



**Forest
Management**
LTD

Resource Consent Application for Afforestation in the Taiko Stream Flow Sensitive Catchment.

Prepared for:

Peter and Margaret Evans

November 2021

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1 INTRODUCTION

Forest Management Limited (FML) has been approached by Peter and Margaret Evans to consult on the planting of their afforestation project of 78.2ha in the Taiko Valley. To see if the project is compliant with national, regional and local authorities, an assessment on the National Environmental Standard for Plantation Forestry (NES-PF), Environment Canterbury's (ECAN) Land and Water Regional Plan (LWRP), the National Policy Statement for Fresh Water Management (NPSFM) and the Timaru District plan has been completed.

As the property is in the Taiko flow sensitive catchment, a resource consent is required as planting in a flow sensitive catchment is a "discretionary controlled activity." To ensure the planting complies with Environment Canterbury's (ECAN) Land and Water Regional Plan (LWRP). Policy 5.73 of the LWRP will be assessed to see if it can be met in the Taiko Stream Catchment.

2 LOCATION AND ACTIVITY

Property: Margaret Jane Evans, Peter Hanan Evans

Address: 28 Pareora Gorge Road, Maungati 7972

GPS Co-ordinates: 44°22'42.7"S 171°03'22.7"E

Land Title: 1. CB44A/1164 ; 2. CB22K/1166 3. CB44A/1163; 4. CB45B/231; 5. CB34A/764

Description:

1. Fee Simple, 1/1, Lot 3 Deposited Plan 76918, 931,600 m²
2. Fee Simple, 1/1, Lot 2 Deposited Plan 3311, 760,809 m²
3. Fee Simple, 1/1, Lot 2 Deposited Plan 76918, 944,200 m²
4. Fee Simple, 1/1, Lot 2 Deposited Plan 78796, 610,100 m²
5. Fee Simple, 1/1, Rural Section 34502, 380,404 m²

Activity: Afforestation of 78.2 hectares of *Pinus radiata* in the Taiko Stream flow sensitive catchment. The activity is likely to take place over a period of 5 years, with the first stage of 10ha being planted winter 2022

The property is a mixture of gentle rolling to steep rocky outcrops (Appendix 1). The areas located for afforestation are in the areas which have the least grazing potential in the steep, gorse and erosion prone rock areas. The land owner already has 70ha of existing forestry on the property to make use of the lower value land and as a form of gorse and erosion control.

3 COMPLIANCE

3.1 National Environmental Standard for Plantation Forestry

The NES-PF covers seven forestry activities as well as ancillary and general provisions such as harvesting and planting. The purpose of the NES-PF is to provide a national framework for plantation forestry to ensure environmental obligations are met. The NES-PF comes into effect as we are undertaking afforestation. Below are the sections stated in the NES-PF that are relevant to this activity and how they will be complied with to ensure the job is a permitted activity.

10. Permitted activity condition: notice

(1) The relevant regional council and territorial authority must be given written notice of—

- (a) the location where the afforestation will occur and the proposed setbacks (including a description of how these were calculated); and
- (b) the dates on which the afforestation is planned to begin and end.

The regional authority Environment Canterbury will be notified by way of the consent

application. The territorial authority, the Timaru District Council will be notified by email as per requirement of 10.1.a and 10.1.b

(2) Notice under subclause (1) must be given at least 20 and no more than 60 working days

before the date on which the afforestation is planned to begin.

The regional authority Environment Canterbury will be notified by way of the consent

application. The territorial authority, the Timaru District Council will be notified by email as per requirement of 10.1.a and 10.1.b

11. Permitted activity condition: wilding tree risk and control

Calculator

(1) A wilding tree risk calculator score must be—

- (a) applied to any land on which afforestation of a conifer species is proposed; and
- (b) calculated in accordance with the wilding tree risk guidelines by a suitably competent person; and
- (c) completed no more than 6 months before notice is given under regulation 10.

(2) In subclause (1), suitably competent person means a person with—

- (a) tertiary qualifications in silviculture and forest ecology and at least 2 years' experience in the field of silviculture; or
- (b) at least 5 years' experience in silviculture that includes forest establishment.

