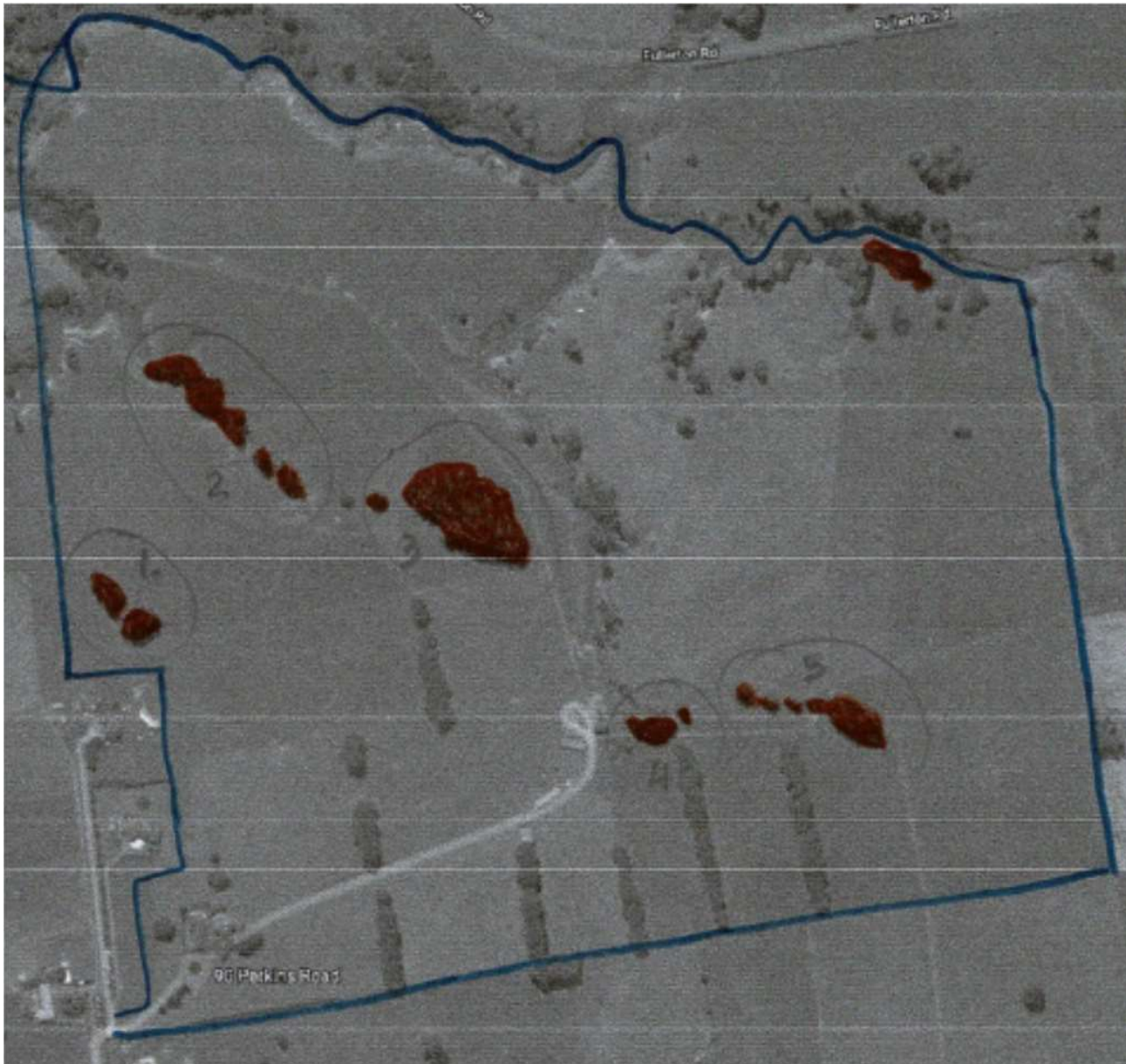


Reasons why an OLS cannot be placed over our farm.

Kahikatea trees at 90 Perkins Road will eventually grow into the height limit proposed for the OLS for Te Kowhai airstrip



There are 6 main groups of Kahikatea trees on the farm at 90 Perkins Road. Group 3 alone, pictured above contains approximately 490 Kahikatea trees. The vast majority of trees within this group have been fenced for 40 years. The trees in group 4 have been fenced for 50 years. This forest fragment contains other native species of plants beneath the Kahikatea canopy. These have grown up naturally since the plot was fenced, using weed control to take out anything that wasn't native. There are numerous bird boxes within the forest fragment to attract native birds to nest. There are possum, stoat/rat and magpie traps which are checked on a daily basis, to rid the forest fragment of predators.

Future plans for the forest include fencing and planting kahikatea to join group 2 up with group 3 to increase the size of the forest fragment.

13. Kahikatea

Dacrycarpus dacrydioides

A non-flowering tree (conifer) usually found in wet areas. Lives to 500+ years. Ancient and unique tree.



EXPERIENCING NATIVE TREES IN YOUR GREEN SPACE

Department of Conservation
Te Papa Atawhai



Kahikatea trees are the tallest native trees in New Zealand. Tane's Tree Trust says that kahikatea will grow up to 60 metres tall, with annual growth rates of planted trees ranging from 10 to over 70 cm in height.

The Department of conservation say that kahikatea trees will grow up to 80 metres tall. (See 13. Kahikatea, sourced from the Department of Conservation) This is about the same height as a 30 storey building.

Waikato Regional Council say that kahikatea generally grow up to 60 metres, however some have been measured at 90 metres.

All of these figures are higher than the obstacle limitation surface that has been proposed to go over our farm. It is hard to judge how tall a tree will grow when virtually all the trees over 100 years old have been cut down.

This photo from an article in 'Hawkes Bay Today' news demonstrates the girth that Kahikatea trees can grow to.

Not all kahikatea trees will grow as tall and not all trees will grow as wide.

Our trees are currently up to 35 metres tall. They are still juveniles and they are still growing strongly.

Our trees have tended to grow taller and thinner than average, particularly within the forest fragment shown as group 3, due to their close proximity to each other.

Background

When David Barnes moved to 90 Perkins Road as a child with his family, almost 60 years ago, they were lucky enough to inherit the guardianship of a few remaining tracts of kahikatea trees. Trees that were already of some age judging by the size. The kahikatea trees were such an important part of the farm for the family that of the two photos that were taken by David's own father prior to the purchase of the farm, one of them was of the large group of kahikatea trees. Four generations of our family have lived on the farm and hopefully more generations will.

