM07 will require modification. The Final Hearing Version of SWM07 only specified no-go zones for WP1 and WP2. Other locations on Trails 1, 45 or 46 where Stonefly populations have been detected are not specified. Nor are areas of suitable habitat where Stonefly populations have not (yet) been detected but may exist, or that could be suitable translocation sites.

In terms of mapping Stonefly no-go zones, Mr Tsyrlin described his suitable habitat mapping (reproduced in Figure 6) as conservative but appropriate. However the extent of investigations and rigour which had been employed to prepare this mapping was unclear. For instance, it was unclear if this was a 'rough draft' of habitat mapping or something which had been significantly finessed and ground truthed. While Mr Tsyrlin's mapping in Figure 6 may provide a suitable starting point, the mapping needs to be further refined to provide certainty as to where known and suitable habitat is located. There is also an error in the mapping of the known Stonefly location north of Carpark No. 2 that needs to be corrected.

In terms of realigning trails, parts of Trail 1 could potentially be realigned adjacent to or on Mount Donna Buang Road, but there were no submissions made as to whether this was feasible. In terms Trails 45 to 47, there was evidence from Mr Harrow and Mr Gourley that avoiding the sub-catchments in which the Stonefly had been detected was unlikely to be possible. This provides

further support for the IAC's primary recommendation (Recommendation 5) to remove these trails.

For completeness, the VNPA submitted that Trails 5, 6 and 8 intersect suitable Stonefly habitat. The IAC did not receive any evidence from Mr Tsyrlin that confirmed this, however it notes these Trails were not in Mr Tsyrlin's scope. A clear map that collates no-go zones and the trail network would resolve any uncertainty.

(iii) Effectiveness of other proposed mitigation measures

SWM02 addresses soil and material stockpiles likely to cause sediment in waterways. The IAC considers it appropriate that stockpiles should be located outside Stonefly no-go zones once these are mapped, and has made a recommendation to this effect.

Council did not make submissions regarding which (if any) of Mr Tsyrlin's proposed proactive measures outlined in D160 would be adopted by the Project. It appears that other agencies are already involved or interested in the implementation of these measures. That is to say, while it is acknowledged that Council has funded some research related to the Project, the IAC does not interpret the material to indicate that this Project is necessary to ensure ongoing research and conservation efforts for this species.

Should Trails 1 and 45 to 47 proceed against the IAC's recommendations, the IAC supports Council's additions to Section 4.2 of the OEMP and BM13 (Final Hearing Version) to specify the closure of trails between July and September for both the construction and operation phases. It also supports Council's proposed amendments to BM56 and BM61B.

8.6 Overall conclusions on the Stonefly

While the IAC supports Council's proposed changes to the specific mitigation measures discussed above, it was not persuaded that this would necessarily be sufficient to reduce impacts to the Stonefly to acceptable levels. It considers that the appropriate response is to apply traditional no-go zones in which all Project activities are avoided.

Based on the preliminary mapping available to the IAC to date, it seems likely that Trails 1, 45 and 46 are the only trails likely to intersect known Stonefly locations or suitable habitat. The IAC has recommended that these trails be removed, due to their unacceptable impacts on the high quality stands of CTR and CTMF in the National Park. However the IAC has made recommendations to address Stonefly impacts in the event that Recommendation 5 is not accepted.

(i) Findings

The IAC finds:

- The Mount Donna Buang Wingless Stonefly is a species of significance to science and is highly sensitive and vulnerable to environmental changes.
- The existing nomination for EPBC Act listing does not affect the existing controlled action decision as per section 158A of the EPBC Act. This does not change the IAC's view of the significance of the species.
- Due to the highly sensitive nature of the species and the unknown thresholds for impact, there is uncertainty as to whether the proposed mitigation measures (including Council's proposed adaptive monitoring and management approach) will appropriately mitigate potential significant effects.

- Instead, Stonefly no-go zones (that include known Stonefly locations and suitable habitat) should be applied. No Project activities should be allowed within the no-go zones. Trails that intersect the no-go zones should be realigned or removed.
- Based on the information before the IAC, it appears that Trails 1, 45, 46 and possibly also 47 are the only trails that are likely to intersect Stonefly no-go zones, although this cannot be confirmed without comprehensive Stonefly habitat mapping.
- If Trails 1 and 45 to 47 are removed pursuant to the IAC's Recommendation 5, the Stonefly mitigation measures may not be required. However if Recommendation 5 is not accepted, the Stonefly mitigation measures need to be strengthened.

(ii) Recommendations

The IAC recommends:

7. **If Recommendation 5 is not accepted, amend the Environmental Management Framework as shown in Appendix F:**
    a) **in Section 6.3.3 (Construction):**
        - **amend mitigation measure SWM02 (Erosion and sediment controls)**
        - **amend mitigation measure SWM07 (Adhere to Stonefly no-go zones)**
    b) **in Section 6.3.4 (Operations):**
        - **amend mitigation measure SWM02 (Erosion and sediment controls)**
        - **amend mitigation measure SWM07 (Adhere to Stonefly no-go zones)**
        - **amend mitigation measure BM61A (MDBWS)**
        - **amend mitigation measure BM61B (MDBWS monitoring)**
        - **insert a new mitigation measure BM61C (MDBWS proactive measures)**

9 Other biodiversity and habitat issues

9.1 Habitat disturbance

(i) What did the EES say?

There is high quality habitat throughout the assessment corridor including hollows, nesting and foraging habitat for a range of birds and arboreal animals and suitable habitat for smaller ground-dwelling fauna species. High quality habitat is found at all levels of the forest – in the canopy, mid-storey and ground cover. These habitats are likely to provide resources for locally common species as well as a range of FFG Act and EPBC Act listed species.

Native Vegetation Removal Reports for the full trail network with Trail 1 or the alternatives (Trails 45 to 47) indicated the Project footprint would intersect modelled habitat for 68 rare and 67 threatened species (refer to Technical Appendix A, Table 41 and Appendix 11).

EES Chapter 8 concluded:

> Given the narrow permeable nature of the trails in a heavily forested landscape it is considered unlikely their construction or operation would result in significant barrier erects or reduced gene flow between populations. A range of linear disturbance already occurs within 100 metres of an existing road, track or trail.
>
> On this basis edge effects are already operating in the forest landscape and additional trails could contribute to these barrier and edge effects at a local level. Trail construction would result in localised edge effects within the trail construction corridor and would be addressed through allowing temporarily disturbed areas not required for trail operation to regenerate and revert back to native understory vegetation.

(ii) Mitigation measures

Proposed mitigation measures to manage potential impacts on habitat are summarised in Table 7. An asterisk indicates that changes were made to the exhibited versions. These changes are reflected in the Final Hearing Versions of the EMF, CEMP and OEMP.

Table 7 Proposed mitigation measures for habitat disturbance

Mitigation ID	Mitigation Measure	CEMP/OEMP
BM62	Habitat trees – avoid removal (changes proposed)	Both
BM63	Habitat for epiphytic/lithophytic species	Both
BM67*	Native vegetation removal	CEMP
BM73	No night time construction	CEMP
BM73	No night riding in National Park, restricted to some trails in State Park only (changes proposed)	OEMP
BM74	Micro-siting – borrows / nests / roosting sites	CEMP
BM75	Slow-start construction measures to enable fauna time to disperse	Both
BM76	Fauna entrapment	CEMP
BM77	Noise, vibration and air quality management to avoid and minimise effects on biodiversity (change proposed)	Both
BM78	Environmental induction – fauna habitat	OEMP

These are in addition to measures proposed for specific species and communities discussed elsewhere in this Report.

(iii) Key issues

The key issues are:

- habitat fragmentation or edge effects
- disturbance to wildlife
- effects from a fence at the Warburton Golf Course.

(iv) Evidence and submissions

Several submitters were concerned with the potential for habitat disturbance and fragmentation during construction and operation from increased traffic, human presence and the like. Submitters raised concerns about edge effects (including wind disturbance) from the trails.

Mr Looby responded that there were a range of measures proposed to mitigate effects including preventing night works and riding in the National Park, and seasonal track closures. His evidence was that edge effects operate at different scales depending on the context and the magnitude of disturbance – for example, logging coupes and roads are known to cause edge effects for 50 to 100 metres. Mr Looby was unaware of any studies on edge effects of narrow recreational tracks that retain canopy cover, but reasoned that the effects would be much more localised to the trail's edge.

When asked which Project alternative he preferred, purely from a biodiversity perspective, Mr Lane indicated that it was a really hard call. Although Trail 1 was longer and likely intersected more threatened species habitat, there is an *"intensity"* of disturbance related to Trails 45 to 47 caused by their zigzagging alignments, such that the indirect disturbances could end up creating a wider zone of disturbance to wildlife.

Dr Cheal conceded that the habitat disturbance effects of logging would be more significant compared to the trails, however he stated *"it doesn't take much to get rid of the rarest and most sensitive species"*. He gave the example of extremely sensitive cryptogams that could be affected by the removal of habitat buffers. His evidence was that vegetation removal could increase wind and drying effects.

The IAC asked Council if there had been any consideration of the need for a safety fence at the Warburton Golf Course and, if so, the potential the effects of a fence on local fauna. Council responded (D140) that this would be assessed in consultation with the Golf Course Committee. Council proposed changes to SM04 to *"ensure the screening and protection of trails does not have an impact on fauna movements"*. Council's understanding at this stage was, if a fence was needed it was likely to be a low-level fence, set behind a row of trees. The final design and placement would be determined through a collaborative process including the Project ecologist and Council's environment and planning team.

In closing, Council proposed an addition to BM67 for consideration to be given to the potential for bushfire threats from a build-up of dead plant debris. No explanation was provided.

(v) Discussion

The operation of the Project is likely to have indirect effects on habitat that includes modelled habitat for over 67 rare or threatened species. Even if the species are not currently present in the

habitat, suitable good quality habitat may provide opportunities for translocation sites which may be key for some species' survival.

The IAC agrees the nature of disturbance from the Project is not comparable to that of logging, or of roads, and will likely be fairly localised at the trail edge. The magnitude of such effects will vary depending on the location of the track in relation to other disturbances and on the sensitivity of specific species. Effects of most concern are related to weeds, pathogens, pests (discussed further in Chapter 9.2) and rubbish.

In terms of Project alternatives, according to modelled habitat Trail 1 will have slightly greater impacts. However the IAC accepts Mr Lane's evidence that there is some intensity to the alternative (Trails 45 to 47) such that effects may be largely comparable.

The IAC does not have any information to assess potential effects on fauna movement or mortality from any required golf course fence. The EES notes that urban areas, including the golf course, could provide habitat to the swift parrot and grey-headed flying-fox. Recognising the collaborative approach proposed by Council, the IAC considers it appropriate for the Minister for Planning (as Responsible Authority) to have some oversight of the golf course fence (if needed). It should therefore be part of the requirements for the Development Plans under Clause 6.1 of the Incorporated Document.

Council's proposed change to BM67 is not supported. The IAC does not consider it necessary or effective to manage bushfire risk, as explained in Chapter 14. It is therefore an unnecessary impact on this valuable form of habitat.

(vi) Findings

The IAC finds:

- There is high quality, high value habitat throughout the assessment corridor.
- The Project has the potential to degrade this through edge effects and human disturbance.
- While the magnitude of potential edge effects will vary depending on the location of the trails in relation to other disturbances and on the sensitivity of specific species.
- Except for the trails referred to in Recommendation 5, there was no evidence to suggest that the trails will have unacceptable impacts on habitat through disturbance.
- Potential effects of a golf course fence (if required) should be assessed. Details of the golf course fence should therefore be included in the requirements for the Development Plans under Clause 6.1 of the Incorporated Document.
- BM67 should be adopted as exhibited, not as shown in the Final Hearing Version of the OEMP.

(vii) Recommendations

The IAC recommends:

8. Amend the Environmental Management Framework as shown in Appendix F:

a) in Section 6.3.4 (Operations):

- **amend mitigation measure BM67 (Native vegetation removal)**

9. Amend the Incorporated Document as shown in Appendix G:

a) insert a new sub-Clause 6.1(j).

9.2 Pests, weeds and pathogens

(i) What did the EES say?

A potential indirect effect of the Project is habitat degradation from introducing or spreading pest plants and animals and pathogens. These are identified as threatening processes under the FFG Act and EPBC Act. Three pathogens were considered relevant – Phytophthora, Myrtle wilt and chytrid fungus (Section 7.3.8 of Technical appendix A). Phytophthora and Myrtle wilt are discussed in detail in Chapter 7.4. The EES considered it was likely chytrid fungus would already be present in the Project area.

EES Chapter 8 concluded:

> The most notable potential cumulative effects and exacerbation of threatening processes are associated with introducing or facilitating the spread of pests and pathogens (weeds, deer, Myrtle wilt impacts on rainforest communities) ...

(ii) Mitigation measures

Proposed mitigation measures to manage potential impacts of pests, weeds and pathogens are summarised in Table 8. An asterisk indicates that changes were made to the exhibited versions. These changes are reflected in the Final Hearing Versions of the EMF, CEMP and OEMP.

Table 8 Proposed measures for pests, weeds and pathogens

Mitigation ID	Mitigation Measure	CEMP/OEMP
BM20	Pest animal program – supporting existing programs by public land managers	Both
BM22	Comprehensive weed management program	Both
BM23	Environmental induction – weeds	Both
BM24	Avoid ground disturbance in areas of known invasive weeds or pathogens, or wherever possible	CEMP
BM25	Hygiene protocols	Both
BM26	Environmental induction – pathogens	Both
BM27*	Maintenance schedule for bike washing facilities	OEMP
BM28	Minimise the use of fill	Both
BM29	ensure certified clean fill is used where necessary	Both
BM30	Environmental induction – pests	Both
SWM19*	Bike wash facilities at trail heads – to design and construct best practice closed-loop facilities	CEMP

(iii) Key issue

The key issue is:

- impacts of weeds, pests and pathogens.

(iv) Evidence and submissions

Many submissions raised challenges with the effectiveness of management measures and disadvantages of management options including the use of herbicides in sensitive environments. Several submitters were concerned about maintenance costs. Submitter 2671 submitted that government budgets (including Council, Parks Victoria and VicRoads) for weed control in the area were currently inadequate. He was experienced in local weed management and submitted areas along the O'Shannassy Aqueduct trail illustrated the lack of budget to manage existing weeds. He submitted each weed can produce around 100 to 2000 seeds per season making control a challenge.

Many mountain bikers proposed support for land care days with trail users pitching in. The Upper Yarra River Reserve Committee of Management also spoke to the IAC about local community-based efforts to clean up rubbish and weeds from around the river and on Mount Donna Buang.

Relying on Mr Looby's evidence, Council submitted that weeds and pathogens would be managed through appropriate trail maintenance, monitoring and best practice hygiene practices including bike and equipment washdowns at trail heads.

Mr Lane agreed with the VNPA that new trails would provide new movement corridors for pest animals which use such opportunities to expand their hunting range. He considered while new trails were unlikely to increase pest animal populations, it would affect behaviour and local effects either side of the trails.

Parks Victoria submitted the "*scale of development brings higher risks of increased penetration by pests and weeds into areas previously unimpacted and critical fauna habitats*" and a lease agreement would require Council to manage impacts within the lease area.

The IAC asked Parks Victoria about current land management practices in the National Park. It advised that although eradication of weeds and pests was the ultimate goal, it was often unrealistic and so efforts were instead focused on containment.

Parks Victoria indicated that where native species were hanging on by a thread for their survival, recovery is easier without the disturbance of invading plants or animals. To manage this, Parks Victoria may target certain areas (for example, there is currently a concentrated effort to reduce foxes in Leadbeater's Possum habitat). Parks Victoria submitted new trails would potentially increase the areas needed to be targeted by their programs.

The IAC asked Parks Victoria if it would consider a bond mechanism in the lease agreement. Parks Victoria advised it would not use a bond, but the CEMP and OEMP would be a condition of any lease, which could be revoked for non-performance. Council indicated that a bond would be unusual practice between government agencies. It reiterated that the CEMP and OEMP would be enforceable under the Incorporated Document.

Mr Tsyrlin raised concerns regarding the potential for chemical runoff to Stonefly habitat from both the bike wash and weed management activities. Council responded with:

- a new mitigation measure SWM19 to design and construct best practice bike wash facilities that were closed loop and designed to both reduce weed and pathogen risks while minimising impacts on flora and fauna through the chemical choice and bike wash mechanism
- additions to BM27 to ensure the regular restocking of the required fungicide and appropriate communication with trail users.

(v) Discussion

Weeds, pest animals and (to an extent) pathogens are an existing issue in the Project area. The IAC notes submissions that due to the extent of these issues, existing efforts prioritise high(er) value locations.

It is likely that the Project will exacerbate these existing issues to some degree. It will open some new currently undisturbed areas of habitat to the weed, pest and pathogen risks. The consequences of this will vary depending on the environmental values. The IAC agrees with the EES conclusion that this is the most notable cumulative effect of the Project.

The effectiveness of mitigation measures will depend on the weed, pest or pathogen and the environmental values. For example, if cats or foxes were provided new or better access to habitat for a susceptible fauna species with low population numbers (such as Leadbeater's Possum), the consequence could be significant.

The risk assessment indicates some confidence in the effectiveness of proposed mitigation measures. That said, the use of herbicides to manage weeds is not a panacea and does carry some risks in high value areas. Council has been responsive in adapting management measures in light of concerns raised in evidence and submissions.

The IAC accepts the lease agreement and planning controls will be appropriate mechanisms to ensure implementation of the management plans. In terms of funding of mitigation measures, being a public authority, the IAC considers funding and cost transparency is imperative.

The IAC supports the changes proposed by Council to BM27 and SWM19 in the Final Hearing Version of the EMF, subject to a minor drafting change to BM27 to specify that user education should focus on the appropriate use of washdown facilities.

(vi) Findings

The IAC finds:

- The Project will likely exacerbate existing issues with weeds, pests and pathogens. This is the most notable cumulative effect of the Project.
- The significance of impacts will depend on the values being affected and potential cumulative impacts. The effectiveness of mitigation measures and residual risks will depend on the environmental values.
- Except in relation to Myrtle wilt (as discussed in Chapter 7.4), there was no evidence to suggest that the residual impacts caused by weeds, pests and pathogens (after mitigation measures are applied) will be unacceptable.

(vii) Recommendation

The IAC recommends:

10. Amend the Environmental Management Framework as shown in Appendix F:

a) in Section 6.3.4 (Operations):

- **amend mitigation measure BM27 (Maintenance schedule for bike washing facilities)**

9.3 Leadbeater's Possum

(i) What did the EES say?

The Leadbeater's Possum is critically endangered under the EPBC Act. Due to its restricted distribution, ongoing population decline and risks of future fires, all populations are considered important.

Critical habitat for the Leadbeater's Possum includes montane thickets, which are highly likely to be GDEs. The EES concludes that potential effects on GDEs are expected to be minimal in magnitude, highly localised and short in duration, during construction. Habitat also includes hollow bearing trees. The EES states that removal of hollow bearing trees will be avoided where possible. Removal of artificial nest boxes and dense stands of sub-canopy stems will also be avoided where possible.

Trails 45 and 46 were designed and aligned to avoid direct impacts on scattered small patches of open montane thicket vegetation between Mount Donna Buang and Mount Victoria. Trail 1 was realigned to avoid dense montane habitat. However this resulted in Trail 1 extending into the Coranderrk Creek protected drinking water supply catchment. The EES states:

> … after detailed desktop field investigations, and consultation with species experts, a trail alignment that avoids Leadbeater's Possum habitat, remains outside of the Melbourne Water catchment and meets project objectives could not be found. Therefore, avoiding Leadbeater's Possum habitat was given priority and the new Trail 1 alignment now enters the catchment for approximately 640 metres to the north-west of Donna Buang Road (summit section).

Proposed mitigation measures for Leadbeater's Possum are summarised in Table 9. No changes were proposed to the exhibited versions.

Table 9 Proposed mitigation measures for Leadbeater's Possum

Mitigation ID	Mitigation Measure	CEMP/OEMP
BM51	Environmental induction for construction workers identifying high quality habitat indicators	CEMP
BM52	Leadbeater's Possum habitat management - minimising removal of suitable habitat by constraining the removal of mid-storey trees (greater than 10 cm DBH in the National Park and greater than 20 cm in the State Forest) and preventing removal of dense stands of montane thickets anywhere in the Project area	CEMP
BM53	Micro-siting within Leadbeater's Possum habitat to be guided by an ecologist	CEMP
BM73	No night riding in the National Park. To be allowed for selected trails within State Park	OEMP

EES Chapter 8 concluded:

> Noise, vibration and disturbance generated during trail operation is unlikely to result in significant impacts to the Leadbeater's Possum population in the Project area, predominantly due to the dispersed nature of trail use … Residual impacts to Leadbeater's Possum … would relate to disturbance of animals, disruption to research and translocation programs/locations, increased localised predation events, habitat modification through weed and pathogen invasion, accidental habitat damage during trail maintenance and ongoing management of hollow-bearing trees adjacent to the trail network.

The Alternatives Assessment Report concluded:

> **Key threatened species** there is likely to be a comparable level of impact on threatened species habitat between Trail 1 and the alternative.

Despite this, Chapter 8 acknowledges that Trail 1 is likely to have greater impact on Leadbeater's Possum habitat than the alternative, as evidenced by Trail 1 requiring species-specific offsets for Leadbeater's Possum (above 0.005 per cent of habitat). The alternative alignment does not trigger this offset.

(ii) Request for Information

Through RFI1 (D8) the IAC acknowledged Parks Victoria's concern that Trail 1 did not avoid all confirmed Leadbeater's Possum buffers and sought clarification as to why it was not considered necessary to divert trails to avoid all known areas of habitat and DELWP buffer zones. Council responded through Mr Looby's expert witness statement (D34).

(iii) Key issue

The key issue is:

- impacts on Leadbeater's Possum.

(iv) Evidence and submissions

Mr Looby's evidence was that due to the existence of translocation sites, any potential fragmentation of critical habitat elements could lead to potentially significant effects on the Leadbeater's Possum at the national level. His approach was to accept that any areas of wet forest with sub canopy connectivity could be potential Leadbeater's Possum habitat. Because of the nature of the Project, in a forested environment, the assessment then focused on whether there would be any impacts on critically important habitat. Project design then focused on avoiding and minimising any disturbance of sub-canopy connectivity.

Mr Looby understood that the entry of Trail 1 into the DELWP buffers for Leadbeater's Possum was driven by topographical constraints and the need to avoid rainforest vegetation, watercourses and steeper areas. He understood the DELWP buffers had been created specifically for forestry operations and fire management. He advised these buffers also define Special Protection Zones used in State Forests to manage or exclude activities such as timber harvesting, fuel reduction burning and grazing, where contrary to the maintenance of identified values. He did not believe Special Protection Zones precluded recreational uses in State Forests.

Mr Lane's evidence was that the proposed mitigation measures (specifically BM52 and BM53) would ensure that key habitat components for this species would be minimally affected by the Project.

No other experts contradicted this evidence.

Parks Victoria submitted the assessment of potential habitat had been undertaken to a high standard for Trail 1 only and that an equivalent assessment for Trails 45 to 47 was not evident. Although Parks Victoria was opposed to Trails 5 to 8 (see Chapter 17 for more detail), it made no submissions these trails would affect Leadbeater's Possum habitat.

The VNPA submitted that the National Park had been deliberately set aside for high conservation values including providing habitat for ancient rainforests, the Stonefly and Leadbeater's Possum. In its submission, the Project would have a significant impact on Leadbeater's Possum due to the

importance of habitat in the area, the fact that trails will pass through habitat (even though key sites and habitat features would be avoided) and that insufficient attention had been paid to indirect effects such as risk of Myrtle wilt, impact of pest animals (for example cats which may enjoy easier access via trails) and uncertainty as to whether trails could successfully be closed at night.

Friends of Leadbeater's Possum informed the IAC that possums can travel considerable distances (up to 500 metres or more) for night feeding, provided the horizontal habitat connectivity is present. In response to the IAC querying the potential effects of permanent vegetation clearance to a height of 2.5 metres, Friends of Leadbeater's Possum explained the possum prefers the mid canopy of 5 to 10 metres in height for their movements and that these heights likely provide safer passage in the presence of feral animals such as cats and foxes.

Friends of Leadbeater's Possum submitted whilst they primarily advocate for the Leadbeater's Possum, it sees the possum as a 'flagship' species – that is, decline in its habitat will affect the entire ecosystem and all of its dependent flora and fauna species including other listed threatened species. While they appreciated efforts had been made to minimise effects on Leadbeater's Possum colonies within the Project area, they remained concerned about the broader ecological effects of the Project, particularly in the National Park.

(v) Discussion

The Ecological Protocols aimed to avoid known and potential Leadbeater's Possum habitat, and to apply a 50 metre buffer from known colonies and a 200 metre exclusion zone from the centre of Australian National University monitoring plots. The Ecological Protocols indicate disturbance to such plots *"will impact long term monitoring results of Leadbeater's possum".* Whilst the EES did not map these monitoring plots, protocols aimed at avoiding Leadbeater's Possum habitat were not fully achieved in the Project design, with some nest boxes within approximately 60 metres of the trail (see Figure 10.3 of Technical Appendix A).

The IAC accepts Mr Looby's evidence, which is consistent with the FFG Action Statement for Leadbeater's Possum, that 200 metre buffers or Special Protection Zones were predominantly to exclude timber harvesting and fire management. The IAC notes new roads are also specifically mentioned as excluded from this buffer zone. The IAC does not consider that mountain bike trails are comparable to impacts from a road, noting that vegetation clearance for the trails will be limited to a height of 2.5 metres.

On balance, the IAC accepts evidence that direct impacts from the removal of critical habitat elements will be avoided and minimised as much as possible by mitigation measures BM52 and BM53. Further, submissions that indicate the species prefers to travel through the mid canopy, at a height above 2.5 metres, indicates clearance of understorey vegetation to 2.5 metres will not significantly impact habitat connectivity.

Having said that, Trail 1 does come quite close, within metres, of *"indicative Leadbeater's Possum dense montane thicket habitat (visited with species expert)"* (see Figures 10.3 and 10.4 of Technical Appendix A). Proximity of trails to suitable habitat will increase the potential for indirect effects such as habitat disturbance from weeds, pests (predation) and pathogens. These issues are discussed in Chapters 9.1 and 9.2.

The FFG Action Statement for Leadbeater's Possum identifies a steady loss of hollow-bearing trees in general from fires (2009) and timber harvesting. In addition, it identifies climate change and

drought as likely contributors to further increased loss. The IAC considers the removal of any hollow-bearing tree in Leadbeater's Possum habitat for the purpose of hazard reduction on the Trail should be considered an unacceptable impact. The IAC considers this is a clear example where an assessment of a hazardous tree should result in the closing of the Trail, until the hazard has naturally abated. The IAC considers this is already captured in its recommended changes to BM62.

Key strategies to minimise noise (BM73) and other disturbance during construction and operations are likely to be effective such that the IAC considers this type of habitat disturbance to be minimal. The IAC notes that the possum currently occupies habitat close to the road and would already be subject to anthropological sounds.

The risk to habitat from groundwater disturbance is discussed in Chapter 10.3.

(vi) Findings

The IAC finds:

- The Project is unlikely to have a significant effect on the Leadbeater's Possum or its habitat.

9.4 Significant aquatic fauna

(i) What did the EES say?

Three EPBC-listed fish were identified as having a medium to high likelihood of occurring within the Project area. Residual construction impacts were considered low to negligible and unlikely to constitute a significant impact. Detailed significant impact assessments were undertaken for each species which supported this view.

Two state significant (FFG Act-listed) aquatic fauna species were considered to have a medium to high likelihood of occurrence in the Project area – Curve-tail burrowing crayfish and Tubercle burrowing crayfish.

Relying on the risk assessment results from the Surface Water assessment, risks to aquatic environments from sediment, turbidity and so on were considered low.

(ii) Mitigation measures

The EES outlined specific potential impacts and proposed measures to manage impacts on aquatic species, including:

- leave root systems intact when clearing vegetation, to reduce erosion and damage to burrows
- reduce chemical use when controlling weeds, use chemicals that are safe for waterways
- where possible, use light machinery, travel on well-established roads and tracks and avoid working near burrows
- minimise removal and disturbance of rotting logs and leaf litter in crayfish habitat
- salvage and relocation by trained fauna salvagers
- mapping of confirmed locations of burrows and habitat.

Refer also to mitigation measures BM31 to BM39, BM16, BM74 and BM78.

(iii) Key issue

The key issue is:

- impacts on aquatic fauna.

(iv) Evidence and submissions

The IAC noted a mitigation measure for the Burrowing crayfish was to avoid the use of heavy machinery or vehicles within its habitat and inquired of Mr Lane if the mini-excavator would classify as light. Mr Lane was unsure, however gave evidence the aim was to avoid soil compaction which could crush crayfish in burrows and that given their damp habitat they would be very sensitive to such impacts.

(v) Discussion and findings

The IAC notes that some of the mitigation measures to reduce threats to crayfish proposed in Technical Appendix A on page 323 have not been included in the CEMP. The IAC recommends new mitigation measures to incorporate these measures that are not covered by generic measures.

(vi) Recommendations

The IAC recommends:

11. Amend the Environmental Management Framework as shown in Appendix F:

a) in Section 6.3.3 (Construction):

- **amend mitigation measure BM37 (Timing of construction – waterways)**
- **insert a new mitigation measure BM39A (Burrowing crayfish species)**

b) in Section 6.3.4 (Operations):

- **insert a new mitigation measure BM39A (Burrowing crayfish species)**

9.5 Other significant flora and fauna

(i) What did the EES say?

The EES was informed by desktop assessment and ecological surveys of the entire alignment (see Chapter 8 method). An assessment of the likelihood of occurrence of significant species was undertaken and those with a medium to high likelihood of occurrence were considered for mitigation and management. Assessments against the significant impact criteria were undertaken for all EPBC Act listed terrestrial fauna.

Proposed mitigation measures to manage the impacts on other significant flora and fauna species are summarised in Table 10. No changes were proposed to the exhibited versions.

Table 10 Proposed measures for significant flora and fauna

Mitigation ID	Mitigation Measure	CEMP/OEMP
BM63	Habitat for epiphytic/lithophytic species	Both
BM64	Environmental induction – significant flora	CEMP
BM65	Environmental induction – rare or threatened flora	CEMP
BM66	Micro-siting – significant flora	CEMP

In addition, the micro-siting protocol set out in Attachment 1 to the CEMP includes the following:

- Project ecologist should walk the trail alignment in previously identified high risk areas to visually identify any rare or threatened species with consideration of seasonality
- trails to be aligned away from rare or threatened species with exclusion zones
- avoid the use of boulders covered with bryophytes and or ferns
- Project ecologist to walk trail alignment with trail crew to identify any platypus burrows, signs of crayfish habitat (chimneys), seeps, springs and associated vegetation which indicate GDEs, works locations near high quality Leadbeater's Possum habitat, lyrebird mounds, ground-dwelling fauna burrows.

EES Chapter 8 concluded:

> The construction of the Project is considered unlikely to result in a significant impact to any EPBC Act listed threatened species. However, similar to state significant flora and fauna species, impacts during construction could still occur as a result of removal of native vegetation, potential for sedimentation during construction, disturbance of flora and fauna, introduction of weeds and pathogens as a result of poor hygiene practices and pollution of waterways as a result of litter or any chemicals used during trail construction. It is considered that the majority of impacts can be avoided, minimised and mitigated through pre-construction trail micro-siting, sensitive construction techniques and monitoring.
>
> The operation of the Project is considered unlikely to result in a significant impact to any EPBC Act listed threatened species. However, similar to state significant flora and fauna species, impacts during operation could still occur as a result of potential for sedimentation during trail use, disturbance of flora and fauna, introduction of weeds and pathogens as a result of poor hygiene practices, and pollution of waterways as a result of litter. Mitigation measures and monitoring during operations are intended to reduce impact during operation as far as reasonably practicable.

The Alternatives Assessment Report concluded:

> **Key threatened species** there is likely to be a comparable level of impact on threatened species habitat between Trail 1 and the alternative.

(ii) Key issues

The key issues are:

- adequacy of assessment (surveys and desktop)
- effectiveness of micro-siting to avoid or minimise impacts
- effectiveness of mitigation measures.

(iii) Evidence and submissions

Adequacy of assessment

Parks Victoria submitted the surveys undertaken focused on 'large trees' and readily detectable flora species such that the confidence in flora and fauna knowledge was not supported by adequate on-ground surveys for fauna or cryptic threatened plant species. Parks Victoria submitted that detailed threatened fauna habitat mapping had not been undertaken to inform the potential extent of impact on fauna or their habitat.

Mr Looby's evidence was that survey effort had to be balanced with the expected magnitude, extent and duration of impacts. He noted that works included understory vegetation removal only, and minor earthworks by hand or with light machinery. His evidence was that survey and assessment effort was not expended where impacts were likely to be minimal or indirect, and mitigation measures (such as micro-siting, minimise disturbance for cryptic species substrate)

could be applied to minimise impacts. He also considered targeted surveys had a high risk of providing false negatives for the assessment corridor.

Mr Lane reviewed the evaluation of the likelihood of occurrence of some species and identified some species he thought should have been considered, though he did not think they would have changed the outcome of the assessment. Accepting the difference of opinion, Mr Looby gave evidence the likelihood of a significant effect remained low to negligible.

Acknowledging the absence of targeted surveys, Mr Lane considered there was an opportunity for seasonally appropriate pre-construction surveys to further avoid and minimise potential impacts. In his evidence, such surveys could be undertaken as part of micro-siting so long as they were seasonally appropriate.

The IAC noted the CEMP identified that the ecologist should be present in designated areas of high ecological value only, not for the entire length of the trails. Mr Lane considered it was important and appropriate for an ecologist to undertake seasonally appropriate pre-construction surveys of the entire trail length – not just the areas identified as high risk. As threatened species could exist in areas of relatively low value, focusing on high-risk or high-value areas may risk otherwise avoidable impacts.

Dr Meredith gave evidence the review of existing biodiversity and surveys were well covered and of a high standard. Dr Cheal was generally comfortable with the survey effort and approach to habitat modelling however he was concerned that potential effects to cryptograms had been overlooked.

Micro-siting

Mr Looby's evidence was that he had used micro-siting previously in similar projects and he was confident it would be effective to avoid or minimise impacts on significant flora and fauna.

In response to an IAC question, Mr Looby confirmed tree ferns were intended to be avoided by micro-siting. Mr Lane indicated that when avoiding ferns, it is important to provide enough space so they are not subject to ongoing contact as that can result in dieback. Therefore, both the frond line and direction of trunk growth should be considered in avoiding impacts.

Mr Lane considered it was likely that micro-siting would be able to avoid impacts on listed species and large trees, but to avoid all impacts would be very difficult. He considered there will be residual effects on some high value vegetation types and that there should be clear guidance developed prior to micro-siting to assist the decision-maker in deciding between competing high value aspects.

Mitigation measures

In his report, Mr Lane noted that consideration could be given to hand constructing trails in the vicinity of Tree Geebung. His evidence was that hand construction is a very effective way of ensuring effects are limited and it should be employed in all areas of Tree Geebung.

(iv) Discussion

Adequacy of assessment

The IAC considers the surveys undertaken were adequate for the purpose of assessing the likely effects of the Project to inform the EES. The IAC accepts differences of opinion on individual

species likelihood of occurrence and accepts these differences do not change the assessment, that the Project is unlikely to have a significant effect (at the population level) on other listed species.

