



Submission on Waipa District Council Proposed Private Plan Change 20: Airport Northern Precinct Extension

26 October 2022

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1. Trade competition declaration

Forest & Bird would not gain an advantage in trade competition through these submissions.

2. Hearing Options

We wish to be heard in support of this submission. We would consider presenting a joint case with others making a similar submission.

3. Submission Details

Forest & Bird is New Zealand's largest non-governmental conservation organization with many members and supporters. The main purpose of Forest & Bird is the preservation and protection of the indigenous flora and fauna and the natural features of New Zealand.

In support of that purpose, Forest & Bird regularly participates in resource management processes relating to biodiversity across Aotearoa New Zealand.

Forest & Bird's Waikato Branch is actively involved in regeneration projects and monitoring local and regional environmental issues. We have met and discussed this submission and the branch fully endorses it.

In the first instance Forest & Bird opposes the plan change but if the Commissioner(s) are still minded to grant the plan change then the changes that Forest & Bird requests are set out in detail in our submission in Appendix 1.

Barbara Hammonds

APPENDIX 1

Relevant Biodiversity Values of Waipa District and the wider area

1. Nature is under threat across the world. We face a biodiversity crisis, and things are getting worse not better.^{1,2}
2. Pekapeka-tou-roa long-tailed bats have New Zealand's highest conservation status of Threatened – Nationally Critical³: 'most severely threatened, facing an immediate high risk of extinction.'⁴ This means they face the greatest risk of extinction, the same category as the kākāpō and New Zealand fairy tern/tara iti.
3. They were once widespread in Aotearoa⁵. In the early 1900's 'bats were regularly seen in all our cities with reports of seeing them in their hundreds and thousands. Since then, there have been significant declines and in the areas that they survive they are still in decline and are now threatened with extinction.'⁶
4. Long-tailed bats have been reduced to today's isolated populations, one of which is in the wider area around southern Hamilton City and Hamilton Airport. This is one of very few urban areas where long-tailed bats are present: 'The presence of long-tailed bats in Hamilton is unusual and rare as in other cities they have been lost.'⁷ (For Hamilton, read 'and wider area including around Hamilton Airport').
5. Due to their critically endangered status, 'This makes the Hamilton long-tailed bat population important for national species management and conservation.'⁸ This is the main reason we oppose the Proposed Private Plan Change.
6. Threats include ship rats, stoats, possums, cats, habitat destruction, habitat fragmentation and habitat degradation.⁹
7. Lizards also need to be considered. Copper skinks are highly likely to be present.

Bats

8. The RMA Section 6(c) requires 'The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna'. The proposal in its current form will not achieve this for pekapeka-tou-roa long-tailed bats.
9. Bat habitat is already being destroyed, fragmented and degraded in the wider area due to changes in land use, including the nearby and soon-to-be-started medium-high density residential subdivision of the Peacocke Structure Plan Area (PSPA, Hamilton City Council

¹ <https://www.unep.org/news-and-stories/press-release/nature-humanity-crossroads-un-warns>
Accessed 21 October 2022

² <https://www.nature.com/articles/d41586-019-01448-4> Humans are driving one million species to extinction: on the findings of the landmark IPBES report on biodiversity and ecosystem services 2019.
Accessed 21 October 2022

³ <https://www.doc.govt.nz/nature/native-animals/bats-pekapeka/long-tailed-bat/> accessed 11 October 2022

⁴ [Conservation status of plants and animals: Nature \(doc.govt.nz\)](#) accessed 11 October 2022