(3) Afforestation of a conifer species must not be carried out in an area with a wilding tree risk calculator score of 12 or more.

See attached [Wilding risk calculation result of 0](#).

(4) The relevant regional council and territorial authority must be given a copy of the wilding tree risk calculator calculation sheet and score required under subclause (1) at the same time as notice is given under regulation 10.

The regional authority, Environment Canterbury will be notified by way of the consent application. The territorial authority, the Timaru District Council will be notified by email as per requirement of 10.1.a and 10.1.b

Control measures

(5) All wilding conifers resulting from the afforestation activity must be eradicated at least every 5 years after afforestation where established in wetlands or significant natural areas—

- (a) on the same property on which the afforestation activity occurs; and
- (b) on any other adjacent properties under the same ownership or management as that of the property on which the afforestation activity occurs.

Agreed.

12. Permitted activity condition: significant natural areas and outstanding features and landscapes

(1) Afforestation must not occur within a significant natural area or an outstanding natural feature or landscape.

Canterbury Maps Layer used for property identified as:

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Description:

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5. Fee Simple, 1/1, Rural Section 34502, 380,404 m²

Territorial Authority: Timaru District Council

There are identified significant natural areas (SNA) present on the property. Due to privacy reasons shapefiles for these areas were unable to be obtained but a physical report showing the locations was provided (Appendix 2). These physical maps were used as references when mapping the proposed afforestation. With the information provided all SNA areas have been mapped out to the best of the ability of the consultant with the information he was provided with. There is no intention to afforest these areas if the map is incorrect. All SNAs will have a buffer of 10m which will be excluded from afforestation. These areas are easily identifiable as they are boulder fields or existing native trees so they cannot be physically planted.

13. Permitted activity condition: visual amenity landscapes

(1) Afforestation must not occur within a visual amenity landscape if rules in the relevant plan restrict plantation forestry activities within that landscape.

Canterbury Maps Layer used for property identified as:

Land Title: 1. CB44A/1164 ; 2. CB22K/1166 3. CB44A/1163; 4. CB45B/231; 5. CB34A/764

Description:

1. Fee Simple, 1/1, Lot 3 Deposited Plan 76918, 931,600 m²
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5. Fee Simple, 1/1, Rural Section 34502, 380,404 m² Land Parcel Title:

Territorial Authority: Timaru District Council

Proposed afforestation area is not within a visual amenity landscape.

14. Permitted activity condition: setbacks

Territorial authority

(1) Afforestation must not occur—

- (a) within 10 m of the boundary of an adjoining property that is not owned by the owner of the plantation forest or the land it is located on (unless that adjoining property is also plantation forest); or

Planting setback is 10 meters from the boundary of the adjoining property. Therefore, planting will not be within 10m of the boundary of an adjoining property.

- (b) except in the case of a dwelling located on the same property as the proposed plantation

forestry to be afforested, within the greater of—

- (i) 40 m of a dwelling; and

No dwellings are within 40m of proposed afforestation.

- (ii) a distance where the forest species when fully grown would shade a dwelling between 10 am and 2 pm on the shortest day of the year, except where topography already causes shading; or

No dwellings are within 40m of proposed afforestation.

- (c) within 30 m of the boundary of land zoned in a district plan as a papakāinga or an urban area; or

Afforestation is not proposed within 30 m of the boundary of land zoned in a district plan as a papakāinga or an urban area.

- (d) within 10 m of a significant natural area.

Afforestation is not proposed within 10m of a significant natural area.

(2) Afforestation must not occur where a plantation forest tree, when fully grown, could shade a paved public road between 10 am and 2 pm on the shortest day of the year, except where the topography already causes shading.

Proposed afforestation is not within the within shading distance of a public road.

Regional council

(3) Afforestation must not occur—

- (a) within 5 m of—

- (i) a perennial river with a bankfull channel width of less than 3 m; or

Appropriate planting setbacks have been applied. Therefore, afforestation will not occur within 5m of a perennial river with a bankfull channel width of less than 3 m.

- (ii) a wetland larger than 0.25 ha; or

Appropriate planting setbacks have been applied. Therefore, afforestation will not occur within 5m of a wetland larger than 0.25ha.