Micro-siting

The IAC considers the micro-siting protocol will assist in avoiding some, but not all of the features desired to be avoided. If it were possible to avoid known features such as CTR or Leadbeater's Possum habitat, that would have already been achieved as these were objectives of the Ecological Protocols used to design the trail alignment.

While there is merit in continuing to try and avoid significant environmental features, the IAC does not expect micro-siting to reduce the direct effects significantly from that assessed by the EES. The IAC prefers the evidence of Mr Lane that there will be a need to balance various factors and make decisions as to which features should remain in certain circumstances. To assist such a decision-making process, there should be a pre-determined hierarchy of values and pre-construction surveys.

To ensure micro-siting measures aimed at avoiding various environmental values are most effective, the IAC agrees with Mr Lane that seasonally appropriate pre-construction surveys of the full trail length would be appropriate, and has recommended a new mitigation measure to this effect. These surveys could be done as part of micro-siting, provided the timing aligns with the requisite seasons.

Despite wording in the EES and evidence by Mr Looby that common tree ferns should be avoided during micro-siting, the micro-siting protocol does not specify this and so, the IAC has made a recommendation to that effect.

Mitigation measures

The IAC accepts Mr Lane's evidence it would be appropriate to hand build trails in the vicinity of Tree Geebung and has made a recommendation to this effect. It would be up to the Project ecologist to determine the appropriate proximity for this measure.

(v) Findings

The IAC finds:

- The assessment (including surveys) for significant flora and fauna species were appropriate for the purpose of the EES.
- Construction and operation activities including habitat removal are unlikely to have a significant impact (on a population level) to significant flora and fauna species.
- Seasonally appropriate pre-construction surveys should be undertaken for the entire length of the trails.
- Micro-siting protocol would be assisted by a pre-determined hierarchy of values to aid decision-making as to which values to prioritise in the micro-siting process.

(vi) Recommendations

The IAC recommends:

12. Amend the Environmental Management Framework as shown in Appendix F:

a) in Section 6.3.3 (Construction):

- **insert a new mitigation measure BM02A (Pre-construction surveys)**
- **insert a new mitigation measure BM63A (Tree Geebung)**
- **insert a new mitigation measure BM63B (Tree ferns)**

10 Surface water, groundwater and geotechnical hazards

10.1 Introduction

Surface water, groundwater and geotechnical hazards are discussed in:

- EES Chapter 9
- Technical Appendix B (the Surface Water, Groundwater and Geotechnical Technical Report prepared by GHD).

The evaluation objective is:

> Maintain the functions and values of groundwater, surface water and floodplain environments and minimise effects on water quality and beneficial uses.

The IAC requested a map showing all elements of the Project infrastructure overlaid with natural catchment areas and designated water supply catchment areas (RFI1 Q58). The joint expert statement of Mr Harrow and Gourley (the principal authors of Technical Appendix B) provided two maps which showed that a 458 metre section of Trail 1 is proposed to be located within the Coranderrk Creek drinking water catchment. The map also showed that potentially a shorter section of the Trail, close to the summit of Mt Donna Buang, could be on or marginally over the catchment boundary. The IAC notes that Technical Appendix A (the Biodiversity Assessment) includes Map 10.3 which shows two sections of Trail 1 that cross into the Coranderrk Creek catchment for a combined distance of about 640 metres.

The key additional risks associated with the trail alignment within a protected drinking water catchment are the increased pathogen risk to the drinking water supply (should track construction crew or track users use the area adjacent to the track as a toilet) and increased turbidity within the surface water runoff (which can potentially affect water quality and treatment plant efficacy).

Toilet facilities are proposed at the trail heads at Warburton Golf Course, Wesburn Park and Mount Donna Buang (where the existing toilets would be upgraded if required). The toilets at Warburton Golf Course and Wesburn Park will be connected to sewer, and there should be no direct discharge of wastewater to the environment. The toilets at Mount Donna Buang are a closed vault septic system. If mitigation measures are not implemented, there is a risk that the treated effluent of the septic system could increase nutrient loads (and potentially pathogen loads) to surface waters and groundwater.

Bike wash stations are proposed at the trail heads. Uncontrolled discharges of wash water could enter to surface waters and groundwater. Sediment from the trails could also enter waterways.

10.2 Surface water

(i) What did the EES say?

The Project covers a large area with varying elevation (from 150 to 1,250 metres) within Melbourne Water's Yarra River Upper sub-catchment, the Little Yarra Water Supply Protection Area and the Don River Water Supply Protection Area.

Waterways in the vicinity of the Project are in good to excellent condition, in terms of compliance with the environmental quality objectives in the applicable Environmental Reference Standards

and *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* ANZG (2018) trigger values for water quality.

There are up to 166 locations where trails may cross waterways. The main difference between Trail 1 and the alternative (Trails 45, 46 and 47) is that Trail 1 traverses more waterways (166 compared to 157). Trail 1 also traverses sections of the Coranderrk Creek catchment area, which is a closed catchment that feeds into the drinking water supply system (and is the only closed catchment affected).

The main potential impacts of the Project identified in the EES were increased sedimentation of waterways during construction and changes to surface water hydrology during trail construction and operation.

The mitigation measures proposed for surface water impacts are summarised in Table 11. An asterisk indicates that changes were made to the exhibited versions. These changes are reflected in the Final Hearing Versions of the EMF, CEMP and OEMP. The EMF also includes inspection, monitoring and reporting obligations during both the construction and operations phases (see Tables 16-16, 16-23 and 16-25).

Table 11 Surface water mitigation measures

Mitigation ID	Mitigation Measure	CEMP/OEMP
SWM01	Undertake micro-siting prior to construction	CEMP
SWM02	Implement CEMP	CEMP
SWM03	Streamside buffers	CEMP
SWM04	Use of tracking machines	CEMP
SWM05	Elevated crossing design	CEMP
SWM06	Water quality monitoring of waterways	Both
SWM07	Adhere to Stonefly no-go zones	Both
SWM08	Design and construction of trail heads	CEMP
SWM09	Operational maintenance measures	OEMP
SWM10	Spill management	CEMP
SWM11	Design of septic systems	CEMP
SWM12	Operation of trail heads	OEMP
SWM13	Gully erosion management and monitoring	OEMP
SWM14	Bike wash system	OEMP
SWM15	Track closure during periods of snow or high rainfall	OEMP
SWM16*	Monitoring of rider usage in drinking water catchment	OEMP
SWM17*	Install signage to stay on designated trails and a barrier preventing off trail access in consultation with Melbourne Water	CEMP
SWM18*	Consideration of an elevated boardwalk	CEMP
SWM19*	Bike wash facilities at trail heads	CEMP

EES Chapter 9 concluded:

> The assessment has shown that the construction and operation phases of the Project can be managed such that the objective of minimising potential adverse impacts to surface water, groundwater and geotechnical hazards at local and regional scales can be achieved.

Regarding the impacts of the Project alternatives on surface, groundwater and geotechnical hazards, EES Chapter 15 stated:

> For both construction and operation, Trail 1 and the alternative would have similar residual impacts.

(ii) Request for Information

The IAC's RFI1 included a request for mapping that showed Project infrastructure overlaid with natural catchments and designated water supply catchments (Q58). Mapping was provided in the expert witness statement of Mr Harrow and Mr Gourley (D 63). The IAC also requested more information on baseline water quality assessments (Q59). A response was also provided in the expert witness statement of Mr Harrow and Mr Gourley.

(iii) Key issues

The key issues are impacts from:

- sediment
- wastewater
- chemicals
- the section of Trail 1 in the Coranderrk Creek closed water supply catchment.

(iv) Evidence and submissions

Sediment

Over sixty submissions expressed concerns regarding sediment impacts on waterways during the construction and operation of the trail. Submissions identified that the area receives high rainfall which would contribute to sediment runoff. Several submissions suggested that the trails should be closed during periods of high rainfall.

Council called Mr Harrow and Mr Gourley to provide expert evidence in relation to water quality and hydrology impacts. They provided a joint expert witness statement (D63), and jointly gave evidence to the IAC. Mr Harrow addressed water quality issues, and Mr Gourley addressed hydrology (water flow).

Mr Harrow in his evidence stated that the proposed mitigation measures would:

> … avoid or minimise the potential for sediment and suspended solids to enter waterways.

The evidence of Mr Gourley was that:

> It is my opinion that the mitigation measures in place provide adequate protections from a hydrology perspective and risks would be reduced to an acceptable level and provide adequate protections.

When questioned on the adequacy of the stream side buffers of 30 metres for a designated waterway and 20 metres for a non-designated waterway (SWM03), Mr Harrow's view was that in his experience 10 metres was adequate to filter sediment, particularly in heavily vegetated environments like the Project area.

Melbourne Water's submission (S2467) indicated that the Project area is an area of undisturbed waterways of high value, particularly the small and ephemeral headwater streams. It considered that the Project posed a far greater threat to the condition of these small waterways than the existing threats of unsealed road runoff and areas of cleared vegetation.

Melbourne Water's overall view was without the mitigation measures:

> … the Project constitutes a grave risk to the water quality and therefore high conservation values of the small waterways within the Project area.

Melbourne Water submitted that elevated crossings must be provided to all Melbourne Water managed or designated waterways. This being the case, Melbourne Water's submission stated:

> It is generally accepted that subject to appropriate conditions and controls being applied, appropriate engineering solutions and mitigations can be adopted to support the crossings.

In regard to sediment runoff from the trails, Melbourne Water's view was that trails should be designed so that:

> … runoff from trails does not flow into streams, through directing trail runoff to 'buffer strips', minimising the length of trail running to any one particular buffer strip as well as locating waterway crossings at higher elevations that the main trail.

Parks Victoria identified its concerns regarding sediment in the supplementary information provided in response to a request from the IAC (D131):

> Given the nature of the activity by bikes, trail use/physical disturbance is expected to dislodge sediment on a greater scale than existing, more passive, uses of walking trails.

In regard to the mitigation measures referenced in the CEMP, Parks Victoria's view was there was a lack of detail as to how rock armouring will prevent sedimentation issues and more detail should be included on the design, appearance, materials, longevity (temporary or permanent) and capacity of silt fences to withstand and retain silt in heavy rain events.

Wastewater

The two water experts, Mr Harrow and Mr Gourley, were not familiar with the type of toilet facilities located on the summit of Mt Donna Buang when questioned by the IAC.

Council's response to the IAC's RFI1 (D71) provided information on the potential visitor numbers to Mt Donna Buang and also patronage of the toilet facilities. The response to Q35 stated:

> The existing septic tank that services these facilities has a capacity of 15,000 litres. This is a closed vault system that does not have a drain field.

The response also clarified that the proposed facilities at the Mt Tugwell trail head would consist of a vault toilet with no drainage to the local environment, and stated:

> These facilities will adequately cope with the projected demand and frequency of emptying will be dictated by use, although anticipated to be not more than quarterly. These types of closed systems would not require any permits or approvals under the EP Act.

Chemicals

Without mitigation measures in place, there is a potential for spilling of fuels or other hazardous materials used during construction to be released into the waterways and impact on water quality. This may include fuels and liquids used in machinery and equipment, such as excavators, bobcats, chainsaws, compactors and generators.

There would be bike wash facilities at all four trail heads to prevent the spread of weeds and pathogens. Melbourne Water identified that bike wash stations proposed at the trail heads "*will need detail on treatment process and contingency around possible failure/overflow*." Wash water

from bike washing facilities is to be treated to remove sediment and to recycle the water for re-use. Council gave the commitment in its Part C submission (D140) that:

> … hygiene station design is constantly evolving and Council will look to implement the best practicable solutions available at the time, which may include features such as hygiene stations that provide appropriate pathogen and weed treatment, followed by a water clean, in order to further mitigate any risk to sensitive receptors within the forested environments (such as the Mount Donna Buang Wingless Stonefly.

A new mitigation measure has been inserted into the Final Hearing Version of the CEMP (D158) to address this (see SWM19).

Coranderrk Creek protected water supply catchment

Parks Victoria's original submission (S1523) pointed to section 32H(1) of the NP Act, that states in conducting works within a protected water supply catchment area, the paramount considerations are the protection of the area and its water resources and the need to maintain the water quality of that area. It submitted that Melbourne Water's policy settings are to restrict access to designated water supply catchments and to manage visitor access in buffer areas adjacent to the designated water supply catchments, and that the approval of works in the catchment would be founded on advice from Melbourne Water that the development does not impact the purpose of the water supply catchment and the water resources. It pointed out that the Tourism Leases in National Parks: Guidance Note (DELWP, 2015) notes that designated water supply catchments are expressly excluded from the general leasing power in the NP Act.

Melbourne Water's presentation to the IAC (D87) clearly expressed its opposition to the trail passing through part of its closed water supply catchment:

> Excluding people from the drinking water supply catchments is a critical element of Melbourne Water's current approach to managing drinking water quality risks. This approach is consistent with the Australian Drinking Water Guidelines which place a strong emphasis on prevention of contamination.

In response to a question from the IAC regarding awareness of examples of any trails (walking or cycling) located in designated water supply catchments, Melbourne Water responded to the effect that there were some historical areas providing minimal access across the region. It noted, however, that there is only a small, largely historical quantity.

The VNPA's original submission (S2503) identified that Melbourne is one of the few cities in the world with protected catchments which help produce high quality water and stated:

> Incursion into this area is unacceptable, and rides rough shod over long standing protection provision.

Mr Harrow and Mr Gourley were both satisfied that the section of Trail 1 through the Coranderrk Creek catchment would present a low risk to drinking water quality and water quality more broadly. Mr Harrow provided the following reasons in support of his conclusion:

- The distance the track is within the defined drinking water catchment boundary is relatively short (458 m).
- The 'exposure time' of each rider inside the drinking water catchment is estimated to be 90 seconds, which is considered to be low.
- The likelihood of a rider stopping on the section of track inside the catchment boundary needing to use the area as a toilet is low given that toilet facilities are nearby and located at the start of the track at the Mt Donna Buang visitor facility.
- The buffer distance from the track to the nearest watercourse is 200 m and is considered wide enough to significantly reduce the risk of direct transportation of pathogens and sediment into the water course.

- The distance from the section of track inside the drinking water catchment, along the main channel of Coranderrk Creek to Badger Weir (the water supply offtake point for the Frogley water treatment plant) is in the order of 10 km, which would provide some capacity of 'in-stream die off' for pathogens and for a reduction in sediment, if they were introduced into the catchment as a result of the track.
- The water treatment systems in place at Frogley Water Treatment Plant and at Silvan Reservoir are maintained to the high standard of Melbourne Water's Drinking Water Management System, before any drinking water reaches the final consumer.

Mr Harrow's evidence was:

> Given the risk is low, the track alignment is supported. It is recommended, however, to provide additional assurances by implementing these additional mitigation measures:
>
> - Provision of additional resources with regards to the proposed rider monitoring program (see details under SWM16) i.e., should monitoring show riders stopping and taking toilet breaks within the defined drinking water catchment boundary, Yarra Ranges Council would provide resources to manage / police rider behaviour in these section(s) of the track, e.g. in the form of CCTV monitoring and if required, in-person monitoring.
> - Install signage and a barrier in consultation with Melbourne Water to form a physical barrier to humans accessing off-track areas of the drinking water catchment for the sections of track located within the Coranderrk Creek catchment boundary.
> - An elevated board walk could also be considered, but would need additional cost-benefit analysis undertaken and further investigation to take into account factors such as native vegetation removal, and potential impacts on habitat, wild life movement and light flow to the ground.

Mr Gourley stated that in his opinion, there will be no impacts to hydrology as a result of the track alignment inside the drinking water supply catchment.

(v) **Discussion**

The key mitigation measures to reduce the risk of erosion and sedimentation associated with the crossing of waterways are:

- SWM01 (Undertake micro-siting prior to construction)
- SWM05 (Elevated crossing design).

These measures require that an appropriately designed structure or other crossing solution is built over the waterway to protect the values of the waterway at that location and downstream. All crossings of waterways will require the approval of Melbourne Water in accordance with the *Water Act 1989*.

Further mitigation measures are also proposed for the management of impacts during construction and operation of the Project, including waterway management controls and post-construction monitoring of waterways.

The CEMP and OEMP are key to ensuring there are no unacceptable impacts to waterways from the construction as well as the operation of the mountain bike trails. The view of Council, its expert witnesses and track design company World Trail is that adherence to these plans would protect the waterways in all the areas where the trails are proposed. The IAC notes that the CEMP and OEMP both contain specific mitigation measures such as in SWM15 to close the trails during extreme weather and to reopen upon inspection to confirm the safety of the trail.

Melbourne Water and Parks Victoria, while not dismissing the CEMP and OEMP as unsuitable, considered that more details are required to provide greater confidence that the required environmental outcomes will be achieved. In recognition of the important role that Melbourne

Water plays in the management of waterways and the provision of potable water, the IAC considers that there should be ongoing consultation with Melbourne Water on the relevant elements of the CEMP and OEMP prior to these plans being submitted for approval.

Detailed designs and construction details for the upgrade or construction of the trail heads at Mount Donna Buang and Mount Tugwell were not provided to the IAC. The IAC was, however, provided with information on a tanked wastewater system for the toilet facilities and design concept of the closed loop system bike wash stations (SWM19). On the basis of this information, the IAC considers that the trail heads and bike wash stations can be constructed and operated in a sensitive manner to protect the environment.

Sections of Trail 1 were relocated into the Coranderrk Creek Catchment to avoid dense montane thick habitat for Leadbeater's Possum. Melbourne Water was clear in its view that the trail should not be located within the catchment. The VNPA was of the view that mountain biking is inconsistent with the objectives of the NP Act to protect the natural environment and protect designated water supply catchment areas.

In considering both these submissions, the key consideration for the IAC is whether the risks of impacts to water quality in the Coranderrk Creek catchment are acceptable in the context of the applicable policy framework.

The *Water Act 1989* provides the legal framework for management of Victoria's water resources. One of the functions of Melbourne Water expressed in the Act (in section 171B(g) is:

> … to provide and maintain facilities for the recreational use of water storages and surrounding areas, where this use is compatible with the protection of a water storage and other uses to which the water in the water storage may be put.

Melbourne Water must also comply with the *Safe Drinking Water Act 2003* which requires drinking water to comply with quality standards. Through the protection of designated water supply catchments, via the NP Act and the provision of water treatment plants, Melbourne Water ensures the safe supply of potable water.

The IAC notes that the position taken by Melbourne Water opposing any incursion of Trail 1 into the Coranderrk Creek Catchment accords with the one of the measures contained in the *Australian Drinking Water Guidelines 2011* of exclusion or limitations of human access and agriculture within water catchments. These Guidelines also advocate a risk based assessment from catchment to consumer with multiple barriers if one should fail. Examples of barriers are provided in Section 3.3.1 of the Guidelines, and include:

- Protected forested catchments for harvesting water with no human or livestock assess
- Large catchment reservoirs with long detention times
- Additional retention time in seasonal storage systems
- Disinfection of water before it enters the distribution system
- Closed distribution systems.

Appended to Council's Part C submission was a memorandum containing an overview of existing walking trails within designated water supply catchment areas. It was unclear from this document whether these walking trails were in closed or open catchments. This information has therefore not been afforded significant weight in the IAC's considerations.

Before water from the Coranderrk Creek would be used for human consumption, it would pass through treatment plants and/or large water storages. The Coranderrk Creek catchment supplies water to Badger Weir, where raw water is pumped to the Frogley water treatment plant (WTP).

The treated water from this plant supplies Healesville with water to a potable standard. Water from Badger Weir also supplies the Coranderrk Aqueduct, which eventually flows into Silvan Reservoir via the Silvan Inlet Channel. Water not diverted to Frogley WTP or the Coranderrk Aqueduct continues down Coranderrk Creek and joins the Yarra River. This represents several checks and balances or opportunities for any drinking water quality impacts to be addressed before water is used for human consumption.

The use of elevated structures is proposed:

- for waterway crossings
- to avoid erosion in high erosion risk areas
- to protect sensitive habitats.

Mr Harrow also recommended an additional mitigation measure (SWM18) for elevated structures to be used within the Coranderrk Creek catchment. The IAC is satisfied that these measures are appropriate to manage surface water impacts.

The IAC considers the opinions of Mr Harrow and Mr Gourley in regard to the acceptability of the trail within the Coranderrk Creek catchment to be soundly based. It accepts that the short section of Trail 1 within the catchment (whether 450 metres or 640 metres) would pose low risk for the reasons set out by Mr Harrow, and is therefore acceptable based on impacts to waterways. The IAC supports the additional three mitigations measures suggested by Mr Harrow (SWM16, SWM17 and SWM18), but would seek greater confidence in determining whether an elevated boardwalk is required for all or part of the section of Trail 1 that is proposed to be located in the closed water supply area (SWM18). The IAC has not been given the rationale for determining what portions within the catchment should be elevated. That said, SWM18 specifies that the trail would be elevated within the catchment where required by Melbourne Water, which provides confidence to the IAC that, were necessary, the trail would be elevated.

Some submitters, including Melbourne Water, were concerned that allowing a trail within the Coranderrk Creek catchment would set a precedent for allowing other recreational uses within closed catchments. The IAC does not consider that it would create a precedent for other trails to be constructed in closed designated catchments. Every case will have different physical and environmental factors which requires a case by case determination.

The IAC considers the proposed mitigation measures to protect surface waters are reasonable, capable of be implemented and will be effective in managing any risks to surface waters.

(vi) Findings

The IAC finds:

- The IAC considers that the mitigation measures, including the additional mitigation measures proposed by Mr Harrow, are appropriate to ensure that residual impacts on surface water values are managed to an acceptable level.
- The IAC supports 'closed loop' systems for the bike wash stations as provided for in SWM19, to ensure that there is no unintended release of chemicals into the sensitive environments within the Project area.
- The risks from wastewater are minimal given the existing toilet facilities on Mount Donna Buang are (and will remain) a closed vault system, and the toilets to be developed at the main trail head at the Warburton Golf Course will be connected to sewer.

- Based on the material before the IAC, the section of Trail 1 proposed in the Coranderrk Creek closed drinking water catchment will not present unacceptable risks to drinking water quality, or set a precedent for future recreational infrastructure within drinking water catchments.
- That said, the IAC has recommended the removal of Trail 1 because of its impacts on biodiversity and habitat values, including the CTR and CTMF communities, and the increased risk to the Mount Donna Buang Wingless Stonefly.
- Should Trail 1 proceed contrary to the IAC's recommendations, the IAC makes no specific findings in relation to whether the entire section of Trail 1 through the catchment should be elevated. This is a matter for Melbourne Water to consider, as provided for in the drafting of proposed SWM18.
- There should be ongoing consultation with Melbourne Water on the relevant elements of the CEMP and OEMP prior to these plans being submitted for approval.

(vii) Recommendation

The IAC recommends:

13. Amend the Incorporated Document as shown in Appendix G:
   a) add "and Melbourne Water" to the end of Clauses 7.1 and 7.3.

10.3 Groundwater

(i) What did the EES say?

The Project is predominantly located in mountainous, forested terrain where groundwater is mostly contained within regionally extensive fractured rock aquifer systems. Groundwater quality is expected to be high due to the relatively undisturbed nature of the land. Groundwater discharge is towards drainage lines and to the Yarra River.

Groundwater modelling indicates depths vary across the Project area, with deeper spring activity at higher elevations and shallower spring activity at lower elevations. While interception of groundwater may potentially occur at lower elevations, the very shallow nature of the excavations required for trail construction (using a mini-excavator) mean that exposure of a spring to the extent which results in water logging and/or erosion hazards is unlikely.

Technical Appendix B documents the potential impacts to groundwater, noting that trail excavations are likely to occur within the superficial soils where it is unlikely that springs would be intersected. The significance of the springs is variable and needs to be considered at both an individual and cumulative scale. Higher flowing or more permanent springs provide a more reliable water supply to ecosystems, whereas the smaller, ephemeral or intermittent springs less so.

The EMF proposed:

- mitigation measures GWM01 to GWM04 to be applied during the construction and operations phases (see Tables 16-3 and 16-9 in the EMF)
- inspection, monitoring and reporting requirements (see Tables 16-16, 16-23 and 16-25).

Should an unexpected groundwater spring be encountered during construction or subsequently emerge, GWM01 (proposed in both the CEMP and OEMP) requires appropriate treatments to protect groundwater and down-gradient discharging environments, including GDEs.

Technical Appendix B concludes:

> … residual impacts on groundwater values are likely to be managed to an acceptable (i.e., low or very low risk) level during construction and operation of the Project.

(ii) Key issues

The key issues are:

- impacts to groundwater quality
- changes to groundwater flows.

(iii) Evidence and submissions

Four submissions (S187, S2070, S2514 and S2596) expressed a concern about the impact of trail construction and the subsequent compaction of the ground to alter soil hydrology leading to different groundwater and surface water flows. No government agencies made any submissions on groundwater matters.

The evidence of Mr Gourley was that any impacts to groundwater would be very localised:

> I am of the opinion that there would be an impact to soil integrity in the construction zone and this would extend into the operation phase as the tracks would involve clearing of vegetation and ongoing use by users. Soil compaction, a reduction in soil organic matter and moisture content loss would alter soil hydrology within the immediate vicinity of the proposed trails. However, I am of the opinion that monitoring of flow and water quality values during construction and operation would provide indicators that aquatic ecosystem values are being maintained.

(iv) Discussion

The IAC accepts the expert evidence that as trail excavations will be limited in depth (the maximum expected to be around 0.8 metres, with the majority of trail excavation being less than 0.4 metres), the trails are unlikely to intersect groundwater.

The IAC accepts that the construction and use of the trails will potentially lead to some very localised changes in surface water flows. These changes will not divert water to different local streams and as such will have no measurable effect on groundwater flows which are far more influenced by the amount of rain.

(v) Findings

The IAC finds:

- Based on the information before the IAC, the mitigation measures to protect groundwater values are appropriate, can be implemented, and will assist in ensuring that the residual impacts on groundwater values are managed within an acceptable level.

10.4 Geotechnical hazards

(i) What did the EES say?

While no specific soils have been identified as being significantly more prone to erosion, all exposed soils will have the potential to erode, the degree to which is dependent on numerous factors including soil type and chemical make-up, slope, aspect and the extent of removal of vegetation cover. These will all vary across the trail network.

To facilitate the construction of the trails, the construction corridor must be cleared of vegetation allowing sufficient passage for the excavator. While it is intended that no large trees would be removed, those that are unsafe and present a hazard either during construction or operation may be removed (see Chapter 6.5 for more detail).

Without mitigation measures, the removal of this vegetation may lead to slope instability, particularly where slopes are made up of loose material, often colluvium. Without mitigation measures, if the soil becomes saturated, slope failures are more likely to occur.

During the formation of the trails, there is the potential for permanent alterations to the natural slope drainage. Unfavourable waterflow conditions may cause ongoing erosion effects, create areas of ponded water and increase saturation of the slope directly below the trail. This could, without mitigation, reduce long term slope stability and result in initiation or reactivation of slope failure.

The EMF proposed the following measures to manage geotechnical hazards:

- mitigation measures GTM01-GTM05 to be applied during the construction and operations phases (see Tables 16-3 and 16-9 of the EMF)
- inspection, monitoring and reporting requirements during the construction and operations phases (see Tables 16-16, 16-23 and 16-25).

EES Chapter 9 concluded the mitigation controls proposed as part of trail design, excavation and waterway construction were appropriate to reduce risk and potential impact. To further reduce risks, recommendations were made regarding periodical inspection following heavy rainfall events and completion of a geotechnical assessment if any geotechnical hazards were identified during construction that had the potential to effect land stability or lead to erosion.

(ii) Key issue

The key issue is:

- landslip.

(iii) Evidence and submissions

Several submissions made specific comments on the risk of landslides in the area, particularly after heavy rain. A number of submitters identified that an extensive landslip had occur on Donna Buang Road, which had remained unrepaired for a substantial amount of time. The IAC inspected this landslip during its site inspections.

No government agencies made any submissions on geotechnical matters.

The evidence of Mr Harrow was that the monitoring program would identify erosion impacts and lead to remedial measures that would minimise the likelihood of a landslip:

> Monitoring of waterways and gullies (see SWM06 and SWM13) would allow for identification of erosion impacts. If monitoring flags the need for remedial actions at specific locations in the track network, this will be undertaken by Yarra Ranges Council as part of ongoing maintenance program of the network.

(iv) Discussion

The landslip on Donna Buang Road is in a gully that is significantly deeper than any cuttings that are proposed as part of the trail construction. The IAC does not consider this landslip on the edge of a road is relevant to the consideration of the erosion risks posed by the mountain bike trails.

The IAC considers the proposed mitigation measures to prevent geotechnical hazards are reasonable, capable of being implemented and will be effective in managing any risks of landslips.

(v) Findings

The IAC finds:

- Based on the information before the IAC, the mitigation measures to manage geotechnical risks are appropriate, can be implemented, and will assist in ensuring that the residual geotechnical impacts can be managed to an acceptable level.

10.5 Overall conclusions on surface water, groundwater and geotechnical hazards

Overall, the IAC is satisfied that after implementation of the mitigation measures, the residual impacts on surface water, groundwater and geotechnical risks can be appropriately managed, and that the evaluation objective of maintaining the functions and values of groundwater, surface water and floodplain environments and minimising effects on water quality and beneficial uses can be met.

From a water quality perspective, the IAC does not consider that there is a need to remove the short section of Trail 1 from the Coranderrk Creek catchment. That said, the IAC has recommended the removal of Trail 1 for other reasons (see Recommendation 5).

The IAC concludes:

- There are no impacts on surface water, groundwater or geotechnical hazards that preclude the Project being approved.
- No Project modifications are considered necessary to protect surface water, groundwater and floodplain environments.

11 Heritage

11.1 Introduction

(i) Overview

Aboriginal cultural heritage and historic (post-contact) heritage are discussed in:

- EES Chapter 10
- Technical Appendix C (the Aboriginal and Historic Heritage Technical Report, prepared by Biosis).

The evaluation objective is:

> Avoid, or minimise where avoidance is not possible, adverse effects on Aboriginal and historic cultural heritage.

The EMF proposed the following to manage impacts on Aboriginal cultural heritage and historic heritage:

- mitigation measures HM01-HM06 to be applied during the construction and operations phase (see Tables 16-4 and 16-10 of the EMF)
- inspection, monitoring and reporting requirements during the construction and operations phases (see Tables 16-17, 16-23 and 16-26).

Technical Appendix C concluded:

> With the implementation of the mitigation measures recommended throughout this assessment, potential adverse impacts on Aboriginal and historic cultural heritage have been minimised, and will continue to do so through the implementation of the Cultural Heritage Management Plan (CHMP), Permit/Consent and planning permit management condition.

The Alternatives Assessment Report concluded:

> **Cultural heritage**: No discernible difference in residual impacts for Aboriginal heritage. A slight preference for the alternative over Trail 1 in relation to historic heritage.

(ii) Request for Information

The IAC posed a number of questions in relation to Aboriginal cultural heritage in RFI1 (D8), that sought further detail in relation to the extent and nature of field survey work undertaken to assess the likely presence of Aboriginal cultural heritage, the status of the CHMP, the views of the WWWCHAC in relation to the proposed mitigation measures, contingency plans for unexpected finds and salvage and storage measures (refer to Q60 to Q64). Council provided a detailed response prepared by Biosis as Technical Note 4 (D74).

11.2 Aboriginal cultural heritage

Chapter 1.5(ii) describes the role of the WWWCHAC.

(i) What did the EES say?

Before European settlement, the Woiwurrung and Taungurung people occupied the Yarra and Maribyrnong watersheds which include the Project area. In 1862, after years of being dispossessed of their land, a small group of Woiwurrung and Taungurung set up camp at the

confluence of the Yarra River and Badger Creek. They named the camp Coranderrk, after the Woiwurrung name for the native flowering Christmas Bush located in the area.

In 1876, the Government tried to move the people off the Coranderrk Mission for the benefit of their health. The people fought for years to retain their homes, but after the Mission's workforce was removed the community struggled to sustain itself. Some of the community remained, resisting attempts to close the Mission from 1917, and in 1924 the government finally agreed to six people remaining at Coranderrk. By this time, the Aboriginal people living at the Mission had developed strong ties with the land and family that were buried at the cemetery.

There are five Aboriginal places (artefact scatters and a scar tree) recorded within one kilometre of the trails, but none within the proposed approval corridor. The assessment in Technical Appendix C concluded that the Project would not impact on these five places. The Coranderrk Cemetery, which was handed back to the Wurundjeri in 1988, is not within one kilometre of the Project area.

While the WWWCHAC did not identify any specific intangible Aboriginal cultural heritage stories or oral traditions that would be impacted by the Project, Technical Appendix C recognises that the abundant natural resources in the region and the significant vantage points in the area such as Mount Donna Buang have intrinsic intangible value to the Wurundjeri Woiwurrung people. It recognises that additional visitors to the Project area during operation could result in permanent harm to Aboriginal or historic cultural places, or removal of Aboriginal or historic cultural heritage material.

There is the potential for as yet unrecorded artefacts or places of significance to be discovered within the Project area, particularly during the construction phase when the ground will be disturbed. Technical Appendix C concluded that this is a relatively low risk, given the steep slopes and seasonal downpours wash away much of the sediment, leading to poor preservation of Aboriginal places. Further, the high elevations mean that much of the area was not suitable for year round habitation by Aboriginal people.

(ii) Key issue

The key issue is:

- impacts on Aboriginal cultural heritage values.

(iii) Evidence and submissions

Council submitted that the Project has been designed to ensure that it protects the heritage values of the area. Council submitted that there has been ongoing discussion with the WWWCHAC over the course of the development of the Project, including through their participation in the Technical Reference Group (which also included representatives from First Peoples – State Relations and Heritage Victoria).

Council submitted that cultural and historic heritage impacts had been comprehensively assessed in Technical Appendix C and the draft CHMP, key findings of which were:

- there are no previously identified places of cultural heritage significance within the Project area
- the Project area is unlikely to have been suitable for occupation due to the steep terrain and thick vegetation, and it is unlikely that there will have been significant deposits of archaeological material

- neither discussions with the WWWCHAC nor a Cultural Values Recording for the area had revealed any specific intangible Aboriginal cultural heritage values, stories or oral traditions relating to the Project area.

Council submitted that the CEMP and OEMP include a number of controls to manage risks associated with cultural and historic heritage.

Parks Victoria (S1523) submitted that the trail network "*intersects with numerous landforms which are known to be associated with Aboriginal occupation and resource utilisation*". It submitted that given the lack of detailed investigation undertaken to date, an absence of Aboriginal heritage should not be assumed.

In relation Technical Appendix C, Parks Victoria submitted:

- The methodology "*may not be sufficient to understand the nature and extent of cultural heritage and ensure harm is avoided or mitigated*". It noted that only 5.8 per cent of the activity area has been subject to archaeological or cultural survey, and that to date very limited subsurface testing has been undertaken.
- Contrary to statements in the EES, much of the trail network will not be built on steep gradients, and the thick vegetation "*may be the result of modern land management practices and not predicate uniformity with the extensive period of traditional land management or ecological change over time*".

While Parks Victoria acknowledged that a CHMP is underway, it submitted that cultural heritage management protocols, future heritage investigations and contingencies, needed to have been detailed in the EES for the IAC to consider whether impacts have been properly considered and mitigated. It submitted that the proposed 20 metre wide corridor may be insufficient to safely avoid values and isolated artefacts.