We live at 90b Perkins Road. David and Aileen Barnes were kind enough to cut a section from their farm for us to build a home. This allowed us to live on the very farm where my husband Simon was born and enable us, and our children, to gain first hand knowledge from their grandfather about looking after the land and the native flora and fauna of the area. Some of this being knowledge that David gained from his own father, who owned the farm before him.

Kahikatea were always in Te Kowhai area and kahikatea should be allowed to remain in Te Kowhai area (map info sourced from Waikato Regional Council website)

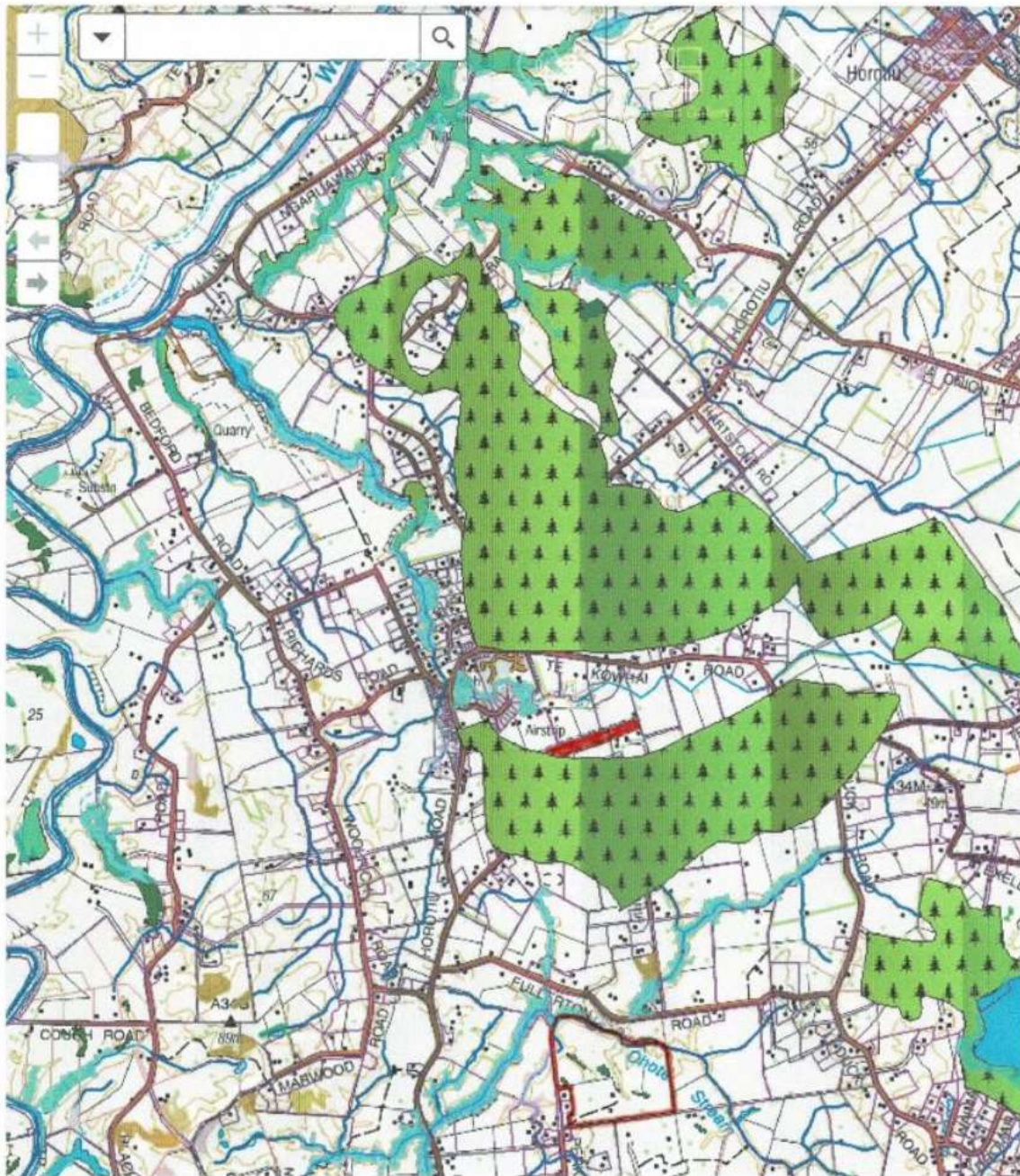
Kahikatea trees are the native tree of this area. This is astoundingly clear when you look at the Waikato Regional Council map of vegetation biodiversity and find much of Te Kowhai, in particular the area covered by the proposed obstacle limitation surface, were once covered by kahikatea trees. (see the next page vegetation biodiversity)

These areas were subsequently drained for farmland and the trees chopped down. There are a few small areas, shown in dark green, that are kahikatea fragments that remain, or have grown up at a later date. This is a very small proportion of what used to be in the area.

These groups of trees have been there way longer than the airfield. They are important plots of trees that also support native wildlife such as birds, bats and insects. My husband's parents have been the guardians of these trees for almost 60 years. They are both important and significant trees to the area, both for the trees themselves and the huge amount of native fauna that rely on them. Small reminders of what was once here in great numbers.

Because humans now control flood events and re-sow flood-damaged pasture, it is unlikely to see many new areas of kahikatea forest developing in the Waikato.

Vegetation Biodiversity



1km

Kahikatea

Kahikatea 2012



Pre-human Kahikatea Dominant



N.B. There is way less than 10% of the Te Kowhai area of pre-human Kahikatea forest left in 2012.

Airstrip and 90 Perkins Road are highlighted in red pen.

Waipa District Council wanted to 'protect our trees'

Many years ago our farm came under the jurisdiction of Waipa District Council. At that time David and Aileen received a letter to say that Waipa DC would like to make our forest fragment a type of significant natural area. There were many meetings held and Waipa DC visited the forest fragment and met up with David and Aileen to discuss what this would mean for them and the forest fragment. The decision was made to make it, the equivalent of, a SNA

Unfortunately the i's were not quite dotted, when our area was taken out of the control of Waipa District Council and put into Waikato District Council instead. Due to lack of communication between the two councils and Waikato Regional Council being formed, this information has been lost. Maybe this is another reason why there are so few SNA identified in the Hamilton Basin Ecological District.

Unfortunately, none of the evidence in the form of letters, has been kept by either party.

Our forest fragment should be a Significant Natural Area.