(b) within 10 m of—

(i) a perennial river with a bankfull channel width of 3 m or more; or

Appropriate planting setbacks have been applied. Therefore, afforestation will not occur within 10m of a perennial river with a bankfull channel width of 3 m or more.

(ii) a lake larger than 0.25 ha; or

Appropriate planting setbacks have been applied. Therefore, afforestation will not occur within 10m of a lake larger than 0.25ha.

(iii) an outstanding freshwater body; or

Proposed afforestation area will not occur within 10m of an outstanding freshwater body.

(iv) a water body subject to a water conservation order; or

Proposed afforestation area will not occur within 10m of a water body subject to a water conservation order.

(v) a significant natural area; or

Proposed afforestation area will not occur within 10m of a significant natural area

(c) within 30 m of the coastal marine area.

Proposed afforestation area is greater than 30m from any coastal marine area

3.2 Land and Water Regional Plan

Although the NES-PF is the over-arching document that determines permitted forestry activities throughout New Zealand, there is a clause which states if any activity conducted in regional or district plans is not in or is more stringent than the NES-PF, then it supersedes the NES-PF. This is the case with Section 5.189 of the LWRP as shown below:

5.189: Any plantation forestry activity regulated by the Resource Management (National Environmental Standards for Plantation Forestry) Regulations including:

- a) the use, excavation, deposition or disturbance of land, including in the bed of a lake or river, or in a wetland; or
- b) the planting, replanting or clearance of vegetation, including in the bed of a lake or river, or in a wetland; or
- c) the taking or diverting of water; or
- d) the discharge of contaminants into water or onto or into land in circumstances where it may enter water;

is a permitted activity, provided the following conditions are met:

- 1. *Planting of new areas does not occur within any Flow Sensitive Catchment listed in Sections 6 to 15 of this Plan; and*
- 2. *Within any Flow Sensitive Catchment listed in Sections 6 to 15 of this Plan:*
- 3. *the total area replanted does not exceed the area of harvest; and*
 - a) *the replanting occurs in the same location or within the same area used as part of the rotation of the forestry operation as at 1 November 2010; and*
 - b) *any replanting occurs within five years of the removal of the previous forest cover; and*
- 4. *The concentration of total suspended solids in the discharge does not exceed:*
 - a. *50g/m³ where the discharge is to any Spring-fed river, Banks Peninsula River, or to a lake, except when the background total suspended solids in the waterbody is greater than 50g/m³ in which case the Schedule 5 visual clarity standards shall apply; or*
 - b. *100g/m³ where the discharge is to any other river or to an artificial watercourse except when the background total suspended solids in the waterbody is greater than 100g/m³ in which case the Schedule 5 visual clarity standards shall apply; and*
- 5. *The activity is not undertaken in any Indigenous Freshwater Species Habitat; and*
- 6. *The activity is not undertaken in any inanga spawning habitat during the inanga spawning season of 1 March to 1 June inclusive; and*
- 7. *The activity does not reduce the area of a wetland; and*
- 8. *Any portable container used to store a hazardous substance (including fuel) is not located within:*
 - a. *20 m of a surface water body or a bore; or*
 - b. *a Community Drinking-water Protection Zone as set out in Schedule 1.*

Section 5.189 conditions are met under the proposed afforestation as per below:

- 2. *The activity does not include re-planting*
- 3. *Proposed afforestation will not cause suspended solids in the to exceed listed limits.*
- 4. *The activity is not proposed within an Indigenous Freshwater Species Habitat.*
- 5. *The activity is not proposed within an inanga spawning habitat.*
- 6. *The activity does not reduce the area of a wetland.*

7. *Any portable container used to store a hazardous substance will not be located within 20 m of a surface water body or a bore or a Community Drinking-water Protection Zone as set out in Schedule.*

Bullet 1 of Section 5.189 is unable to be met due to the Taiko Stream being a flow sensitive catchment listed in Section 14. This now makes the project a discretionary controlled activity which needs to comply with Section 5.73 of the LWRP in relation to planting in flow sensitive catchments.