Lauren Hutchison presented a statement from Stacie Piper at the Hearing (D140). Ms Piper is a Wurundjeri, Dja Wurrung, Ngurai-Illam Wurrung woman who described her deep ancestral and cultural connections to the sacred Country on Mount Donna Buang (an Aboriginal name meaning Body of the Mountain in Woiwurrung). She stated:

> This place is the home of my ancestors, including William Barak, headman of the Wurundjeri. It is the place I take my daughter to connect with the Birrarung and the healthy mountain streams. It is the place I go with my Wurundjeri sisters, to dance and sing our ancient songs. It is the home of our stories, vital for keeping our culture alive and strong, and of our totems (both floral and faunal), many of which are already endangered as a result of extensive deforestation and ecological disruption.

Ms Piper submitted that all proposed trails in the National Park must be abandoned. She submitted that cultural keeping places were never meant to be commercialised. She raised concerns as a First Nations woman that she had not been consulted in relation to the Project, and that the draft CHMP had not been published as part of the EES documentation. She submitted that without the CHMP, it is not possible to assess the adequacy of measures to manage significant Aboriginal cultural heritage values. She stated:

> Donna Buang is a culture-keeping place that needs to remain untouched for future generations to keep our connection to Country alive. My great, great Uncle William Barak, went to great lengths to protect his Country. And now 250 years on, I am here walking in his footsteps, to be the voice against yet another invasion upon our sacred land, if there haven't already been enough. There are too many sensitive landforms including mountain tops, ridgelines, significant waterways (including closed catchment areas), many endangered totems and critically endangered cool temperate rainforest that would be directly impacted. These last remnants of what was once here need to be left intact.

> …
> This is my Home Country.
> Once it's gone, it's gone for good.

The IAC did not receive a submission from the WWWCHAC.

The VNPA raised concerns about cultural heritage impacts in its original submission (S2503):

> The existing Cultural Heritage Management Plan (CHMP) can't plan around or mitigate impact on important cultural sites if they don't know where they are, nor can we as stakeholders and the public make comment without this information. The findings and voice of Traditional Owners are important and should be a part of this process. Leaving these views out at this stage of the EES is dumbfounding.

Ms Rawlinson and Mr Poehler (D134) provided extracts from a 1998 report into sites of Aboriginal cultural significance in the area, which mentioned several stone artefact finds at Cement Creek and isolated stone artefact finds at Mount Little Joe and Wesburn, suggesting that there may have been movement routes for Wurundjeri Woiwurrung and Taungurung people through the area.

(iv) Discussion

The *Yarra River Protection (Wilip-gin Birrarung murron) Act 2017* and the *Yarra Strategic Plan 2022-32 (Burndap Birrarung burndap umarkoo*) (Yarra Strategic Plan) have a strong focus on the protection of the cultural heritage values of the river and its surrounds, including Aboriginal cultural heritage values. The Yarra Strategic Plan includes a number of directions and initiatives aimed at identifying, protecting and enhancing cultural heritage values.

The NP Act also includes among its objects the protection and preservation of features of scenic or archaeological, ecological, geological, historic or other scientific interest in national parks. The Park Management Plan states that the areas of highest archaeological sensitivity are the mountain ridge tops and creeks and rivers (including the Yarra), which were likely to have been routes of movement for the Wurundjeri and Taungurung people.

The Park Management Plan includes the following aims:

- Protect archaeological, historic and cultural sites and places of significance.
- Provide access to, and interpret, suitable sites and places, consistent with protection of the sites, artefacts and relics.
- Improve knowledge of archaeological and historic sites and places and traditional uses.

Management strategies include:

- Encourage surveys and research to identify sites and places of Aboriginal significance and areas of archaeological significance, and to elucidate the land use history and significance of the land for Aboriginal people.
- Assess the potential effect of any proposed development works or ground disturbance on Aboriginal or other cultural values and undertake site specific surveys within areas that could be an archaeological site or place, prior to implementation of the works.
- Liaise with local Aboriginal communities, and inform them about plans for the park that are likely to impact on their cultural interests.

The IAC does not consider that the Project is inconsistent with the objects of the *Yarra River Protection (Wilip-gin Birrarung murron) Act 2017* and the Yarra Strategic Plan. These apply principally to Yarra River land. The bulk of the trails are not proposed to be located on Yarra River land. While some elements (such as the main trail head) may be located on or close to Yarra River

land, the IAC is satisfied that these can be constructed and operated in a way that is consistent with the overarching objectives and protection principles of the Act and the Yarra Strategic Plan.

Nor does the IAC consider that the Project is inconsistent with the objects of the NP Act relating to the protection of cultural heritage, or the aims and strategies in the Park Management Plan. Implementation of HM05 will ensure that the strategies in the Park Management Plan are followed. The CHMP (once approved) is also likely to assist in ensuring that the aims and strategies of the Park Management Plan are achieved.

The IAC acknowledges that the archaeological survey work underpinning Technical Appendix C is limited in extent. However the methodology of the survey work appears to be sound (see Appendix 2 to Technical Note 4). The Project area is large and there are practical limitations associated with a comprehensive survey of such an extensive area. Further, the nature of the works (particularly the trails) is relatively low impact, with a narrow footprint (trail width) and shallow excavation. The IAC is satisfied on the basis of the information in Technical Note 4 that the survey work undertaken to date is appropriate given the extent of the area, the nature of the proposed works, the mitigation measures proposed and the preparation and approval of a CHMP.

Based on desktop records, the Project footprint does not intersect with any registered sites of cultural significance, although there are five sites recorded within one kilometre of the trails. As noted in earlier chapters, disturbance of the natural environment is not expected to extend very far beyond the trail edges.

Technical Appendix C acknowledges the intrinsic intangible value of the landscape to the Wurundjeri Woiwurrung people, as was so eloquently explained in Ms Piper's statement. Coranderrk Station and Cemetery are clearly places of great significance for the Wurundjeri Woiwurrung people, and their ongoing preservation and protection will be important. One of the initiatives in the Yarra Strategic Plan is to provide support for ongoing environmental management and site maintenance at Coranderrk Station, to continue the rehabilitation of the land and implement initiatives outlined in the *Yellingbo (Liwik Barring) Landscape Conservation Area 10-year Plan.* The Project is not inconsistent with these objectives and initiatives.

There is the potential for places or artefacts of cultural significance to be discovered within the Project area. Technical Note 4 provides more detail on what measures would likely be implemented if this were to occur. Measures will be included in the CHMP to manage unexpected finds. Regarding potential salvage and storage measures, Technical Note 4 states:

> The contingency measures of CHMP 15276 have provision for custody and repatriation of Aboriginal material, specifically Contingencies 4 and 5. The full draft contingencies (adapted with Project-specific changes from WWWCHAC standard conditions) have been included in Appendix 3.
>
> Regarding salvage, this is differentiated between ancestral remains and other Aboriginal place types. If ancestral remains are recovered, the Sponsor (proponent, client) must follow the direction of Victorian Aboriginal Heritage Council in relation to impact mitigation or salvage. If the Aboriginal material culture uncovered is other than ancestral remains, the Sponsor (proponent, client) and the [Registered Aboriginal Party] must consult and agree of the best manner of managing the Aboriginal cultural heritage.

The IAC has reviewed these draft measures and is satisfied that they are broadly appropriate. The CHMP has not yet been reviewed by the WWWCHAC, but will be subject to their approval. The IAC is confident that this process will ensure appropriate protections for unexpected finds.

(v) Findings

The IAC finds:

- Based on the information available to the IAC, impacts on known sites of Aboriginal cultural heritage significance will be avoided.
- While there is potential for sites or artefacts to be discovered during construction, the CHMP is the appropriate mechanism to manage any unexpected finds.

11.3 Historic heritage

(i) What did the EES say?

The Upper Yarra Valley was historically used for mining, logging and recreation as well as some farming. Gold mining in the area commenced in 1859, beginning at Britannia Creek near Wesburn. Yankee Jim's Creek goldfield opened in 1859, with Big Pat's Creek following in 1860. In 1870, Shining Star mine established near Mount Little Joe which included a waterwheel used to drive a battery to crush gold-bearing rock. Old mine shafts, channels and water races are still present in the area. Routes to the goldfields were created along the steep ridges, one of which became known as Back Stair Track which remains a walking track today, located on the south side of Warburton.

The gold mining boom increased the need for timber. Sawmills and timber tramways were constructed throughout the area. Roads were also constructed in the mountains, initially to access gold mining areas, then for timber extraction and finally for tourism.

By the early 20th century, there was an increased demand for water to be supplied to Melbourne. The 37 kilometre O'Shannassy Aqueduct was constructed to supply water from the O'Shannassy Reservoir into the Silvan Dam in 1914. Many of the logging trails and tramways intersected the aqueduct, where concrete bridges with rails were constructed. The aqueduct was decommissioned in 1997 and is now a walking and cycling trail. The O'Shannassy Aqueduct trail will be used to access the main trail head from some of the Project trails.

There are five listed heritage sites (three Victorian Heritage Inventory (VHI) sites and two Heritage Overlay (HO) areas) that are intersected by the proposed trails. The three VHI sites are O'Shannassy Aqueduct, Lady Hopetoun Mine and Anderson's Mill. Construction techniques are expected to remove soils and, therefore, potentially expose subsurface archaeological features. Technical Appendix C identifies a number of areas of archaeological potential in and around these sites. Consents would be required under the *Heritage Act 2017* to disturb these sites.

The two HO sites, Mount Donna Buang-Bridle Tracks and Road (HO140) and Lilydale-Warburton Railway (HO214) are critical parts of the trails. While construction will have some impact on the fabric of these sites, impacts to archaeological features, deposits or landforms activities are not expected. The Rail Trail is already a walking and cycling track.

(ii) Key issue

The key issue is:

- impacts on heritage sites.

(iii) Evidence and submissions

Heritage impacts were not a strong theme through submissions, but a few submissions raised concerns about the potential damage to listed heritage sites.

Council submitted that most of the listed heritage places identified within the study area are not directly intersected by trails or trail infrastructure and will not be impacted by the Project. In relation to the five listed places that will be intersected by the trails, Council submitted that Heritage Victoria will need to consent to any disturbance to the VHI listed places, and the two HO places are critical parts of the trail and it would not be feasible (or appropriate) to avoid them. Council concluded:

> Council considers the proposed mitigation measures detailed within the CEMP are sufficient to ensure these heritage places are not inappropriately impacted by the Project and that the potential for residual impacts are low. As this land is already used as tracks, this Project will not adversely affect the heritage significance of those areas.

Parks Victoria (S1523) submitted that the National Park has "*one of the best collections of places representing the full range of historical themes associated with the forests*". It submitted that the extensive historical occupation and use of the National Park by non-Indigenous persons makes it "*highly likely that heritage will present itself*". It submitted that the statement in the EES that measures would be undertaken to avoid these sites through micro-siting and to minimise ground disturbance are "*not detailed and therefore open to interpretation, variation or lack of rigour*".

Ellena Biggs (S1884) described herself as a an "*avid local historian*". She queried the accuracy of the maps in the EES that purported to identify sites of historic significance, pointing out that the map of the Mount Little Joe area (Map 12 of 17 in Map book 4) shows only one mine when there are in fact numerous old mines in the area. She showed the IAC a number of photographs of old mines, mullock heaps and water races (among other things). She submitted:

> No historical heritage assessment was made of Mt Little Joe for the Project. Considering the history of Mt Little Joe dating back to the 1860's gold mining times, I cannot understand why this is the case. Mt Little Joe has a plethora of engineering and other archaeological features eg: the underground Board Of Works tunnel.

Ms Biggs was critical of Technical Appendix C, submitting that it had failed to identify a number of features of heritage sites in the area, including a 70 foot deep mine shaft at the Lady Hopeton Mine Site (VHI H8022-1038). She submitted that a number of sites in the area have been nominated (including by her) or recently listed on the VHI, and that "*historic heritage elements can be dismissed as insignificant before the assessment has been undertaken by Heritage Victoria*".

Ms Biggs has nominated a water race for protection under the VHI (shown on Map 13 of 17 in the Consolidated Map Book Part 4, D24(d)) which is intersected or crossed by proposed trails in a number of locations. It appears (by cross referencing Map 13 with Figure 10-4 in the EES) that this is Big Pat's Creek water race. Ms Biggs submitted:

> It would be preferable that these trails be removed from the water race and a buffer of 100 metres be placed either side of the water race to prevent accidental incursions.

In detailed submissions to the exhibited EES (S1884) and to the IAC (D119), Ms Biggs called for a number of other significant modifications to the trail network to avoid sites either listed or nominated for listing, including the O'Shannassy Aqueduct Sawmill, the Old Warburton Cemetery and the Shining Star Gold Mine. She submitted that removing trails from the vicinity of the historical heritage elements will reduce the risk of damage, vandalism and theft.

Ms Biggs also raised concerns that insufficient consideration had been given to how the Project would affect other significant sites in the Project area, such as the Dammans Road Avenue of Honour that she said would be impacted by increased traffic, and the Scotchman's Creek Historic Heritage Precinct including the Backstairs walking track.

Presumably in response to mitigation measure HM05, Ms Biggs submitted:

> I am strongly opposed to the proposal that construction workers can be instructed in identifying, assessing, recording and protecting historic heritage elements. These sites need to be professionally re-assessed to ensure that they are properly identified and protected or preferably avoided altogether and left for prosperity.

The VNPA's original submission (S2503) raised concerns in relation to impacts on heritage sites within the National Park, including three hut sites on Mount Donna Buang that would be impacted by Trails 1, 45 to 47 and 56.

(iv) Discussion

As noted in Chapter 11.1(ii), the IAC acknowledges that the archaeological survey work underpinning Technical Appendix C is limited in extent. This is not surprising given the extent of the Project area. That said, it appears that Technical Appendix C has identified all historic heritage sites that are within the existing HO, and those that are listed on or have been nominated for listing on the VHI. It also identified a number of points and areas of archaeological potential (refer to Figure 10-4 in the EES), which include areas protected by the HO, and a number of mills, tramways and other features (including the Big Pat's Creek water race and the huts on Mount Donna Buang) that are not listed on the VHI.

The IAC is satisfied that the mitigation measures to protect known historic heritage sites and areas of archaeological potential are comprehensive and robust. Protocols have been developed for any works within VHI listed sites or areas and areas of archaeological potential (HM03 and HM05). Protocols include:

- worker inductions
- flagging areas within which works are restricted, including no-go zones
- limiting works to the removal of vegetation if possible
- inspection by an archaeologist after vegetation has been cleared
- building up the ground over the VHI site extent if restricting works to vegetation removal is not possible
- stop works if archaeological material is found, and recording of features of artefacts by an archaeologist.

Additionally, any ground-disturbing works within the bounds of VHI sites would require consent from Heritage Victoria.

There is the potential for other artefacts or places of significance to be discovered within the Project area that are not currently listed. If these are within a mapped area of archaeological potential, the protocols in HM05 will apply, including reporting unexpected finds to Heritage Victoria. This may lead to more nominations or listings. Artefacts will be protected by the contingency measures in HM05 whether they are found within an area of archaeological potential or not.

Other measures that will protect heritage sites, and improve the community's understanding and appreciation of them, include signage, regular inspections and monitoring or checks of known

historic sites and features as part of general trail upkeep during operation (HM06). The measures set out in Table 16-17 of the EMF comprehensively document how this will be carried out.

The aims and strategies of the Park Management Plan include:

- protecting historic places of significance
- providing sufficient access to, and interpretation of, places to allow people to appreciate the full range of historic and cultural themes associated with the park, consistent with protection of its heritage
- assess historic and recreation values of the existing huts within the park, maintain huts with significant value or use in a safe condition or assess the cultural values of the huts and use this information to determine their future.

Having trails in the National Park is not inconsistent with these aims and strategies, and the IAC is satisfied that the mitigation measures will provide appropriate levels of protection to any heritage places within the Park that are to be impacted.

Parks Victoria submitted that the measures to avoid impacts on heritage through micro-siting and minimising ground disturbance are "*not detailed and therefore open to interpretation, variation or lack of rigour*". The IAC does not agree. On the contrary, it considers the mitigation measures to be comprehensive and robust. And while it might not be possible to avoid all heritage fabric within the 20 metre corridor for some of the larger heritage sites such as old mines, 20 metres provides an opportunity to avoid or at least minimise the impact on heritage fabric to a significant extent. Twenty metres should be more than sufficient, for example, to avoid the huts in the National Park.

The IAC does not accept Ms Biggs' submissions that all trails should be removed from places that are listed or nominated for listing under the VHI. The legislative framework under the Heritage Act does not prohibit disturbance of listed or nominated heritage sites. Rather, it establishes a framework to ensure that any works or disturbance of a listed site is undertaken appropriately, in a way that preserves the heritage values of the place. Further, the Park Management Plan specifically aims to provide access to, and interpretation of, heritage places within the National Park, provided appropriate protections are in place. For the reasons stated above, the IAC considers that the mitigation measures will provide appropriate protections.

(v) Findings

The IAC finds:

- Complete avoidance of known historic heritage sites is not justified or required to achieve acceptable outcomes that are consistent with the legislative and policy framework.
- The mitigation measures are reasonable, capable of being implemented, and sufficient to ensure that known heritage values and any unexpected finds will be appropriately managed to acceptable levels.

11.4 Overall conclusions on Aboriginal cultural heritage and historic heritage

Overall, the IAC is satisfied that the residual impacts on Aboriginal cultural heritage and historic heritage, after implementation of the mitigation measures, will meet the evaluation objective of avoiding or (where avoidance is not possible) minimising impacts on heritage.

The Project alignment avoids impacts on areas of known Aboriginal cultural heritage value. The CHMP will include measures to manage any unexpected finds, and is the appropriate mechanism to do so.

While impacts will not be completely avoided for the five listed historic heritage sites that will be intersected by the trails, avoidance is not necessary to achieve acceptable outcomes that are consistent with the legislative and policy framework. The mitigation measures will ensure that impacts to known heritage sites, and to sites that have been nominated for inclusion on the VHI or are areas of archaeological potential, are managed appropriately to an acceptable level.

The IAC concludes:

- There are no impacts on Aboriginal cultural heritage or historic heritage that preclude the Project being approved.
- No modifications to the Project or the proposed mitigation measures are required in order to achieve acceptable heritage outcomes.

12 Traffic and transport

12.1 Introduction

Traffic and transport are discussed in:

- EES Chapter 13
- Technical Appendix F (the Traffic and Transport Impact Assessment prepared by AECOM)
- Attachment III (the Consultation Report prepared by Council)
- Warburton Mountain Bike Destination Project Traffic Impact Assessment, SALT, 2019.

The evaluation objective is:

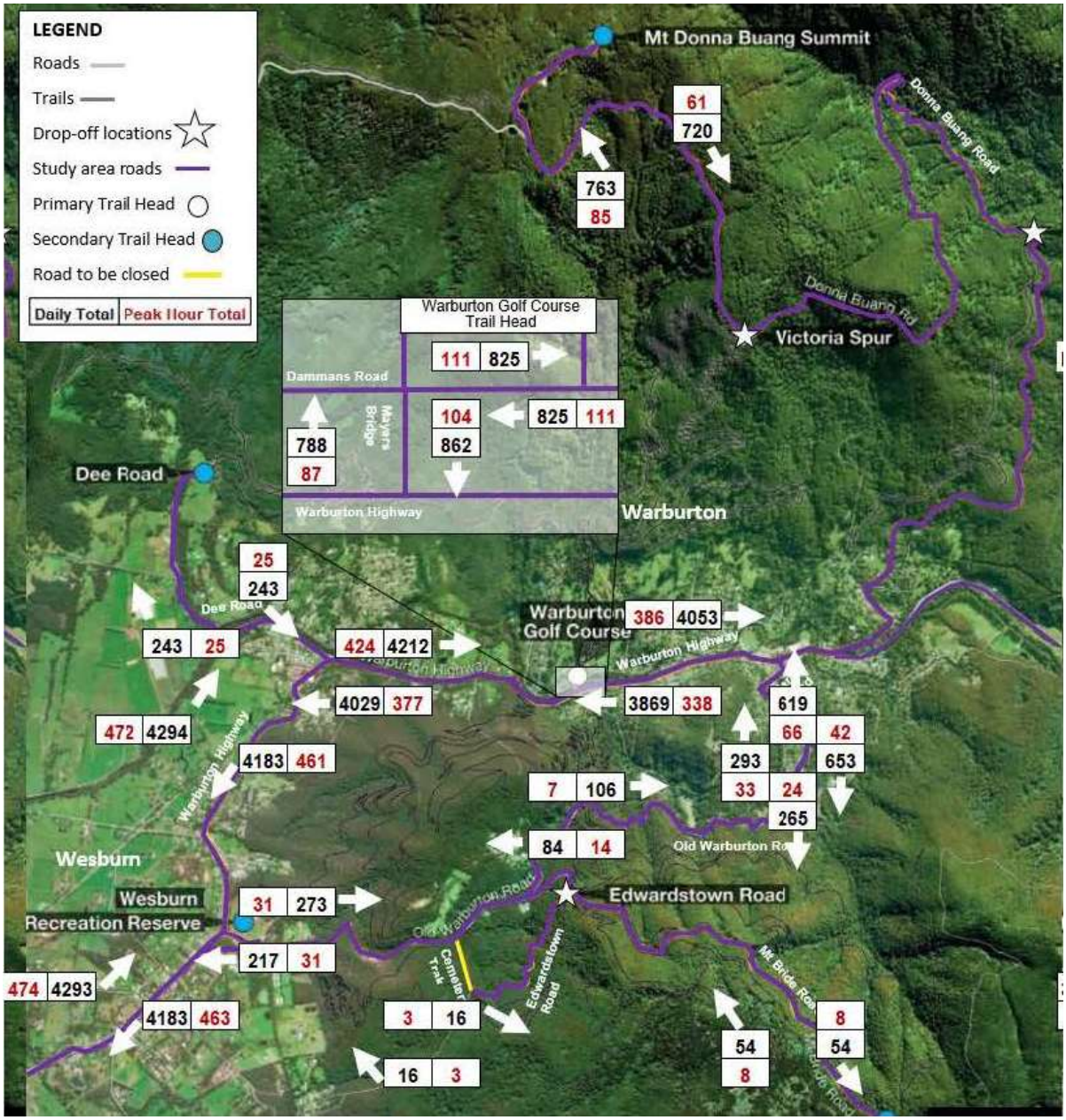
> Minimise potential adverse social, economic, amenity and land use effects at local and regional scales.

The study area for the Traffic and Transport Impact Assessment (Technical Appendix F) includes three declared arterial roads under the operation and management of VicRoads. All other roads are either managed by either Council or DELWP. The study area is shown in Figure 7 below.

EES Chapter 13 identified that the Project has the potential to impact the surrounding transport network, potentially affecting network users and the community and businesses within the area. Potential impacts can be summarised as:

- construction stage
  - public road network and intersection accessibility for heavy vehicles
  - traffic impacts during road/lane closure for bridge construction
  - road surface/pavement deterioration
- operation stage
  - cyclist interactions with vehicles
  - risk of crashes due to increased interactions on paths and bridges
  - emergency vehicle access and evacuation during Project operations
  - adequacy of road network infrastructure to accommodate operations traffic in the local road network
  - parking at trail heads and Warburton town centre.

Figure 7 Traffic and Transport Impact Assessment study area and predicted traffic volumes (operations phase)



Source: Figure 13-11, EES Chapter 13

Key design measures to manage traffic and parking impacts include:

- provision of additional parking at the Warburton Golf Course and Wesburn Park trail heads
- use of shuttle buses to transfer cyclists between trail heads, to minimise traffic on roads.

Key mitigation measures in the EMF include:

- a Traffic Management Plan for the construction phase (TP1)
- a Parking Management Plan for the operations phase (TP6)
- a Stakeholder Communication Plan during the construction and operations phases (TP2)
- an Emergency Access Plan for the operations phase (TP7).

Key measures in the Incorporated Document include:

- an Emergency Management Plan (Clause 8)

- specific Events Management Plans for larger events, that include (among other things) traffic management measures (Clause 13 of the Day 1 version).

The EMF also proposes inspection, monitoring and reporting requirements during the construction and operations phases (see Tables 16-18, 16-23 and 16-27).

EES Chapter 13 concluded:

> The transport assessment has shown that the construction and operation phases of the Project can be managed such that the objective of minimising potential adverse social, economic, amenity and land use effects at local and regional scales can be achieved.
>
> …
>
> The assessment considered potential impacts to transport in Warburton during both construction and operation of the Project including on safety, parking, congestion, the road network, end of trip facilities and emergency vehicle access, finding that there are not anticipated to be significant impacts due to the Project.

The Alternatives Assessment Report included the following key finding:

> Because of the safety challenges with the crossing of Mount Donna Buang Road associated with the alternative, Trail 1 is slightly preferred from a transport perspective.

12.2 Traffic

(i) What did the EES say?

Technical Appendix F anticipated that the Project would generate the following additional traffic volumes:

- construction phase – 166 vehicle movements (including return trips) per day, from construction vehicles
- operations phase, at the peak usage (on a weekend day in January in 2031) – 770 vehicle movements per day, mainly from trail users but also including 160 vehicle movements from shuttle buses.

In estimating the Project generated traffic, Technical Appendix F assumed:

- day visitors would drive directly to a trail head to park their car and then utilise the trails or shuttle buses to move between trail heads
- overnight visitors would cycle from their accommodation to the trails, having arrived at their accommodation by car the day before
- intermediate, advanced and expert mountain bike riders who are day visitors from within the Yarra Ranges municipality would cycle to the trails.

Technical Appendix F then assessed the impact of the Project generated traffic on the road network, using existing background traffic volumes sourced from the SALT report. The predicted daily traffic volumes (background plus Project generated traffic) are listed in Table 13-8 and shown in Figure 7 above. The highest increase in traffic volumes is expected on Warburton Highway, where the Project is predicted to generate an additional 70 vehicle movements during the peak hour.

The EES identified potential cumulative traffic and parking impacts from Warburton Water World, which opened in 2020. No other major projects were identified in the cumulative assessment.

Technical Appendix F concluded that the additional Project generated traffic will be well within the road network's operating capacity, and that there should not be significant congestion generated as a result of the Project.

(ii) Key issues

The key issues are:

- traffic congestion
- the need for road upgrades, including roads used by shuttle buses.

(iii) Evidence and submissions

Congestion

Many submissions raised concerns around the volume of traffic on Warburton Highway and local roads increasing, creating congestion and making property access difficult. Several submitters presented their concerns at the Hearing. These submissions were supported by photographs, videos and personal experiences, particularly focused on the last year with increased traffic generated by the Redwood Forest and the opening of Warburton Water World and prolonged partial road closures due to landslips. Submitters were concerned that the EES and Technical Appendix F relied on old traffic data, and submitted that traffic congestion has significantly worsened in the last year.

Warburton Environment Inc presented a video at the Hearing (D65) that showed heavy traffic in the township, with cars parked illegally on roadside verges and a lot of cars circulating looking for parking spaces. The video was presented as showing traffic and parking conditions on a typical Saturday. Council challenged the assertion that the video showed typical weekend traffic conditions, and responded that the video was recorded on a day on which a number of events were held in Warburton.

Mr Young gave traffic evidence for Council. He was not involved in the preparation of Technical Appendix F.

Mr Young reviewed the existing traffic volume data on Warburton Highway. He compared the traffic volumes sourced from the SALT report, DELWP tube count surveys and Council tube surveys with recent traffic volumes obtained from the Sydney Coordinated Adaptive Traffic System (SCATS) database, recorded at the pedestrian signals on Warburton Highway between Highfield Road and Thomas Avenue. His evidence was:

> The SCATS data I have obtained from Warburton Highway at the pedestrian operated signals does not indicate any discernible increase in traffic through Warburton from the counts that were obtained in 2018. This includes data collected since September 2020 when the Warburton Water World was opened.

On that basis, Mr Young considered that it was appropriate for Technical Appendix F to rely on the existing (background) traffic volume data from the SALT report.

In terms of predicting traffic volumes generated by the Project, Mr Young did not agree with some of the assumptions in Technical Appendix F, in particular that:

- all overnight visitors would leave their vehicle at their place of accommodation and ride to the trails
- all intermediate, advanced, and expert riders visiting for the day from within Yarra Ranges would ride to and from the trails.

He thought a higher proportion of trail users would drive to the trails, based on an analysis of other mountain bike locations, typical time spent on the trails, time of day and peak occupancy. This resulted in Mr Young predicting slightly higher Project generated traffic volumes in the operations

phase. Even with his adjusted assumptions, Mr Young's conclusions were generally consistent with Technical Appendix F, that the road network will operate well within its practical capacity:

> I estimate the proposal could add up to 110vph to Warburton Highway. The practical carrying capacity of Warburton Highway is 1,800vph and currently carries in the order of 550vph - 670vph. On this basis, I do not expect the WMBD Project will have an adverse impact to congestion and property access along Warburton Highway.

Mr Young emphasised that the staging of construction of the Project was a positive feature that will:

> … allow for the travel behaviour of users to be monitored and for the management of the activities to be adjusted over time to ensure that it operates smoothly and that any impacts in relation to car parking, traffic, safety and operations are adequately addressed before the Project reaches full maturity.

Mr Young considered that the mitigation measures identified in the EMF are generally appropriate and will minimise potential adverse traffic impacts to an acceptable level. He emphasised that the key plans (Traffic Management Plan, Parking Management Plan and Emergency Management Plan) would need to be prepared ahead of the Project opening. Mr Young recommended minor adjustments to the mitigation measures in the OEMP:

- TP4 (road improvements works) – amend to include a requirement to install signage to encourage visitors to use Old Warburton Road to access the Wesburn Park trail head rather than Warburton Highway
- TP6 (Parking Management Plan) – amend to include a requirement to undertake additional monitoring of roadside parking in areas where the trails intersect the road network, and where parking is causing safety concerns, take action to discourage this behaviour
- TP5 (Cyclist and pedestrian safety improvements) – delete the dot point requiring road crossings along the Lilydale-Warburton Rail Trail to be upgraded to 'Strategic Cycling Corridor' standard, as there is no nexus with the Project.

These recommendations are contained in the Final Hearing Versions.

Road upgrades and shuttle buses

The primary vehicle access to the main trail head at Warburton Golf Course will be via Mayer Bridge, an existing two-lane bridge that crosses the Yarra River between the Warburton Highway and Dammans Road. The IAC questioned Mr Young about any future need to widen the Highway at this intersection, to incorporate turning lanes. The IAC noted that this location is highly constrained by the existing topography and Yarra River. The IAC also questioned whether the bridge or intersection would need upgrading to cater for shuttle buses.

Mr Young indicated that in his view there is no requirement for road widening at the intersection of Warburton Highway and Mayer Bridge, as the majority of users turning into Dammans Road would be coming from the west (the direction of Melbourne), and turning left onto the bridge (not right). He envisaged that shuttle buses would be small buses or vans and not coaches, with bikes placed in trailers behind each bus. Mr Young was confident that "*roads will stack up on a day-to-day basis to cater for the shuttle bus*".

(iv) Discussion

Congestion

Most of the submissions on traffic related to existing conditions, not the traffic impacts of the Project. That said, the residents' descriptions of existing traffic conditions, and the conditions

shown in the video presented by Warburton Environment Inc, are at odds with the existing traffic volume data presented in the EES, and cast some doubt on the reliability of that data. This, in turn, casts some doubt on the reliability of the conclusions in Technical Appendix F and in Mr Young's evidence that there is more than sufficient capacity within the existing road network to cater for the additional traffic likely to be generated by the Project.

While it is not the responsibility of the Project to address existing traffic and parking issues within Warburton that are not of the Project's making, it is important to ensure that the Project does not make the existing conditions worse.

The IAC considers the mitigation measures in the CEMP are sufficient for the construction stage, however the mitigation measures proposed in the OEMP seems to respond to a complex issue in an overly simplified way.

The OEMP does not include a Traffic Management Plan. This is a curious omission, given the operations phase will (on the assessment in Technical Appendix F) generate far more traffic (770 vehicle movements per day) than the construction phase (166 vehicle movements per day). The IAC acknowledges that the Incorporated Document requires an Events Management Plan that addresses (among other things) the traffic impacts of events, but this is not sufficient. The day to day traffic impacts of the Project require management as well.

The EES presented a basic level of information about the likely impacts of the Project on traffic and congestion, but it has not, in the IAC's view, adequately assessed the cumulative traffic consequences of the operation of the Project in combination with existing conditions, including more recent developments in Warburton.

The IAC acknowledges that the cumulative impact assessment included consideration of the traffic impacts of the Water World, and that the worst of the traffic and parking congestion caused by the Water World may have been temporary (experienced in the few months after it opened), and is likely to be seasonal (Council indicated that high volumes of cyclists are not expected on days of hot weather when Water World has high visitation). The IAC further acknowledges that Council has established a temporary parking area for the Water World, and is progressing a more permanent solution to traffic and parking concerns generated by the Water World. However the effectiveness of this solution is yet to be fully tested.

Given these uncertainties, the IAC does not have confidence that the mitigation measures proposed in the OEMP will be effective in managing the operational traffic impacts of the Project, particularly the cumulative traffic impacts of the Project and other events or developments such as the Redwood Forest, or local markets and the like. The IAC finds it difficult to conclude on the basis of the information available to date that the operational traffic impacts of the Project will, with the mitigation measures proposed, be able to be managed to acceptable levels and that the evaluation objective can be met.

An integrated transport solution is needed for the Project that addresses the relationship between Project generated traffic, existing traffic and road infrastructure, parking provision and wayfinding. This will need to be developed with a full understanding of existing conditions which, in the IAC's view, requires more detailed traffic counts.

That said, the IAC considers it unlikely that the traffic impacts of the Project will be so significant as to prevent it from proceeding. Generally speaking, engineering and management solutions can be found for most traffic issues. Further, based on the information in Technical Appendix F and Mr

Young's statement, the IAC is confident that the traffic impacts of the Project are not likely to be significant when compared to existing conditions.

Ideally, the EES would have presented a more complete picture of the existing traffic conditions and the impacts of the additional Project generated traffic on existing conditions. However, the IAC considers that the further assessment required can occur in the development of the integrated Traffic Management, Parking Management, Emergency Management and Events Traffic Management Plans. The IAC is confident that these Plans will be able to identify appropriate solutions to ensure that the Project's traffic impacts can be managed to acceptable levels.

Ongoing consultation with the community about traffic concerns will also be required. This can be done through the Stakeholder Communication Plans required under TP2 in both the CEMP and the OEMP.

The IAC notes that TP2 in the CEMP explicitly mentions affected residents, businesses, industries and emergency services, however TP2 in the OEMP is limited to Council and the road managers. The IAC views this as insufficient to identify and manage any traffic impacts that might arise in the operations phase, particularly the experience of the local community. The stakeholders in TP2 in the OEMP should be broadened to align with TP2 in the CEMP.

Road upgrades and shuttle buses

The IAC considers that the shuttle bus network, including the frequency of services, will be a key measure underpinning the success or failure of the Project. A well utilised shuttle service will decrease the number of cars travelling from one trail head to another, which will in turn reduce the local traffic impacts of the Project during operations.

The IAC accepts the explanation received during the Hearing that these buses will be small, most likely minibuses with trailers to accommodate bicycles. Road capacity to accommodate shuttle buses has been demonstrated to the IAC's satisfaction.

The remaining area of concern is the maintenance of these roads to ensure the integrity of the shuttle bus network is retained. Council does not manage all the road network that will be used by the shuttle buses, however the EES (and Council) indicated that arrangements will be put in place to ensure roads are maintained appropriately. Provided the maintenance occurs, most likely at increased frequency, the IAC is satisfied that shuttle buses will be able to operate as planned.

The IAC accepts Mr Young's expert opinion that no upgrades are required to the existing Mayer Bridge or its intersection with the Highway, either for shuttle buses or for trail users accessing the main trail head.