Many organisations that we have spoken to about the potential OLS situation have said that it is a pity that our forest fragment has not been given SNA status, as if this would be our 'get out of jail free' card. Well according to the governments draft national policy statement for indigenous biodiversity our forest fragment rates highly as a potential SNA.

Management framework

Representativeness

Attributes	Rating
Ecological unit(s) present that is typical of the indigenous character of the ecological district and which retains a high level of ecological integrity in the context of what remains in the ecological district.	High
Habitat that supports a typical suite of indigenous fauna that is characteristic of the habitat type in the ecological district and retains the majority of species expected for that habitat type in the ecological district.	High <i>unknown</i>
Ecological unit(s) present that is typical of the indigenous character of the ecological district and which retains a moderate level of ecological integrity in the context of what remains in the ecological district.	Medium
Habitat that supports a typical suite of indigenous taxa that is characteristic of the habitat type in the ecological district and retains a moderate range of species expected for that habitat type in the ecological district.	Medium

Diversity and pattern

Attributes	Rating
A high diversity of indigenous species, vegetation, habitats of indigenous fauna, or communities within the context of the ecological district	High
Presence of important ecotones and/or complete gradients or sequences.	High
A moderate diversity of indigenous species, vegetation, habitats of indigenous fauna, or communities within the context of the ecological district	Medium
Presence of ecotones and/or partial gradients or sequences.	Medium

According to p37 draft national policy statement for indigenous biodiversity government a Significant Natural Area qualifies as having a 'high' rating if it has one or more attributes that rate as 'High' in respect of any one of the four criteria. I believe ours rates high in three of these areas

Rarity and distinctiveness

Attributes	Rating
Provides habitat for a nationally Threatened, or two or more At Risk indigenous species as identified in the New Zealand Threat Classification System lists.	High <i>low</i>
An indigenous species or plant community at its distributional limit.	High
Indigenous vegetation that has been reduced to less than 20% of its former extent in the ecological district, region or land environment.	High <i>sel</i>
Indigenous vegetation or habitat of indigenous fauna occurring on sand dunes.	High
Indigenous vegetation or habitat of indigenous fauna occurring on naturally uncommon ecosystem types.	High
The type locality of an indigenous species	High
Provides habitat for an At Risk indigenous species as identified in the New Zealand Threat Classification System lists	Medium
An indigenous species or plant community near its distributional limit.	Medium
An indigenous vegetation type or an indigenous fauna species that is uncommon within the region or ecological district.	Medium
Indigenous vegetation that has been reduced to between 20% and 30% of its former extent in the ecological district or land environment.	Medium
The presence of a distinctive assemblage or community of indigenous species	Medium
A special ecological or scientific feature.	Medium

Ecological context

Attributes	Rating
Large size and a compact shape in the context of the ecological district.	High
Well-buffered relative to remaining habitats in the ecological district.	High
Provides a full buffer to, or link between, other important habitats of indigenous fauna or Significant Natural Areas.	High <i>?</i>
Is very important for the natural functioning of an ecosystem, relative to remaining habitats in the ecological district.	High
Supports large numbers of indigenous fauna	High
Provides critical habitat for indigenous fauna, including important feeding, breeding, refuge or resting habitat.	High
Moderate size and a compact shape in the context of the ecological district.	Medium
Provides a partial buffer to, or link between, other important habitats of indigenous fauna or Significant Natural Areas.	Medium
Important for the natural functioning of an ecosystem, relative to remaining habitats in the ecological district.	Medium

NB That criteria from the government does not stipulate a minimum size for a SNA. In fact it says that it can be a 'moderate size and a compact shape in the context of the ecological district. You can see from the map below that due to the lack of forest left in the Hamilton basin our forest fragment, albeit less than 0.5ha, is of a moderate size within the Hamilton Ecological Basin.

Waikato Regional Council's criteria for selection as a SNA

If you look at the Waikato Regional Council's criteria for determining significance of indigenous biodiversity our forest fragment clearly should have been selected for designation as a Significant Natural Area. It is clearly a candidate for more than one of the selection criteria based on ecological values.

(11A Waikato Regional Council's criteria for determining significance of indigenous biodiversity)

Our forest fragments would definitely come under more than one of the following criteria:-

3. It is vegetation or habitat that is currently habitat for indigenous species or associations of indigenous species that are: · classed as threatened or at risk, or endemic to the Waikato region, or at the limit of their natural range.

I have seen bats on one occasion within the vicinity of the forest fragment. Bats have also been detected amongst the trees at two known locations within 2km. The trees have ecological value, not only are they potentially habitat for native bats, but they do provide important stepping stones for native birds across the productive landscape.

4. It is indigenous vegetation, habitat or ecosystem type that is under-represented (20% or less of its known or likely original extent remaining) in an Ecological District, or Ecological Region, or nationally.

From the maps I have included earlier you can see that a lot less than 20% of the Kahikatea forest that was around in the pre-European times in the Te Kowhai area is still there now.

Looking at the map (next page) of the Waikato, showing threatened environment classifications by indigenous land cover from the DOC. (from p4 the draft National Policy Statement for Indigenous Biodiversity. Department of Conservation October 2019) You can see that the area of land where Te Kowhai/ Rotokauri are, is basically all red, meaning that there is less than 10% indigenous cover left. Clearly forest fragments such as ours should be protected as this shows much less than 20% in the entire area.

9. It is an area of indigenous vegetation or habitat that is a healthy and representative example of its type because: · its structure, composition, and ecological processes are largely intact; and · if protected from the adverse effects of plant and animal pests and of adjacent land and water use (e.g. stock, discharges, erosion, sediment disturbance), can maintain its ecological sustainability over time.

Our forest fragment is representative of its type. Weed control is used and there are many pest traps that are checked on a daily basis and the area is fenced from cattle. Nothing discharges near it and being on flat land that is no lower than the surrounding ground around it there will be no sediment disturbance or erosion.