5.73

The planting of new areas of plantation forest within any flow-sensitive catchment listed in Sections 6 to 15 is a controlled activity, provided the forest planting meets the following conditions:

1. *Existing areas of exotic tall vegetation, other than plantation forest, that is greater than 2 m tall and occupies more than 80% of the canopy cover and existed at 1 November 2010 may be planted in plantation forest; and*

N/A as the planting area is pasture

2. *In catchments less than or equal to 50 km² in area the total area of land planted in plantation forest does not exceed 20% of the flow sensitive catchment or sub-catchment listed in Sections 6 to 15; and*

Applicable as the Taiko Stream is <50km²

3. *In any catchment greater than 50 km² in area the new area of planting, together with all other new areas of planting in the same flow sensitive catchment since 1 November 2012, will not cumulatively cause more than a five percent reduction in the seven day mean annual low flow, and/or more than a 10% reduction in the mean flow.*

N/A as the Taiko Stream is <50km²

The CRC reserves control over the following matter:

1. *The provision of information on the location, density and timing of planting.*

May be applicable

3.3 Controlled Activity Criteria

The permitted activity rules relating to flow sensitive catchments that cannot be met have triggered the need for this resource consent. The proposed planting falls within the Taiko Stream flow sensitive catchment.

Since the Taiko Stream catchment is less than 50km² with an area of 3.753km², Section 5.73(2) of the LWRP is applicable and requires that total forest area within the catchment does not exceed 20% of the total area.

3.4 Assessment of Forest Area in the Taiko Catchment

3.4.1 Existing Forest Area

The Taiko stream flow sensitive catchment has an area of 3.753km² which means to comply with the LWRP there must be less than 0.751km² of forest area within the catchment. Utilising the Land Cover Database (LCBD) and the Land Use and Carbon Analysis System (LUCAS) available from the Land Resource Information System (LRIS) through the creative commons license we were able to identify what existing forest area is present up to 2018. This came to approximately 146ha (0.146km²). To identify any new afforestation from 2018 to the present day, Sarah Helleur at ECAN was contacted to see if any resource consents or NES-PF notifications were applied for. Sarah concluded that an additional 68ha of consents have been issued. Based on the data provided by LRIS and ECAN there is approximately 214ha (0.214km²) of existing or potential forestry in the Taiko catchment which makes up 5.7% of the catchment area (Appendix 2).

3.4.2 Proposed Afforestation

Peter and Margaret proposed to plant 78.2ha on their 902ha property. When this proposal is combined with the existing forest resource in the catchment the total forest area would increase to 292.2ha (0.286km²) and would make up 7.8% of the land area. Since this percentage is less than 20% of total catchment area this afforestation proposal complies with 5.73(2) and is therefore, a permitted activity.

3.5 Canterbury Regional Policy and Objectives

Canterbury's Regional Policy Statement Objectives 7.2.1, 7.2.3 7.2.4 and Policies 7.3.1, 7.3.3, 7.3.4, 7.3.5, 7.3.6 (Appendix 2) have been considered when applying for this resource consent to ensure that water quality and quantity is managed in a sustainable manner.

The proposed activity is consistent with these objectives and policies. This is supported by its ability to meet most of the permitted activity conditions stated in Section 5.189 and the NES-PF. The activities that were unable to be permitted were able to meet the criteria of a controlled activity under 5.73(2) and 5.73(3).

Additionally, the proposed afforestation's implications for water quality, enhancing freshwater environments, biodiversity and the protection of intrinsic value of waterbodies and their riparian zones have been considered alongside the close alignment these have with Ngāi Tahu's values. Positive outcomes for all the above aspects of water are achievable due to the planting setbacks applied from waterways within the proposed afforestation.

Removing these riparian areas from the current grazing land use will allow reversion back to native, creating multiple short and long-term benefits for water quality. These benefits will include, but not limited to; increased biodiversity due to a decrease in water temperature from canopy shading and increased water quality from the filtration affect from the buffer zone.