(v) Findings

The IAC finds:

- Following implementation of mitigation measures in the CEMP, residual impacts on traffic and transport due to construction of the Project would not be significant due primarily to TP1, which requires a Traffic Management Plan to manage traffic impacts during the construction phase.
- The Project's traffic impacts during operations are less certain, although based on current information it appears that the operational impact of the Project on traffic is not likely to be significant compared to existing traffic.

- The current traffic count data presented in the EES is significantly at odds with the experiences described by local residents, casting doubt on the reliability of that data. The IAC is not satisfied that the cumulative impact of the Project with other visitation to Warburton (including non-Project traffic) has been fully considered.
- Further more contemporary, fine-grained and comprehensive data on existing conditions is required than the SCATS data relied up on Mr Young, to enable a better understanding of the community experience and to ensure that mitigation measures will be effective in minimising the impact of the Project.
- Critically, a Traffic Management Plan is needed to manage the traffic impacts of the day to day operations of the Project. The OEMP must be amended to require a Traffic Management Plan that implements measures identified by TP2 through TP7 inclusive.
- The further investigation of existing traffic conditions can be done during the course of the preparation of the Traffic Management Plan for the OEMP.
- Adjustments are also required to TP2 in the OEMP to require broader, more effective consultation.

(vi) Recommendations

The IAC recommends:

14. **Amend the Environmental Management Framework as shown in Appendix F:**
    a) **in Section 6.3.4 (Operations):**
        - **insert a new mitigation measure TP1 (Operations Traffic Management Plan)**
        - **amend mitigation measure TP2 (Stakeholder communication plan).**

12.3 Parking

(i) What did the EES say?

EES Chapter 13 identified that without mitigation, parking availability may be impacted at trail heads and in the Warburton town centre during operation of the Project. This could affect the ability of local residents, businesses and visitors to find parking. To address this, the EES proposed an additional 120 spaces at the Wesburn Park trail head and an additional 165 spaces at the Golf Course main trail head.

A parking assessment was undertaken to determine whether the proposed car parks at the trail heads would provide sufficient capacity to accommodate the expected demand generated by trail users. The assessment shows:

- there would be capacity available at the trail heads, noting that minimal spaces will be provided at Mount Tugwell which would be for pickup and drop-off only
- if the Golf Course carpark reaches capacity, visitors would be able to park at Wesburn Park instead and utilise the shuttle buses to transfer from one trail head to another.

The mitigation measures include an Operational Parking Management Plan (TP6) to manage parking and ensure that parking congestion does not exceed acceptable limits for visitors or residents.

(ii) Request for information

The IAC's RFI1 included a series of questions relating to parking (Q86 to Q89). Mr Young provided responses to these RFIs in his evidence (D38). These are discussed below.

(iii) Key issues

The key issues are:

- vehicle parking at trail heads
- potential for overflow informal/illegal parking
- impacts on parking in the Warburton township.

(iv) Evidence and submissions

Parking at the trail heads

The EES assumes a peak hourly parking demand at the trail head carparks of 75 per cent of the total daily visitation. Mr Young's opinion was that the parking demand will be more spread throughout the day, and that the peak is more likely to be a third (33 per cent) of the total daily visitation. He considered that a peak demand of 50 per cent of the daily volumes would be a robust assumption.

As noted in Chapter 12.2, Mr Young disagreed with some of the assumptions made in Technical Appendix F about the percentage of trail users that would drive or cycle to the trails. He concluded that it is appropriate to assume 75 per cent of trail users will drive to the trails, while 25 per cent will cycle (the EES assumed 56 per cent would drive and 46 per cent would cycle).

Based on his varied assumptions, Mr Young anticipated that the total daily parking demand generated by the trail users will be 406 cars, with a maximum of 203 cars present at any one time across all trail heads. Mr Young found that the predicted parking demand at the trail heads will remain well within the capacity of the proposed carparks, particularly with the shuttle bus service.

Mr Young noted that the carpark at the Golf Club is proposed to be constructed in Stage 2 of the Project, and that carparking at Wesburn Park is to be provided in Stage 1. He was advised by Council that there are 220 existing carparks at Wesburn Park. If Mr Young's calculated maximum peak visitation of 203 cars present at any one time was realised, and had to be accommodated entirely at Wesburn Park, then an additional 80 car parks would be required at that location.

Mr Young didn't consider the need for alternative carparking in the event that the Golf Club carpark wasn't provided (if Stage 2 did not proceed). However he assumed that an alternative location would be able to be secured if such a need arose. He emphasised a number of times that it will be important to provide enough carparking for Stage 1 from day 1, and the same applies in Stage 2.

In response to Q88 in RFI1 in relation to the EES referencing 'informal parking', Mr Young considered that there is potential for informal overflow parking at the trail heads, and at the roadsides where trails intersect with roads. In his opinion, the parking areas at the Wesburn Park and Golf Club trail heads:

> … will be the most attractive options for those driving to the trails, each having ample car parking supply and facilities such as toilets, wash down areas and other amenities.

Mr Young identified a residual risk that informal parking may still occur, which could have implications for other road users and residents. However:

> … the Operational Parking Management Plan (MM-TP6) will allow areas subject to informal parking to be monitored and if issues are found to occur, corrective action can be taken.

Mr Young recommended that an additional requirement be added to TP6 to require monitoring of kerbside parking, and for corrective action to be taken if the need arose.

Parking in the township

SALT conducted parking surveys of the Warburton township between 25 October and 3 November 2018 (which included a long weekend). The survey found that there are currently 416 formalised parking spaces within the township, including 300 on-street spaces and 116 off-street spaces. The parking surveys indicated a peak occupancy of these spaces of approximately 50 per cent.

Council acknowledged that there had been pressure on parking in Warburton, submitting that current parking pressures in the town centre primarily related to lack of signage and wayfinding rather than a shortage of supply. Council submitted that the Warburton Urban Design Framework is currently being progressed and has identified that Council should progress concept designs for the upgrades of four carparking areas in the town centre.

Mr Young identified that there is the potential for the current parking capacity of the town centre to be exceeded, having regard to the development of Warburton Water World. He agreed that parking in the town centre should be monitored by Council, in accordance with the recommendations in Technical Appendix F (this requirement is included in TP6). He agreed with Council that future improvements in parking identification and wayfinding signage may ease the existing challenges.

Mr Young confirmed through cross examination that he did not undertake his own a carparking survey due to time constraints, however he did make observations during his site visit. He conceded that if he had the choice, he would have done an up to date parking survey in preparing his evidence.

As noted in the previous Chapter, Mr Young considered that the proposed staging of the Project will allow for the travel and parking behaviour of users to be monitored, enabling the management of the Project to be adjusted over time to ensure it operates smoothly and that impacts in relation to carparking, traffic, safety and operations are adequately addressed. He recommended some adjustments to mitigation measure TP6 to require monitoring of kerbside parking at roadside areas where trails intersect, with action taken to address any behaviour causing safety concerns (see previous Chapter).

(v) Discussion

Parking at the trail heads

The IAC is satisfied on the basis of the EES and Mr Young's evidence that the carparks to be provided at the trail heads (particularly the Golf Course and Wesburn Park) will provide sufficient capacity to accommodate the demand generated by trail users driving to the trail heads. However, the IAC is concerned that parking capacity at the trail heads may be exceeded if the main carpark at the Golf Course is not constructed, or if the shuttle bus service is not attractive to trail users.

The Day 1 version of the Incorporated Document does not expressly require the carparks to be provided from day 1 of operations. Further, the Parking Management Plan should include a requirement to monitor parking demand at the Wesburn Park trail head carpark, and if capacity

looks like being exceeded prior to construction of the Golf Course carpark in Stage 2, corrective action needs to be taken. The IAC has recommended adjustments to the Incorporated Document and to TP6 to ensure that this occurs.

The shuttle bus service also needs to be provided from day 1 of operations. If a centrally located bus pickup/drop-off point is not provided in Stage 1, there is a risk that more trail users will drive to the trail heads rather than riding out to Wesburn Park to use the shuttle service, potentially exacerbating existing parking issues and traffic congestion.

As currently proposed, the shuttle bus service will not operate from the main trail head at the Warburton Golf Course until Stage 2. The IAC considers that there is a need for a shuttle bus pickup/drop-off point to be provided in the Warburton township as part of the Stage 1 works. This could be at the location proposed at the Golf Course, or an alternative location in the town centre.

The IAC supports the inclusion of Mr Young's recommendation to monitor parking at roadside areas where trails intersect, and notes that this is included in the Final Hearing Version of the OEMP (TP6).

Parking in the town centre

The IAC acknowledges the many submissions that spoke to significant existing parking problems in Warburton. Visual and verbal examples were provided demonstrating that parking problems can be localised (such as in the road leading to the Redwood Forest and around the Warburton Water World), or felt across the town more broadly (which often occurs on public holidays, for example). These existing parking concerns are closely related to the existing traffic concerns outlined in the previous Chapter.

It is evident from Council's submissions that active resolution is being sought for the existing parking issues in Warburton. It is important that Council continues to progress this work as Council prepares to position the Warburton Township for the anticipated continued increase in visitation generated by the Project.

The Operational Parking Management Plan (TP6) will be important for monitoring both formal and informal parking to inform Council actions to address parking issues, and to allow Council to adapt to any new cumulative parking impacts from ad hoc events in the town such as markets. The operational Traffic Management Plan will need to be integrated with the Parking Management Plan, and TP1 in the OEMP should ensure that cumulative parking concerns associated with developments such as the Water World are addressed. This is covered in the IAC's recommended TP1.

(vi) Findings

The IAC finds:

- There are existing parking pressures in Warburton and surrounds. These seem to be primarily related to signage and wayfinding.
- Council should apply its learnings from the traffic and parking challenges experienced from recent developments and other attractions such as Warburton Water World and the Redwood Forest to better minimise the parking impacts of this Project.
- Parking and the shuttle bus service, including a shuttle bus pickup/drop-off in the town centre, need to be provided from day 1 of operations.
- The Parking Management Plan should include a requirement to monitor parking demand at the Wesburn Park trail head carpark, and if capacity looks like being exceeded prior to

construction of the Golf Course carpark in Stage 2, corrective action needs to be taken. The IAC has recommended adjustments to the Incorporated Document and to TP6 to ensure that this occurs.

(vii) Recommendations

The IAC recommends:

15. **Amend the Environmental Management Framework as shown in Appendix F:**
    a) **in Section 6.3.4 (Operations):**
        - **amend mitigation measure TP6 (Operational Parking Management Plan).**

16. **Amend the Incorporated Document as shown in Appendix G:**
    a) **amend Clause 6.1(i)**
    b) **insert a new Clause 8 (Parking and shuttle bus service).**

12.4 Event management

(i) What did the EES say?

Technical Appendix F recommended specific Event Management Plans for larger events, to ensure traffic impacts associated with events are appropriately managed. This recommendation was not reflected in the exhibited Project documentation, but the Day 1 version of the Incorporated Document (D48) included:

> **13. EVENT MANAGEMENT**
>
> 13.1 Prior to any event involving over 300 expected registered participants, an Event Management Plan must be prepared and submitted for approval to the satisfaction of the Council. This plan must detail any temporary structures proposed to be erected, traffic and carparking management, fire risk management, security, waste management, signage and spectator management controls. All events must be carried out in accordance with the approved Plan.

There is also a mitigation measure in the EMF (AM07) that requires an Events Traffic Management Plan that considers the reduction of exhaust emissions related to queuing and congestion during events.

(ii) Key issues

The key issues are:

- increased congestion and parking impacts as result of events
- event management plans.

(iii) Evidence and submissions

The types of events anticipated, and the associated numbers of visitors and participants, are summarised in Chapter 2.4(iii).

Council submitted that the benefit of a tailored Event Management Plan for larger events is that the characteristics of each event can be considered, and the management approach adapted as required. It submitted that any Event Management Plan would need to appropriately consider the needs of other users of parking areas, such as Wesburn Park.

In his evidence, Mr Young agreed with the AECOM conclusion that event-specific Traffic Management Plans are the appropriate tool to manage the impacts associated with larger events. Mr Young concluded that:

> The requirement for an event [Traffic Management Plan] ensures that the specific characteristics of each event can be considered, and the management approach adapted accordingly.
>
> … the [Traffic Management Plan] process requires engagement with relevant authorities and there is an opportunity, particularly with large events, for the [Traffic Management Plan] to be reviewed and refined each time an event is run.

Mr Young considered that for smaller events it would be appropriate to allow a generic event traffic management plan to be applied. This would reduce the administrative burden on smaller events and provide consistency in terms of what other trail users, event attendees and the wider community will see when these events are on. He concluded that smaller local events (with a maximum of 300 persons) would not exceed the capacity of the existing road infrastructure.

The CFA questioned Mr Young about what assurances exist that an Event Management Plan will be prepared when required. He referred to the Incorporated Document (Day 1 version) as providing the necessary assurance. He also indicated that he would expect that the CFA would be consulted in the preparation of any plans. The CFA submitted that it should be involved in not only consultation but also approval of any plans.

(iv) Discussion

The OEMP does not provide mitigation measures for managing the traffic and parking impacts of events, other than AM07 which related only to managing exhaust emissions. The inclusion of Clause 13 in the Day 1 version of the Incorporated Document is a positive and necessary change.

Council is proposed as the body to coordinate and approve Event Management Plans. The IAC considers this appropriate, as Council is responsible for operating the Project, and is responsible for managing most of the road network that it likely to be used by event traffic. Council will also have knowledge of cumulative impacts from other events and any ongoing issues that impact residents.

The IAC notes Council's assurance that the development of Event Management Plans will involve Council consulting with relevant authorities including the CFA. The IAC considers that this will ensure a coordinated and cohesive management approach. It considers that to ensure this occurs, the requirement to consult relevant authorities (including the CFA) should be reflected in the wording of Clause 13 of the Incorporated Document.

The IAC considers that there may be some confusion between the Events Traffic Management Plan required under mitigation measure (AM07) and the Event Management Plans required under Clause 13 of the Incorporated Document. AM07 should be deleted, and the requirements included in Clause 13 of the Incorporated Document.

(v) Findings

The IAC finds:

- Event-specific plans are the appropriate tool to consider and manage the traffic impacts of larger events, as provided for in Clause 13.1 of the Incorporated Document (Day 1 version).
- A requirement for a generic plan for smaller events should be added to Clause 13 of the Incorporated Document.

- Council is the appropriate body to prepare and approve the Event Management Plans, but with consultation with the relevant authorities.
- Mitigation measure AM07 should be deleted from the OEMP, and the requirements incorporated into the Event Management Plans required under Clause 13 of the Incorporated Document.

(vi) Recommendations

The IAC recommends:

17. **Amend the Environmental management Framework as shown in Appendix F:**
    a) **in Section 6.3.4 (Operations):**
        - **delete mitigation measure AM07 (Events Traffic Management Plan)**

18. **Amend the Incorporated Document as shown in Appendix G:**
    a) **replace Clause 13 (Event management).**

12.5 Road safety

(i) What did the EES say?

EES Chapter 13 identified the need to manage road closures to enable the construction of the two new bridges over the Yarra River and Old Warburton Road without compromising road safety or emergency accessibility.

The Traffic Management Plan required under the CEMP (TP1) is comprehensive, and includes a number of requirements addressed at maintaining road safety through the construction phase (for example, temporary reduced speed limits, safety and clearance considerations). The CEMP also includes TP4, which requires the assessment and reinstatement or improvement of assets to the pre-construction condition or better where required. Road safety audits are required under the OEMP (TP3) to verify that traffic risks can be managed during operations.

(ii) Key issues

The key issues are:

- road safety issues including pedestrian and cyclist safety
- access to Wesburn Park.

(iii) Evidence and submissions

Several submitters raised general concerns about safety risks to local drivers, pedestrians and cyclists of additional traffic generated by the Project. Specific concerns were raised about the safety of the access to Wesburn Park off Warburton Highway, as it is located on a bend which some submitters said was a blind corner. This is also the access that will be shared with emergency services. Submitters also highlighted that there are no bicycle lanes on any roads and no pedestrian footpaths except within the townships of Warburton and Wesburn. The additional volume of bike traffic on the Lilydale-Warburton Rail Trail was cited as creating a dangerous environment for existing users, particularly pedestrians.

In response to submissions, Mr Young considered the additional volume of bike traffic on the Rail Trail. He indicated that:

- based on the surveys undertaken by SALT, the Rail Trail currently has a peak pedestrian volume of 14 people per hour and a peak cyclist volume of 39 cyclists per hour
- Technical Appendix F predicts an additional 129 bicycles per hour along the Rail Trail as a result of the Project
- he considered Technical Appendix F overstated the number of additional riders on the Rail Trail as a result of the Project, as he thought more trail users would drive to the Wesburn Park trail head than ride (discussed in Chapter 12.2)
- he considered that the Rail Trail might experience in the range of 14 pedestrians and 168 cyclists in a peak hour, conservatively assuming the peak hour of both cyclists and pedestrians overlap.

Mr Young concluded that this falls well within the capacity of a 3 metre wide shared user path. He did not consider the additional number of users on the Rail Trail will create a dangerous environment.

Mr Young considered the safety of access arrangements to Wesburn Park, and advised that:

- the access off Warburton Highway does not present a blind corner as it is located on the outside (not the inside) of a bend
- there is a proposal to establish an additional access to Wesburn Park via Old Warburton Road, as shown on the Wesburn Park Master Plan (D25)
- at the intersection of Old Warburton Road with Warburton Highway there are both left and right turn widening treatments, a superior treatment to that offered at the existing access into Wesburn Park from the Highway
- it would be preferable for Project traffic (trail users and shuttle buses) to access the Wesburn Park trail head via Old Warburton Road, and wayfinding signage should be provided to direct visitors approaching from the south on Warburton Highway to the Old Warburton Road access point.

(iv) Discussion

Road safety concerns are related primarily to the interaction of traffic, pedestrians and cyclists during construction of the main infrastructure items, and during operation at points where the trails intersect with other transport modes.

The IAC is confident that road safety issues associated with the construction of Project infrastructure (primarily the two new bridges) can be appropriately managed under the Traffic Management Plan required under the CEMP (TP1). The IAC supports Mr Young's recommended changes to TP4 in the OEMP (which are included in the Final hearing Version of the OEMP) to encourage visitors to access the Wesburn Park trail head from Old Warburton Road rather than the Highway.

Mr Young considered that the provision of dedicated mountain bike trails would result in less use of dedicated walking trails by mountain bikers, which the IAC considers reasonable. Where walking and cycling trails intersect, World Trail indicated that trails will be designed to create slow points and sight lines at places where cyclists, pedestrian and/or vehicles may interact. These locations are also highlighted for inclusion in the Road Safety Audit required under TP3 in the OEMP. Several submitters with mountain biking experience confirmed that these measures are effective in response to questions from the IAC.

While the Project proposes shared use (by walkers and cyclists) of sections of the Lilydale-Warburton Rail Trail and the O'Shannassy Aqueduct Trail, these are already shared use trails. The IAC accepts Mr Young's evidence that the Rail Trail will operate well within its capacity once the additional cycling traffic generated by the Project is added. The IAC was not persuaded that safety conditions on these shared use paths would be made any worse by the small increase in cycle traffic generated by the Project, and is confident that potential conflicts between pedestrians and cyclists on these shared use trails can be successfully managed.

The IAC visited Wesburn Park and familiarised itself with the existing and proposed access arrangements. The IAC supports Mr Young's recommendation for greater utilisation of Old Warburton Road to access the Wesburn Park trail head. This makes sense not only from a traffic management and road safety point of view, but also in terms of maintaining a separation of uses within Wesburn Park.

The existing lack of footpaths for pedestrians in Warburton was noted during the IAC's site inspections. Many of the local roads do not have footpaths. However this is an existing issue, not one generated by the Project.

The IAC is confident safety for cyclists can be appropriately managed, notwithstanding the absence of dedicated bike lanes on roads within Warburton and the other townships. Access to and from the trail heads will be primarily via the two new bridges proposed as part of the Project, as well as relying on existing cycle or shared use paths including the Rail Trail and the O'Shannassy Aqueduct Trail.

(v) Findings

The IAC finds:

- Road safety impacts can be successfully managed to acceptable levels with the implementation of the mitigation measures.

12.6 Emergency access

(i) What did the EES say?

Technical Appendix F considered emergency vehicle access and concluded that it would not be significantly impacted by the Project. TP7 in the OEMP requires an Emergency Access Plan to be prepared.

Clause 8.1 of the Incorporated Document requires an Emergency Management Plan which addresses emergency management more broadly. It includes consideration of emergency access.

(ii) Key issues

The key issues are:

- access in and out of Warburton
- access for emergency vehicles including to Wesburn Park
- evacuation of trail users from the trail heads in case of an emergency.

(iii) Evidence and submissions

A significant number of submissions expressed concern with the ability to get people out of Warburton in an emergency. They submitted that the existing conditions (a single road out, which

is narrow and can be blocked by accidents or fallen trees) already hamper the ability to get out of Warburton in an emergency. Submitters were concerned that existing access issues would be exacerbated by visitors who were unfamiliar with the area or what to do in an emergency. Submitters from the local community were not confident that an Emergency Access Plan or Emergency Management Plan could overcome the existing issues, let alone manage the addition of extra traffic and visitors.

Mr Young considered that the recommendations of AECOM in Technical Appendix F would ensure that emergency access was managed appropriately, including:

- the requirement for a Road Safety Audit to (among other things) confirm adequate emergency access and identify any sightline and surface issues (covered in TP3 in the OEMP)
- improvement works to address any emergency access issues identified in the Road Safety Audit (TP4 in the OEMP)
- an Emergency Access Plan (TP7 in the OEMP)
- staff training prior to the opening of the Project.

Q89 in RFI1 sought clarification on how the parking area proposed in Wesburn Park will impact on the use of the park as an emergency staging area. Mr Young did not expect any impact as the Wesburn Park Master Plan (D25) shows the parking areas to be separate to those areas set aside for emergency services.

Council noted that the Wesburn Park Master Plan identifies separate parking areas for the Project and for other uses, including the emergency staging area. Additionally, Council expressed the intention that:

> … when Wesburn Park is used as a staging area, all other uses are to be excluded from Wesburn Park, as reasonably required having regard to the situation at hand.

As discussed in Chapter 12.5, Mr Young considered that trail users should be encouraged to access Wesburn Park from Old Warburton Road rather than Warburton Highway. The IAC considers that this will assist in separating Project traffic from the emergency vehicle access and facilities at Wesburn Park.

Mr Young expressed the view that evacuation from the trail heads will need to be carefully considered and the appropriate place is in the Emergency Access Plan required under mitigation measure TP7 in the OEMP. The objective of TP7 is to ensure that emergency access is available during Project operation, and requires that:

> An Emergency Management [sic] Plan for the Project should be established and approved before opening. The plan will include staff training in relation to emergency access arrangements.

Mr Young recommended that TP7 be strengthened by changing 'should' to 'must'.

In relation to evacuation of Warburton in an emergency, Mr Young confirmed that the EES did not specifically consider this issue. He noted that a draft Emergency Management Plan has been prepared and will be implemented as part of the Project (required under the Incorporated Document), with the final version being informed by the Emergency Access Plan (TP7 in the OEMP), the construction Traffic Management Plan (TP1 in the CEMP), the Stakeholder Communications Plan (TP2 in both the CEMP and the OEMP) and the Operational Parking Management Plan (TP6 in the OEMP). It was Mr Young's view that:

> … the Emergency Management Plan appropriately references these documents and will adequately address the concerns relating to emergency vehicle access and egress from a traffic engineering perspective.

The CFA were concerned that the trail head at Wesburn Park may impact on the use of the park including the SES Upper Yarra Unit depot as a staging area for emergency events, an emergency medical services landing site for ambulance and Victoria Police, and a helicopter landing site and resting/refuelling site for fire and other emergency response. The CFA identified the need for further consultation in the development of the Wesburn Park Master Plan.

The CFA submitted that it is not clear how the mitigation measures (including the Emergency Access Plan required under TP7) and the Emergency Management Plan required under Clause 8.1 of the Incorporated Document are intended to interact, potentially causing confusion. It also submitted that on-street parking in Park Street should not be included in the available parking assessments, as it will impede the ability of emergency vehicles to leave the Warburton Fire Station.

(iv) Discussion

The IAC considers that modelling of traffic in a scenario involving the evacuation of Warburton in an emergency is beyond the scope of the EES, and is more appropriately considered as part of an Emergency Management Plan. This is discussed further in Chapter 14.

With regard to the Emergency Access Plan, the IAC agrees with Mr Young's recommendation to change TP7 from 'should' to 'must'. The IAC considers that the preparation of road safety audits (TP3) will identify any issues relating to emergency access, and that these will inform the Emergency Access Plan. The Emergency Access Plan should be prepared prior to construction to ensure that trail and trail head design respond to the need to provide access in an emergency, for example emergency vehicle movements and access by ground crews. The Emergency Access Plan will inform general operations and event-specific management. The Emergency Access Plan must be reviewed prior to operations commencing, so that any changed circumstances can be addressed appropriately.

The IAC supports the use of Old Warburton Road as a means of separating trail user traffic from the existing emergency service area, as discussed in Chapter 12.5. This should be further considered by Council in the finalisation of the Wesburn Park Master Plan.

The IAC notes the issues raised by the CFA. It considers that the Emergency Access Plan is one element of the Emergency Management Plan and should be referenced (if not contained) within the Emergency Management Plan. Access to the Warburton Fire Station will not be altered by the Project. Parking in the street that impedes access to the Fire Station is an existing issue that the CFA will need to resolve with Council.

(v) Findings

The IAC finds:

- TP7 should be strengthened to make an Emergency Access Plan mandatory, and to require the Emergency Access Plan to be prepared prior to construction commencing and reviewed prior to operations commencing.
- The Emergency Access Plan should be refenced or contained in the Emergency Management Plan.

(vi) Recommendations

The IAC recommends:

19. Amend the Environmental Management Framework as shown in Appendix F:

a) in Section 6.3.4 (Operations):

- **amend mitigation measure TP7 (Emergency access plan).**

12.7 Overall conclusions on traffic and transport

Overall, the IAC is satisfied that the residual impacts on traffic and transport, after implementation of the mitigation measures, will meet the evaluation objective of minimising potential adverse amenity impacts at local and regional scales.

Based on the information available, impacts on traffic and transport will be managed to acceptable levels. While there is potential disruption to traffic expected during construction, disruptions will be temporary and the mitigation measures in the CEMP adequately respond. Additional mitigation measures (including an operational Traffic Management Plan) will be required to ensure the operational impacts of Project generated traffic are managed to acceptable levels.

The road infrastructure has been demonstrated to have sufficient capacity to deal with the forecast increased traffic during operations. However, the accuracy of the data on existing traffic conditions in the immediate area of the Warburton is questionable. Further investigations are required, which can be undertaken as part of the development of the Traffic Management Plans.

The shuttle bus service is an important means of reducing the traffic and parking impacts of the Project. The IAC considers that it will be important to provide a shuttle bus stop that is conveniently accessible from the Warburton Town Centre from day 1 of operations, whether at the Warburton Golf Course trail head (which would not otherwise be developed until Stage 2), or at an alternative suitable location. The carparks will also need to be provided from day 1 of operations for the relevant Stage.

The IAC concludes:

- There are no traffic and transport impacts that preclude the Project being approved.
- One modification to the Project is required in order to achieve acceptable traffic and transport outcomes (namely the provision of a shuttle bus stop in the Warburton township in Stage 1 – see the IAC's recommended new Clause 8 in the Incorporated Document).

13 Land use and amenity

13.1 Introduction

Land use and amenity are discussed in:

- EES Chapter 11
- Technical Appendix D (the Land Use and Planning Impact Assessment prepared by AECOM)
- specialist reports appended to the Land Use and Planning Impact Assessment:
  - Appendix C – Landscape and Visual Impact Assessment prepared by GHD
  - Appendix D – Air Quality Technical Report prepared by AECOM
  - Appendix E – Noise Technical Report prepared by AECOM.

The Land Use and Planning Impact Assessment also appended a Bushfire Assessment Report, which is discussed in Chapter 14.

The evaluation objective is:

> Minimise potential adverse social, economic, amenity and land use effects at local and regional scales.

13.2 Key issues

Submissions did not raise key concerns in relation to land use. They did, however, raise multiple concerns in relation to amenity impacts.

The main amenity issues raised in submissions were:

- traffic and parking impacts, which are dealt with in Chapter 12
- the amenity impacts associated with the introduction of substantial numbers of visitors into the town, which are dealt with in Chapter 15.3.

This chapter deals with the remaining amenity issues. The key issues are:

- noise, including the need for a noise barrier near Martyr Road
- visual impact
- air quality impacts.

13.3 Noise

(i) Evidence and submissions

Submissions raised concern about increased noise in the bushland from mountain bike users, near to properties, and along the Birrarung (Upper Yarra River). Concerns were raised about the effect on wildlife and the effect on the peaceful and natural environment that residents of Warburton clearly value. Noise associated with mountain bike events was also raised.

Ms Peterson addressed noise at a high level in her expert planning evidence for Council, identifying that while the majority of the trail network is located within bushland well removed from residential properties, there are some points on the network that are located between 50 and 450 metres from dwellings. The Visitors Hub and main trail head at Warburton Golf Course and the trail head at Wesburn Park are also located near residential properties.

Ms Peterson deferred to the Noise Technical Report with regard to the acceptable noise levels at sensitive receptors, noting that:

> … it is evident from my review of the Noise Technical Report that there are no unreasonable noise impacts from the construction of the trail.

Ms Peterson suggested that NM05, which requires construction of a noise barrier along the golf course interface to shield residences from the noise of trail users, should be considered further. Ms Peterson was concerned that the proposed noise barrier might have visual impacts, and that it should only be constructed if needed.

When questioned by the IAC, Ms Peterson recommended construction of the tracks first, then consultation with residents to see if the noise warrants a fence or barrier, or not. She said an alternative (and perhaps preferable) outcome would be to move the track further into the golf course site, increasing separation and reducing the noise, as well as providing room for alternative noise treatments such as earth bunding.

Council confirmed in its response to Q76 in the IAC's RFI1 that the Landscape and Visual Assessment did not specifically take the noise wall into account.

Regarding the potential for additional noise associated with larger events, Ms Petersen was satisfied that the noise is most likely to occur where people congregate, at the trail heads and visitors centre. She considered that the Event Management Plans required under Clause 13 of the Incorporated Document will be capable of controlling activity so as to not generate unreasonable impacts.

(ii) Discussion

Noise associated with trail construction activities may be audible in the vicinity of activity areas for up to a week as work crews move along the proposed trail network. Additionally, during construction of bridges, trail heads and the Visitors Hub, noise would be generated from machinery and plant, workers, additional traffic and possibly the use of helicopters. These may be audible in the vicinity of activity areas, and the duration of impact is likely to last from weeks to months. World Trail indicated that helicopter use would be infrequent, well-planned, and managed.

NM02 contemplates that some construction activity may occur outside normal working hours. This potentially conflicts with the EES, which proposes noise would be managed and monitored in accordance with relevant EPA Victoria guidelines (such as EPA Publication 1834), and construction would only occur during normal working hours. Regardless, the Committee considers NM02 appropriate, to manage construction works undertaken outside normal working hours should the need arise.

Operational noise would be largely limited to noise generated by bikes and riders on the trails, and (in the case of events) additional noise from spectators and public announcements.

It was clear to the IAC from submissions that concerns around noise generated by mountain bikers are linked to perceptions and concern around rider behaviour. The IAC observed the passing noise of small groups (2 to 3 persons) of mountain bikes along the Warburton Rail Trail near Dolly Grey Park on its site visit. Bicycle noise was not noticeable, only the voices of the cyclists as they chatted. This noise was no more than that generated by bushwalkers, however the duration at any particular point was less due to bikes travelling faster than walking pace. Both the bicycle noise and the cyclist's voices were significantly less noticeable than passing motor vehicle traffic.

The IAC agrees with Ms Petersen that a noise wall along Martyr Road may present an incongruous element in the landscape, and the design and location of the noise barrier (if it is in fact required)

should be refined after the trail network is built and operational. The residual impact of the noise wall on landscape amenity may be greater than the noise impact it seeks to mitigate, and the residents along Martyr Road may prefer to maintain the open vistas over the landscape.

(iii) Findings

The IAC finds:

- Minimising noise is an important input into the final design of the lower parts of the trail network, to maintain the amenity of the residential area of Martyr Road.
- Depending on the final design, it may be that a noise barrier is not required along Martyr Road. Even if noise levels are potentially higher than ambient, residents along Martyr Road may prefer to maintain the outlook over the golf course than have a noise barrier constructed.
- Following implementation of mitigation measures, residual impacts on noise due to construction and operations of the Project would not be significant.

13.4 Landscape and visual amenity

(i) Evidence and submissions

Ms Peterson included a review of visual amenity issues in her evidence. She concluded that:

> For the most part, the proposed mountain bike trail network will have little impact on visual amenity as the trails are located out of view in the National Park and State Forest in and around Warburton.

She indicated that she is satisfied that the trail network will have negligible visual impacts due to the avoidance of tree removal where possible, and the regrowth narrowing the constructed trails to a main trail width of 0.6 to 1.2 metres within 12 months.

Ms Peterson considered that the Visitors Hub and the proposed bridges have the greatest potential for visual impacts. The EES contains no detailed plans for the bridges, so Ms Peterson found it difficult to determine the visual impact of them. Ms Peterson concluded that:

- bridges are a well-accepted element in rural landscapes, which she described as "*another layer in the rural vernacular of the upper reaches of the Yarra River*"
- the Old Warburton Road bridge will only be visible for relatively short distances either side, likely to be in the order of 100 metres given the winding nature of the road
- the design will be fundamental to the successful integration of the bridges into the landscape
- there may be a need for replacement planting of canopy trees which will assist in reducing the visual impact of the bridges.

Ms Peterson recommended that the Development Plans required under the Incorporated Document show the visual impact of the two bridges. Condition 6.1(d) of the Incorporated Document includes this requirement, which the IAC supports.

(ii) Discussion

EES Chapter 6 outlines design and construction techniques that have enabled visual impacts to be significantly avoided and minimised.

On its site inspections the IAC observed poorly constructed tracks on Mount Little Joe assumed to be used by 4WD enthusiasts. These presented as a visual scar on the landscape. In contrast, the IAC observed bushwalking trails at Mount Little Joe, and existing mountain bike trails near Old Warburton Road (the Hey Hey My Trail) that were visually unobtrusive. The IAC agrees with Ms Peterson that the visual impact of the trails will be minimal, provided they are properly constructed and maintained in accordance with the mitigation measures.

The trail heads (at least those at the Golf Course and Wesburn Park) generally have expansive areas allocated to carparking and facilities. In recent years, public land managers have found ways to ensure infrastructure is more in keeping with the landscape and is not a visual eyesore. The IAC has confidence that the detailing planning that is to occur for the trail heads will provide a design that retains the visual amenity of these locations. Plantings and site orientation will be important for the trail heads, particularly Mount Tugwell, to enable them to nestle into the landscape. The concept designs provided in EES Chapter 3 are considerate of vegetation screening by virtue of their design, layout and entry point.

There is a strong legislative and policy framework under the Planning Scheme and the *Yarra River Protection (Wilip-gin Birrarung murron) Act 2017* that seek to protect the amenity, including the visual amenity, of the Yarra River. Although the Golf Course (as privately owned land) is not part of Yarra River land, the trail head at the Golf Course (particularly the car park) has the potential to alter the amenity of the river corridor. Dammans Road traverses the northern side of the Yarra River and is an existing visual disturbance to the view north from the Yarra River Walk. The IAC is confident that the trail head can be designed with consideration of the Yarra River Walk as a sensitive receptor and to minimise disturbance to views along the Yarra River Walk.