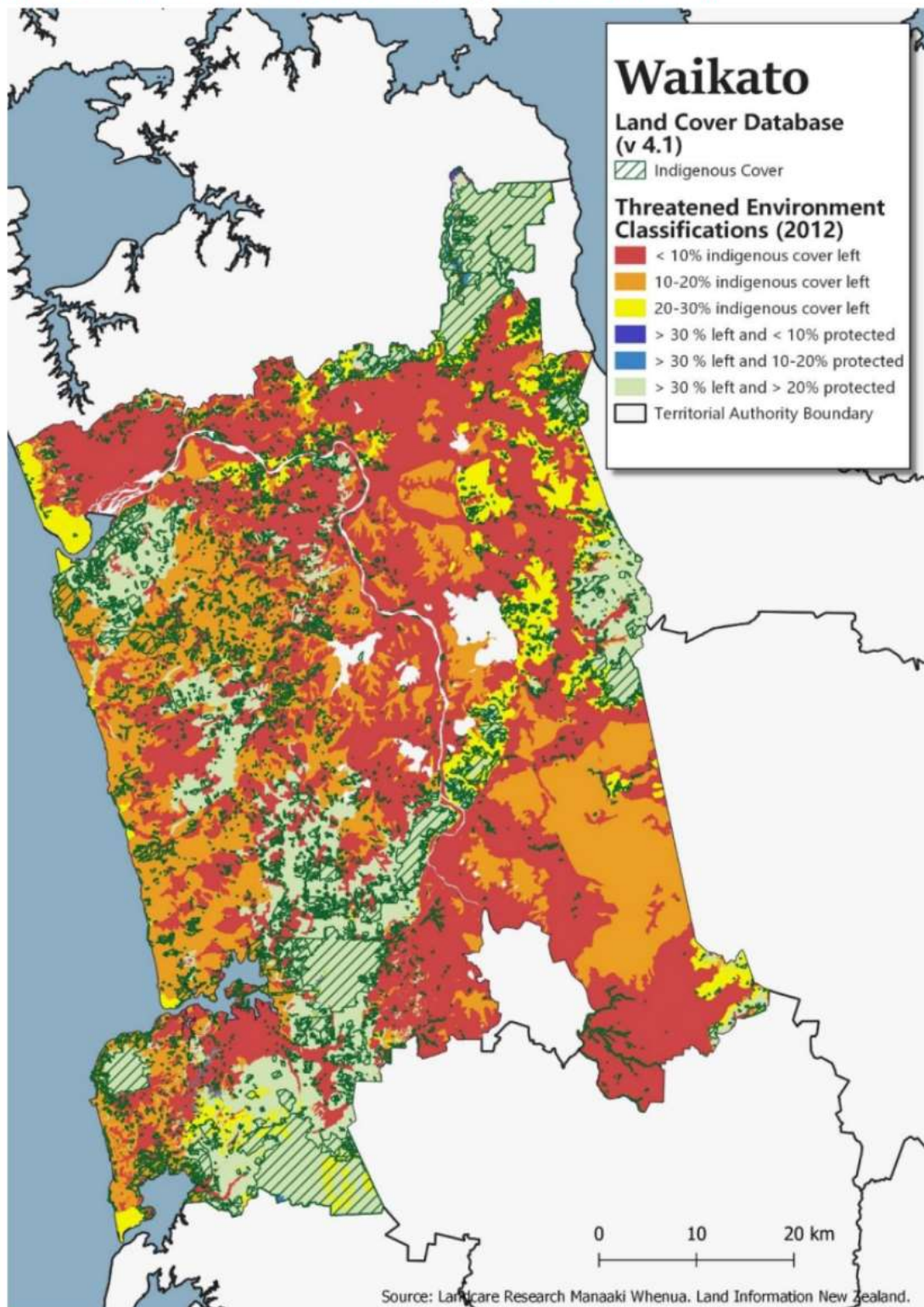
In a research article titled 'Vegetation recovery in rural kahikatea forest fragments in the Waikato region, NZ, following retirement from grazing' (by M Smale, C Ross and G Arnold, published in the New Zealand Journal of Ecology (2005) 29(2): 261-269) part of the conclusion was that,

'with the simple remedial measure of fencing, many lost species re-establish,'

'In the absence of threatened weeds, retirement from grazing by means of fencing may alone be sufficient to ensure a return to near-natural states in 40 -50 years.'

Our forest fragment has been fenced for almost 40 years, according to the above study, it is just getting to a point where it will have been returned to a near-natural state. (Although David has done a lot more than just fence this piece of land.)

Figure 1 – Threatened Environment Classification by Indigenous Land Cover - Waikato



The map on this page shows that there is less than 10% indigenous cover in our area, the Hamilton Basin. In fact there is less than 2% indigenous forest.

The map on the next page shows that there are a good number of SNA in the Waikato in all areas other than the Hamilton Basin.