⁵ See footnote 3

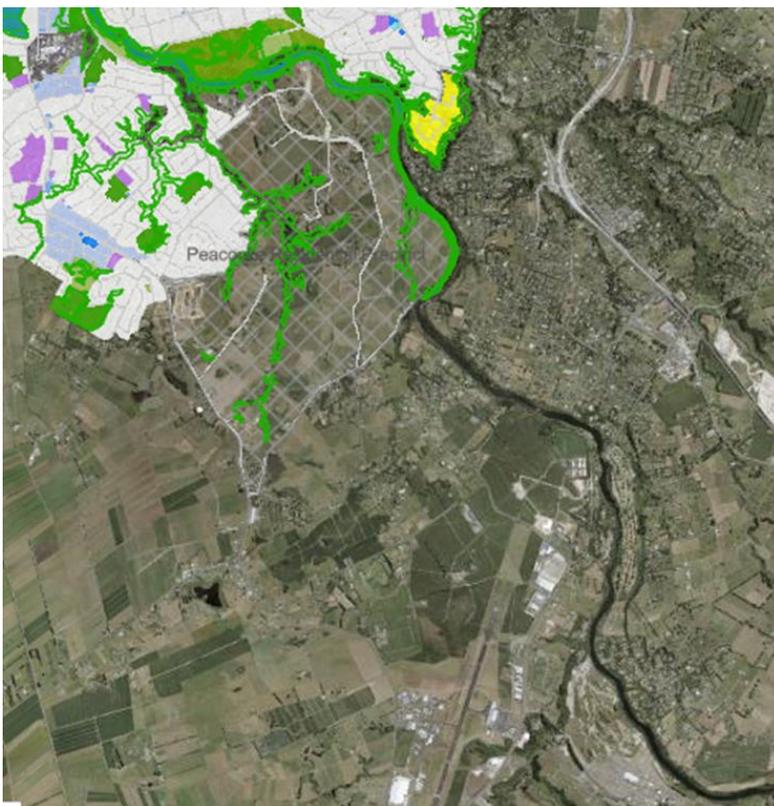
⁶ Department of Conservation Moira Pryde Evidence Bat Ecology 16 Sept 2022, accessed from <https://hamilton.govt.nz/property-rates-and-building/district-plan/plan-changes/plan-change-5/> pp6-7

⁷ See footnote 6, p6

⁸ [Project Echo 2021 Hamilton City Wide Bat Survey](#), Harvey Aughton – Go Eco, nd. p3

⁹ See footnote 3

Plan Change 20). See map below for locations of both this Plan Change 5 for Waipa DC and the HCC PC20 - PSPA.



Map showing HCC PC5 - PSPA area (white cross hatching) and Hamilton Airport, with the area to the north-west being the location of Waipa DC PPC20¹⁰

10. Research clearly shows the significance of this wider area for long-tailed bats. For example, see the map below from Moira Pryde's evidence for HCC PC5.¹¹

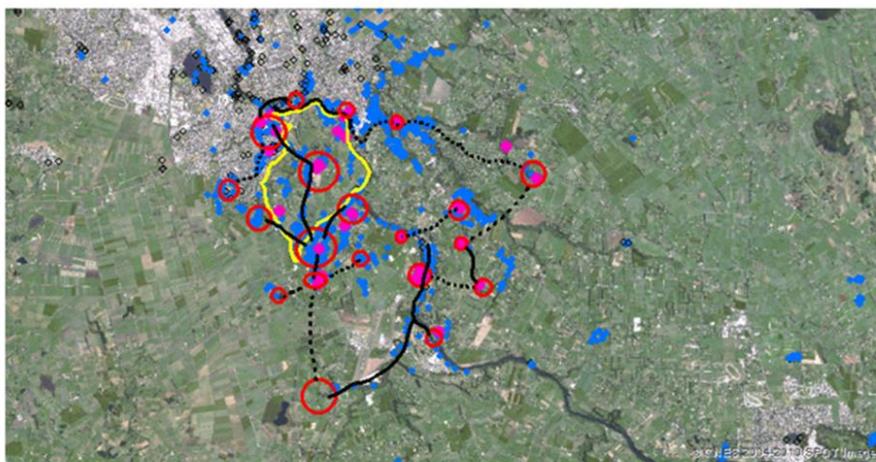


Figure 3: red circles show important habitat features for the bats tracked. Black lines represent identified linkage during tracking and thermal imaging⁵⁷. Black dotted lines are assumed linkages from bat movements during tracking⁵⁸.

11. There are also large knowledge gaps in what is needed for bat populations to survive:

¹⁰ <https://hamilton.isoplan.co.nz/eplan/property/0/0/67> accessed 13 October 2022

¹¹ Department of Conservation Moira Pryde Evidence Bat Ecology 16 Sept 2022, accessed from <https://hamilton.govt.nz/property-rates-and-building/district-plan/plan-changes/plan-change-5/>, p19

To better understand the effects of development and construction activities on the Hamilton's bat population, it is important to identify key aspects of what enables bats to persist in the landscape. The impact of habitat fragmentation, pressure from pest animals, the role of lighting and noise in Hamilton City and its surroundings need to be properly understood. Additionally, more information on social structures within and between Hamilton's bat populations is needed to inform future management of bats in Hamilton and its wider landscape.