4 NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT (NPSFM)

4.1 Assessment of Hierarchy of Obligations

The National Policy for Freshwater Management (NPSFM) has been considered to ensure the afforestation project has no negative effects on local and catchment values (Appendix 3). Water bodies contained within and adjacent to the proposed planting boundaries have riparian zone buffers applied consistent with the NES-PF. The areas adjacent to water bodies will remain uninterrupted to allow native revegetation from the existing grazed pasture area. These native vegetation riparian zones will positively impact the health and well-being of these water bodies through long term protection and a focus on minimal disturbance.

The health needs of people (such as drinking water) will benefit from the inclusion of riparian zone buffer zones to ensure a high standard of water quality is achieved.

The proposed planting seeks to incorporate forestry on an existing farming system to diversify their land use. This priority-based land use approach enables a sustainable model that has diversified land allocation based on the highest and best use of individual farm areas. The inclusion of forestry on this

property does not negatively impact people and communities as there will be no rural depopulation occurring due to the land use change. The subdivision of the existing farm will consequently increase the local population. Additionally, the diversification of farm income to include additional areas of forestry will provide economic benefits, now and in the future.

4.2 Assessment of how freshwater will be managed in accordance with the concept of Te Mana o Te Wai (Policy one)

The 'local approach to Te Mana o Te Wai' is yet to be developed. However careful consideration of the proposed afforestation's implications for water quality, enhancing freshwater environments, biodiversity and the protection of intrinsic value of waterbodies and their riparian zones have been considered alongside the close alignment these have with Ngai Tahu's values. Positive outcomes for Kaitiakitanga of land and water are achievable due to the planting setbacks applied from waterways within the proposed afforestation. Through the removal of these waterway adjacent areas from being a grazing land use and allowing them to revert to native multiple short- and long-term benefits will be realised for water (and land use) quality. These setbacks will be protected as riparian zones to ensure the ecosystem processes, indigenous species and their associated freshwater ecosystems are safeguarded long term. Permanent native forest in the areas that border the waterway to ensure long term protection of water quality is achieved.

4.3 Assessment of Policy 3 of the NPSFM

Policy 3 states that “freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving Environments.”

The proposed activity is consistent with objectives and policies 7.2.3, 7.2.4 and 7.3.1 This is supported by its ability to meet controlled activity conditions of Rule 5.189, the conditions of the NES-PF and when considering the objectives above. The proposed planting is assessed against these objectives to ensure that there is sustainable management of fresh water that protects the intrinsic values of waterbodies and ensures an integrated approach to the management of freshwater resources. These

policies align with the NPSFM Policy 3 as these objectives ensure that freshwater is managed in a whole-of-catchment basis.

5 ASSESSMENT OF ENVIRONMENTAL EFFECTS

5.1 Potential of Nutrients Being Lost to Water

There is potential for macro nutrients like nitrogen and phosphorus to be lost to water when land use change occurs. In the short term this may be a possibility while the trees are young and have not achieved full canopy closure. Once canopy closure occurs in 3-4 years' time then the trees will be able to intercept water flow and reduce leaching of these nutrients to water. When this is considered against the lifetime of a typical forest rotation of 30 years, 3 years is only 10% of the forest's life. Once the trees reach this age, they will be more effective at accessing the nutrients available in the soil as their root structure grows. This will result in potential for nutrients being lost to water decreasing.

5.2 Potential Effects on Aquatic and Terrestrial Ecology.

Afforestation can have potential effects on both aquatic and terrestrial ecology when afforestation occurs. The main issue is how the forest will affect water flow and the indirect effects water will have on the site in terms of water quantity and quality. As this site has no flowing waterways present in the proposed area (Appendix 1), the effect would be likely to be minor. There are ephemeral water courses present which may flow periodically after significant rainfall. These ephemeral water courses will often be treated as waterways due to their lack of ability to support trees species like radiata as they do not like "wet feet" or a saturated root system. This means buffer zones will be applied to these areas which will allow native reeds or rushes to establish as cattle and sheep grazing has been excluded. This will give the opportunity for native flora and fauna to establish with the potential of wetlands to form.