The Yarra River Keeper referred to the significance of the amenity of the river corridor, and submitted that consideration should be given to locating Project infrastructure outside the 'bank to bank' area. Refined mapping may reveal that the main trail head is already located outside the river corridor. Ms Peterson referred to possible impacts from future lighting. The IAC assumes that this would be dealt with consistent with normal developments to minimise impact on the Yarra River corridor and nearby residential properties.

When inspecting the interface between the golf course, proposed trail alignment and residential properties in Martyr Road, the IAC observed the open nature of the landscape and sweeping views of the golf course that Ms Peterson referenced. The proposed acoustic wall is discussed in Chapter 13.3. Of note, from a visual point of view Ms Peterson recommended a ramped earth approach (her Option 2) if a noise wall is needed, as this would be the best means of visually integrating the noise wall into the landscape. The IAC expresses no view on the final design of the noise wall (if used) except to say that visual integration into the landscape would be an important part of its design.

(iii) Findings

The IAC finds:

- Detailed design should consider the need to deliver infrastructure items that are considerate of the landscape and retain visual amenity as far as practicable.
- Community consultation is advisable prior to finalisation of the bridge designs to ensure that visual impacts are appropriately managed. This could be achieved through the Stakeholder Communications Plan already required in the CEMP (TP2).

13.5 Air quality

(i) Submissions

One submitter (S1132) raised a concern about increased traffic using dirt roads causing dust impacts to local residents while another submission (S737) was concerned about increased motor vehicle emissions.

The outcome of the Air Quality Technical Report prepared by AECOM showed that the unmitigated air emissions from construction of the Visitor Hubs and carparking "*pose a negligible to low impact for dust soiling and a low impact for human health*". The assessment also showed that the operational dust impacts and traffic air pollution impacts were negligible.

(ii) Discussion

The construction activities for the carparks at the main trail heads would consist of site establishment (compound/fencing), geotechnical investigations, earthworks (topsoil strip and levelling), installation of drainage, car park surfacing and marking, and landscaping. Similarly, there could be earth works involving the clearing of vegetation at the other trail heads. Dust impacts could arise from the construction of the Yarra River Bridge and the Old Warburton Road Bridge, which are anticipated to take up to six months.

The IAC is confident that dust and air quality issues during the construction phase can be suitably managed through the CEMP. The CEMP can be tailored to the type of construction proposed and the circumstances at each site. The IAC has reviewed the proposed mitigation measures and considers that they are appropriate and implementable.

The IAC was not persuaded that increased vehicle emissions from Project generated traffic during the operations phase will be significant. As discussed above, the IAC has recommended the deletion of AM07 and the relocation of its content into the Event Management Plans clause in the Incorporated Document (see the IAC's recommended Clause 13).

(iii) Findings

The IAC finds:

- Impacts to air quality are expected to be short-term, intermittent and minimal with the implementation of mitigation measures.

13.6 Overall conclusions on land use and amenity

The IAC concludes that noise, visual impacts and air quality can be acceptably managed through the recommended mitigation measures. Land use impacts will be minimised through the implementation of the CEMP and OEMP and through a communication and engagement plan.

The IAC concludes:

- There are no impacts on land use and amenity that preclude the Project being approved.
- No Project modifications are required to address land use and amenity issues.

14 Bushfire and emergency management

14.1 Introduction

(i) Overview

Bushfire risk and emergency management are discussed in:

- EES Chapter 11
- Technical Appendix D (the Land Use and Planning Impact Assessment prepared by AECOM)
- the Bushfire Assessment prepared by Biosis (Appendix G to the Land Use and Planning Impact Assessment).

The evaluation objective is:

> Minimise potential adverse social, economic, amenity and land use effects at local and regional scales.

(ii) Mitigation measures

The EMF proposed the following measures to manage bushfire risk and emergencies:

- BM08 – a Bushfire and Emergency Management Plan for both the construction and operations phases (substantial additions were made to BM08 in the Final Hearing Version of the CEMP and OEPM)
- TP7 – an Emergency Access Plan for the operations phase
- SM9 – maintain Warburton residents' access to appropriate community infrastructure including emergency management and emergency services
- TP1 – consideration of emergency situations in the Traffic Management Plan for the construction phase
- specific monitoring and reporting requirements for bushfire (see Tables 16-21 and 16-30).

Key measures in the Incorporated Document include:

- an Emergency Management Plan (Clause 8)
- specific Events Management Plans for larger events, that include (among other things) fire risk management measures (Clause 13 of the Day 1 version).

14.2 Bushfire risk

(i) What did the EES say

The EES states that the Project is in a "*relatively high bushfire risk location*". EES Chapter 11 identifies that by attracting additional visitors to the Project area, bushfire risk would be expected to increase because additional people would be in the area if a bushfire started, increasing possible demand on emergency services.

To mitigate this risk an Emergency Management Plan is being prepared in consultation with relevant fire authorities (required under Clause 8 of the Incorporated Document). The Emergency Management Plan would include procedures for monitoring of bushfire threat, closure of the network due to fire risk, evacuation in the event of a fire and shelter in place of last resort.

EES Chapter 11 concludes that:

> … subject to the adoption of the proposed mitigations, it is considered that the risk from bushfire associated with the Project can be acceptably managed.

(ii) Request for information

The IAC's RFI1 included questions related to bushfire (Q68 and Q69). Council's response to these RFIs is contained in the evidence of Mr Potter (D37), discussed below.

The Biosis Bushfire Assessment provides details on how the bushfire impacts have regard to the planning policy framework. In addition, the IAC requested a response to the objectives and decision guidelines of Clause 44.06 (Bushfire Management Overlay) and Clause 53.02 (Bushfire Planning) of the Planning Scheme (Q69 in RFI1). The IAC did not receive this, as Mr Potter expressed the view that the Project "*does not introduce any development that triggers the clause 44.06 and 53.02 application requirements*".

(iii) Key issues

The key issues are:

- whether the assessment of bushfire risk was appropriate
- the trigger for closure of the Project due to fire danger
- mobile phone coverage and access to alerts
- the need for additional bushfire mitigation
- impact on fire prevention activities.

Emergency access, and the use of Wesburn Park as an emergency staging area, is dealt with in Chapter 12.6.

(iv) Evidence and submissions

Assessment of bushfire risk

Council called Mr Potter to give bushfire evidence. He was not involved in the preparation of the EES or the Biosis Bushfire Assessment.

Mr Potter stated:

> The effective assessment of bushfire risk is critical to enable either the informed selection of treatments or the determination that the development is not suitable. The assessment of bushfire risk requires the consideration of inputs that assist with determining the level of risk and enables the gathering of information to then undertake a formal risk assessment.

He identified a range of types of input to support the assessment of risk including plans, documents, mapping and local knowledge.

Mr Potter stated that while the Biosis assessment identifies the Bushfire Management Overlay, the Bushfire Prone Area and Clause 13.02-1S of the Planning Scheme, his evidence provided a consolidated assessment of how the Project addresses Clause 13.02-1S. He stated that his assessment utilises Clause 44.06 (Bushfire Management Overlay) and Clause 53.02 (Bushfire Planning) as best practice to assist in the determination of treatments. However his evidence was:

> The proposal does not propose to introduce buildings or structures into the landscape or other activities that are likely to trigger the requirement to comply with Clause 53.02 and 44.06.

Mr Potter prepared his own bushfire hazard landscape assessment and concluded:

> In summary, the landscape assessment identifies the areas surrounding the [Project] can be subjected to extreme bushfire behaviour. This is because of bushfires being able to develop

> for many days or weeks in the surrounding landscape prior to impacting on the development area. Bushfires can also start within the local area and under elevated conditions, quickly escalate into the development of embers that will start additional bushfires in the surrounding landscape. The presence of steep slopes, gullies and ridgelines will ensure bushfires burning under elevated conditions will be unpredictable and be highly influenced by the local weather effects.

Mr Potter agreed with the CFA's description of the landscape bushfire hazard outlined in its letter to Council dated 20 August 2021:

> Fire history demonstrates that the wider landscape has been and will continue to have the potential to be impacted by large, intense and destructive plume driven forest fires, with long landscape fire runs possible from all aspects. Fires of this scale do not necessarily have a defined fire front but rather an area of fire; spot fires ignited ahead of the main fire body will coalesce and combine, creating extreme and unpredictable fire behaviour. Fire spread and speed can result in people being trapped, exposed and impacted.

Regarding the Project alternatives, Mr Potter concluded:

> The assessment between Trails 1 or 45, 46 and 47 has identified a slight preference for Trail 45, 46 and 47 as this will reduce the footprint of the [Project] and reduce any fire ignitions that occur on Trail 1 impacting directly on a wide area. However, both have been deemed acceptable subject to the recommendations within this Statement.

The CFA and many local submitters queried the EES's assessment that the Project is in a "*relatively high*" bushfire risk location. They considered that the bushfire risk was greater than this and noted that it was deemed to be extreme by the fire agencies and community.

When considering the likely bushfire scenarios for the Project area, the CFA expressed the view that at this stage it is important to plan for human movement in a bushfire event, and ensure there is an adequate road network that is appropriate to the type of development being considered. The CFA highlighted that Warburton Highway is the only major road into and out of the Warburton area and that in the event of a bushfire, this road will become heavily congested and may become blocked.

Other key points from the CFA's submission were:

- there is a limited road network within the area that is intended to be relied upon
- there are significant distances to travel to access low fuel areas
- the emergency management response is unclear
- it is unclear how mitigation measures will be implemented.

Overall, the CFA was of the view that:

> A mountain bike trail in this location is not unreasonable to consider. However, relying on a very clear set of emergency management information is critical to determine whether bushfire policy supports this proposal.

Regarding landscape fire risk, in addition to the north-westerly fire described by Mr Potter, the CFA detailed an additional fire scenario:

> Initially, these northerly winds will drive a fire in a southerly direction. When the wind change arrives, the elongated eastern side of the fire (the flank) will instantaneously become the head of the fire, travelling at its maximum potential rate of spread and with increased intensity.
>
> Along with being directly impacted by a fire approaching from north to northwest, a south-westerly wind change could impact the Project area from a fire in the area east or south of Warburton. Winds from this direction can be funnelled through the valley between Millgrove and Warburton, further increasing its strength, unpredictability, and velocity. This would result in high winds driving a fire, resulting in extreme fire behaviour.

The bushfire risk arising from the use of e-bikes was raised by some submitters. Some considered that e-bikes could blow up or catch fire. In response to a request from the IAC, Council had Mr Potter prepare a memorandum addressing the fire risk associated with e-bikes (D141). In its Part C submission, Council indicated that it proposes to pass local laws that mirror the requirements for 'power assisted pedal cycles' as described by Mr Potter to mandate that these requirements must be met before e-bikes can be used on the trail network. Council indicated that this will provide direct enforcement powers in respect of any non-compliant e-bikes and will couple this with a tailored communications strategy. Council noted that this will change from time to time to match any changes in the regulatory framework for e-bikes in Victoria.

Project closure

Illustrated by examples of the Cambraville and Bunyip fires, both of which started on Very High Fire Danger days in 2019, the CFA submitted that:

> Whilst a high level of planning and engagement focuses on days of elevated fire danger ratings (FDR), it is important to remember that fires can also occur on days of lesser ratings that can be just as destructive or disruptive to communities.

The CFA agreed with Mr Potter's recommendation to close the Project on days of a Fire Danger Rating of Severe or above. The CFA also sought the closure on Total Fire Ban days.

When questioned by the IAC, Parks Victoria indicated that the threshold for closing the National Park is a Fire Danger Rating of Extreme or above.

Some submitters questioned the ability to effectively close trails. In response, both Mr Potter and Council suggested that mountain-biking activity is not usually undertaken on days of increased fire danger due to the hot weather. This was confirmed by a number of submitters that identified as mountain-bikers.

Council pointed out that the northern trails will also be closed during the winter (snow) season.

Mobile phone coverage and access to alerts

Submissions from several local residents detailed telecommunication issues with mobile phone and internet coverage in the area. They submitted that multi-day power and telecommunication interruptions have been experienced, particularly after storm events.

Mr Potter based his assessment on advice from Council that:

- mobile phone reception is available across most of the trails
- the type of people who participate in mountain biking are generally those who have reasonable level of fitness
- the traditional user attends for a defined period of time and doesn't tend to congregate in groups undertaking activities such as smoking or other activities that may generate an ignition.

The CFA submitted that emergency markers should be included in the trail network, so that trail users can better locate themselves in the event of needing to call emergency services. Council did not support this requirement.

Additional bushfire mitigation

Mr Potter considered that the trail heads, essentially open spaces, should be designed to achieve a radiant heat exposure of 12.5 kilowatt per square metre based on a Fire Danger Index of 50 (FDI50). The Planning Policy Framework uses a Fire Danger Index of 100 (FDI100). When asked by

the IAC to justify his position, Mr Potter explained that FDI50 aligns to the Fire Danger Index used to specify a Severe Fire Danger Rating, the level at which Mr Potter and Council indicated the trails would be closed.

The CFA submitted that the site-based exposure for the trail heads should be much lower, at a maximum of 2 kilowatt per square metre , as the trail heads are open spaces. This is the measure used to designate open-air Neighbourhood Safer Places. The CFA argued that the trail head design had to provide shelter for users who were unable to evacuate, and recommended changes be made to the Incorporated Document related to site-based exposure.

Mr Potter did not do an assessment of BAL-LOW areas in Warburton that could provide suitable shelter in the event of a bushfire, but in response to questions from the IAC, he indicated that he was confident that some existed.

Mr Potter recommended the trail heads be designed to reduce ignition, in particular with a 3 metre separation of vehicle parking from vegetation. Council modified Mr Potter's recommendation in Section 4.6 of the Final Hearing Version of the CEMP, and both the CFA and Mr Potter indicated they were comfortable with this modification.

Mr Potter assumed staff would not be present at the Visitors Hub at the main trail head on days of elevated fire danger, and noted that the requirements of the Bushfire Management Overlay were not triggered at the trail heads as no structures are proposed to be built.

Managing fire prevention activities

Mr Potter stated:

> The Construction and Operations Environment Management Plans articulate how the management of bushfire risk will occur during those phases of the Project and includes bushfire prevention and preparedness activities.

Submissions from residents near Stage 1 of the Project, including the Old Warburton Residents Association and Ms Biggs, expressed concerns that the presence of the trails would prevent planned burns, increasing the fire risk over time. In response to a question from the IAC, the CFA indicated that based on their experience, there are a number of ways to reduce the fire risk around settlements and not all involve planned burns.

In its Part C submission, Council advised:

> One of the benefits of the Project's size and scale is that it will facilitate operation of some trails even when planned burns are taking place, despite the effects of smoke in the relevant area of the trails. Trails will be closed for periods as required, a factor that will also be considered for events pursuant to Clause 13 of the Incorporated Document.

(v) Discussion

The main measure to manage bushfire risk will be the Emergency Management Plan, required under BM08 in the EMF, and under Clause 8.1 of the Incorporated Document.

Assessment of bushfire risk

There are some inconsistencies between the EES, Technical Appendix D and the Biosis Bushfire Assessment, the OEMP and the CEMP as to the description of the fire risk. Notwithstanding, there is no doubt in the minds of the IAC that the Project is in an area of extreme bushfire risk. The extreme bushfire risk is reinforced not only by the evidence of Mr Potter and the submissions presented, but through several established fire response plans as outlined by Mr Potter, the CFA advice to existing community and visitors, and the presence of bushfire protection infrastructure.

Of note, two of the five community fire refuges in Victoria are in the Project area – one at Millgrove, and one at East Warburton. Additionally, Millgrove Recreation Reserve and Warburton Recreation Reserve Oval are designated as Neighbourhood Safer Place (Bushfire Places of Last Resort).

The Final Hearing Version of the OEMP states, consistent with the EES, that the "*project is located in bushland that is classified as having a high bushfire risk*" (Section 6.7.1). The IAC considers this should be amended to refer to extreme bushfire risk.

Just as the natural features of the Project area have been described by Council and World Trail as a key element for a successful ride destination, these same features contribute to the landscape fire risk. In cross-examination, Mr Potter conceded that some forests have more risk than others. That said, while there is significant interface with large tracts of high risk forest in Warburton, there is also a highly urbanised area (metropolitan Melbourne) that is accessible to the west, providing a reduction in fire risk from the west, and a place to seek shelter. This is not representative of many other Victorian forest destinations including Bright and Mallacoota.

On the basis of Mr Potter's response and Council's proposal to limit the type of e-bike on the trails, the IAC is satisfied that e-bikes will not present an unacceptable ignition risk.

Project closure

The Project is largely contained on public land where DELWP and Parks Victoria are the land managers, and DELWP is the fire authority. However, the main trail head and supporting services such as accommodation are located on private land that falls within the jurisdiction of the CFA.

Trail 1 and Trails 45 to 47 increase human access to an area of forest north of Warburton, which could increase the ignition risk in this area. The IAC understands that planned burns are not conducted in the National Park due to the high environmental values present in the Park. Fire in the National Park would present a significant risk to trail users, the community of Warburton and to the environmental values of the National Park.

The IAC agrees with the CFA that trail users and visitation to the Project area should be actively discouraged on days of elevated fire danger. The trail network can have control measures in place to manage its use on days of elevated fire danger or when trail conditions aren't suitable. In this respect it is not like a new urban settlement or a dwelling – it is a recreation pursuit that does not have to be undertaken on high risk days.

While the IAC accepts that extreme weather conditions or heat are likely to reduce the number of users accessing the trail, it should not be expected that no-one will try to use the trails. The Black Saturday fires showed that despite warnings and hot weather, people choose to travel to forested areas for recreational activities.

Mr Potter and Council recommended closure of the trails at a Fire Danger Rating of Severe or above, which the IAC supports. However Parks Victoria indicated that the National Park remains open on Severe fire danger rating days (it is only closed on Extreme fire danger rating days). The IAC is strongly of the view that Council and Parks Victoria must determine an aligned fire danger rating that will trigger the closure of the trails and the National Park.

The IAC is aware that a new fire danger rating system is being introduced for Australia that will replace the current model with less categories, with one change being the deletion of the Fire Danger Rating of Severe. This is an opportunity to align the closure of the National Park and the trails to the same fire danger rating.

The rating of High in the new fire danger rating system aligns to the approach 'be ready to act' whereas the rating of Extreme aligns to 'take action now to protect your life and property'. The IAC considers that 'High' is the appropriate trigger to close the trails (and the National Park), as it is more closely aligned to the current 'Severe' rating, and more akin to community expectations than the new fire danger rating of Extreme.

Stopping the shuttle bus service is a key method of enacting trail closures. However, the shuttle bus service is not the only method of accessing trails. Physical barriers should be placed across the start and end of the trails when the fire danger rating triggers closure of the National Park and the trails.

The measures identified above should be included in the Emergency Management Plan. The IAC has recommended changes to BM08 to this effect.

Mobile phone coverage and access to alerts

The IAC accepts the submissions from many local residents that mobile phone coverage in the Project area is patchy and unreliable. It is therefore concerned with the assumptions of Mr Potter that all of the Project area has sufficient telecommunication coverage for alerts, and that users would stop to check their phones during their trail experience. Given the IAC was advised that Trail 1 could take up to 4 hours to traverse, this is a significant period of time to not be aware of an alert. Further, if an emergency call was to be made, trail users are likely to find it difficult to describe to call takers where they are located.

The IAC observed signage along the Rail Trail that served as place markers for emergency calls. The IAC supports the CFA's view that emergency markers are useful, and considers that this system should be used across the Project area and integrated into the mapping used for emergency call taking (000) and warnings in Victoria.

Further, given alerts may not be received by trail users while on the trails, the IAC is of the view that accurate trail conditions including the fire risk and weather conditions should be displayed at the trailheads, similar to the display of conditions at beaches and on ski trails.

The measures identified above should be included in the Emergency Management Plan. The IAC has recommended changes to BM08 to this effect.

Additional bushfire mitigation

Site-based exposure is a measure of radiant heat exposure that is used as a measure of life safety for the declaration of Neighbourhood Safer places, locating development, and defining building design. The Biosis Bushfire Assessment recommended that detailed assessments of the trail heads, including Warburton Golf Course and Wesburn Park, be undertaken.

No detailed assessments of the impact of achieving either site-based exposure suggested by Mr Potter or the CFA is before the IAC.

If the trail heads are to be designed with sheltering in mind, it is expected that vegetation planting for landscaping and screening would be minimised and that additional vegetation may require removal to achieve the site-based exposure. This action would affect other aspects such as biodiversity and visual amenity, and may require further assessment for the removal of native vegetation.

The IAC is of the view that the trail heads should be treated in the same way as those provided by DELWP and Parks Victoria for bushwalking and other activities.

The IAC has not specified a site-based exposure for the trail heads, for the following reasons:

- DELWP and/or Parks Victoria are best placed to design, assess and approve trail heads across their land tenures
- trails will be closed on days of elevated fire danger (fire danger rating to be reviewed and aligned between Council, DELWP and Parks Victoria)
- shuttle bus service will be suspended on days of elevated fire danger, discouraging trail visitation (visitation should be further discouraged by the provision of physical barriers across the trails on closure days)
- there is insufficient information before the IAC to determine the impact of a site-based exposure specification.

The exception to this is the Warburton Golf Course trail head. Here, the IAC considers that it is appropriate to specify a site-based maximum exposure of 12.5 kilowatt per square metre for the structure that will accommodate the staff for the Visitors Hub. The IAC considers that this is justified as it is not certain that Mr Potter's assumption that staff won't be present on days of elevated fire danger is valid. The IAC notes that no development works are proposed to the building housing the Visitors Hub (which the IAC understands will be the existing Golf Club building) and therefore there is no expectation to meet a specified level of bushfire construction. However the site-based maximum exposure level will guide the landscaping and construction works in the immediate vicinity of the building.

The IAC agrees with the CFA that if revegetation is undertaken along Martyr Road to screen any noise barrier or fencing, it must be undertaken in a manner that does not increase the fire risk. This is not included in any existing mitigation measure, and should be included as a consideration in NM05.

The OEMP and CEMP appropriately respond to potential ignition sources related to construction and maintenance operations. The Emergency Management Plan is the appropriate mechanism to manage ignition risks related to trail use, as already provided for in BM08.

Fire prevention activities

The IAC is confident that the presence of mountain bike trails will not restrict the ability of land managers to mitigate fire risk to the settlements. It may be that some sections of the trail network need to be closed during certain periods to allow planned burns to take place if alternative means of fire prevention are not adopted.

As noted in Chapter 9.1, Council proposed an addition to BM67 in the Final Hearing Version of the OEMP to remove dead leaf litter. No explanation was provided as to how this will reduce fire risk. The IAC does not consider it necessary or effective to manage bushfire risk.

(vi) Findings

The IAC finds:

- The closure of the National Park and the trails must align. The IAC considers that the fire danger rating of High under the new national rating system is the appropriate trigger for closure of the trails. This should be agreed with Parks Victoria.
- Closures should be enforced not only by stopping of the shuttle bus service, but also by placing barriers across the trails.

- The existing emergency marker system should be expanded to include the trail network and trail heads, and appropriately integrated into Victoria's emergency call-taking and response system.
- Accurate trail conditions, including the fire risk and weather conditions, should be displayed at the trail heads, similar to the display of conditions at beaches and on ski trails.
- Any landscaping or vegetation planting along Martyr Road be undertaken in a manner that does not increase the bushfire risk to residents.
- The Golf Course trail head should have a site-based maximum radiant heat exposure of 12.5 kilowatt per square metre.

(vii) Recommendations

The IAC recommends:

20. **Seek agreement with Parks Victoria to align the closure of the National Park with the closure of the trails, on 'High' fire danger days (as described in the Australian Fire Danger Rating System).**

21. **Amend the Environmental Management Framework as shown in Appendix F:**
    a) **in Section 6.3.4 (Operations):**
        - **amend mitigation measure NM05 (Operational noise – Noise barrier to Martyr Road).**

22. **Amend the Incorporated Document as shown in Appendix G:**
    a) **insert a new sub-Clause 6.1(k).**

14.3 Emergency response

(i) What did the EES say

EES Chapter 11 says:

> By attracting additional visitors to the Project area, bushfire risk would be expected to increase somewhat because additional people would be in the area if a bushfire started, increasing possible demand on emergency services. To mitigate this risk an Emergency Management Plan is being prepared in consultation with relevant fire authorities. The Emergency Management Plan would include procedures for monitoring of bushfire threat, closure of the network due to fire risk, evacuation in the event of a fire and shelter in place as a last resort.

The EES states that an Emergency Management Plan would be prepared and approved before use of the land for the Project commences to ensure that risks to life are reduced and managed appropriately. This is reflected in Clause 8.1 of the Incorporated Document.

Council tabled a draft of the Emergency Management Plan during the Hearing (D58), but this was not exhibited with the EES and draft PSA.

(ii) Key issues

The key issues are:

- the Emergency Management Plan (content and timing)
- impacts on the emergency response services.

(iii) Evidence and submission

Submitters considered that the Emergency Management Plan is a key consideration that should inform a decision about whether or not the Project should be approved. They considered that the Emergency Management Plan should have been finalised and exhibited with the EES, and it is not appropriate to delay the Emergency Management Plan to a secondary consent process after Project approvals have been granted (as contemplated in BM08 and Clause 8 of the Incorporated Document).

Several submitters considered that the Emergency Management Plan should have input from the local community and the CFA. They submitted that community groups such as the Warburton Emergency Planning Group (S1826) could add value to the Emergency Management Plan and should have the ability to comment before its approval.

The CFA submitted that there are significant gaps in the proposed emergency management framework that need to be addressed, including:

- traffic modelling for traffic movement in the event of an emergency (this is addressed in Chapter 12.6)
- carparking in the Warburton town centre (also addressed in Chapter 12.6)
- the definition and mechanism for track closure (addressed in Chapter 14.2)
- ability to get emergency warnings and information to riders and track users (addressed in Chapter 14.2)
- the threshold for requiring event management plans that provide specific bushfire planning
- the time of year when events are held
- consultation and endorsement of event management plans.

The CFA recommended detailed changes to the Incorporated Document related to emergency management planning.

Parks Victoria submitted that emergency management planning must fit within Parks Victoria's broader emergency management of the land it manages. Park Victoria reinforced that DELWP needs to be consulted for bushfire planning, given its status as the relevant fire authority.

Mr Potter considered the draft Emergency Management Plan from a bushfire perspective. He concluded that the draft Emergency Management Plan:

- has been developed by Yarra Ranges Council and emergency management agencies and is continuing to be developed
- outlines the outcomes of a risk assessment in that it identifies the risk relating to severe and extreme days, code red days and bushfire are extreme
- provides emergency response instructions on what to do on severe and extreme days, code red days and bushfire
- also indicates that decisions relating to how the [Project] will respond to severe, extreme and code red days will be finalised following the completion of the EES process
- also outlines the requirement for event specific bushfire emergency planning to be undertaken that reflects the increased numbers of people.

Mr Potter's evidence reinforced the need for inter-agency emergency management planning.

Community submitters and the CFA submitted that the Project should not place additional burden on the existing bushfire safety infrastructure. With regard to emergency response to bushfires,

the CFA considered that Lilydale is the nearest urban area that can provide appropriate shelter from a bushfire. This conflicted with Mr Potter's evidence that indicated that there was sufficient urban area within Warburton to provide appropriate protection from bushfire.

The Warburton Emergency Planning Group opposed the Project to due to the impact on emergency response from bushfire risk, traffic congestion and housing availability for its pool of volunteers. They and other submitters submitted that there is an existing need for emergency medical response that is not always able to be met.

Dr Conway, a locally based medical doctor, provided a brief history of the Warburton medical services in her presentation to the IAC (D124). She indicated that since March 2001, there has been no afterhours emergency care available along the Warburton Highway. Dr Conway presented an assessment of the current medical services in the area and the distance to be travelled to access different levels of medical assistance. Additionally, she presented mountain bike accident data obtained under a Freedom of Information request that summarised the impact of Mystic Mountain Bike Park, a community run mountain biking facility near Bright, on the local Bright health services.

(iv) Discussion

While the IAC understands the level of community concern in relation to emergency response (particularly bushfires), it does not agree with submitters that the Emergency Management Plan should have been finalised and exhibited with the EES. The Emergency Management Plan will need to be developed having regard to the final detailed design of the Project.

That said, the IAC agrees that the exhibited versions of BM08 and Clause 8.1 of the Incorporated Document were too high level, and more detail should have been provided at exhibition stage. Extensive changes were made to BM08 in the Final Hearing versions of the CEMP and OEMP. These changes should have been made and communicated to the local community earlier in the process. The IAC also considers that a draft of the Emergency Management Plan should have been exhibited with the EES, given its importance in the operations of the Project and the (justified) level of community concern in relation to bushfire.

A number of submissions highlighted the importance of the Emergency Management Plan being finalised and approved prior to development of the Project commencing. This was provided for in the exhibited version of the Incorporated Document, but the Day 1 version changed Clause 8 to require the Emergency Management Plan prior to use, not development.

The IAC does not support this change. By this point in time, the infrastructure for the Project (or its stages) is likely to be substantially constructed and it will be potentially difficult to incorporate any adjustments or further mitigation required under the Emergency Management Plan, in particular the bushfire management strategy.

The IAC agrees with submitters that the Emergency Management Plan must be developed with consultation at the municipal and local level including (but not limited to) emergency services and the Warburton Emergency Planning Group. The Emergency Management Plan needs to be approved prior to construction, and then reviewed prior to operations (use) commencing, so that any changed circumstances can be addressed appropriately. The Emergency Management Plan should be periodically reviewed and updated where necessary throughout the life of the Project. The IAC has recommended changes to Clause 8.1 of the Incorporated Document to reflect this.

It is appropriate that the Emergency Management Plan address access in and out of Warburton in a bushfire emergency. The IAC is satisfied that BM08, strengthened by the additional requirements recommended by the IAC, appropriately addresses access issues.

The IAC accepts the CFA's view, shared by many local submitters, that the Emergency Management Plan should not rely on the existing bushfire safety infrastructure in the Warburton area to provide shelter for trail users. The IAC understands that there are two Neighbourhood Safer Places and two Community Fire Refuges in Warburton, Warburton East and Millgrove. Without a detailed assessment of the urban areas in Warburton, the IAC accepts the CFA's advice that shelter would need to be sought external to Warburton.

The IAC accepts that there is an existing strain on emergency services in the Upper Yarra Valley area. The IAC acknowledges that the Project, by its nature, has the very real potential to increase that strain with an increase in accidents requiring medical intervention. Additionally, the importance of volunteers in providing assistance in emergencies (often a first response) needs to be acknowledged and recognised. Some of these volunteers are the people who will be operating businesses to service the increased visitation.

Closure of trails on days of elevated fire danger (discussed in Chapter 14.2) is one means of reducing the demand on local emergency services. The Emergency Management Plan also needs to detail how trail users will receive medical care, and how this will be communicated to trail users and to the broader community. Any anticipated shortfall in volunteer capacity also needs to be considered and planned for in the Emergency Management Plan.

Finally, for completeness, the IAC acknowledges the CFA's submission that there is some potential for confusion between the emergency planning requirements in the mitigation measures and in the Incorporated Document. The IAC has recommended changes to the drafting for clarity.

(v) Findings

The IAC finds:

- The Emergency Management Plan must be prepared prior to construction of the Project and be tested for implementation prior to commencement of operations. It should be periodically reviewed and updated throughout the life of the Project.
- The Emergency Management Plan must be developed in consultation with emergency and medical services at the municipal and local level, and local volunteer organisations including the Warburton Emergency Planning Group.
- The Emergency Management Plan must place no reliance on the existing bushfire shelter options provided in the Project area to provide shelter for trail users. Instead, it must provide for trail users to be evacuated from the area when needed.
- The Emergency Management Plan needs to detail how trail users will receive medical care, and how this will be communicated to trail users and to the broader community.
- Any anticipated shortfall in volunteer capacity needs to be considered and planned for in the Emergency Management Plan.

(vi) Recommendations

The IAC recommends:

23. Amend the Environmental Management Framework as shown in Appendix F:

a) in Sections 6.3.3 (Construction) and 6.3.4 (Operations);

- **delete BM08 (Bushfire Management Strategy & Emergency Management Plan)**

b) insert a new Table 16-7A (Bushfire and emergency management mitigation and contingency measures), with a new mitigation measure BEM01 (Bushfire Management Strategy & Emergency Management Plan)

24. Amend the Incorporated Document as shown in Appendix G:

a) amend Clause 9 (Emergency management).

14.4 Overall conclusions on bushfire and emergency management

Overall the IAC is satisfied that the residual impacts on bushfire and emergency management, after implementation of the mitigation measures and subject to the IAC's recommendations, will be able to be managed to acceptable levels. The Project will be capable of meeting the evaluation objective of (as relevant) minimising potential adverse social effects at local and regional scales.

The IAC acknowledges that the increase in people in an extreme bushfire risk landscape will increase the bushfire risk. Importantly, however, neither the CFA nor DELWP (the fire authority for the public land where much of the Project is located) opposed the Project outright. The IAC considers that the Emergency Management Plan is the most appropriate mitigation measure to adequately address this increased reduce impacts on bushfire risk.

The IAC has recommended extensive changes to BM08 and Clause 8.1 of the Incorporated Document to ensure that emergency planning is more robust and comprehensive. The IAC is satisfied that, provided emergency planning occurs in accordance with the IAC's recommendations, the location is appropriate for the Project.

The closure of trails on days of elevated fire danger (a fire danger rating of Severe and above under the current fire danger rating system ratings) and total fire ban days is important not only for the safety for trail users, but also for limiting the risk of bushfire and impact on emergency response for the local community. The closure of the trails in the National Park should align with the closure of the Park. The IAC concludes that this alignment can be achieved with the revised fire danger rating system that is pending implementation.

Trail closure of trails on days of elevated fire danger is one means of reducing the demand on local emergency services. This approach should be extended to other events, such as storm and flooding, where trail safety might be reduced and the local emergency services already stretched.

The IAC concludes:

- Subject to implementation of an extensively modified mitigation measure (BEM01) and Clause 8.1 of the Incorporated Document, there are no bushfire or emergency management impacts that preclude the Project being approved.
- No modifications to the Project are required in order to achieve acceptable bushfire risk and emergency response outcomes.

15 Socio-economic impacts

15.1 Introduction

Socio-economic impacts are discussed in:

- EES Chapter 12
- Technical Appendix E (the Socio-Economic Report prepared by RMCG)
- Attachment II (the Alternatives Assessment Report, in particular the Economic Feasibility Study)
- Attachment III (the Consultation Report prepared by Council).

The evaluation objective is:

> Minimise potential adverse social, economic, amenity and land use effects at local and regional scales.

As exhibited, the EES proposed the following measures to manage socio-economic impacts:

- mitigation measures to be applied during the construction and operation phase (SM1-SM11 – see Tables 16-7 and 16-13 in the EES)
- monitoring and reporting requirements during the construction and operations phase (Tables 16-20 and 16-29 in the EES)
- stakeholder engagement requirements in the EMF (Sections 16.6 and 16.7) and the Incorporated Document (Clauses 7.2(c) and 7.4(b)).

No relevant changes were proposed in the Day 1 or Final Hearing Versions of the Project documentation. (A change was proposed to SM4 relating to screening and protection of trails through the Golf Course, but this related to impacts on fauna rather than socio-economic impacts).

EES Chapter 12 concluded:

> The socio-economic assessment has shown that the construction and operation phases of the Project could be managed such that the objective of minimising potential adverse social, economic, amenity and land use effects at local and regional scales can be achieved.