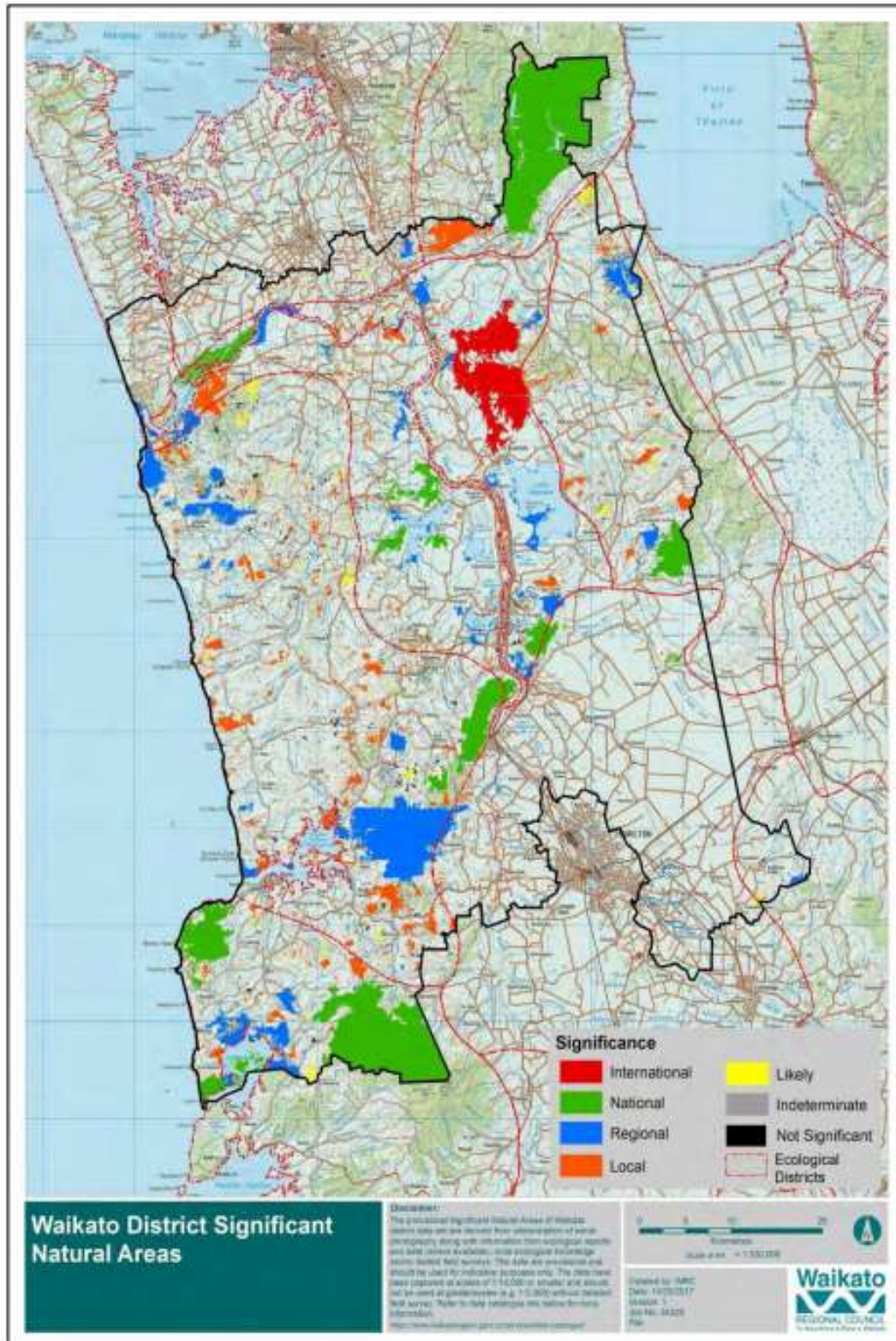
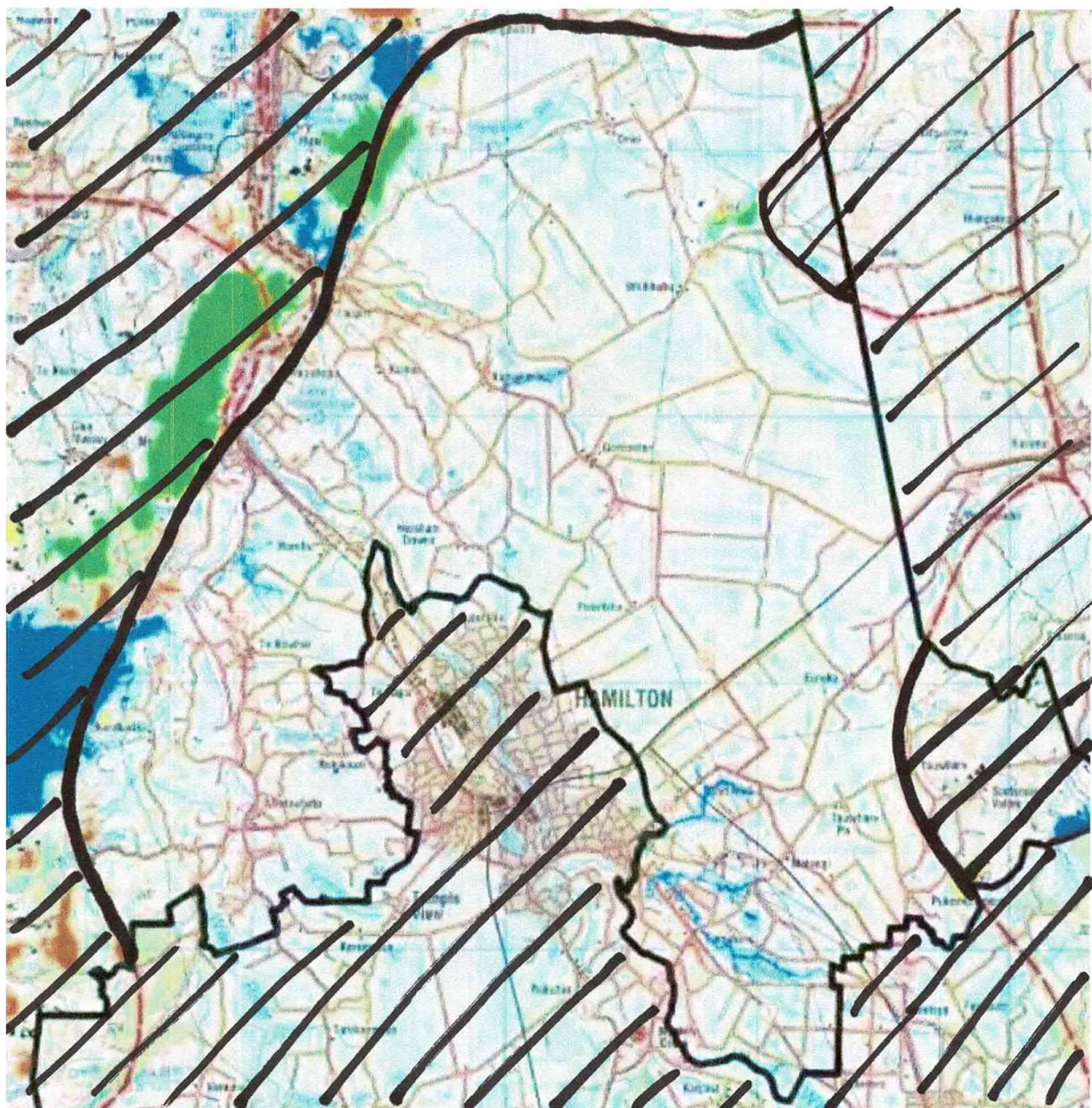


Figure 5. Significant Natural Areas of the Waikato District

Hamilton Basin Ecological District that is within the Waikato District Council area



There are very few SNA identified at all in the Hamilton Basin, nothing like the 10% that government and Waikato Regional Council are aiming for.

We are in the Hamilton Basin Ecological District. Waikato Regional Council writes (Technical Report 2017/36 8.4 p 49) about the Hamilton Basin.

‘Percentage cover of indigenous vegetation in 1995 was about 1% forest. The Hamilton Basin is perhaps the most denuded management zone within the Waikato District.’

‘Only small and scattered indigenous forest remnants exist in the Hamilton Basin, many of which are remnant podocarp stands, often (historically) grazed extensively by stock. Despite being small and modified these stands provide important habitat

and stepping stones for many indigenous bird species and threatened long-tailed bats.'

The Hamilton Basin is a distinct type of ecosystem and clearly all remaining remnants should be saved.

Waikato Regional Council need to be looking for sites smaller than 0.5 ha like ours. I don't know why they wouldn't look at the largest sites in each ecological district rather than just picking the largest sites in the Waikato region. Maybe this was due to lack of resourcing, maybe inadequate mapping or maybe not enough ground searching. It is a shame that our area was moved, at that point in time, from Waipa District Council because then it may have been on an SNA list before control moved on to Waikato District.