Due to the cryptic nature of bats and the limited amount of research done in this area, it is challenging to quantify the effects of all these impacts.¹²

12. It was a surprise to read in the Project Echo report for the 2021 bat survey that all the bat detectors were not able to be deployed during the survey week due to lack of volunteers¹³. Given the significance of this population of long-tailed bats, surveys need to be properly funded and to not rely on volunteers. Along with other councils in the area, Waipa District Council could be contributing to this research.
13. In relation to protecting biodiversity from the impacts of development, Commissioner Direction 7 for HCC PC5, 7 October 2022, states:

... 4 The Panel also takes note of Ms Hooper's comments on the matter of compensation, the concerns raised in evidence regarding the effects management hierarchy, and the fact that those matters are yet-to-be-determined.¹⁴
14. Although this is a different plan change and a different council, there is no reason to believe the effects management hierarchy would not need to be considered here, and that, in order to protect 'significant habitats of indigenous fauna', avoid, remedy and mitigate will need to be applied, and in that order, and before offsetting and compensation.
15. Foraging habitat must be protected. Any further loss must be avoided.
16. Bat corridors (migratory pathways) must be protected. Any further loss must be avoided. Bat corridors need to be well vegetated, and of a minimum width, perhaps 50m.
17. The loss of the two shelterbelts which were removed in November 2021 must be remedied by replanting these with suitable species of a suitable size.
18. Roost trees / habitat or potential roosting habitat must be protected. Any further loss must be avoided. Simply applying tree-felling protocols is insufficient for this highly mobile, critically endangered species, whose roost trees are already in short supply.
19. The very short monitoring periods for the shelterbelt trees prior to their felling (Bat monitoring for tree felling October – November 2020 & November – December 2021¹⁵) was not sufficient to know if bats use these trees as roosts.
20. Light impacts must also be avoided: not just by controls on street lighting, but also other light sources such as car headlights and security lighting. Matters such as maximum light levels allowed to enter protected bat areas need to be decided as part of the Plan Change process, well before any resource consent process. This will enable screening planting to

¹² <https://waikatoregion.govt.nz/assets/WRC/WRC-2019/Project-Echo-Hamilton-city-survey-2020-report.pdf> HAMILTON CITY LONG-TAILED BAT SURVEY For Project Echo, 4Sight Consulting, pp9-10

¹³ Department of Conservation Moira Pryde Evidence Bat Ecology 16 Sept 2022, accessed from <https://hamilton.govt.nz/property-rates-and-building/district-plan/plan-changes/plan-change-5/>, p7

¹⁴ <https://hamilton.govt.nz/property-rates-and-building/district-plan/plan-changes/plan-change-5/>

¹⁵ <https://www.waipadc.govt.nz/our-council/waipad-district-plan/wpdc-variations/current-plan-changes/proposed-plan-change-20-airport-northern-precinct-extension> Appendix 08 - Ecology Report, p9

be done well ahead of when any urbanisation happens, so it can reach the required height and density before car headlights, security lights etc. become an issue.

21. Noise impacts must be avoided for a species that uses echo-location.
22. Predators of bats, including cats, will become more widespread if this proposed Plan Change goes ahead: pest animals follow roads; and are also attracted by food sources like the increase in food waste which accompanies any increase in human activity. Any Ecological Management Plan should therefore include a requirement for ongoing pest management.
23. Scientific studies have shown that both feral and domestic cats are significant predators of bats, as referred to in these August 2022 newspaper articles: ['Serial bat killer' cat uncovered in research on endangered pekapeka | Stuff.co.nz](https://www.stuff.co.nz/national/300658526/serial-bat-killer-cat-uncovered-in-research-on-endangered-pekapeka)¹⁶ and [Household and feral moggies could be killing countless native bats | Stuff.co.nz](https://www.stuff.co.nz/timaru-herald/news/129531081/household-and-feral-moggies-could-be-killing-countless-native-bats)¹⁷.
24. For example, see this September 30th 2022 newspaper report of long-tailed bats attacked by a cat ['Sassy' bat that survived cat attack now flying again | Stuff.co.nz](https://www.stuff.co.nz/national/130025495/sassy-bat-that-survived-cat-attack-now-flying-again)¹⁸ about an injured long-tailed bat found in Te Awamutu (the second bat brought in to Hamilton Zoo for treatment that had been injured by same cat).