The Economic Feasibility Study concluded that Case 1 (full trail network including Trail 1) would generate substantially greater economic benefits than either Case 2 (no trails in the National Park) or Case 3 (no Trail 1).

The Alternatives Assessment Report concluded that:

> The potential socio-economic impacts do not substantially differ between Trail 1 and Trails 45 to 47. Trail 1 would have some minor impacts on residents and bushwalkers whereas the alternative would have no impacts. Given that impacts for Trail 1 would be minor, there is no strong preference.

15.2 Economic impacts

(i) What did the EES say?

EES Chapter 12 states that the Project has the potential to bring substantial economic benefits to the local and regional economy, including direct and indirect expenditure from visitors and local residents, and associated job and wealth creation.

The EES states that the Project could help position Warburton and the Yarra Valley as an eco-tourism and outdoor recreation hub, and assist the local economy to transition from declining

industries like forestry that have traditionally provided sources of employment in the region. It states that Warburton's local economy and small businesses thrive on the visitor economy, and the Project would contribute to growth both during construction (through job generation and regional investment), and operations (through expenditure of users and visitors to towns in the Project area and in the broader region).

Much of the detailed information about the economic benefits of the Project is contained in the Economic Feasibility Study. The Economic Feasibility Study concludes that, considering all the predicted benefits of the Project (including indirect benefits such as health benefits and the value to users), the Project will deliver a benefit to cost ratio of:

- 8.2 in Case 1 (full trail network)
- 4.9 in Case 2 (no trails in the National Park)
- 5.4 in Case 3 (no Trail 1).

(ii) Key issue

The key issue is whether the Project will deliver economic benefits.

(iii) Evidence and submissions

Other than Ms Peterson's review of the economic aspects of the EES (discussed below), no evidence was presented to the IAC on economic impacts. The IAC has therefore had to rely primarily on the EES.

Economic benefits of the Project

The Economic Feasibility Study states that the Project will deliver economic benefits including:

- an increase in regional spending and regional income
- an increase in jobs in the region
- indirect health benefits
- user value benefits.

It states that the social benefits of the Project include:

- enhanced community access to infrastructure that encourages increased levels of physical activity as well as health and wellbeing outcomes
- reduced levels of local unemployment
- revitalisation of the local communities
- supporting a transition from the timber industry to a nature-based tourism industry
- enhanced environmental outcomes by discouraging informal user built trail construction
- creation of a stronger community connection to the environment
- assisting in addressing high levels of obesity, dementia and poor mental health.

It asserts that these benefits will be delivered both locally (to the Warburton and Upper Yarra Valley community), and also more broadly.

Quantifying the economic benefits of the Project (full trail network)

Chapter 3 of this Report describes the Economic Feasibility Study, including the demand modelling and economic modelling undertaken by MCa Consultants on which it was based. The modelling estimated that in Case 1 (full trail network, including Trail 1), spending in the Yarra Ranges area generated by the trail users is predicted to be:

- $28 million in 2022

- $48.6 million in 2031
- around $143.3 million over the whole 10 years.

Spending will include trail-linked activities (such as bike related expenses, food and beverage), accommodation and spending on other recreational and tourism services. The increased spending will benefit existing businesses and support new businesses to establish.

Regional income generated by the operation of the trails and visitor spending is anticipated to be:

- $10.3 million in 2022
- $17.7 million in 2031.

The Project is predicted to generate jobs through construction, development of a local mountain bike service industry (mountain bike hire, guides, equipment), and supporting services such as transport, accommodation, and food and beverage. The modelling predicted:

- during construction, the Project would generate 84 jobs
- when the Project is fully operational (in 2031), it would generate 229 jobs.

Other economic benefits include:

- indirect health benefits estimated at $47.1 million over 10 years (Victorian users only)
- user value benefits estimated at $26.681 million over 10 years.

Economic benefits in the Case 2 and Case 3 scenarios

The modelling predicted that the quantum of the direct economic benefits of the Project would be substantially reduced in the Case 2 and Case 3 scenarios. Comparisons of the key indicators are summarised in Table 12

Table 12 Comparison of direct economic benefits of the Project in Case 1, Case 2 and Case 3

Indicator	Case 1 (full trail network)	Case 2 (no trails in National Park)	Case 3 (no Trail 1)
Trail users			
in Year 1 (2022)	131,217	100,739	110,909
in Year 5 (2026)	174,728	124,921	137,313
in Year 10 (2031)	221,454	140,014	153,769
Spending in the region (millions)			
in Year 1	$28.049	$19.078	$21.188
in Year 5	$39.362	$24.963	$27.715
in Year 10	$48.609	$28.402	$31.522
Regional income (millions)			
in Year 1	$10.266	$6.988	$7.761
in Year 5	$14.341	$9.106	$10.109
in Year 10	$17.700	$10.351	$11.487
Jobs in the region			
in Year 1	132.7	90.5	100.5
in Year 5	185.3	117.8	130.7

in Year 10	228.6	133.7	148.4

Source: IAC, based on the data in Figures 12 to 15 of the Economic Feasibility Study

Project alternatives

The economic impact of the alternative alignment (Trails 45 to 47) was not modelled, so there is no direct comparison between the economic benefits of Trail 1 compared with Trails 45 to 47. However EES Chapter 15 states that the economic benefits of Trails 45 to 47 would be similar to Case 3 (no Trail 1), for the following reasons:

- Trail 1 is a unique experience, being a long distance wilderness trail that includes rainforest, Ben Cairn, offers unparalleled views across the Yarra Valley and crosses several significant waterways. Trails 45 to 47, although still in the National Park, do not have the same natural attractions.
- Trail 1 has a wide market appeal to beginners, intermediate and advanced riders whereas Trails 45 and 46 are steeper and more challenging due to the topography and constraints.
- Trail 1 is considerably longer than Trails 45 to 47, and offers an extended rider journey, with many riders likely to set aside a full day to undertake the ride.

Council

Council submitted that the Project will deliver very substantial economic benefits, as demonstrated by Technical Appendix E and the Economic Feasibility Study. Council submitted that Technical Appendix E notes a number of positive impacts for property owners, business owners, young and low skilled workers and existing residents who would benefit from increased activity in the town and the ability to participate in increased employment opportunities.

Council pointed to the substantial number of supporting submissions that highlighted the economic benefits that the Project would bring to the local and broader communities, including job creation, the revitalisation of a quiet and sleepy town and increased activity and prosperity.

World Trail's evidence was that demand for mountain bike tourism is growing, and that it brings significant economic benefits. Tourists organise their holidays around mountain biking, similar to skiing or scuba diving. This brings money into the local economy and creates job opportunities as new businesses establish to service the visiting riders. Their evidence was that there are not many mountain bike destinations in Australia that are suitable for mountain bike tourism (Derby in Tasmania being a notable exception), resulting in many Australian mountain bike riders travelling overseas for their riding specific holidays.

Ms Peterson's evidence was that there will be impacts on existing businesses during both construction and operations. These could include temporary disruption caused by construction activity, although she understood there would be no impact to operations at the Golf Course, including during construction of the main trail head and Visitors Hub.

Ms Peterson anticipated that the Project will result in positive business impacts during operations. She considered that commercial opportunities will increase for a variety of existing businesses, such as bike shops and repairs, cafes and restaurants, bike hire businesses, groceries and everyday essentials such as fuel, medical and allied health services such as physio and massage, and an increased demand for short term accommodation. She also noted new business opportunities such as the operation of the Visitors Hub and the proposed shuttle bus service. Her evidence was:

> As these are new services, they will unlikely have any direct negative impact on existing business in the Project area.

Regarding accommodation, Ms Peterson noted that the EES indicated that 240 to 400 additional accommodation rooms would be required for new overnight visitors. She considered that this will likely increase property values, exacerbating existing affordability issues in the community (discussed in Chapter 15.3), but will also provide the potential for the private sector to establish purpose built short term accommodation within the area.

Ms Peterson considered the data provided in the Economic Feasibility Study, including the estimated Project costs and increased spending and income generation in the region. She noted that the Economic Feasibility Study assumed that most of the construction workforce will be from the Warburton/Yarra Ranges local government area and adjacent areas, stating:

> I consider this to be a reasonable assumption given the distance of Warburton from other major population sources.

Her evidence also highlighted the EES's estimate of indirect economic benefits:

- healthcare benefits estimated at $47.1 million over 10 years, measured as the net (adjusted for injury) avoided costs to the national healthcare system attributable to nature-based outdoor activity
- a consumer user valuation – a value on the experience of using the trail based on what a person may be willing to pay – totalling $26.7 million over 10 years
- increased house prices (a benefit to the 73.4 per cent of owner occupied households in Warburton and to landlords, but a disbenefit to renters)
- income generated by events – estimated to be $777,600 in Year 2, increasing to $2.33 million from Year 7 onwards.

Submitters

Supporting submitters said that mountain biking had provided them with considerable personal benefits, including increased mental and physical health, increased opportunities for social and family connections, and an increased appreciation for nature and the environment. They also highlighted many benefits to the community, including:

- job creation and direct and indirect visitor expenditure
- reducing weekend peaks and weekday troughs of tourist economic spend, including by encouraging multi-day stays
- helping the local community transition out of native timber harvesting
- providing reasons for youth to 'stay in the Valley'
- the ability of the Project to complement other tourist-related activities in the Yarra Valley, such as wineries, restaurants and farm gates
- creating pride and a sense of place by encouraging tourists to the area who can appreciate the natural beauty and township of Warburton.

Warburton and District Chamber of Commerce and Industry (the Chamber) (S2019) submitted:

> [We] believe the Warburton Mountain Bike Destination Project (WMBD) is key to the continued sustainable development of the Upper Yarra Valley and we support the Project. The development will provide continued opportunity for education, health and wellbeing, employment and economic development in the region.

The Chamber conducted a survey of its members, who overwhelmingly (but not unanimously) supported the Project, primarily on the basis that it will be good for economic growth, job creation and business and employment opportunities in the area. It submitted that the Warburton region is in a challenging socio-economic situation, which is anticipated to worsen with the closure of the local timber industry, and that:

> The implementation of the [Project] will provide a near-perfect transition of employment opportunity as the timber industries close down in the area.

The Chamber submitted that current tourist activity is highly focused on weekends, resulting in "*a weekly boom/bust cycle*". New tourism developments are needed to promote length of stay and dispersal of visitors to the Upper Yarra side of the valley, through mid-week, to build a more sustainable base for business investment and permanent employment. It submitted that cycling (including the Lilydale to Warburton Rail Trail, O'Shannassy Aqueduct trail and the Lilydale/Yarra Glen/Healesville/Woori Yallock trail) is already a very important part of the region's attraction, but these are essentially weekend activities.

The Chamber submitted that recent business investments in the region, with a total value of around $10 million, have been made in large part on the expectation of the Project going ahead. This included the refurbishment of the historic Alpine Retreat Hotel, and the establishment of Silva Coffee Roasters and Ride Time Yarra Valley, among others. It submitted:

> Combined these [Chamber] business members have employed over 40 new staff within the last 12 months and all have the potential for expansion. Future development of significant, long dormant sites such as the Sanitarium Factory and the Hospital also presents huge opportunities and potential for local employment and reactivation of unused buildings and facilities.

The Chamber strongly supported Trail 1, submitting that it would lead to Gold Status eligibility and international recognition, and would appeal to new and less experienced riders, encouraging the involvement of families and adding to the broad community benefit from a healthy family-bonding recreational activity. This would lead to longer stays by family groups in the region, boosting the economic benefits.

Warburton Advancement League strongly supported the Project, submitting that it would provide an economic boost to the area and local businesses. The Advancement League has for some years been advocating for the development of tourist attracting activities in the area. It strongly supported Trail 1:

> We feel that the 'Drop-a-K' signature trail (Trail 1) on Mt Donna Buang has the same relevance to this Warburton Mountain Bike Destination Project as the lookout tower did to the Federation of Victorian Walking Clubs back in 1957, and are keen again to advocate for this key element of the Mountain Bike Project to be included.

Yarra Ranges Tourism (S2625) supported the Project, submitting that the Upper Yarra region has been impacted greatly over many decades by intergenerational unemployment as a result of the major shutdown of several industries including the Warburton Hospital, the Sanitarium Factory, the railway and the timber industry. It submitted that the Project is "*a major economic renewal project that aligns with all of the competitive strengths of this region*". It balances local assets, employment opportunities and environmental protection with a positive tourism experience that is sought after worldwide.

Yarra Ranges Tourism submitted that the many decades of widespread social disadvantage throughout the region is shown in metrics such as the highest youth unemployment rates of anywhere in the eastern region. It submitted that "*developing new projects in the tourism industry will further support engagement by those who are currently falling through the cracks*".

We Ride Australia (S2629) pointed to the substantial economic benefits generated by cycling nationally. It referred the IAC to a 2020 report by EY (commissioned by We Ride Australia) that indicates that cycling provided the following benefits to the national economy:

- $6.3 billion direct industry output

- $3.4 billion direct value add to gross domestic product
- around 34,300 direct full time equivalent jobs
- $1.2 billion cycle tourism benefit.

Separate statistics for mountain biking were not available.

Several submitters questioned the veracity and reliability of the Economic Feasibility Study, in particular its predictions of the number of local jobs likely to be generated by the Project.

For example, Rethink Warburton Mountain Bike Destination submitted that the new jobs created by the Project would likely be low income, part time and potentially seasonal, and that with the increasing costs of housing, workers may not be able to continue to afford to live and work in the town. They questioned how the Project would benefit the top employers in the area (health care, social services and education and training), submitting that it is likely that jobs in these sectors will be lost as existing residents who use these services or work in these sectors are forced out of the area by increased house prices.

Rethink Warburton Mountain Bike Destination submitted that the area already has an established tourism industry, which may in fact be damaged by the Project:

> Walk into our cafes on weekends and holidays and you will see tables of families and groups of women. Busloads of pensioners turn up and stop for lunch too. Family groups ride the Rail Trail and picnic by the river. They also come for the Waterworld and for the Redwoods. They come to Warburton for its beauty and tranquillity.
>
> Our current tourist demographic - will they still want to visit the Mountain Bike Capital of Australia? Will conflicts on shared paths drive them away? When the traffic on the Rail Trail increases more than threefold as predicted as mountain bikers exit and enter the two trails to Mount Little Joe? Will they avoid the beautiful Aqueduct trail when mountain bike trails are all around it, crossing it and using it-even worse on the Mt Little Joe Contour Track? The River Trail is already become unpleasant since bike traffic has joined it.

Ms Cousins submitted that mountain bike trails are increasingly seen as a source of "*economic salvation*" for local and regional economies, particularly those recovering from natural disasters and from the impacts of the pandemic. However she submitted that the economic benefits of mountain biking may be overstated:

> The extent of a principally publicly funded supply of mountain bike destinations emerging across Victoria, and nationally, throws into question just how much of a gap or deficiency in social infrastructure are Mountain Bike Trails? It also raises questions about potential overstatement of the demand and economic benefit appraisal for the Warburton mountain bike proposal. Just how much of this mountain bike destination 'Magic Pudding' vision is achievable, and sustainable?
>
> History has shown many examples of planning-system facilitation of fad-developments that have inevitably failed and left legacies of ecological, environmental, and social disruption.

(iv) Discussion

EES Chapter 2 states that Warburton and the Upper Yarra Valley are experiencing significant economic hardship associated with the decline of the mining and forestry industries that have traditionally supported employment in the region. The COVID-19 pandemic has further impacted the local economy. According to research undertaken by Yarra Ranges Tourism (that informed the Economic Feasibility Study), in the 2020-21 financial year there was likely to be a 35 per cent reduction in spending in the region, resulting in a loss of nearly 3,360 jobs.

The IAC accepts that the current state of the local economy is somewhat depressed, and that the anticipated closure of the timber industry will present further challenges. While the Project will

not solve all those challenges, the IAC is satisfied that it can contribute in some way to a boost to the local economy, and the transition away from traditional employment sources.

As discussed in Chapter 4, the precise extent of the Project's likely economic benefit is hard to predict. However the IAC is broadly satisfied that the Project will attract tourism, and should contribute to the local economy through job creation and increased spending in the region. The number of jobs predicted to be generated by the Project is not insubstantial, and it makes sense that a substantial proportion of those jobs – particularly the ongoing jobs during the operations phase – will be local.

Several submissions indicated that there has already been substantial investment in the town and the area based on expectations that the Project will proceed. The IAC accepts these submissions, and accepts Ms Peterson's evidence that the Project will generate opportunities for existing businesses to grow, and for new businesses to establish.

The IAC accepts the Chamber's submissions that the likely increase in overnight, interstate and international visitors will 'even out the bumps' in a tourism industry that is currently heavily reliant on weekend visitation. It accepts that it will also present opportunities to develop further accommodation based businesses to cater for the new demand generated by the Project for overnight stays. This will be important, to address the potential challenges associated with the conversion of existing long term rental stock to short term accommodation, discussed in more detail in the Chapter 15.3.

Finally, although the IAC places limited weight on the precise figures outlined in Table 12 above, it accepts that the Case 1 scenario (with Trail 1) will likely generate greater economic benefits than scenarios without Trail 1. Therefore, from a purely economic perspective, the IAC accepts that Trail 1 may be preferred.

(v) Findings

The IAC finds:

- While the precise quantum of economic benefits likely to be generated by the Project is hard to predict, it will deliver economic benefits to Warburton and the region more broadly.
- Trail 1 is likely to generate greater economic benefits than the alternative alignment (Trails 45 to 47).

15.3 Social impacts

(i) What did the EES say?

The EES recognised that it is not possible to objectively compare the positive and negative social impacts of the Project. Each impact will affect different numbers of people in different ways, and the experience of the impact will vary from person to person depending on who they are and their individual values.

The EES identified the more significant positive social impacts as:

- increased employment opportunities, particularly for young people and low skilled workers
- increased mountain biking opportunities, and the social and health benefits that this will provide

- increased activity in the town.

Negative impacts included:

- increased rents and decreased availability of secure long-term rental properties
- impacts on other recreational users, including bushwalkers, hunters and users of Wesburn Park
- the changes to the character of Warburton, and the social cohesion of the Warburton community
- increased traffic volumes and other amenity impacts.

Technical Appendix E identified the Project's impact on the local housing market as the most significant residual negative impact. It stated that this impact is likely to occur gradually, and that the exact extent of the impact is difficult to predict and highly dependent on the extent of the additional visitor accommodation and social housing developed in the area. Technical Appendix E indicated that this may force some renters to eventually leave Warburton. It stated:

> … this impact has been widely experienced in other tourist towns and based on that experience seems likely to occur to some degree; significant intervention would be required to avoid this impact.

The EES stated that other social impacts (particularly amenity impacts) would be managed primarily through:

- minimising trails on private property and near residences
- ensuring small construction teams and equipment
- restricting construction to normal working hours
- staging construction activity
- providing additional parking.

The Alternatives Assessment Report concluded that there would be little difference between Trail 1 and Trails 45 to 47 in terms of social impacts.

(ii) Key issues

The key issues are:

- the availability of affordable long-term rental stock
- impacts on bushwalkers, hunters and other recreational users of the Project area
- impacts on the character of the area and on social cohesion.

Traffic is discussed in Chapter 12. Other amenity impacts, including noise and visual impacts, are discussed in Chapter 13.

(iii) Evidence and submissions

Council

Council submitted that the Project would generate significant social benefits including:

- better community access to infrastructure
- increased physical activity, with the potential to assist in addressing high levels of obesity and poor mental health (estimated at $47.1 million over ten years)
- revitalisation of the local community
- reduced unemployment
- support for the transition from a mature native timber industry to a nature-based tourism industry

- creation of stronger connection to the environment.

Council acknowledged that the Project would also have some negative impacts, included increased rents in the area, decreased availability of rental properties and a change in the character of Warburton which some residents would not see as positive. However, Council submitted:

> It is particularly worthy of note that a very substantial number of submissions identified, and were eagerly anticipating, the potential positive impacts of the proposal.

Council acknowledged that affordable housing is a significant issue and "*a challenge Council is grappling with*". It relied on Ms Peterson's evidence that if the Project is approved, the private market may receive the confidence it requires to develop accommodation facilities. It submitted that Council had already identified a number of opportunities for additional accommodation in Warburton, including redevelopment of the abandoned Sanitarium Factory and the old hospital, that would be capable of meeting the entire demand (240 to 400 rooms) generated by the Project.

Ms Peterson's evidence was that increased opportunities for mountain biking would have several social benefits including:

- increased physical activity which can improve overall health and reduce the risk for severe disease such as type 2 diabetes, cancer and cardiovascular disease
- reduced stress and positive mental health as the vigorous demands of mountain biking stimulate the release of endorphins and boost serotonin which helps to prevent depression and anxiety
- opportunities for increased social connection and contact though exercising with others
- increased awareness and understanding of the natural environment and the traditional custodians of the land
- increased opportunities for disadvantaged people to enter the work force
- increased business opportunities and prosperity.

However, she considered that the impacts on affordable rental housing would likely be the most significant negative social impact of the Project.

Ms Peterson's evidence was that average house prices in the Warburton area have increased substantially between 2015 and 2021, and that there are higher than average levels of housing stress across the catchment area. While some of the demand for additional accommodation generated by the Project's overnight visitors may be met through new tourist accommodation:

> … there is evidence from other towns that have experienced an increase in tourism that suggests an increase in visitor numbers can lead to increases in the numbers of private properties listed for short term rentals through providers such as AirBnB.

She considered that dwelling vacancies in Warburton would likely be lower than indicated in Technical Appendix E, given the significant interest in regional living during and post COVID. She noted that current Warburton listings on AirBnB range in price from $125 to over $680 per night, with an average price of $308 per night (weekend rates). She compared this to the median rental price of $365 to $415 per week for long term rentals in Warburton, and concluded that there would likely be a negative impact on housing affordability through conversion of long terms rentals to the more lucrative short term accommodation. She stated:

> The disbenefits associated with this impact on availability of housing will be mitigated to some degree by the proximity of Warburton and surrounding townships to others areas of population within a 20-30 minute drive if they need or choose to relocate.
>
> However, given the upward pressure on housing prices across metropolitan and regional areas, I would expect housing affordability to remain a substantive issue. The introduction of the new social and affordable housing tax is part of an overall state led strategic to provide

> more affordable housing in Victoria but further work, including that by Yarra Ranges Council to encourage affordable housing as part of new major developments, should be considered regardless of the outcome of this Project.

Ms Peterson noted that a number of local community members had expressed concerns about the increased activity in the township and the impact this will have on the character and people's sense of place and wellbeing. However she considered that this is counterbalanced by the significant support for the Project expressed through submissions. She stated:

> It is very difficult to determine the overall community attitude and impacts on character that will result from the Project, however, given that the majority of submissions (86%) to the IAC are in support of the proposal, I consider this a good indication of the level of comfort afforded to the anticipated changes.

Ms Peterson considered that other potential negative social impacts of the Project could be appropriately managed:

- increased demand on community infrastructure such as rubbish bins, public toilets, parks and picnic grounds – she noted that Council is well placed to respond to the increase in demand, and that this will be assisted by the staged construction program
- the potential for conflict between cyclists and bushwalkers – she noted that walking and cycling paths are generally separated and measures could be put in place to slow cyclists down where there are intersections
- the potential for conflict between cyclists and 4WDers and hunters – she considered this would be "*quite modest*" due to the limited duration of the legal hunting season (3 weeks), and noted that the environmental benefits of closing the National Park to these users "*outweigh the disbenefits*"
- insufficient access to hospital or emergency services in case of serious accident or injury of cyclists – she considered that the draft Emergency Management Plan "*sets out an appropriate response to anticipated emergency situations*".

Council concluded:

> For the reasons detailed above, relying on the substantial amount of work that has been undertaken [in Technical Appendix E] and relying on the independent expert assessment of Ms Peterson, Council considers the socio-economic benefits of the Project outweigh negative impacts.

Government agencies

Parks Victoria (S1523) submitted that the National Park is valued and enjoyed for passive activities such as walking, nature appreciation and heritage interpretation, and active activities such as running, horse riding, cycling and snow play and tobogganing. It submitted that the impact of the Project on these other activities needs to be taken into account. It noted that the visitor facilities at the Mount Donna Buang summit need to be able to cater for the additional demand generated by the Project, and that "*a strategy to prioritise visitor access for snow play through the lease agreement, limiting access for mountain bike activities during the snow season, may be an effective operational measure*".

Submitters

A significant majority of submissions expressed strong support for the Project. Many submitters spoke to the IAC about the multiple benefits they personally gain from mountain biking, including mental health benefits, fitness, social connection, being immersed in nature and an opportunity to share experiences with their families and kids. Submitters pointed to the lack of locally accessible mountain biking options in Victoria, which limited their opportunities to experience these benefits.

AusCycling (S2034), the national sporting organisation for all forms of cycling in Australia, submitted that mountain biking provides wide ranging benefits to the health and wellbeing of bike riders and their communities and to the vibrancy of regional economies. It submitted:

> Mountain biking promotes improved physical and mental health, with one estimate from the COAG Transport and Infrastructure Council in 2020 putting the health benefits of riding a bike at $1.58 per kilometre ridden. Mountain biking also promotes community cohesion and reduced isolation, with a recent survey finding social connection and the ability to participate with friends and family among the top reasons to ride.

Box Hill Institute's Sport, Fitness and Outdoor Recreation department (S181) submitted that its 1,500 plus students at the Lilydale Lakeside campus will "*benefit greatly from a purpose-built facility in the Yarra Valley*". It committed to continuing to deliver the We Can Ride Youth Mountain Bike program (in conjunction with Council) as part of its course delivery. In anticipation of the Project proceeding, it has plans to develop a world class mountain bike skills and instructor training program into its Outdoor Leadership qualifications. It submitted that the Project would be an excellent location for cycling skills training and assessment, and a possible base location providing easy access to the wider area and other activities such as bushwalking, caving, and canoeing. The Box Hill Institute concluded, "*it is our firm belief that this Project will … have significant positive impact on the local community and enhance the environmental, cultural and diversity education for all users of the destination*".

In a similar vein, the YMCA (S1103) supported the Project, noting that it was seeking opportunities to expand its programs and that the Project would provide an "*amazing network of trails*". It pointed to the importance of a range of trails suitable for people of all abilities, from beginners through to advanced riders.

Outdoors Victoria (S1116) strongly supported the Project, pointing to its "*environmental benefits, the community's physical and mental health well-being benefits, positive educational and social connectedness impacts, and the boost to business sustainability and job creation for the region*". It submitted that the Project will enhance and showcase the value of experiencing the National and State Parks, including the benefits or being immersed in these environments. It submitted:

> Projects like this from our perspective that encourage the whole community to increase their human powered transportation versus fossil fuelled transport also assist with the promotion of a much more environmentally sound transport option. We believe the positive mental and physical benefits bike riding in these environments can have on the wider community are tremendous.

Healesville High School (S1130), Gilson College, Adventist Schools Victoria (S1606) and Melbourne High's Millgrove campus (S2060), where Year 9 and 10 camps are held, made similar submissions. All have introduced programs to teach mountain biking skills to high school students, and felt that the Project would provide a significant opportunity to enhance these programs in a locally accessible, safe environment free of motor vehicles.

Ms Parkinson spoke to the IAC about her experiences as the President and Women's Ride Coordinator of the Lysterfield District Trail Riders and the 'Listy Chicks'. She talked of the inclusive, supportive community she felt part of and highlighted the many all-inclusive social rides and women's only events that the club organises. These organised events provide an opportunity for people, particularly women, to develop their leadership skills and encourage others to join the sport and improve their skills and confidence.

Deaf Mountain Bikes Victoria (S305) submitted that there is an acute shortage of trails near Melbourne, and that it has hundreds of bike riders looking for somewhere to go. It submitted that

the Project will go a long way toward meeting the need for more trails, and that having a large trail network close to Melbourne will likely encourage more deaf people to take up the sport. It noted that the deaf community is generally less well-off economically, and has poorer than average health outcomes. It explained that difficulties in communication discourage deaf participation in a lot of sports (particularly team sports), but mountain biking doesn't have barriers to deaf participation. "*We eagerly look forward to seeing this much needed Project go ahead*".

Ms Steer of Handicap Australia (S1119) submitted that mountain biking is an amazing psychological and physical outlet for so many women in the community. She submitted that existing beginner and intermediate trails around Melbourne are becoming overcrowded, with women who are less confident usually the first to step off the tracks to let others pass, or are too intimidated to be out there altogether. She concluded:

> Warburton mountain bike Project would open up so many great opportunities for women, families and everyone to ride more, be healthier and have fun.

Submitter 765 runs a mountain bike coaching business in Lilydale. He submitted that the Project "*is vital to the expansion and development of this new and innovative business helping people to better connect with the outdoors through mountain biking*". He submitted that the Project would allow himself (a competitive mountain bike racer) and his race team to have an accessible location to better improve their personal riding, and to develop the level of the sport as a whole. AusCycling made similar points about the opportunities for racing and training facilities offered by the Project.

The Chamber submitted:

> A major benefit will be the availability of a world class recreational facility that will have significant health impacts, encourage family activity, involvement for education and schools participation and cater for a wide range of abilities and ages. These benefits will extend to the region and the state - particularly given the proximity of the Project area to the rapidly growing population of Melbourne.

Pointing to the growing popularity of mountain biking as a sport, including for families, the Chamber submitted there was an "*urgent need*" to develop bike riding and adventure based infrastructure for locals and visitors alike:

> Nature based infrastructure leads to job creation (both within and outside the Tourism sector), a strong sense of community, and incredible opportunities for young and old to connect with others. This is already happening with great success in this region, and the [Project] will further encourage the community opportunities for years to come

It went on:

> Increased family time brings improved socio-economic benefits. In summary, only with the implementation of the [Project] will we see a catalyst for improved community engagement, allied health services, public amenities and critical infrastructure.

Not all submissions were positive, however. Several submissions raised concerns about the negative social impacts of the Project.

Oz Gentrification submitted that the socio-economic impacts of the Project "*will be profound to the extent that it will destroy our local community as it currently is and replace it with a hollowed out tourist town of short stay accommodation and a predominantly mountain bike culture*". It submitted that Council should have undertaken a gender impact assessment that demonstrates how the Project contributes to gender equality. It submitted that mountain biking is a male dominated sport, and that most women of the Upper Yarra Valley will not be getting any advantage out of the Project.

Oz Gentrification's primary concern was the impact the Project would have on affordable housing. It submitted that housing strain is one of the biggest concerns the local community has. It submitted that housing affordability affects the vulnerable in our community (including the disabled and those in danger such as from family violence) the most, and that the fastest growing cohort affected by homelessness is women over 55.

Oz Gentrification submitted that the 'AirBnB effect' has resulted in a housing crisis in many tourist towns in Australia and overseas, and provided statistics of vacancy rates in the Project area and other locations with mountain biking destinations that it said demonstrated a drop in vacancy rates after the mountain biking facilities opened.

Oz Gentrification rejected the claims in the EES that some people (namely property owners) would benefit from an increase in house prices in the area. It submitted that for those who do not want to move, increased house prices will only mean increased rates, and that the so-called benefit would be mostly for Council. It questioned the viability of the overnight accommodation options identified by Council (such as the Sanitarium Factory and the hospital), and submitted that a substantial amount of social housing would be required to mitigate the problem. It submitted that currently "*there is no social housing on the drawing board for the Outer Eastern area*" which includes the Yarra Ranges.

Rethink Warburton Mountain Bike Destination expressed concern in relation to the Project's impact on housing affordability:

> When there is an increase of short stay what will happen to our schools? We are already seeing families leaving the area due to evictions from landlords wanting to turn homes into short stay. We are already seeing families not being able to move into the area due to no rentals. We are already seeing young people not being able to afford to buy.
>
> And our vulnerable are continually forced to move further away, often dislocating them from family, friends, transport and services.

Warburton Advancement League, while supporting the Project, recognised the concerns of many locals about the lack of affordable long term rental accommodation in the area, brought about by conversion of long term rental stock to short stay accommodation. It submitted:

> We recognise that this problem is not unique to Warburton but also acknowledge the fear that large scale tourism projects such as these have, to potentially exacerbate any housing shortages. But equally we recognise they also have the potential to provide more jobs to enable more people to be employed locally.
>
> To this end our Advancement League has developed a social & affordable housing project that aims to deliver 14 two-, three- and four-bedroom homes within the Warburton township on a previously derelict site that is specifically dedicated to social and affordable housing, with at two of these retained for crisis housing. We are fairly advanced with this project and are scheduled to present our project plan to the Yarra Ranges Shire Councillors in the very near future.
>
> I would like to re-iterate our absolute support and commitment to the Warburton Mountain Bike Destination project, especially the 'Drop-a-K' signature trail …

Ms Biggs highlighted that Mount Little Joe is a popular walking destination for nature lovers and bush walkers, and expressed "*grave concerns for the area, residents and visitors if large numbers of mountain bike riders are to start using the area*". She was particularly concerned about the extent of trails in this area, pointing out that the trails intersected with walking tracks and fire tracks (which are also used by bushwalkers) "*no less than 14 times*". She submitted:

> This will bring walkers into direct contact with the mountain bike riders and will no doubt cause disturbance to the birds and other fauna in the area, day and night as it is the area proposed to be used for night riding.

Ms Talvain raised concerns in her personal submission about conflicts between cyclists and bushwalkers, presenting photographic evidence to the IAC of bruising of a walker that she said was caused by a collision with a mountain biker.

The Melbourne Women's Walking Club (S1519) submitted that the trails will have a significant impact on the ambience and pleasure for bushwalkers through increased car and shuttle bus traffic, bushfire management, and safety due to increased patronage. It submitted that use of bushwalking tracks by both walkers and mountain bike riders:

> … is a safety and risk management issue for both… For bushwalkers, there is often little notice of oncoming riders, bikes don't have bells and this can cause riders to divert possibly causing injury. For walkers the same can occur, especially on narrow tracks. The sharing of tracks and trails is incompatible, could lead to injury and an expensive rescue operations.

Some submitters were concerned that the facilities in Wesburn Park (trails and a trail head) would impact on existing users of Wesburn Park, including through the loss of part of the off-leash dog walking area within the park.

Anita Siegersma and Michelle Grimshaw (S1949) expressed concern about the Project "*locking in a mountain biking monoculture*" in Warburton. They submitted that residents in socially cohesive small communities make valuable contributions to their community, and there is a culture of care, pride and investment in taking care of the environment and welcoming new members to the community. They submitted that it is imperative that we keep small communities intact. The submitted that the local community feels like there is a "*tourist takeover*", and that the community is being "*colonised to be a tourist destination that requires the gutting of our community*". They continued:

> The lack of consideration about the negative impact that a decreased resident population will have on community social cohesion is disturbing. This inevitably will result in the transformation of Warburton to a transient town of wealthy investors. It will reduce the potential for social capital which weaves together (through its opportunities for linking and networking) the social fabric of the community. The reduction in social capital is likely to occur for Warburton as a result of a move to a transient population. What is [Council's] responsibility in maintaining the social fabric of Warburton?

Several submitters raised concerns about antisocial behaviour from tourists and mountain bikers, including abuse of alcohol, partying, criminal behaviour, urinating and defecating in public areas, littering, night time 'hoon driving' and abusive and aggressive behaviour towards non-mountain bikers including bushwalkers. Oz Gentrification was concerned about narrow footpaths and a lack of bike racks in the town resulting in "*a sea of bikes lying on the grassy picnicking spots behind the shops next to the river*".