Waikato Regional Council concludes (Technical Report 2017/36 p VI)

'Due to the significant loss of vegetation and fragmented state of the remaining indigenous vegetation in most parts of the Waikato District, restoration of under-represented ecosystem types, and creating linkages and corridors, should be a priority for addressing biodiversity loss.'

and (Technical Report 2017/36 pX)

'Also, it would add value to the database if the ecological significance of sites smaller than 0.5ha or of sites that have not been previously identified are assessed as they come to light.

Waikato Regional council has recognised that not all SNA's have been identified and mapped, which is the reason why the following amendment was recommended in the Waikato Regional Council's submission to Waikato District council regarding the Proposed Waikato District Plan. The submission was formally endorsed by the council's Strategy and Policy Committee on 18 September 2018. This point was on page 8 under the heading 'Natural Environment'.

Areas that meet WRPS 11A significance criteria but are outside of mapped Significant Natural Areas (SNAs) in the Proposed Plan	Amend	WRC notes that not all areas of significance under section 6c of the Resource Management Act (RMA) and 11A of the WRPS will have been identified and mapped in the development of the Proposed Plan. The plan needs to provide for those areas that meet the SNA criteria, but which were not known about until an activity is proposed.	AMEND the Proposed Plan to provide a mechanism to manage areas that meet the WRPS 11A criteria and have not been identified and mapped in the Proposed Plan.
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The submission was to try to ensure that significant natural areas, such as our forest fragments, which were not known about by Waikato Regional Council until this action was proposed, gain protection through the Waikato District Plan.

The Waikato District Council already 'protect our trees' in their district plan and therefore should not allow an OLS to be placed above them.

The Waikato District Council protect our trees in policies throughout their district plan. If the proposal for the OLS as it stands goes through, the farm would be placed in a position where it would be forced at some point to break either the one rule about being over the OLS limit or the many existing rules and guidelines in the proposed district council plan about clearing indigenous trees. Such as:-

3.1.1 Objective – Biodiversity and ecosystems

(a) Indigenous biodiversity values and the life supporting capacity of indigenous ecosystems are maintained or enhanced.

3.1.2 Policies

(b) Consider the following when avoiding, remedying or mitigating adverse effects on indigenous biodiversity:

- (i) the required range of natural food sources;
- (ii) habitats of threatened and at risk species;
- (iii) ecological processes and corridors;
- (iv) ecological sequences;
- (v) migratory pathways;
- (vi) pest plants and pest animals;
- (vii) the Waikato river and its catchment;
- (viii) natural character and landscape values of the area;
- (ix) natural waterway habitats and hydrology;
- (x) ecological corridors, natural processes and buffer areas;
- (xi) legal and physical protection of existing habitat;

22.2.8 Indigenous vegetation clearance outside a Significant Natural Area

(a) Indigenous vegetation clearance outside a Significant Natural Area identified on the planning maps or in Schedule 30.5 (Urban Allotment Significant Natural Areas) must be for the following purposes:

(i) Removing vegetation that endangers human life or existing buildings or structures;

P1 (ii) Maintaining productive pasture through the removal of up to 1000m² per single consecutive 12 month period of manuka and/or kanuka that is more than 10m from a waterbody, and less than 4m in height;

(iii) Maintaining existing tracks and fences;

(iv) Maintaining existing farm drains;

(v) Conservation fencing to exclude stock or pests;

(vi) Gathering of plants in accordance with Maaori custom and values; or

(vii) A building platform and associated access, parking and manoeuvring up to a total of 500m² clearance of indigenous vegetation.

We totally stand by the introduction of the rules above. The rules and policies 3.1.1, 3.1.2 and 22.2.8 that protect the trees and fauna and flora within. Rules which are already in the proposed district plan that have already been submitted on. We want to be able to abide by these rules. They were put in the proposed plan for a reason and that reason was to protect our indigenous areas. The proposed extension of the obstacle limitation surface over our farm at a height that will mean that our trees will eventually exceed this surface would mean that we would be placed in a position where we would either be breaking one council rule or another.

We have no intention of breaking the existing rule 22.2.8 about clearance of indigenous vegetation outside a significant natural area. There are many reasons for this and I will try to address these as briefly as possible.

Our forest fragments are a Significant Natural Area. (SNA)

Yes the forest fragments are a significant natural area. Have they been designated as such by the Waikato District Council or the Waikato Regional Council? no they haven't, but probably they should've been for the following reasons.

We are in the Hamilton Basin Ecological District. Waikato Regional Council writes (Technical Report 2017/36 8.4) about the Hamilton Basin.

'Percentage cover of indigenous vegetation in 1995 was about 1% forest. The Hamilton Basin is perhaps the most denuded management zone within the Waikato District.'

'Only small and scattered indigenous forest remnants exist in the Hamilton Basin, many of which are remnant podocarp stands, often (historically) grazed extensively by stock. Despite being small and modified these stands provide important habitat and stepping stones for many indigenous bird species and threatened long-tailed bats.'

The Hamilton Basin is a distinct type of ecosystem and clearly all remaining remnants should be saved.

If you look at the Waikato Regional Council's criteria for determining significance of indigenous biodiversity our forest fragment clearly should have been selected for designation as a Significant Natural Area. It is clearly a candidate for more than one of the selection criteria based on ecological values.

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From the maps I have included earlier you can see that a lot less than 20% of the Kahikatea forest that was around in the pre-European times in the Te Kowhai area is still there now.

Looking at the above map of the Waikato, showing threatened environment classifications by indigenous land cover from the DOC. (from p4 the draft National Policy Statement for Indigenous Biodiversity. Department of Conservation October 2019) You can see that the area of land where Te Kowhai/ Rotokauri are (to the left of the small white area that is Hamilton City) is basically all red meaning that there is less than 10% indigenous cover left. Clearly forest fragments such as ours should be protected as this shows much less than 20% in the entire area.

9. It is an area of indigenous vegetation or habitat that is a healthy and representative example of its type because: · its structure, composition, and ecological processes are largely intact; and · if protected from the adverse effects of plant and animal pests and of adjacent land and water use (e.g. stock, discharges, erosion, sediment disturbance), can maintain its ecological sustainability over time.