As for Batwoman, DOC science advisor and vet Kate McInnes said once it had healed sufficiently, it would be released to the rural area outside Hamilton to locate its social group, its own roosts and feeding areas.

"Long-tailed bats are not restricted to native forest remnants and regularly use rural areas for feeding, breeding, roosting, and socialising."

"This is important because bats are strongly faithful to specific roosts and feeding areas. Roosts are rare in this area. They live in close social groups."

Cumulative effects on long-tailed bats

25. 'Death by a thousand cuts', i.e. the local extinction of long-tailed bats is a likely outcome here, unless what is happening in the wider area is taken into consideration¹⁹. For example, HCC's PC20 - PSPA to the north. Their habitat is already scarce in the wider area, and will be further reduced, fragmented and degraded by the urbanisation of the PSPA, which is currently used by bats.
26. A precautionary approach should be used for any developments, including this proposed Plan Change, in the wider area used by bats, as concluded by Moira Pryde in her evidence for the PSPA Plan Change:

Given the uncertainty of the mitigation methods eg. lighting restrictions, plantings, revegetation, artificial roost boxes and how they will affect the bat population a precautionary approach should be applied.

This would involve providing additional habitat onsite, keeping as much of current vegetation as possible, improving connectivity of vegetation onsite and proactively carefully considering how this can be applied to the wider landscape.²⁰

¹⁶ <https://www.stuff.co.nz/national/300658526/serial-bat-killer-cat-uncovered-in-research-on-endangered-pekapeka>

¹⁷ <https://www.stuff.co.nz/timaru-herald/news/129531081/household-and-feral-moggies-could-be-killing-countless-native-bats>

¹⁸ <https://www.stuff.co.nz/national/130025495/sassy-bat-that-survived-cat-attack-now-flying-again>

¹⁹ <https://www.environmentguide.org.nz/rma/principles/section-6-matters-of-national-importance/>

²⁰ Department of Conservation Moira Pryde Evidence Bat Ecology 16 Sept 2022, accessed from <https://hamilton.govt.nz/property-rates-and-building/district-plan/plan-changes/plan-change-5/> p35

27. Any local extinction in a species as close to extinction as the long-tailed bat must be avoided.
28. The current situation of a case by case assessment and management of effects on a highly mobile and difficult to study species like the long-tailed bat is unlikely to result in the kind of coordinated range of actions necessary to ensure the survival of the species in this landscape, as 4Sight Consulting have noted in their 2020 report for Project Echo on the Hamilton City Long-Tailed Bat Survey:

The development of a nationally accepted framework for studying and developing management strategies would be highly recommended for reducing or mitigating the impact of urban developments on bats.²¹

Early involvement of expert bat ecologists

29. Specialist bat ecologists need to be involved in Plan Change processes from the earliest stages, before roading and other infrastructure plans are made, in order to protect bat habitat, including commuting flyways and important foraging areas, from destruction, degradation and fragmentation.

Bat Management Plan

30. Any Bat Management Plan needs to be written by a suitably qualified bat ecologist, and approved by a DOC appointed bat ecologist.

Climate Change

31. Protecting and enhancing bat habitat will also contribute to mitigating climate change impacts by retaining the existing mature trees and increasing the number of trees in the Plan Change area, for example by replanting the shelterbelts.