Dr Birtchnell submitted:

> My family and I enjoy mountain bike riding and I have many, many friends who are mountain bike enthusiasts … I am very aware of the physical, mental and social benefits (necessity) of people being in natural environments. However, this project has evolved away from this humble aspiration and, with the more recent addition of the highly impactful northern track network through the Yarra Ranges National Park, has become more about being a world class adrenalin park.

(iv) Discussion

The Project will have social impacts. The IAC accepts that there is little difference in social impacts from the two Project alternatives (Trail 1 and Trails 45 to 47).

Affordable rental stock

The IAC agrees with Ms Peterson's evidence (and the EES's assessment) that the social impact of greatest concern is the impact on access to affordable long-term rental stock. Access to affordable housing is a significant issue faced by our community, not just in the Upper Yarra Valley but across Victoria. Access to secure and affordable housing can help reduce poverty and enhance equality of opportunity and social inclusion. The IAC agrees with Oz Gentrification that a lack of affordable housing impacts the more vulnerable members of the community the most, and that this should be avoided where possible.

While there is no hard evidence that directly quantifies the Project's likely impacts on the availability of affordable long term rentals, the IAC is satisfied on the basis of Ms Peterson's evidence, and the examples of the experience of other towns brought to its attention by submitters, that the Project is likely to result in a reduction of available long term rental stock. This will likely be primarily through the conversion of existing stock to short stay accommodation, described by Oz Gentrification as the 'AirBnB effect'.

The IAC accepts that house prices in the area are rising. This is a more systemic issue that is largely a result of the general state of the property market in Victoria. That said, the IAC acknowledges that some people have been attracted to the area in anticipation of the Project being approved, and that the Project may to some degree increase the general prosperity in the area, which may put further upward pressure on local house prices.

The IAC has some doubts as to effectiveness of the measures identified in Technical Appendix E and by Council and Ms Peterson to mitigate the Project's impacts on access to affordable housing. The IAC accepts that there are redevelopment opportunities within Warburton that are capable of providing all of the overnight accommodation needs generated by the Project (240 to 400 additional rooms). It also accepts Ms Peterson's evidence that the approval of the Project may provide the market with greater confidence to pursue some of these opportunities. However, Council has not demonstrated that any of these projects are viable or that any are likely to proceed in the near to medium term.

When Ms Peterson produced her written evidence, the State Government was proposing to introduce a new social and affordable housing contribution as part of an overall State led strategic approach to providing more affordable housing in Victoria. However this has subsequently been dropped. In the absence of a statewide legislative approach to social and affordable housing contributions, Council's ability to secure affordable housing as part of new major developments is less certain. Ms Peterson acknowledged as much in her oral evidence. That said, the IAC agrees with Ms Peterson that Council should continue to encourage social and affordable housing contributions as part of new developments, regardless of the outcome of this Project.

The IAC congratulates Warburton Advancement League on its proposal to deliver 14 affordable housing dwellings within the Warburton township. While this may not solve the existing problems around access to affordable housing in the township, it will make a very significant, meaningful and much needed local contribution.

The IAC acknowledges Ms Peterson's evidence that there are likely to be affordable housing options in other townships (including Lilydale) within a 20 to 30 minute drive from Warburton. However, if people are forced out of Warburton by rising house prices and rents, there is the potential for knock-on effects such as reduced school enrolments that could impact on the town's

social cohesion. There is also a risk that key workers or emergency volunteers currently providing much needed services in Warburton may no longer be able to provide those services locally.

The IAC asked Ms Peterson how the planning system might deal with the issue of long term rental stock being converted to short term accommodation, and whether for example the provision of affordable housing could somehow be tied to the planning approval for the Project. Her response was that it would be difficult for the Project approval to be tied to the delivery of more affordable housing as there is limited nexus between the Project and the generation of the need for more affordable housing. The IAC agrees.

Ultimately, while the IAC has concerns in relation to the potential for the Project to exacerbate the affordable housing issues in the area through the 'AirBnB effect', affordable housing is a much broader issue. It is not the role of the Project, or the Project approvals, to solve the issue. A strategic and systematic response is needed. Further, there is little that the current planning system, or any approvals for an individual project, can do to prevent people choosing to convert their investment properties to short term accommodation.

The IAC strongly encourages Council to continue to pursue its efforts to address affordable housing issues in the municipality more broadly. It encourages Council to keep a close eye on the availability of affordable long term rental stock in the area as the Project progresses and gains in popularity. Council should employ whatever levers it has available to address any worsening affordable housing issues early and proactively. Council should actively explore and encourage the development of more short term accommodation in Warburton as demand generated by the Project grows. This might include proactive changes to the planning controls on some of the key sites identified by Council to facilitate their redevelopment as short term accommodation.

Impacts on bushwalkers, hunters and other recreational users of the Project area

The IAC acknowledges the submissions expressing concern about the potential for conflict between cyclists and other recreational users, including safety concerns. The IAC took the opportunity to ask many of the submitters (both mountain bikers and bushwalkers) whether they had ever experienced conflicts or collisions. Many had, but most had experienced these on shared trails.

The vast majority of trails proposed as part of the Project will not be shared trails. They will be exclusively for mountain biking. Further, the provision of exclusive purpose built mountain biking trails should result in a reduction of the use of existing walking trails in the area by mountain bikers, which may in fact improve the current situation.

The IAC is confident that trails can be appropriately signed to make it clear which are for the exclusive use of walkers, and which are for the exclusive use of mountain bikers. Those parts of the network where some shared use is proposed (such as sections of the O'Shannassy Aqueduct Trail and Lilydale-Warburton Rail Trail) are already shared use trails, and are much wider and less steep than single use trails for either walking or mountain biking. Some monitoring of rider behaviour will be required in these sections, and Council will need to proactively respond to any complaints received about inappropriate rider behaviour. This is provided for in the EMF (Table 16-29).

The IAC does not share the concerns of some submitters about the number of intersection points between walking and cycling trails. It is confident on the basis of the evidence of World Trails and the responses of many submitters to the IAC's questions that trails can be successfully designed with choke points, signage and physical barriers that force riders to slow or (if necessary) stop at

intersection points. These design features can be supported by ensuring that mapping of the trail network clearly shows intersection points, codes of conduct for riders, and a comprehensive education campaign for riders and the community more broadly. All of these measures are addressed in the two mitigation measures SM6 (the IAC suspects one of these should be numbered SM05, which is not currently used).

Part of Cemetery Track which is currently available to 4WDers will be closed and converted to a mountain bike trail only. This will reduce an existing opportunity for 4WDing in the area. However, based on the IAC's observations of 4WD tracks on its site visit, 4WDing has the potential to create significant erosion and localised destruction of the natural environment. Converting this section of Cemetery Track to mountain bike access only is likely to result in an overall better environmental outcome.

The IAC accepts Ms Peterson's evidence that impacts on hunting within the State Forest will be minor. It notes the EES cites advice from the Victorian Government that:

> … there is no evidence of significant issues arising from coexistence of these uses as hunters generally avoid high use areas and game is not likely to be found in the presence of humans.

The establishment of Project facilities in Wesburn Park will need to be carefully managed to ensure that the Project does not unreasonably impact on existing users of Wesburn Park. LP01 should be sufficient to ensure that this occurs. The IAC does not consider that the loss of a portion of the off-leash dog walking area is sufficient reason to modify the Project or exclude facilities from this area of the park. Council may wish to consider whether alternative off-leash locations can be provided elsewhere in the park as part of the master planning process.

With regard to Parks Victoria's concerns, the IAC has recommended the removal of the trails that start at the Mount Donna Buang summit, which will address concerns in relation to potential conflicts between mountain bike users and snow play visitors. Even if the trails from Mount Donna Buang summit were to proceed, the EES makes it clear that those trails would be closed in winter (when snow play occurs), and that the visitor facilities on Mount Donna Buang Summit will be upgraded to cope with the additional demand generated by the Project.

Impacts on the character and social cohesion of Warburton

Council and Ms Peterson both pointed to the significance of the high number of supporting submissions. While the IAC accepts that the Project is eagerly anticipated by many, most of these submissions did not come from the local community, those who will feel the negative impacts of the Project the most directly. As the IAC pointed out at the Hearing, assessing whether or not the Project should be supported is not a 'numbers game' or a 'popularity contest'. It is about balancing the impacts of the Project, and deciding whether they are acceptable.

There is no doubt that the Project will result in an increase in the number of visitors to the area, and an increase in activity in the township. While some submitters were concerned that this would change the town's character and erode the social cohesion that some in the community currently feel, others in the local community welcomed the opportunities that increased visitation and activity levels create.

The IAC accepts that some of the changes likely to be brought about by the Project will be unwelcome to some. However townships do not remain the same forever, and a degree of change is inevitable whether the Project goes ahead or not. Circumstances change. Some residents will leave and others will arrive.

It was apparent to the IAC from submitters' presentations that Warburton has developed a strong sense of community, and a supportive, close knit network of local residents. This should provide a strong foundation for the community to evolve and adapt to the change that will inevitably come. Changes brought about by the Project will be gradual, and the IAC is confident that the local community is sufficiently robust to adapt over time.

The IAC acknowledges the concerns raised by some submitters about antisocial behaviour from trail users. However in the IAC's experience, the fear of antisocial behaviour is often much worse than the reality (as is the fear of change). While the IAC does not dismiss these fears, they are somewhat at odds with the IAC's observations of the conduct of the many mountain bikers who came to present to the IAC, and the many stories presented to the IAC of socially inclusive, respectful and supportive communities built around mountain biking.

The Project has been designed to be inclusive, and will appeal to a wide range of mountain bikers including women, families and differently abled riders (Council's part C submission addressed this issue directly, and confirmed that Trails 8, 13, 43, 44 has been specifically designed to meet the Australian Adaptive Mountain Bike Guidelines). Women's participation in the sport is clearly growing, including through the efforts of clubs and organisations such as the Listy Chicks. The IAC is confident that the Project will not result in a male dominated, aggressive mountain biking monoculture in Warburton.

The IAC notes that the socio-economic reporting requirements contained in Table 16-29 of the EMF have not been directly translated into the CEMP or the OEMP. This can be addressed by a minor modification to Clauses 7.2(b) and 7.4(c) of the Incorporated document.

(v) Findings

The IAC finds:

- The Project is likely to exacerbate the affordable housing challenges in the area, through the 'AirBnB effect'. However access to secure affordable housing is a much broader issue, which requires a broader strategic and systemic response. There is a limit to what the Project can and should be expected to do to counter these issues.
- The IAC strongly encourages Council to continue to pursue its efforts to address affordable housing issues in the municipality more broadly. It will need to closely monitor the supply of affordable rental housing as the Project gains popularity, and proactively respond to arising issues, employing whatever levers it has available (including actively facilitating and encouraging the development of short term accommodation in the area).
- Conflicts between mountain bikers and other recreational users of the area can be managed to an acceptable level, including through mitigation measures SM06 that apply under both the CEMP and the OEMP.
- The IAC is confident that while there will be the need for some adaption on the part of the local community, the Project will not destroy the social cohesion of this robust, close knit local community.

(vi) Recommendation

The IAC recommends:

25. Amend the Incorporated Document as shown in Appendix G:
- **a) amend Clauses 7.2(c) and 7.4(b).**

15.4 Overall conclusions on socio-economic impacts

The IAC is satisfied that the socio-economic impacts of the Project can be managed to acceptable levels. While the economic benefits of the Project are difficult to precisely quantify, the increased visitation expected to be generated by the Project will undoubtedly provide an economic boost to the area and to local businesses. It will provide new job opportunities that will likely benefit locals, particularly during the operations phase. It will also provide opportunities for new businesses to establish, to support the needs of the increased tourism that the Project will generate.

The IAC considers that the Project has the potential to deliver some very significant social benefits. Many submissions pointed to the important ways on which the Project has the potential to contribute to increased participation in the sport, at all levels from the beginner to the elite, across genders, age groups and physical and intellectual abilities, as well as the increased training and education opportunities that the Project presents. The IAC was particularly struck by the submissions on behalf of Deaf Mountain Bikes Victoria and Handicap Australia that highlighted the opportunities that mountain biking provides to encourage increased participation in sport, and the fact that certain trails will be specifically constructed to comply with the Australian Adaptive Mountain Bike Guidelines.

The Project will have some negative social impacts, and these will be felt locally by the existing residents of the area. The most significant impact is the potential conversion of existing (already limited) long term affordable rental stock to short stay accommodation. The impacts of this on some may be profound, even forcing them to relocate from Warburton. However overall, the IAC is satisfied that the socio-economic benefits of the Project outweigh its disbenefits.

One of the key ways in which socio-economic impacts can be managed is through effective ongoing stakeholder communication and engagement. The local community is among the most important stakeholders, and effective communication and engagement with the local community will be very important in building trust and social cohesion.

The EMF sets out a comprehensive stakeholder engagement program (in Sections 16.6 and 16.7), and there are several mitigation measures in the CEMP and OEMP which provide for ongoing stakeholder consultation (see for example TP02, LP01 and SM07). The Incorporated Document also contains a number of requirements for ongoing stakeholder engagement to be incorporated into the CEMP (see Clause 7.2(c)) and OEMP (see Clause 7.4(b)). Council will need to ensure that the communication and engagement programs actively and effectively engage with the local community.

The IAC has reviewed the mitigation measures proposed to manage the socio-economic impacts of the Project, and considers that they are consistent with the evaluation objective and the Scoping Requirements. No adjustments are considered necessary. Nor are any adjustment to the Incorporated Document.

The IAC concludes:

- There are no socio-economic impacts that preclude the Project being approved.

16 Matters of National Environmental Significance

This Chapter draws together the IAC's assessment of impacts on matters of national environmental significance (MNES), to assist the Minister for Planning to advise the Commonwealth Minister for the Environment on the assessment required under the EPBC Act.

16.1 Introduction

Because of its potential impacts on MNES, the Project was determined to be a controlled action under the EPBC Act on 16 June 2020. The relevant controlling provisions under the EPBC Act are 'listed threatened species and communities' (sections 18 and 18A).

The EES process is an accredited assessment process for controlled actions under the EPBC Act. The assessment of environmental effects by the Minister for Planning will be provided to the Commonwealth Minister for the Environment to inform the approvals decision under the EPBC Act.

Clause 15 of the Terms of Reference states:

> To assist the Minister for Planning in making his assessment, the IAC should specifically identify its advice relevant to impacts on specific matters of national environmental significance examined in the EES.

Clause 33(h) requires the IAC to make:

> … specific findings and recommendations about the predicted impacts on matters of national environmental significance and their acceptability, including appropriate controls and environmental management.

16.2 Commonwealth listed species

(i) What did the EES say?

EES Chapter 14 addresses MNES. This identified two listed flora species and twelve listed fauna species considered to have a medium to higher likelihood of occurrence within the study area, as listed in Table 13.

Table 13 EPBC Act listed species with a medium to higher likelihood of occurrence in the study area

Flora species	Fauna species
Round-leaf Pomaderris	Swift parrot
Tall Astelia	Leadbeater's Possum
	Spot-tailed quoll
	Smoky mouse
	Southern brown bandicoot
	Macquarie perch
	White-throated needletail
	Southern greater glider
	Broad-toothed rat
	Grey-headed flying-fox
	Australian grayling
	Murray cod

The likelihood of Broad-toothed rat was revised to low following habitat surveys.

EPBC significant impact criteria assessments were undertaken for each species (see Appendix 7 to Technical Appendix A), and it was concluded the Project was unlikely to have a significant impact on any of these species.

(ii) Cross references

Evidence, issues, mitigation measures and discussion for MNES is contained in the following sections.

Table 14 Cross-references to MNES discussion

Leadbeater's Possum	The assessment of potential impacts of the Project on Leadbeater's Possum is contained in Chapter 9.3
Mr Lane gave evidence the following EPBC-listed species required further consideration in the EES: - Matted flax-lily - Green-striped greenhood - Black-faced monarch - Latham's snipe Having said that, Mr Lane was of the opinion, even if these species had been considered for assessment in the EES, the outcome would not have changed	The assessment of potential impacts on the Project of other listed species (including MNES) is contained in Chapter 9
Mount Donna Buang Wingless Stonefly	This species is not currently listed under the EPBC Act. The IAC received information and submissions regarding an existing nomination for this species to be listed. This is discussed in Chapter 8

16.3 Overall conclusions on impacts on matters of national environmental significance

Having had regard to the EPBC Act and the significant impact guidelines and threat abatement plans made under the EPBC Act (see Appendix E in Report No. 2), the IAC is satisfied that the residual impacts on MNES, after implementation of the mitigation measures, will meet the evaluation objective of avoiding or (where avoidance is not possible) minimising impacts on MNES.

While the Mount Donna Buang Wingless Stonefly is not currently a MNES, a nomination is pending. The IAC has concluded that Project modifications are required to manage the impacts to the Stonefly to acceptable levels. This is discussed in Chapter 8.

The IAC concludes:

- There are no impacts on MNES that preclude the Project being approved.

17 Yarra Ranges National Park

17.1 Introduction

(i) Infrastructure within the National Park

The Project proposes the following infrastructure in the National Park:

- the trail head at the Mount Donna Buang summit, which would include minor upgrades to the existing visitors' facilities and car park including drainage upgrades, a shuttle bus drop-off and a bike wash station
- Trail 1 or Trails 45 to 47 (with Trail 1 being the preferred)
- Trails 2, 3 and 4, which connect Trail 1 into the main trail head at the Warburton Golf Couse via Trails 9 and 10 (the trail head and Trails 9 and 10 are located outside the National Park)
- Trails 5, 6 and 7, which connect Trails 45 to 47 into the main trail head via Trails 9 and 10
- Trail 8, which the IAC understands connects Trail 47 (at Donna Buang Road) to the existing O'Shannassy Aqueduct trail located just to the south of the National Park.

Figure 8 Infrastructure within the Yarra Ranges National Park

Source: Consolidated Mapbook Part 1 (D24(a)), Mapbook Figure F2 (extract)

(ii) The National Parks Act

The Yarra Ranges National Park was created as a national park on 15 December 1995, based on recommendations by the Land Conservation Council (D95).

The NP Act establishes a legal framework for the protection, use and management of (among other areas) national parks. The objectives of the NP Act for national parks are set out in full in Appendix E in Report No. 2. Works associated with the Project within the National Park (including trails and structures) require approval from the Minister for Energy, Environment and Climate Change under section 23 of the NP Act.

Parks Victoria manages national parks, and must ensure that each national park is controlled and managed in accordance with the objects of the NP Act, in a manner that will (among other things) preserve and protect the park in its natural condition for the use, enjoyment and education of the public.

(iii) The Park Management Plan

Under the *Parks Victoria Act 2018*, Parks Victoria must prepare a management plan for each national park. The Park Management Plan (D96) was approved in June 2002. It includes aims related to conservation, park protection, catchment areas and water resources, and park visitation.

The Park Management Plan applies four management zones within the National Park. The trails are proposed to be located within the following zones:

- Conservation and Recreation
- Recreation Development
- Conservation and Water Supply.

Table 2 of the Park Management Plan sets out the permitted uses in each zone. Cycling is conditionally permitted in each of these zones.

Section 5 of the Park Management Plan sets out aims and strategies for visitors to the National Park. It identifies cycling as a minor but increasing use of the National Park. The management aim for cycling is:

> To provide opportunities for cycling consistent with the protection of park values.

The strategies supporting this aim are to:

- permit cycling on roads, tracks and ski trails, in accordance with Tables 3, 5 and 6 (mainly sections of walking tracks open to management vehicles, and ski trails outside the snow season)
- prohibit cycling on existing walking tracks except as specified in Tables 5 and 6
- investigate the possible use of the Donnelley's Picnic Area-Badger Weir Picnic Area and O'Shannassy Aqueduct for walking or cycling
- monitor the use of the National Park by cyclists, and undertake appropriate measures if the park values are being adversely affected or where conflicts between users arise.

17.2 Key issues

The key issues are:

- whether the Project is consistent with the regulatory and management framework for the National Park
- whether the impacts of the Project on the National Park's conservation values have been adequately assessed
- whether Trails 2 to 8, particularly 5 to 8, should be supported.

17.3 Evidence and submissions

Council

Council submitted that the use of the south western portion of the National Park for the Project is consistent with the objects of the NP Act which include making use of national parks by the public for enjoyment and recreation and for the encouragement and control of that use. It submitted that mountain biking is not inconsistent with the objects of the NP Act to preserve and protect the natural environment and protect designated water supply catchment areas, and is generally consistent with the Park Management Plan. It noted that cycling is a permissible activity within the

Conservation and Recreation zone and the Recreation Development zone applied by the Park Management Plan.

In particular, Council noted:

- Trails 2 to 4 (near the O'Shannassy Aqueduct) are in a highly disturbed environment
- Trails 5 and 6 run parallel to an existing walking track in poor condition with limited maintenance
- Trail 7 is predominantly on a decommissioned walking track
- Trail 8 is in part located in a disturbed area with pine trees and other exotic flora present.

The IAC asked Council what, if any, assessment had been undertaken of alternatives which avoided the National Park (Q14 in RFI1). Council's response (in D71) pointed to the findings of the Economic Feasibility Study that Case 1 (with Trail 1) delivers substantially greater economic benefits than Cases 2 and 3 (without Trail 1).

Parks Victoria

In its original submission (S1523), Parks Victoria submitted that "*the extent of mountain bike facilities proposed in the EES by Yarra Ranges Shire Council is of a scale that is not aligned with the current approved park management plan*", and that the Park Management Plan will need to be amended if mountain biking is approved "*at any scale*".

The Parks Victoria Board has considered and provided in principle support for Trail 1 and Trail 2 (along the O'Shannassy Aqueduct). It considered, but did not support, Trails 5 to 8 "*due to the cumulative impacts to the temperate rainforest and specific species, the scale of development within the national park (noting the additional tracks available within the adjacent State forest), and to the natural values"*.

The Board had neither considered nor endorsed Trails 45 to 47. At the Hearing, Parks Victoria submitted that these trails should not be considered in isolation, as they can only be accessed to and from the main trail head via Trails 5 to 8. The impact of Trails 45 to 47 is therefore cumulative with the impacts of Trails 5 to 8, which Parks Victoria does not support.

Parks Victoria was concerned that the modelling may have under-predicted visitor numbers to the National Park, and that Council may want to expand facilities, or adopt new visitor management strategies, beyond what is assessed through the EES process. It submitted that this would be *"an unacceptable outcome*". It also considered that the impacts on park values of events (some that could attract thousands of visitors) had not been adequately considered in the EES, and that the focus of the assessment should be impacts to natural and social values within the National Park, not the market or purpose of the event.

Parks Victoria also expressed concerns in both its original submission and its presentation to the IAC about the potential for illegal or unplanned trails to be developed in the National Park, as had occurred in other locations.

In response, Council submitted that it remains committed to continuing close collaboration with Parks Victoria as the land manager for the National Park, and will continue to work with Parks Victoria to understand how the outcomes of the EES process will inform changes to the Park Management Plan to enable the construction and use of mountain bike trails.

Responding to Parks Victoria's position that Trails 5 to 8 should not be supported, Council noted that Parks Victoria had not elected to call evidence that demonstrated that Trails 5 to 8 would have unacceptable cumulative impacts to the temperate rainforest and specific species. Nor did it cross

examine Mr Looby in relation to his assessment of the ecological impacts of Trails 5 to 8. It submitted:

> In those circumstances, it is Council's submission that the evidence of its experts ought be preferred.

Submitters

Around half of the opposing submissions opposed or queried the appropriateness of any trails in the National Park, submitting that a recreational/tourism operation, particularly of this scale, is not consistent with the purposes for which the National Park exists and is being protected. Many submitted that the EES had failed to assess the Project against the objectives of the NP Act or the Park Management Plan, and that had it done so, it would have found that the Project is inconsistent with both.

Many submissions adopted or endorsed the submissions of the VNPA on these points. The VNPA submitted the Project is "*fundamentally inconsistent*" with the objects of the NP Act and the Park Management Plan, and the extent of the inconsistency "*provides a clear basis for the IAC to conclude that the impact of the proposal on the Park will be significant and unacceptable*".

The VNPA submitted that the objects of the NP Act are "*central to understanding the purpose and intent of national parks created under the Act*". It submitted that the objects are not equally weighted. Rather, the enjoyment or recreation objectives are "*subject to*" the preservation and protection objectives. It provided detailed legal submissions on statutory construction in support of its position, which have been considered by the IAC but are not repeated here.

The VNPA submitted that the EES failed to assess the potential impacts on the conservation values of the National Park, as required under the Scoping Requirements. Instead, the EES assumed that the conservation values of the National Park "*are nothing more than the biodiversity and habitat impacts*" set out in Chapter 8 and Technical Appendix A. It submitted that while this is a conventional approach, appropriate in most contexts, it is incomplete:

> Limiting the identification and assessment to these values is a reductionist approach that fails entirely to measure the impacts against the conservation values of the land, on which the project is to be developed, namely the Park having regard to the strategic processes and decisions that informed its creation, the objects of the National Parks Act under it was created, and which continue to guide if not control what can be done on the land, the framework for its management by Parks Victoria and the purpose and intent of the Park Management Plan.

The VNPA submitted that national parks are not solely designed to protect individual threatened species – this is the job other legislation. Rather, they are "*designed to protect [a] comprehensive, adequate and representative selection of ecosystem*". It submitted that the failure to undertake this assessment "*fundamentally compromises*" the capacity to assess the significance of the impacts of the proposal on and in the National Park, and that there is "*no proper basis for the IAC to make findings that the impacts of the proposal on the conservation values of the Park are acceptable*".

The VNPA went on to provide its own assessment of the Project against the National Park's conservation values, submitting that the impacts on conservation values would be unacceptable, submitting that:

- the Park Management Plan is a clear expression of the conservation values of the National Park, and a reflection of the NP Act objects

- the Project is inconsistent with the Park Management Plan, the vision for the Park and the Park zoning scheme, demonstrated by the evidence of Dr Meredith
- the fundamental aims for the Park under the Park Management Plan are to preserve and protect the natural environment, allow natural environmental processes to continue with minimal interference, and maintain biodiversity
- the Project is inconsistent with these fundamental aims.

Dr Meredith provided detailed evidence on the regulatory framework protecting national parks. He considered various definitions of a national park both here in Victoria and in other jurisdictions, and stated:

> Each of these concepts and definitions for national parks have a very clear hierarchy of protections. Protection of ecological and other natural process, biodiversity and natural values are consistently the top priorities, with visitor use and recreation both also priorities but lower in the list and always subject to being consistent with the key protections. There is also an emphasis on using the visitor and recreational experience to educate and inform the park users about the values, purpose and significance of national parks. Nowhere is intensive recreation list as a priority.

Dr Meredith provided evidence on the Land Conservation Council's recommendations for the creation of the National Park, noting that the recommended Park boundaries focused on protecting "*the 'best of the best' areas that support outstanding and significant values*". His evidence was that while the recommendations recognised that recreational uses could be allowed within the National Park, they contemplated small scale, low impact largely passive uses confined to small areas so as to minimise disturbance.

Dr Meredith considered whether the Project was consistent with the Park Management Plan, concluding it was not. He considered:

- the Project is not consistent with the zoning scheme in the Park:
  - while "*some degree*" of mountain bike trails would be consistent with the Conservation and Recreation zone, an intensive development such as the Project is not appropriate
  - the development ought not be considered in the Conservation and Water Supply zone
  - the Recreation Development zones are localised and small in area, and the extent of trails proposed, affecting a large area of the National Park and with some high intensity, would not be consistent with this zone
- the Project is not consistent with the other aspects of the Park Management Plan:
  - while the Park Visit section envisages recreational activities including cycling, the focus is on low key activities and short non-demanding trails, such as bushwalking using existing tracks with no new tracks proposed
  - cycling is restricted to vehicular access roads and tracks, and some sections of walking tracks ski trails, and is not permitted on most roads and tracks in the drinking water catchment.

The VNPA submitted that the EES's focus on listed threatened species and communities, and the generic native vegetation removal provisions, is "*highly likely to have overlooked a range of other environmental values that are integral to the conservation values of the Park*". Examples included the rich and diverse vegetation communities described in Dr Cheal's evidence, and the insect species as yet unknown or unstudied referred to in the Entomological Society's submission (S2177). Friends of Leadbeater's Possum (S2364) and Mr Tsyrlin in his oral evidence also

mentioned the possibility of other as yet unknown and/or unstudied species being present in the National Park.

The VNPA further submitted that the biodiversity assessment had failed to capture a range of other related conservation values, such as the value of the Park for scientific research and its role in threatened species recovery programs (the Leadbeater's Possum and possibly also the Stonefly). It submitted that the conservation values of the Park include a range of aesthetic and philosophical values, including "*the opportunity for enjoying nature without the intrusion things like sponsorship and events*".

Dr Melanie Birtchnell (S2514) is a professional Ecologist, PhD qualified, with over 20 years of experience in environmental impact assessment, biodiversity planning and education. She also has extensive experience in threatened species conservation. She submitted that the Project is "*the complete antithesis of what is urgently required to protect Victoria's biodiversity*". She submitted that trails within National Park "*is counter to the values and aims of the National Park legislative protection and would result in a worsening situation for ecosystems in Victoria*" given the National Park supports habitat and ecosystems that are critical for the survival of already threatened species:

> Why would we consider a project, within a National Park (that is, with legislative protection for its National biodiversity significance) and with known threatened species and threatened floristic community habitat, that would drive further declines to Victoria's biodiversity and threatened species?

Dr Birtchnell submitted that allowing trails within the National Park would drive yet another species (the Stonefly) closer to extinction. She submitted:

> There is no other place on Earth where we could find habitat for this species. Furthermore, the cost of implementing conservation strategies (e.g. habitat restoration, translocation, captive breeding programmes) is prohibitively expensive, rarely yields adequate outcomes for the threatened species and is completely avoidable if the tracks within Yarra Ranges National Park are NOT approved.

She submitted that the trails in the National Park will result in "*completely avoidable*" habitat and vegetation removal which is "*totally inconsistent*" with the Park Management Plan.

17.4 Discussion

(i) Consistency with the Park's regulatory and management framework

While it is not the role of the IAC to make legal rulings on the interpretation of legislation, it prefers Council's interpretation of the objectives of the NP Act to that urged by the VNPA and Dr Meredith. It does not agree that the objectives establish a clear hierarchy of objects or purposes, with any recreational uses being subservient to conservation and protection purposes. This is not apparent in the language of the text of the NP Act.

Even if the IAC was wrong on this point, and recreational uses should be regarded as subservient to conservation and protection purposes, this would not necessarily rule out trails in the National Park as many submitters have suggested. Recreational uses could still be allowed, provided they do not unreasonably compromise the conservation values of the national park in question.

If this were not the case, it would be difficult to see how any recreational uses of national parks, including bushwalking and camping, would be regarded as consistent with the objectives of the NP Act. All of these uses impact on the natural environment to varying degrees.

The IAC acknowledges Dr Meredith's detailed evidence on the establishment of the Land Conservation Council and its recommendations for the creation of the National Park. However those recommendations were made for a specific purpose (namely the creation of the National Park). Its ongoing management is guided by the NP Act and associated legislation including the *Parks Victoria Act 2018* and the Park Management Plan.

The IAC accepts that the Project is not consistent with the Park Management Plan as currently drafted. Both Council and Parks Victoria have acknowledged as much. However the legislation allows for (indeed encourages) park management plans to be reviewed and updated. The key question is not whether the Project is consistent with the Park Management Plan as currently drafted, but rather whether the Park Management Plan could be amended such that the Project is consistent with the Plan while still meeting the objectives of the NP Act.

The IAC is satisfied that, in principle, mountain biking in the National Park does not offend the objectives of the NP Act, or the zoning regime in place under the Park Management Plan. The IAC is satisfied that mountain biking in some form can be accommodated while still managing the Park responsibly. That said, the use must be carefully sited, designed and properly constructed and maintained to ensure that it does not compromise the important preservation, protection, conservation and scientific functions of the National Park.

The IAC acknowledges the submissions of Dr Birtchnell, the VNPA and others, and the evidence of Dr Meredith, that unlike some other projects (such as a mine, which must 'follow the resource'), mountain bike trails do not need to be located in the National Park. The VNPA brought the IAC's attention to a guidance note for tourism leases in national parks (D97), which states:

> … rather than encouraging developments inside national parks, tourism development will be encouraged to be sited on private or other public land outside parks, in locations that are more likely to provide economic benefits directly to regional towns.

While the guidance note appears to have been published by DELWP in 2015, its status is unclear, and the IAC has afforded it limited weight. In any event, the guidance note goes on to state:

> Nonetheless, a range of private investment possibilities in national parks may be considered depending on the site, the scale of the proposal and whether the requirements of the National Parks Act can be met. Examples of potential proposals could include eco-huts or other types of boutique tourism accommodation, guided walks with low impact accommodation, or other recreational facilities such as treetop walks or ziplines.

The IAC does not agree with the VNPA that the scale and impact of the Project go well beyond that contemplated by the guidance note.

(ii) Impacts on the Park's conservation values

The IAC acknowledges the VNPA's submissions that the EES does not adequately assess the potential impacts on the conservation values of the National Park. It agrees that these conservation values extend beyond specific impacts on specific species and vegetation present in the Park, to the protection and conservation of ecological communities. It agrees that the conservation values include the protection of as yet unknown species that may be present within the Park's ecosystems, and opportunities for scientific research and study.

The IAC does not, however, agree that the EES has fundamentally failed to assess the impact of the Project on the broader conservation values of the Park, or that the IAC has no proper basis to find that the impacts of the Project on those conservation values are acceptable. The EES is a comprehensive and thoroughly researched document that provides a detailed assessment and

consideration of the impacts of the Project, how those impacts are best managed, and whether the residual impacts (after mitigation) are acceptable.

For the reasons set out in Chapters 7 and 8, the IAC has concluded that the residual impacts (after mitigation) of some elements of the Project – namely Trail 1 and Trails 45 to 47 – will be unacceptable. The IAC has recommended the removal of Trails 1, 45, 46 and 47. The acceptability of the remaining trails within the National Park is considered below.

(iii) Trails 2 to 8

The IAC accepts that the residual impacts of Trails 2 to 4 and Trails 5 to 8 are acceptable having regard to the objectives of the NP Act and the Park Management Plan's aim to protect sensitive environments. It accepts Council's submissions that:

- Trails 2 to 4 (near the O'Shannassy Aqueduct) are in a disturbed environment
- Trails 5 and 6 run parallel to an existing walking track in poor condition with limited maintenance
- Trail 7 is predominantly on a decommissioned walking track
- Trail 8 is in part located in a disturbed area with pine trees and other exotic flora.

These submissions were not challenged by evidence, and were consistent with the IAC's observations on its site visit.

Trails 1 and 45 to 47, on the other hand, are in pristine and currently undisturbed parts of the Park. These areas contain important habitat for threatened species, possibly support a number of as yet unknown species, and contain extremely high quality stands of vegetation. The scientific and conservation values of these areas are high – much higher than the areas traversed by Trails 2 to 8.

(iv) Findings

The IAC finds:

- Mountain biking is not inherently inconsistent with the objectives of the NP Act or the aims and strategies in the Park Management Plan. That said, the use must be carefully sited, designed, constructed and maintained to ensure that it does not compromise the other protection and conservation values of the National Park.
- Trails 1 and 45 to 47 are in pristine and currently undisturbed parts of the Park that contain important habitat for threatened species, possibly support a number of as yet unknown species, and contain extremely high quality stands of vegetation. The scientific and conservation values of these areas are high.
- The remaining trails in the National Park (Trails 2 to 8) are in less pristine, more highly disturbed parts of the Park where the conservation values are not as high. These trails are considered acceptable having regard to the objectives of the NP Act and the Park Management Plan's aim to protect sensitive environments.