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In a research article titled 'Vegetation recovery in rural kahikatea forest fragments in the Waikato region, NZ, following retirement from grazing' (by M Smale, C Ross and G Arnold, published in the New Zealand Journal of Ecology (2005) 29(2): 261-269) part of the conclusion was that,

'with the simple remedial measure of fencing, many lost species re-establish,'

'In the absence of threatened weeds, retirement from grazing by means of fencing may alone be sufficient to ensure a return to near-natural states in 40 -50 years.'

Our forest fragment has been fenced for almost 40 years, according to the above study, it is just getting to a point where it will have been returned to a near-natural state. (Although David has done a lot more than just fence this piece of land.)

The first we learnt about the importance of the designation of Significant Natural Areas by Waikato Regional Council was when we were asked the question over the phone when looking up the rules the other day. Looking up other SNA's in the area I believe that our forest fragments should have been designated. Why they weren't picked up at the time, who knows, maybe due to lack of resourcing, maybe inadequate mapping or maybe not enough ground searching, possibly because they weren't close enough to a main road. It is a shame that our area was moved, at that point in time, from Waipa District Council because then it may have been on an SNA list before control moved on to Waikato District.

Waikato Regional council has recognised that not all SNA's have been identified and mapped, which is the reason why the following amendment was recommended in the Waikato Regional Council's submission to Waikato District council regarding the Proposed Waikato District Plan. The submission was formally endorsed by the council's Strategy and Policy Committee on 18 September 2018. This point was on page 8 under the heading 'Natural Environment'.

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The submission was to try to ensure that significant natural areas, such as our forest fragments, which were not known about by Waikato Regional Council until this action was proposed, gain protection through the Waikato District Plan.

Native bats, classed as 'nationally critical' use the forest

According to DOC, both native bats are in danger of going extinct in the medium term if not enough is done to reverse their decline. The long-tailed bat is classed as 'nationally critical'. They are considered to be a conservation priority. Threats to native bats include the logging of native forests and introduced predators (rats, stoats, cats). Bats are highly mobile they can fly 60km per hour and travel more than 100km from roost sites. They roost for relatively short periods and can have more than one roost site at a time.

I have seen bats myself, on one occasion in the late evening, near the forest fragment. My husband has also seen bats on the farm, so I know that they do visit the trees on occasion. I don't generally go to the forest fragment at twilight so I don't know how often they are there.

Last summer, Olivia Dixon, a university student used our patch of trees as part of her survey into bats. The bat detection equipment was in the forest fragment for two weeks. She said that although none were detected during that short time frame, bats were detected at other sites close by and that it is likely that they would have been found at our site too if detectors had been placed for longer. A likely reason why there was no activity at that time was due to a particularly dry spell and the water in the area of the detectors was

dried up. This means that this area was not a good feeding place for the bats during those two weeks.

Her information was passed on to the Waikato Regional Council as part of Project Echo.

Hi Melinda

This kahikatea patch was one of those surveyed by the Project Echo summer student this last summer. This particular patch did not record any bats, but two other locations (one on Perkins Road, the other on Laxon Road) did, so it would be reasonable to say that the 90 Perkins Rd patch is within the known home range of long-tailed bats. The Waikato District Council ecologist has this information as well.

Unfortunately it does not look like the kahikatea fragments at 90 Perkins Rd are listed as SNAs.

Cheers

Kate

Kate Richardson COMMUNITY RESTORATION ADVISOR Natural Heritage, Integrated Catchment Management

WAIKATO REGIONAL COUNCIL Te Kaunihera ā Rohe o Waikato

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Bats were detected/found to be roosting in trees at the Te Kowhai walkway as well as two other groups, one on Laxon Road and one on Perkins Road less than 2 km away. It is highly likely that they would be using our trees to either feed in or roost as well, just not in that particular group of trees on the farm in that two week timeframe.

Many bird species, including natives, have been seen in the tree areas

The kahikatea is an ancient Jurassic survivor. There have been discoveries of its pollen and leaves in Jurassic rocks, some 160 million years old. At this time neither birds nor flowering plants had evolved; instead of kereru, bellbirds, kaka and tui, the kahikatea's prolific fruits were probably feasted on and seeds dispersed by pterodactyls.

I am not an expert on birds so I have probably missed some species out here. The birds that we see visiting the kahikatea trees / habitats regularly and are able to identify as an amateur are:-

Harrier hawks	fantails	tuis	kingfishers	plovers
herons	blackbirds	mynahs	pukekos	waxeyes

The birds that have been seen at least once visiting the kahikatea tree areas and are able to identify as an amateur are:-

keruru	NZ falcon	red-crowned parakeet
sulphur crested cockatoos	eastern rosella	Australasian bittern

Red-crowned parakeet are not even considered to be living on the mainland of New Zealand.

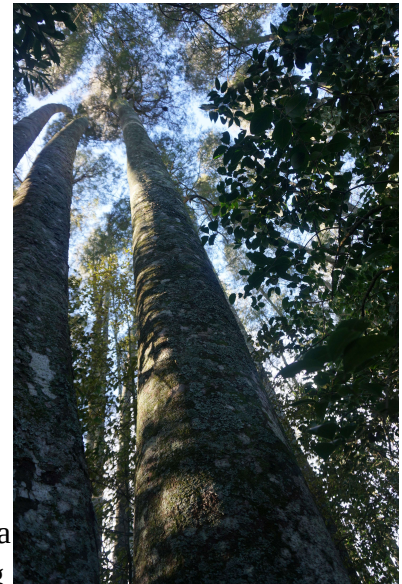
'NZTE does not propose to destroy habitats'

In NZTE Operations Limited's further submission on Variation 1 to the Proposed Waikato District Plan they state that:-

'NZTE does not propose to destroy habitats, only control obstacle height when required to comply with the CAA requirements for the OLS. '

I am glad that they are not willing to destroy habitats because that will mean that they will not expect our forest to be cut, and that they will not allow an OLS to be put over our trees.

It will be impossible to cut the top off a kahikatea tree that is part of a forest fragment, such as ours, without killing it or severely degrading it. If you look at the photos shown on this page you will see that although kahikatea trees at the edge of a forest have branches all the way up the tree, the Kahikatea trees that are within the forest and growing in close proximity to each other, grow tall and thin with no leaves on any branches, and basically no branches, until the very top of the canopy.