Highly Productive Soils

32. The National Policy Statement on Highly Productive Land 2022 (“NPS-HPL”) commenced on 17 October 2022. Clause 4.1 requires every local authority to give effect to the NPS-HPL on and from the commencement date. Clause 3.5(7) says that until a regional policy statement containing maps of highly productive land is operative each territorial authority must apply the NPS-HPL as if references to highly productive land were references to land that, at the commencement date: is zoned rural but is not subject to a **Council** [bold my emphasis] initiated notified plan change to rezone it from general rural to urban.
33. Plan Change 20 was initiated by Titanium Park Ltd and Rukuhia Properties Ltd not the Waipa District Council. Forest & Bird is not aware of the Waikato Regional Policy Statement containing maps showing highly productive land. Much but not all of the land currently zoned rural is indicated in the Waipa District Plan as a possible future site for airport growth.²² The Manaaki Whenua Landcare Research interactive maps indicates the plan change is LUC-1 to LUC-3. This means the NPS-HPL, until the Waikato Regional Policy Statement indicates otherwise, applies, at least to part of the 89 ha of rural zoned land and is to be treated as highly productive land.

²¹ <https://waikatoregion.govt.nz/assets/WRC/WRC-2019/Project-Echo-Hamilton-city-survey-2020-report.pdf> p10

²² AEE, section 3.5 page 7

34. The NPS-HPL directs that re-zoning, subdivision or development of the highly productive land is to be avoided. Forest & Bird supports this very directive wording.
35. Data indicated that the area of urban and rural residential use on highly productive land has been increasing in the Waikato Region since 2002. PC20 proposes to rezone 89 ha of rural zoned land to Airport Business Zone.
36. Forest & Bird seek that the Applicant prepare a report to address the effect of the NPS-HPL on PC20. This should also be addressed by the Council in its s42A report.

Submission Points

| Submission Point | Plan Section/Provision | Decision Sought | Explanation |
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| 1 | 10.2 Resource Management Issues | A new paragraph is added to 10.2 specifying that any development does not negatively impact on long-tailed bats being able to persist in this area, including cumulative impacts. | <p>No mention is made of the impacts on biodiversity except in passing: e.g. 10.2.3: Development of the Airport Business Zone that is not co-ordinated with infrastructure provision has the potential to result in adverse effects on the environment.</p> <p>The new paragraph is needed in order to give effect to the RMA Section 6(c):</p> <p>‘The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna’; and to give effect to the Operative Waikato Regional Policy Statement, Ecosystems and indigenous biodiversity section, Objective 1:</p> <p>‘ECO-O1 – Ecological integrity and indigenous biodiversity</p> <p>The full range of ecosystem types, their extent and the indigenous biodiversity that those ecosystems can support exist in a healthy and functional state’; and Policy 2 in the same section:</p> <p>‘ECO-P2 – Protect significant indigenous vegetation and significant habitats of indigenous fauna</p> <p>Significant indigenous vegetation and the significant habitats of indigenous fauna shall be protected by ensuring the characteristics that contribute to its significance are not adversely affected to the extent that the significance of the vegetation or habitat is reduced’; and Method 1:</p> <p>‘ECO-M1 – Maintain or enhance indigenous biodiversity</p> <p>Regional and district plans shall maintain or enhance indigenous biodiversity, including by:</p> |

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| | | | <p>1. providing for positive indigenous biodiversity outcomes when managing activities including subdivision and land use change;’ and Method 2: ‘ECO-M2 – Adverse effects on indigenous biodiversity Regional and district plans shall recognise that adverse effects on indigenous biodiversity within terrestrial, freshwater and coastal environments are cumulative and may include:</p> <ol style="list-style-type: none"> 1. fragmentation and isolation of indigenous ecosystems and habitats; 2. reduction in the extent and quality of indigenous ecosystems and habitats; 3. loss of corridors or connections linking indigenous ecosystems and habitat fragments or between ecosystems and habitats; <p>...</p> <ol style="list-style-type: none"> 9. loss, damage or disruption to ecological processes, functions and ecological integrity; <p>....</p> <ol style="list-style-type: none"> 11. effects which contribute to a cumulative loss or degradation of indigenous habitats and ecosystems; 12. noise, visual and physical disturbance on indigenous species, particularly within the coastal environment; and 13. loss of habitat that supports or provides a key life-cycle function for indigenous species listed as ‘Threatened’ or ‘At Risk’ in the New Zealand Threat Classification System lists’ |
| 2 | 10.3.2.2A Policy - Northern Precinct To maintain or enhance significant long-tailed bat habitat values by requiring the preparation and | Amend first sentence to: Require the preparation of an Ecological Management Plan to protect roosting, foraging and commuting habitat for long-tailed bats and to | Long-tailed bats are critically endangered, as outlined earlier in the submission. Suitably qualified long-tailed bat ecologists are the only people with the knowledge to |