17.5 Overall conclusions on impacts on Yarra Ranges National Park

The IAC concludes:

- Trails 1 and 45 to 47 should be removed due to unacceptable impacts on CTR and the Stonefly. There are no impacts on the Yarra Ranges National Park that preclude Trails 2 to 8 being approved.

PART C: INTEGRATED ASSESSMENT, PROJECT IMPLEMENTATION AND RESPONSE TO TERMS OF REFERENCE

18 Integrated assessment

18.1 Introduction

Previous chapters in Part B of this Report have considered the environmental effects of the Project on discrete environmental values. This chapter provides the IAC's integrated assessment of the environmental effects of the Project as a whole, assessed against the legislative and policy framework and the evaluation objectives. It also includes the IAC's more detailed considerations in relation to net community benefit, in the context of assessing the appropriateness of the draft PSA.

18.2 Assessment against the legislative and policy framework

The legislative and policy framework is summarised in Appendix E in Report No. 2.

The objects of the NP Act are discussed in detail in Chapter 17. The IAC has found that, broadly speaking, the Project is consistent with the objects of the NP Act. That said, the IAC's recommendation to remove Trails 1, 45, 46 and 47 from the National Park strikes the appropriate balance between the NP Act objectives to protect and preserve the environmental, scientific and conservation values of national parks, and the objective to make national parks available for the enjoyment, recreation and use of the public.

The PE Act requires an integrated assessment of the draft PSA having regard to its environmental, economic and social impacts, and to balance the present and future interests of all Victorians. The IAC considers that, subject to the removal of Trails 1 and 45 to 47, the Project achieves an appropriate balance of competing policy objectives under the PE Act and the Yarra Ranges Planning Scheme, including policies that encourage tourism and economic development and policies that seek to protect and preserve the natural environment.

The *Yarra River Protection (Wilip-gin Birrarung murron) Act 2017* applies to Yarra River land, which includes Crown land within 500 metres of the banks of the River. Most of the Project infrastructure (with the exception of the Yarra River bridge) will be located outside Yarra River land. The Act therefore has limited relevance. Nevertheless, the IAC has considered the Yarra Strategic Plan, the Yarra River Protection Principles and the principle of net environmental gain, and considers that the Project (to the extent that it impacts on the River and Yarra River land and engages these principles) is not inconsistent with those principles.

The FFG Act objectives emphasise the need to prevent species and communities from becoming threatened, to recover species and communities that are threatened, and to prevent threatening processes (such as the spread of pathogens) that can lead to biodiversity decline. *Protecting Victoria's Environment – Biodiversity* 2037 (), the State's biodiversity strategy under the FFG Act, recognises the need to halt species decline and improve biodiversity outcomes over the next 20 years. The IAC has found that the risks posed by the Project to CTR and CTMF and the Stonefly are not able to be managed to acceptable levels. The recommendation to remove Trails 1 and 45 to 47 (Recommendation 5) is consistent with the objectives of the FFG Act and the policies and Action Statements that sit under that Act.

The *Water Act 1989* and the *Safe Water Drinking Act 2003* require the State's water catchments to be managed to conserve water resources and maintain water quality, particularly drinking water quality. The IAC has found that with the application of mitigation measures, water quality

objectives can be maintained and the Project will not have unacceptable impacts on surface water or groundwater resources. While the IAC has recommended the removal of Trail 1 for other reasons, it does not consider that the section of Trail 1 proposed in the Coranderrk Creek catchment would be unacceptable from a water quality perspective.

Cultural heritage and post-contact heritage impacts are not inconsistent with the *Aboriginal Heritage Act 2006* and the *Heritage Act 2017*, and the mitigation measures in the EMF as well as the further consents and approvals required under those Acts combine to provide an appropriate framework for managing heritage impacts to acceptable levels.

18.3 Assessment against evaluation objectives and decision making principles

The Scoping Requirements state that the evaluation objectives:

> … identify desired outcomes in the context of key legislative and statutory policies, as well as the principles and objectives of ecologically sustainable development and environmental protection, including net community benefit.

The Terms of Reference require the IAC to assess the Project's impacts having regard to the evaluation objectives and the principles and objectives of ecologically sustainable development. These and other key decision-making principles are summarised in Appendix E in Report No. 2.

Table 15 summarises the IAC's assessment of whether the Project meets the evaluation objectives, and provides a cross reference to the relevant discussion in the Report.

Table 15 IAC's integrated assessment against the evaluation objectives

Evaluation objective	IAC's integrated assessment Relevant chapters of this Report
Biodiversity and habitats – Avoid and where avoidance is not possible, minimise potential adverse effects on native vegetation and animals (particularly listed threatened species and their habitat and listed ecological communities), as well as address offset requirements consistent with state and Commonwealth policies.	Subject to Project modifications, and subject to the application of modified and strengthened mitigation measures, the IAC considers that the Project meets the biodiversity and habitats evaluation objective, and is consistent with the principles of ecologically sustainable development. The modification required is the removal of Trails 1 and 45 to 47. The IAC considers that these trails would present significant risks to threatened ecological communities and species, and that the risks could not be managed to within acceptable levels with mitigation measures. Trails 1, 45 and 46 also present unacceptable risks to the Stonefly. Trails 1 and 45 to 47 are not consistent with the principles of ecologically sustainable development, or the precautionary principle. Refer to Chapters 6 to 9.

Evaluation objective	IAC's integrated assessment Relevant chapters of this Report
Water and catchment values – Maintain the functions and values of groundwater, surface water and floodplain environments and minimise effects on water quality and beneficial uses.	The IAC is satisfied that the Project meets the water and catchment vales evaluation objective. No project modifications or modifications to the mitigation measures are required. Refer to Chapter 10.
Social, economic, amenity and land use – Minimise potential adverse social, economic, amenity and land use effects at local and regional scales.	Subject to the application of modified and strengthened mitigation measures to manage the traffic impacts of the Project and bushfire risks, the IAC is satisfied that the Project meets the social, economic, amenity and land use evaluation objective. No project modifications are required. Refer to Chapters 12, 13, 14 and 15.
Cultural heritage – Avoid, or minimise where avoidance is not possible, adverse effects on Aboriginal and historic cultural heritage.	The IAC is satisfied that the Project meets the cultural heritage evaluation objective. No project modifications or modifications to the mitigation measures are required. Refer to Chapter 11.

18.4 Net community benefit

Net community benefit is relevant for assessing whether the Project should receive planning approval (whether the draft PSA should be adopted).

Clause 71.02-3 of the Victoria Planning Provisions 'Integrated decision making' provides that:

> Society has various needs and expectations such as land for settlement, protection of the environment, economic wellbeing, various social needs, proper management of resources and infrastructure.
>
> Planning aims to meet these needs and expectations by addressing aspects of economic, environmental and social wellbeing affected by land use and development. Planning and responsible authorities should endeavour to integrate the range of planning policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations. However, in bushfire affected areas, planning and responsible authorities must prioritise the protection of human life over all other policy considerations.

Clause 71.02-3 further notes the importance of sustainable development, and the prioritisation of human life in bushfire affected areas.

The Project has a number of competing policy objectives. These must be balanced in favour of net community benefit. The 'community' is not just the immediate local community, or the mountain biking community. Section 4(1)(g) of the PE Act states that planning is to balance the present and future interests of all Victorians.

The key competing policy objectives in the Planning Scheme are those that support tourism and economic development, and those that support the protection and preservation of the natural environment. These key policies are discussed in detail in Appendix E in Report No. 2.

Taking an evidentiary approach, the IAC has systematically reviewed and assessed each of the key impacts of the Project. Most impacts can be mitigated, although in some cases, substantial modifications to the mitigation measures are required to achieve acceptable outcomes. Some

impacts on environmental values are not able to be mitigated, requiring a modification to the Project (the removal of Trails 1 and 45 to 47 in the National Park, and the realignment or removal of any trails that traverse Stonefly habitat).

The IAC has found that the Project will deliver substantial economic benefits, although it is difficult to precisely quantify these. Local businesses will benefit from the increased economic activity in the townships, and the Project will generate employment opportunities for local residents. It will also deliver substantial social benefits to the mountain biking community and the broader Victorian community in the form of increased opportunities for recreation, fitness, improved physical and mental wellbeing, and opportunities for social connection.

As is often the case, the disbenefits of the Project will primarily be felt by the local community. The main disbenefit is likely to be the impact of the Project on local access to secure and affordable housing, as the increased tourism generated by the Project will create more demand for short term accommodation. In some cases, local residents may even be forced to move out of Warburton by rising house prices (including rental prices) and a decrease in the amount of long term affordable rental housing. That said, affordable housing is a broader issue, and there is a limit to what the Project can and should be expected to do to counter these issues.

There is some risk that the quiet rural character of the townships will change, and a risk that there may be some conflict between mountain bikers and others using the local facilities. However the IAC is confident that these issues can be managed.

Bushfire is a key consideration under Clause 71.02-3. The policy framework requires the prioritisation of the protection of human life over all other policy considerations. The Project is in an extreme bushfire risk area, and the risk of fires will need to be very carefully managed, not just for the protection of Project users but also for the protection of the local community. The IAC has recommended substantial changes to the bushfire and emergency planning requirements for the Project to ensure that emergency planning and management is clear, robust and effective, that accountabilities are clear, and that the Project's bushfire response does not rely on existing bushfire infrastructure that has been provided for the protection of the local community.

Overall, having balanced the various competing policy objectives, the IAC is satisfied that the Project will result in a net community benefit.

19 Project implementation

There are two key documents under which the Project, if approved, will be implemented:

- the draft PSA
- the EMF.

This chapter brings together the IAC's assessment and recommendations in relation to these key documents.

19.1 The Planning Scheme Amendment

(i) Introduction

Clause 6 of the Terms of Reference requires the IAC as an Advisory Committee to:

- review the draft PSA
- provide a report to the Minister for Planning as to whether the draft PSA contains appropriate provisions and controls
- recommend any changes to the draft PSA that it considers necessary.

The draft PSA is contained in Attachment VII to the EES. It was publicly exhibited together with the EES. It proposes to apply a Specific Controls Overlay (SCO) to the Project land, and introduce the Incorporated Document into the Planning Scheme to govern the use and development of the Project. The Incorporated Document allows the Project to proceed without the need for any permits under the Planning Scheme, provided works are in accordance with the conditions in the Incorporated Document.

The Incorporated Document (Day 1 version) requires the development of additional plans to be prepared to the satisfaction of the responsible authority and other authorities (as relevant):

- Development Plans (Clause 6)
- the CEMP (Clauses 7.1 and 7.2)
- the OEMP (Clauses 7.3 and 7.4)
- the Emergency Management Plan (Clause 8)
- Event Management Plans (Clause 13).

The detailed design of the Project, and the plans referred to above, will be based on the Minister's Assessment of the EES.

(ii) The choice of planning tools

In evidence, Ms Peterson broadly supported the use of an SCO and Incorporated Document. Her evidence was that despite the SCO overriding the applicable zones and overlays that otherwise apply to the Project land:

> … I am satisfied that the proposal is consistent with the purposes of each of the zones that the trail goes through, but the SCO provides a logical manner in which to provide a planning control for the Project.

Ms Peterson specifically considered whether the Project was consistent with the Significant Landscape Overlay Schedules 1 and 3 that apply to the Project land, and concluded that it was. The Significant Landscape Overlay sets out landscape character objectives including:

- conserving flora and fauna and ecological processes that contribute to the significance of the landscape
- ensuring that new development avoids inappropriate visual intrusion into the landscape.

Ms Peterson was satisfied that the mitigation measures successfully mitigate the impacts of the Project on the landscape values that are protected under the Overlay.

The IAC accepts Ms Peterson's evidence that the Project is broadly consistent with the purposes, aims and objectives of the underlying zoning and overlay controls that apply to the Project Land. It agrees that the SCO is an appropriate planning tool to govern the use and development of the Project, and to provide planning approval for the Project.

(iii) The SCO mapping

Mapping of the trails

The draft PSA proposes to apply the SCO to the trail alignments by way of a 20 metre wide corridor, within which the trails would be micro-sited to avoid or minimise impacts. The micro-siting process is described in Chapter 2.3(v).

Such a narrow linear control is not a typical planning response. The IAC requested Council to provide any examples of planning controls having been applied in this manner for other projects, particularly those involving recreational trails. Council was not able to provide any such examples.

The IAC remains concerned that the 20 metre corridor may not be sufficient to avoid areas with high environmental or heritage values. However it would not be appropriate to widen the approval corridor any further at this stage, as the EES has largely only assessed the 20 metre corridor.

The IAC is of the view that if it is discovered that significant impacts on environmental or heritage values cannot be avoided by micro-siting within the 20 metre corridor, Council should vary the alignment of the relevant sections of trail. This will require variation to the SCO mapping, which will require a further planning scheme amendment. This is a matter for Council to address if and when required.

Mapping of the trail heads including the Golf Course site

The exhibited SCO maps only include the trails and not the related infrastructure including the trail heads.

Ms Peterson recommended that the SCO be applied to the whole of the Golf Course site, to allow for design modifications including realigning the trails (if required) to achieve better noise outcomes for the residents in Martyr Road.

Relying on Ms Peterson's evidence, Council submitted that:

- the failure to include the trail heads in the exhibited SCO mapping is an oversight, as the exhibited EES documentation clearly referenced the trail heads including the Golf Course
- the SCO should be applied to the whole of the Golf Course site to ensure sufficient flexibility in the design of future trail alignment to ensure trails are best located to respond to the requirements of the Warburton Golf Club and to avoid adverse amenity impacts
- the IAC should recommend the SCO maps be amended to include all the land on which the associated infrastructure is to be constructed, including the whole of the Golf Course site.

The CFA requested that the SCO (with the exception of the trails) be removed from (or not applied to) any private land, including the Golf Course site. The CFA submitted that the application of the SCO to the whole of the Golf Course site should be carefully considered from a bushfire perspective. It submitted:

> Should the Warburton Golf Course cease its operation, the current manicured vegetation on site will not continue to be maintained. This has an unintended consequence that could potentially see an increase in bushfire risk, and again needs to be considered with regards to Clause 13.02-1S.

The IAC agrees with Council and Ms Peterson that the SCO mapping should be adjusted to include the whole of the Golf Course site. This will allow fine tuning of the final design to ensure that the trails and trail head can be located to best suit the needs of the Golf Club, and to minimise amenity impacts (particularly noise impacts) on the nearby residents in Martyr Road.

While the IAC acknowledges the CFA's concerns, the IAC was not persuaded that there is a significant risk that the Golf Club will fail to maintain the vegetation on the site, or that the application of the SCO to the site would make this a greater risk. Even if the Golf Club did fail to maintain the vegetation on the site, there are mechanisms under other legislation and/or local laws to force landowners to maintain their property in a fire safe condition.

The SCO mapping should also be adjusted to include the Wesburn Park and Mount Tugwell trail heads, and the two bridges. It does not need to be adjusted to include the Mount Donna Buang trail head, given the IAC does not support the trails that are serviced by the Mount Donna Buang trail head (Trails 1 and 45 to 47), and has recommended the mapping be amended to remove those trails.

(iv) The Incorporated Document

The IAC is satisfied that it is appropriate to introduce the Incorporated Document into the Planning Scheme having regard to *Planning Practice Note 13 - Incorporated and Background Documents (PPN13).* The Incorporated Document is necessary to determine the planning controls that apply to land within the SCO.

As noted in Chapter 1.9, Council proposed Day 1 changes to the Incorporated Document. No further changes were proposed by Council. The final version of the Incorporated Document is the Day 1 version (D48). The IAC has based its assessment and recommendations on the Day 1 version.

The Day 1 version proposed the following changes to the exhibited Incorporated Document, which were largely in response to recommendations made by Ms Peterson:

- amendment to make the Minister for Planning (not Council) the Responsible Authority for the Project
- deletion of the exemptions for use on private land intersected by the trails due to an insufficient strategic planning basis
- addition to require a visual impact assessment for the two bridges (see Clause 6.1(d))
- addition to allow variations within the 20 metre corridor if any trail alignment is required as a result of the pre-construction micro-siting process (see Clause 6.2)
- changes to the Emergency Management Plan requirements in Clause 8 to:
  - include a bushfire management strategy
  - include additional consultation requirements (Victoria Police, Ambulance Victoria, SES and DELWP as well as the CFA and land managers)

  - amendment to only require the Plan prior to the commencement of use, not prior to development
- changes to the native vegetation controls to make them clearer, and as an added protection in relation to vegetation removal
- addition of a requirement for an Event Management Plan for larger events (see Clause 13)
- deletion of references to the legislative approvals required for historic heritage and Aboriginal cultural heritage, as these are addressed under other legislation
- minor corrections and drafting changes for clarity.

The IAC supports the Day 1 changes to the Incorporated Document, except where stated otherwise in this Report.

(v) Findings

The IAC finds:

- The planning controls in the draft PSA constitute an appropriate mechanism to facilitate the Project.
- The exhibited SCO mapping should be adjusted to:
  - apply the SCO to the whole of the Golf Course site
  - apply the SCO to the land needed for the Wesburn Park and Mount Tugwell trail heads and the two bridges proposed to be constructed as part of the Project
  - remove the SCO from Trail 1 and Trails 45 to 47.
- The Incorporated Document should be the Day 1 version (D48), with:
  - further modifications as recommended by the IAC
  - the Road Zone Category 1 reference updated to reflect changes to the Planning Scheme made by VC205 (which replaced the Road Zone Category 1 with the Transport Zone in all Victorian planning schemes).

(vi) Recommendation

The IAC recommends:

26. Amend draft Yarra Ranges Planning Scheme Amendment C198yran as follows:

a) Amend the exhibited Special Controls Overlap mapping to:

- **remove Trails 1, 45, 46 and 47**
- **include the whole of the Warburton Golf Course site at 17 Dammans Road, Warburton**
- **include the land required for the trail heads at Wesburn Park and Mount Tugwell and the two bridges proposed to be constructed as part of the Project.**

b) Amend the Incorporated Document to replace references to the Road Zone Category 1 with references to the Transport Zone.

19.2 The Environmental Management Framework

(i) Introduction

This chapter addresses overarching aspects of the EMF, including the CEMP and the OEMP. Specific mitigation measures are addressed in the relevant chapter in Part B of this report.

The EMF will be given effect through the PSA, as the Incorporated Document requires the approval of a CEMP and OEMP.

The EMF describes the development and use of a risk register for the Project. The risk register lists a range of measures to avoid, mitigate, minimise and monitor identified environmental risks throughout the Project.

Mitigation measures for the construction and operations phases contained in the EMF (and repeated in the CEMP and OEMP) address the following broad areas:

- Biodiversity and habitats
- Surface water, groundwater and geotechnical hazards
- Historic heritage and Aboriginal cultural heritage
- Traffic and transport
- Land use, noise, air quality and visual impacts
- Socio-economic impacts.

The EMF also outlines a proposed inspection, monitoring and reporting program during the construction and operations phases of the Project including an independent environmental auditing program.

A Communications and Community Engagement Plan would be prepared for both the construction and operation phases of the project prior to commencement. The EMF specifies that information would be posted on the Council's website and with specific briefings for government agencies such as Parks Victoria, DELWP and Melbourne Water. The CEMP and OEMP specify the stakeholder communications proposed to keep stakeholders (particularly communities in the immediate vicinity of the trails) informed regarding trail construction and operations.

(ii) The Scoping Requirements

The Scoping Requirements indicate that the EMF:

> … will articulate clear accountabilities for managing and monitoring environmental effects and risks associated with construction and operation phases of the Project.

The EMF is required to describe the baseline environmental conditions to be used to monitor and evaluate the efficacy of the environmental management and mitigation measures, as well as the residual environmental effects of the Project.

Key elements that the EMF must include are:

- organisational responsibilities, accountabilities and likely resourcing arrangements for environmental management during construction and operation
- a register of environmental risks associated with each phase of the Project
- a consolidated list of mitigation measures
- arrangements for management of and access to baseline and monitoring data, to ensure transparency and accountability
- the framework for managing illegal track building and other environmental incidents or emergencies
- monitoring programs, or justification for any aspects where monitoring is not proposed
- auditing and reporting requirements
- a program for community consultation, stakeholder engagement and communications for the Project, including a process for complaints recording and resolution.

(iii) Discussion

The roles and responsibilities of Yarra Ranges Council staff are described in Table 16-1 of the EMF. The roles and responsibilities of other personnel (contractors, independent auditors and the like) are described in the CEMP and OEMP.

The EES describes a risk based assessment framework in Chapter 6 which was used to determine individual risk ratings. Subject matter risk registers were prepared to inform the risk and impact assessments in the EES and are appended to the Technical Appendices to the EES. Council has indicated its intention to update these risk assessments to reflect the outcomes of the IAC process and to attach them to the CEMP and OEMP (as relevant). While a consolidated Risk Register has not been prepared, the IAC is satisfied that all relevant risks have been identified in the various EES Technical Appendices.

A major element of the EMF is the extensive mitigation measures proposed in the EES and contained in the CEMP and/or the OEMP. All the mitigation measures listed in the EMF are contained in the CEMP and OEMP (the IAC notes that there is no socio-economic mitigation measure SM5 in the EMF – this appears to be a numbering error).

The baseline environmental conditions that would be used to monitor and evaluate the efficacy of applied environmental management and contingency measures are summarised in Table 16-14 of the EMF. The IAC is broadly satisfied that they are fit for purpose and appropriate.

One of the aspects of the periodic inspection program described in Table 4-3 of the OEMP is identifying any illegally built trails in the region or widening of trails beyond the project footprint.

Emergency and environmental incidents are addressed in section 8 of the OEMP. Any environmental incidents would be managed through the project's Emergency Management Plan and the Yarra Ranges Council Complaint Policy.

Monitoring, auditing and reporting requirements are an important part of the EMF, to ensure transparency and accountability in the construction, operation and maintenance of the Project. These issues are addressed in the following Chapter.

The CEMP and OEMP specify the stakeholder communications proposed to keep stakeholders (particularly communities in the immediate vicinity of the trails) informed regarding trail construction and operations. They include a process for complaints management, which is required under Clauses 7.2(c) and 7.4(c) of the Incorporated Document. The IAC is satisfied that the Communications and Community Engagement Plan provides a mechanism to address the other Scoping Requirements for a program for community consultation, stakeholder engagement and communications for the Project.

The IAC is satisfied the EMF addresses all the key elements that must be included in the EMF and therefore addresses the scoping requirements of the EES.

(iv) Findings

The IAC finds:

- the EMF meets the Scoping Requirements and is broadly appropriate.

19.3 Monitoring, auditing and reporting

(i) Discussion

As noted in the previous Chapter, the Scoping Requirements require the EMF to include monitoring programs, or justification for any aspects where monitoring is not proposed. The EMF contains a comprehensive monitoring program, for which references are provided in Table 16 as well as the relevant sections in the CEMP and the OEMP.

Table 16 Monitoring and reporting requirements

Aspect	EMF Construction	EMF Operational	CEMP	OEMP
Biodiversity	Table 16-15	Table 16-24	Table 6-4	Table 6-4
Surface water, groundwater and geotechnical hazards	Table 16-16	Table 16-25	Table 6-7	Table 6-7
Heritage	Table 16-17	Table 16-26	Table 6-11	Table 6-10
Transport	Table 16-18	Table 16-27	Table 6-14	Table 6-13
Land use, noise, air quality and visual	Table 16-19	Table 16-28	Table 6-18	Table 6-16
Socio-economic	Table 16-20	Table 16-29	Table 6-21	Table 6-19
Bushfire	Table 16-21	Table 16-30	Table 6-25	Table 6-23
Waste	Table 16-22	Table 16-31	Table 6-29	Table 6-27

Compliance with the CEMP and OEMP would be verified through environmental audits coordinated by Council. Audits would be conducted by independent, suitably qualified and experienced environmental auditors. Audits would be conducted prior to the commencement of the construction and operations phases and thereafter annually during these phases.

Audit reports would be submitted to Council, DELWP and Parks Victoria by the environmental auditor. Reports would record details of any nonconformances identified during the audit and corrective actions required to address the nonconformance. For each corrective action, the responsible person and target completion date would be specified.

Council would publish a summary of the results of each environmental audit report on the Council website within three months of the environmental audit report being finalised. The focus and frequency of audits would be reviewed annually in the light of audit results.

The Incorporated Document requires the CEMP and OEMP to include monitoring, auditing and reporting requirements to ensure environmental and amenity affects are reduced and managed during both construction and operation of the Project (see Clauses 7.2(d) and 7.4(d)). The IAC has reviewed the Final Hearing Versions of the draft CEMP and OEMP, and is broadly satisfied that the monitoring, auditing and reporting requirements in the EMF have been appropriately reflected in the CEMP and OEMP.

In addition to the Incorporated Document, the CEMP and the OEMP, local laws are proposed to be passed by Council under the *Local Government Act 2020* to regulate specific matters. This will allow certain provisions (such as riding at night in certain parts of the trail network, illegal trail

construction and leaving the trail in the designated water supply catchment area) to be specified as offences, and for prosecution action to be taken against trail users who commit relevant offences, or infringement notices to be served as appropriate.

The IAC considers the monitoring program and the auditing and reporting requirements in the EMF are comprehensive, and will ensure that there is appropriate accountability and transparency in relating to the construction and operation of the Project. They have been appropriately translated into the daft CEMP and OEMP.

For completeness, Dr Cheal considered that the Project ecologist should be from the Office of Environmental Regulator. The IAC does not support this. It does, however, agree that there is a need for the Project ecologist to have the appropriate independence and expertise. This needs to be made clear in the EMF.

(ii) Findings

The IAC finds:

- The monitoring, auditing and reporting requirements in the EMF are appropriate, and have been translated into the CEMP and OEMP. This will ensure there is appropriate accountability and transparency in relating to the construction and operation of the Project.

(iii) Recommendation

The IAC recommends:

27. Amend the Environmental Management Framework as shown in Appendix F:

a) amend Section 16.2 (Roles and responsibilities) to describe the requirements for the Project ecologist

b) amend all references to an ecologist to refer to 'suitably qualified independent ecologist'.

19.4 Maintenance

(i) Discussion

A critical element of trail performance, both in terms of visitor experience and trail sustainability, is trail maintenance. Routine and reactive maintenance will frequently require trail closures to ensure visitor and staff safety.

Concerns about trail maintenance and funding for maintenance were raised in written submissions and at the Hearing, including by the VNPA. In response to Q27 in RFI1 regarding how trail maintenance and monitoring would be funded, Council explained in its Part B Submission:

> Council has committed to funding the ongoing monitoring and maintenance of the trails which will be budgeted and funded according to standard Council financial management practices, and in accordance with the budgeting process under Division 2 of Part 2 of the Local Government Act 2020 (Vic).

The IAC notes that the OEMP will be legally binding on Council, including the requirements to maintain the trails in accordance with the OEMP. Clause 7.7 of the Incorporated Document requires:

> The use and development of the Project must be carried out generally in accordance with the approved CEMP and OEMP.

Standard Council budgeting processes require the prioritisation of legally binding requirements in the annual budgeting process.

The IAC is not required under the Terms of Reference to make any specific recommendations regarding funding arrangements for the ongoing maintenance of any constructed trails. The IAC notes, however, that the funding arrangements outlined by Council are generally in accordance with normal local government funding arrangements for maintenance of infrastructure.

(ii) Findings

The IAC finds:

- The maintenance arrangements specified in the EMF and the CEMP and OEMP for the trails and supporting project infrastructure are appropriate.

20 Response to Terms of Reference

Clause 33 of the Terms of Reference specifies the matters the IAC's report must contain. The IAC's response is included in Table 17. The IAC has formulated its advice and recommendations having regard to legislation, policy, best practice, and the principles and objectives of ecologically sustainable development as required under Clause 33.

Table 17 Summary of IAC response to Terms of Reference Clause 33

Clause	Terms of Reference	IAC response and findings	Report reference
33(a)	Analysis and conclusions with respect to the environmental effects of the Project and their significance and acceptability	Most environmental effects of the Project can, with mitigation measures, be managed to within acceptable levels. In some cases, the mitigation measures and/or requirements of the Incorporated Document need to be strengthened to achieve acceptable outcomes.	Chapters 6 to 15, 17
33(b)	Advice on acceptability of effects of the preferred alignment of Drop A-K (Trail 1), compared to those of the alternative alignment (Trails 45, 46 and 47)	Neither alignment will have acceptable impacts. Trail 1 and Trails 45 to 47 should be removed from the Project.	Chapter 7
33(c)	Recommendations for any feasible modifications to the Project necessary to achieve appropriate environmental outcomes, including variations to the proposed design and/or environmental monitoring and management measures	Remove Trail 1 and Trails 45 to 47 due to unacceptable impacts on CTR and CTMF ecological communities in the National Park.	Chapter 7
		Remove Trails 1 and 45 to 47 due to likely inconsistency with the objects of the National Parks Act.	Chapter 17
		Identify no-go zones for the Stonefly, and realign all trails and Project activities outside the no-go zones. If trails cannot be realigned to avoid the no-go zones (as seems likely in some cases), they should be removed.	Chapter 8
		Modify mitigation measures to protect a range of other environmental values.	Chapters 6, 7, 8, 9, 12 and 14
33(d)	Findings on whether acceptable environmental outcomes can be achieved	In most instances, yes, with the exception of Trails 1 and 45 to 47 and any trails in Stonefly habitat.	Chapters 6 to 15

Clause	Terms of Reference	IAC response and findings	Report reference
33(e)	Recommendations on specific measures appropriate to prevent, mitigate or offset adverse environmental effects to achieve acceptable environmental outcomes	See above, and Table 20 below.	Chapters 6 to 15
33(f)	Recommendations for any appropriate conditions that may be lawfully imposed on any approval for the Project, or changes that should be made to the draft PSA in order to ensure that the environmental effects of the project are acceptable	Conditions are recommended in the form of recommended mitigation measures (which are to be given effect through the Construction and Operations Environment Management Plans required under the Incorporated Document), and additional or amended conditions in the Incorporated Document itself. See Table 20 below.	Chapters 6 to 15
33(g)	Recommendations about the structure and content of the draft management plans provided with the EES, including with respect to mitigation and monitoring of environmental effects, as well as contingency measures	The structure of the CEMP and OEMP are suitable. The content requires some modification, primarily through changes to mitigation measures. Monitoring requirements are largely appropriate, with some adjustments to the monitoring requirements for the Stonefly required (should trails traverse Stonefly no-go zones contrary to the IAC's recommendations).	Chapters 6 to 15, 19.2
33(h)	Specific findings and recommendations about the predicted impacts on MNES and their acceptability, including appropriate controls and environmental management	Predicted impacts on MNES will be acceptable, subject to adjusted mitigation measures.	Chapters 9 and 16

Clause 34 of the Terms of Reference specifies the matters the IAC's report should include. This information is included in Table 18.

Table 18 IAC's responses to Clause 34

Clause	Terms of reference requirement	Report reference
34(a)	Information and analysis in support of the IAC's findings and recommendations	Part B
34(b)	A list of all recommendations, including cross references to relevant discussions in the report	Table 19 and the Executive Summary
34(c)	A description of the public Hearing conducted by the IAC, and a list of those persons consulted with or heard	Chapters 1.5 and 1.6 and Appendix C

Clause	Terms of reference requirement	Report reference
34 (d)	A list of all submitters in response to the exhibited EES and draft PSA	Appendix B
34(e)	A list of the documents tabled during the proceedings	Appendix D

Table 19 Cross references between detailed recommendations and discussions

Recommendation	Report reference
Primary recommendations	
Modify the Project to remove Trails 1, 45, 46 and 47	Recommendation 5 Chapter 7.5
Environmental Management Framework	
Add requirements in relation to the Project ecologist to Section 16.2, and amend all references to an ecologist to refer to 'suitably qualified independent ecologist'	Recommendation 27 Chapter 19.3
Insert a new BM02A (Pre-construction surveys)	Recommendation 12 Chapter 9.5
Amend BM10 (Trail maintenance)	Recommendation 3 Chapter 6.5
Insert a new BM19A (Calculating native vegetation offsets)	Recommendation 2 Chapter 6.4
Amend BM27 (Maintenance schedule for bike washing facilities)	Recommendation 10 Chapter 9.2
Amend BM37 (Timing of construction – waterways)	Recommendation 11 Chapter 9.4
Insert a new BM39A (Burrowing crayfish species)	Recommendation 11 Chapter 9.4
Insert a new BM39B (CTR/CTMF and Myrtle Beech buffers)	Recommendation 6 Chapter 7.5
Amend BM43 (Pruning of Myrtle Beech)	Recommendation 6 Chapter 7.5
If Recommendation 5 is not accepted: - amend BM61A (Mount Donna Buang Wingless Stonefly) - amend BM61B (Mount Donna Buang Wingless Stonefly monitoring) - insert a new BM61C (Stonefly Proactive measures)	Recommendation 7 Chapter 8.6
Amend BM62 (Habitat trees)	Recommendation 3 Chapter 6.5
Insert a new BM63A (Tree Geebung)	Recommendation 12 Chapter 9.5
Insert a new BM63B (Tree ferns)	Recommendation 12 Chapter 9.5

Amend BM67 (Native vegetation removal)	Recommendation 8 Chapter 9.1
Amend BM70 (Recording of tree impacts)	Recommendation 2 Chapter 6.4
If Recommendation 5 is not accepted: - amend SWM02 (Erosion and sediment controls) - amend SWM07 (Stonefly no-go zones)	Recommendation 7 Chapter 8.6
Insert a new TP1 (Operations Traffic Management Plan)	Recommendation 14 Chapter 12.2
Amend TP2 (Stakeholder communication plan)	Recommendation 14 Chapter 12.2
Amend TP6 (Operational Parking Management Plan)	Recommendation 15 Chapter 12.3
Amend TP7 (Emergency access plan)	Recommendation 19 Chapter 12.6
Amend NM05 (Operational noise – Noise barrier to Martyr Road)	Recommendation 21 Chapter 14.2
Delete AM07 (Events Traffic Management Plan)	Recommendation 17 Chapter 12.4
Replace BM08 with the IAC recommended Table 16-7A including the new BEM01 (Bushfire Management Strategy & Emergency Management Plan)	Recommendation 23 Chapter 14.3
Draft PSA - Incorporated Document	
Amend Clause 6.1(i)	Recommendation 16 Chapter 12.3
Insert a new Clause 6.1(j)	Recommendation 9 Chapter 9.1
Insert a new Clause 6.1(k)	Recommendation 22 Chapter 14.2
Amend Clauses 7.1 and 7.3	Recommendation 13 Chapter 0
Amend Clauses 7.2(c) and 7.4(b)	Recommendation 25 Chapter 15.3
Insert a new Clause 8	Recommendation 16.b) Chapter 12.3
Amend Clause 8 (now Clause 9)	Recommendation 24 Chapter 14.3
Remove Clause 9.3 (now Clause 10.3)	Recommendation 1 Chapter 6.2(iii)
Insert a new Clause 11	Recommendation 4 Chapter 6.5

Replace Clause 13	Recommendation 18 Chapter 12.4
Replace references to the Road Zone Category 1 with references to the Transport Zone	Recommendation 26.b) Chapter 19.1
Draft PSA - SCO mapping	
Amend the SCO mapping to: - include the whole of the Warburton Golf Course site - include the land required for the trail heads at Wesburn Park and Mount Tugwell and the two bridges proposed to be constructed as part of the Project - remove Trails 1, 45, 46 and 47	Recommendation 26 Chapter 19.1
Further recommendations	
Seek agreement with Parks Victoria on the appropriate fire danger rating at which to align closure of the National Park and closure of the trails	Recommendation 20 Chapter 14.2