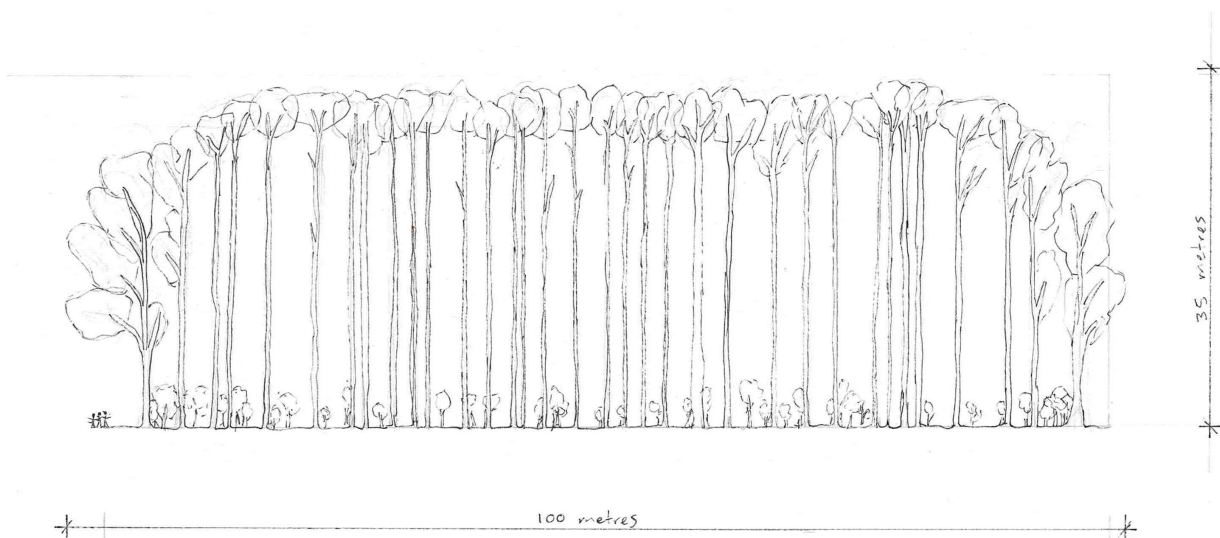


Cook's party mentioned one kahikatea tree

'that girthed 19 feet 8 inches, 6 feet above the ground ... I found its length from the root to the first branch to be 89 feet.' (27 metres high)

If our trees had even a few metres taken from the top they would, most likely, die as there would be no leaves, or not enough leaves to support the tree.

Below is a cross section sketch of our forest fragment that depicts how the trees on the edge of the forest look compared to those in the centre of the forest. People are depicted



to the left hand side of the trees, and other indigenous trees are pictured at the base of the trees.

The financial cost to residents living under an obstacle limitation surface is too great

I do not even know how many kahikatea trees we have on our farm at 90 Perkins Road, but it would be in the high hundreds. All of which have the potential to grow way higher than the Obstacle Limitation Surface at some point in the future. All of which will get to that potential 45m cut off point at different times in their lives. The cost to cut the top off one 45m high tree is potentially between \$400 and \$1,750 at today's prices. The price to cut the whole tree down would be a lot higher. Of course that doesn't include removing all the wood or debris away. The wood is worth nothing as there is not much of a market for butter boxes any more, and even if there was a use for it council rules would not allow for it to be milled. Even if only 200 of the trees needed to be cut shorter this could amount to about \$350,000. This cost will certainly rise in the future. It would be worse than a second mortgage. It is totally unfair to expect pensioners to get themselves into massive debt because the council is forcing them to damage the trees that they have spent almost their entire life caring for. Trees that one day we ourselves hope to have the responsibility for. It would be a life of debt and financial burden while others got to fly overhead for 'fun and relaxation'.

Currently at an open home or house viewing, if you are selling your house or sections of land, prospective buyers may or may not see a plane, at the moment probably not. But if this goes through it will be clearly written on our LIM report, so all prospective purchasers will know that planes can fly low. Not only that but planes will be able to fly lower. It won't take buyers very much research to see what type of planes could end up circling around, in the future if not now. Clearly this will affect the number of purchasers, in a negative way, and consequently the potential offer price for either the farm or our own house, if they were ever to be sold in the future.

Te Kowhai doesn't need an airport instead of an airstrip

If the decision is made to keep the obstacle limitation surface at 2500m around the runway, which I don't think it should, then the farm at 90 Perkins Road should be omitted from this area, just as the area within Hamilton City has been omitted at the moment. Just as surface penetration areas are marked on the Napier Airport Map.

Our trees should not be given a death sentence. If the airfield can't grow bigger alongside the trees then the trees have existing rights. Not only were they there before the obstacle limitation surface, but they were there long before the airstrip.

It takes less than half an hour to drive from Te Kowhai airstrip to Hamilton Airport so there is no real necessity for night flying at the Te Kowhai Airfield. A lot of areas of the country manage without even one airport that can take VFR flights at night or in bad weather

anywhere near them. People that fly in our area are already better off than most of the country having the use of Hamilton Airport so close.

Learning to fly and getting a pilot's license takes 50 hours of flying, and can currently happen at TK airfield. To be able to fly at night is only 5 more hours of flying. There is already a flying school that caters for night flying at Hamilton airport, so this part could easily be completed on the other side of town.

CAA guidelines do not stop at an OLS. They are asking for all houses under the approach areas to be removed.

Information from the CAA about local authority zoning (p5 Guidance material for land use at or near aerodromes 2008 by Civil Aviation Authority of New Zealand) says that

The CAA encourage local authorities to protect aerodromes in their areas to ensure the long term sustainability of the aerodrome, the safety of the aircraft operations, and the safety of persons and property. In addition to the required obstacle limitation surfaces other areas can be specifically zoned to assure that future uses of the land are compatible with airport operations and to protect persons and property. Zoning solely to obstacle limitation surface is insufficient to prevent the construction of incompatible uses such as housing or uses that attract congregations of people in the approach areas.

If the Waikato needs an airport instead of an airstrip then this should be situated in an area that doesn't have existing houses, and doesn't have existing native forest. It is relatively simple to make an area of ground flat to take off and land a plane it is impossible to successfully move a tree that is 45 metres high.

Keep the airstrip as it is, or move it to a different location. Do not allow it to negatively affect its neighbours. Do not let machines trump the natural world. Think of the future of the planet.

Covid-19 lockdown, made us all realise just how important biodiversity is. Biodiversity, nature, ecosystems -these terms describing a web of life that works and functions in harmony. In New Zealand, although we have exotic things that disrupt this unique web of life, we still have strong pockets of biodiversity to sustain our wellbeing. Think rivers, bush, bird songs, and clean air. All these things, that biodiversity produce for us, make us feel better and lift our mood. This is so important for the world that we currently live in.