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| | <p>implementation of an Ecological Management Plan as part of development to:</p> <ul style="list-style-type: none"> • where practicable, support the maintenance or enhancement of long-tailed bat habitat and connectivity between habitats; • mitigate any loss of long-tailed bat habitat and effects on long-tailed bat ecological values; and • where any effects on long-tailed bats are unable to be avoided or mitigated, ensure that any more than minor residual effects are offset to achieve no net loss. <p>(Note Policy 10.3.2.2A implements Objective 24.3.1 within Section 24 – Indigenous Biodiversity)</p> | <p>ensure overall ecological values are enhanced. This Plan is to be prepared as part of this Plan Change process, and by a suitably qualified ecologist, who must consult with a DOC appointed ecologist, and must also take the wider landscape used by bats into account.</p> <p>Add as the first bullet point</p> <ul style="list-style-type: none"> • Avoid the loss of habitat and connectivity between habitats <p>Delete the words ‘where practicable’; and amend this to:</p> <ul style="list-style-type: none"> • protect and enhance long-tailed bat habitat and connectivity between habitats; <p>Add to the bullet point starting ‘mitigate’: ...</p> <ul style="list-style-type: none"> • mitigate any loss of long-tailed bat habitat and effects on long-tailed bat ecological values by planning for replacement habitat well in advance of any changes <p>Add</p> <ul style="list-style-type: none"> • Before any works commence, lizard surveys are to be conducted, and in areas where lizards are detected, lizard habitat is to be protected and enhanced <p>Any offsetting or compensation for residual adverse effects on long-tailed bats will increase the</p> | <p>write an Ecological Management Plan which will enable bats to persist in this area.</p> <p>If this is left until the resource consent phase, further bat habitat could be lost; and any replacement planting or planting done to screen bat areas from light will have less time to reach the agreed upon height and density.</p> <p>The wider landscape must be taken into account because bats are highly mobile, and use a larger area than covered by this Plan Change.</p> <p>To protect the ‘significant habitats of indigenous fauna’ the highest priority of the effects management hierarchy is to first avoid any impacts on protected species.</p> <p>‘Where practicable’ is an ill-defined term and likely to lead to loss of habitat and connectivity between habitats for bats.</p> <p>Trees, for example, take time to grow to a size where they are useful as bat habitat or to screen bat areas from light, including light from car headlights.</p> <p>No lizard surveys were done by the ecology consultants (Ecology Report, Appendix 08), only a visual assessment for potential habitat.</p> |
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| | | <p>area of functional connected habitat within the home range of the population of bats which use the area of the Plan Change. Recourse to this is to be limited to where the earlier steps in the effects management hierarchy have been sequentially exhausted.</p> | |
| <p>4</p> | <p>10.4.2.14A Rules – Ecology An Ecological Management Plan is required to be developed as part of the earlier of the first landuse consent application or the first subdivision consent application (excluding boundary adjustments) for the Northern Precinct. The Ecological Management Plan should contain: (a) A Bat Management Plan that:</p> <ul style="list-style-type: none"> • Identifies all potential bat roost trees within the Northern Precinct; • Provides an analysis of the practicability of retaining each potential roost tree as part of the development of the Northern Precinct in line with the Structure Plan and identifies any trees that need to be removed, including reasons why; • Specifies best practice tree removal protocols and mitigation for any potential roost trees that have been identified as needing to be removed, and methods to mitigate associated ecological effects. Where any ecological effects are unable to be mitigated, the Bat Management Plan | <p>The Bat Management Plan is to be developed by a qualified, specialist bat ecologist, in consultation with a bat ecologist appointed by DOC.</p> <p>Identifying roost trees to be conducted over all 4 seasons and several years.</p> <p>The use of other trees in the landscape for commuting and foraging purposes also needs to be identified; also over all 4 seasons and several years.</p> <p>Historic use by bats of trees recently removed from the area needs to be reviewed; and where this is deemed to have been important for bats, these trees are to be replaced.</p> | <p>As in the section above, suitably qualified long-tailed bat ecologists are the only people with the knowledge to write a Bat Management Plan which will enable bats to persist in this area. DOC’s bat ecologists are highly experienced, and can provide the necessary review from the point of view of the survival of bats.</p> <p>Bats move from roost tree to roost tree frequently.</p> <p>Bats fly along edges of shelter belts and move out to forage. They also have been detected around individual trees in the landscape. Although they might not roost in these trees, they provide a significant function for commuting and / or foraging.</p> <p>The evidence from bat surveys reported in the Ecology Report, Appendix 08, is clear that the two shelter belts that were removed were important commuting pathways for bats.</p> |