The site proposed for afforestation is starting to have gorse re-establish as shown in Appendix 1. This is a combination of the land owner spending money on other aspects of his property instead of weed control. Trees can naturally suppress gorse once canopy closure occurs. This is because gorse is a light demanding species and requires light to survive. Once this light is eliminated with canopy closure then the gorse slowly dies off. In the long term this will help control gorse as the seed source is unable to

spread and establish outside of the forest boundary. As this is a natural form of weed suppression the use of chemicals with heavy soil residual like triclopyr brushkiller can be reduced. This will result in less chemical runoff from the residual, therefore, less contamination of waterways or ground water.

5.3 Potential Effects on Groundwater and Surface Water

There are potential effects on both ground and surface water and its users. This has been discussed throughout this report on how this may affect water quality for drinking or aquatic fauna to name a few. A resource consent was required for this afforestation project as it falls in a flow sensitive catchment under 50km² in area. Since existing forest area and the proposed afforestation within the Taiko catchment combined is 7.8% it meets the LWRP threshold of forest area being less than 20% of total catchment area. This means the current and proposed forest area is currently 39% of potential forest that may be planted in the catchment. Based on the above figures at this point in time it would be assumed that this afforestation project will have a minor effect on water flow.

Appendix 1 shows images of significant gully erosion and under runners that is occurring on the steep slopes that are proposed for planting. Afforesting these areas will help stabilise the ground once canopy closure occurs. The tree canopy will intercept heavy rain to slow its velocity before hitting the ground and slow seepage into the subgrade which increases cohesion in the soil structure and prevent slippage. Once the trees develop their root structure they will help bind the soil together and reduce the amount of erosion. Over time this will prevent sediment runoff into the Taiko stream, therefore increasing water quality for the native fauna that inhabit the waterway.

5.4 Tangata Whenua Values

Local Runanga and their values were considered in this resource consent, especially with the effect of waterflow from the afforestation project and Significant Natural Areas. As stated in section 3.1 SNAs are located on the property but have been excluded from the afforestation area to help preserve the historical values they have to the local Runanga. The NES-PF states that there must be a 10m planting buffer from any SNA which will help preserve the area. As this consent was primarily to do with water flow, it was concluded that this afforestation will have little effect on overall water flow of the catchment due to the required thresholds set out in the LWRP not being met. When this is combined with the pictures in Appendix 1 showing there are no actively running waterways it would be assumed that this afforestation project will have a minor effect on water values that are associated with the

local Runanga. As mentioned in section 5.2, the ephemeral areas that are likely to hold water will not be planted due to the high water saturation. By excluding these areas from planting and stock grazing there is the opportunity for native reeds to establish and potentially form wetlands along this riparian area. This is already present in the Taiko Stream where the landowner has fenced off the stream and planted native species in the wetland areas under his own motivation. This will create natural corridors that water birds can utilise. Further upstream in the Taiko native mudfish have been located. To help reduce sediment runoff and improve the habitat for the mudfish in this stream the erosion prone faces that have been identified in Appendix 1 could be reduced if afforestation occurred. This would be beneficial to the overall water quality in the stream as discussed in section 5.3.

6 REFERENCES

Environment Canterbury . (2019). *Canterbury Land and Water Regional Plan*.

Environment Canterbury . (2020). *Canterbury Land and Water Regional Plan (Plan Change 7)*.