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| | shall set out methods to ensure that any more than minor residual ecological effects are offset to achieve a no net loss outcome. | <p>Commuting / migratory pathways are to be identified over 4 seasons and over several years, in order that these can be protected from light spill and other interference to bats such as roading. Hop overs are to be avoided.</p> <p>The use of other landscape features, such as pasture, for foraging also needs to be identified; also over all 4 seasons and several years.</p> <p>Tree removal is very much a last resort. Mitigation of the loss of such trees needs to be planned for decades ahead, for example by planting replacement habitat trees sufficiently well ahead of any felling of existing trees that they are mature enough to provide bat habitat by the time existing trees are felled.</p> <p>Night time noise to be limited to [as determined by a qualified bat ecologist] dB</p> <p>Offsetting for bats is unlikely to be effective, and should not be being considered.</p> | <p>As well as potential foraging areas, a line of trees provides an edge along which they can safely fly, and from which they will venture out across pasture to forage.</p> <p>Potential 'hop overs' (i.e. areas where existing commuting pathways might cross roads if the area is developed) need to be identified as part of this; and the road placement changed. 'Hop overs tend to only work when they follow a flight path that the bats already use and so are relatively experimental as a mitigation tool.'²³</p> <p>Bats are faithful to trees they have used for generations. Trees need to be of a certain size before they are useful to bats for roosting or other functions such as commuting pathways.</p> <p>Appropriate noise levels to protect long-tailed bats to be determined by a suitably qualified bat ecologist.</p> <p>As should be clear from the critically endangered status of the long-tailed bat,</p> |
| 5 | (b) A Lighting Management Plan that will apply to on lot development within a 20m corridor applied from identified external boundary extents of the precinct and within the Hub, as | <p>This section needs to include:</p> <p>Light levels of no more than 0.1 lux at [as determined by a qualified bat ecologist] m from roost trees, commuting pathways and foraging</p> | <p>This section requires a lot more detail; and the Lighting Management Plan needs to be included as an integral part of the Bat Management Plan.</p> <p>Appropriate lighting levels and distances from roost trees, commuting pathways, hop-overs and foraging areas to be</p> |

²³ Department of Conservation Moira Pryde Evidence Bat Ecology 16 Sept 2022, accessed from <https://hamilton.govt.nz/property-rates-and-building/district-plan/plan-changes/plan-change-5/> p30

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| | denoted on the Airport Business Zone Structure Plan as the 'Lighting Management Plan Area'. The Lighting Management Plan shall establish a dark zone within this area for the purpose of contributing to the long-tailed bat flyway network, and provide lighting outcomes (which could include, but are not limited to, specifying low light levels / directional lighting) that any lots within these dark areas must comply with. | areas, including existing trees and the shelterbelts which are to be replanted. Light from car headlights, security lights and other light sources must be taken into account in this plan. | determined by a suitably qualified bat ecologist and written into the Bat Management Plan. Light sources that impact bats are not just street lights. |
| 6 | (c) Ecological recommendations for landscape planting to be implemented throughout the precinct, including specimen, sizing and design requirements to encourage long-tailed bat foraging and/or commuting. | The time frame for plantings also needs to be specified, in order that they reach a size functional for bats before any works commence. There also needs to be a requirement for maintaining these plantings over the long-term. | As for point #4, trees need to be of a certain size before they are useful to bats for roosting or other functions such as commuting pathways. If they are not planted early enough they will not reach this size in time. If they are not maintained over time, they may cease to be functional for bats. |
| 7 | | Pest control needs to be part of the Ecological Management Plan, covering all the introduced predators of bats: rats, stoats, cats and possums. | Roads bring pests. People and our food waste (lunch scraps etc.) bring pests. |