APPENDIX 1 – SITE PHOTOGRAPHS

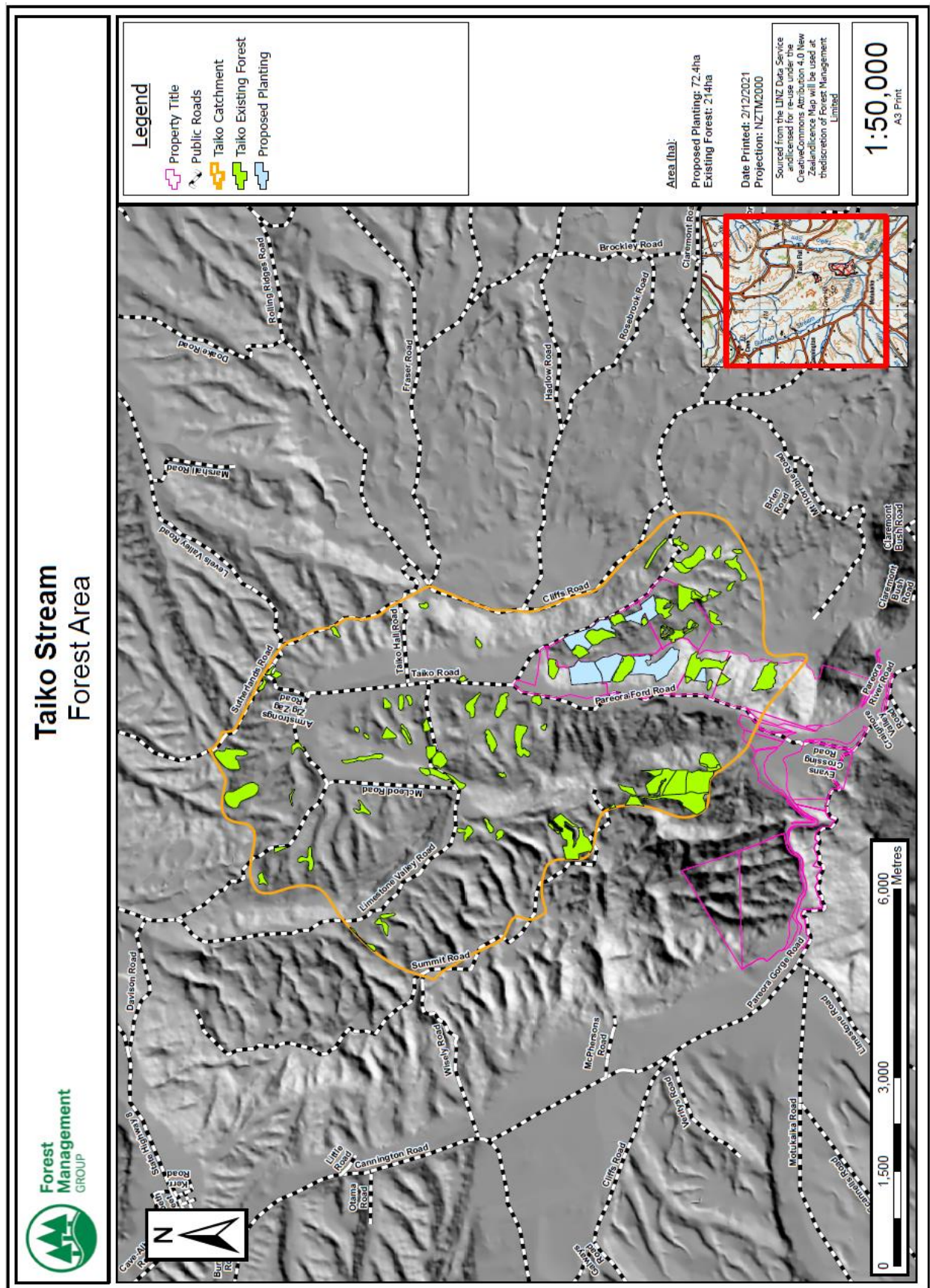








APPENDIX 2 – TAIKO STREAM FOREST AREA



APPENDIX 3 -CANTERBURY REGIONAL POLICY AND OBJECTIVES

Policy: 4.75 Flow Sensitive Catchments

Reduced effects arising from the interception of rainfall run-off on surface water flows in the flow sensitive catchments listed in Sections 6 to 15 is achieved by controlling the area, density and species of trees planted, except where tree-planting is required to control deep-seated soil erosion.

Objective: 7.2.1 Sustainable management of fresh water

The region's fresh water resources are sustainably managed to enable people and communities to provide for their economic and social well-being through abstracting and/or using water for irrigation, hydro-electricity generation and other economic activities, and for recreational and amenity values, and any economic and social activities associated with those values, providing:

1. the life-supporting capacity ecosystem processes, and indigenous species and their associated freshwater ecosystems and mauri of the fresh water is safe-guarded;
2. the natural character values of wetlands, lakes and rivers and their margins are preserved and these areas are protected from inappropriate subdivision, use and development and where appropriate restored or enhanced; and
3. any actual or reasonably foreseeable requirements for community and stockwater supplies and customary uses, are provided for.

Objective 7.2.3 Protection of intrinsic value of waterbodies and their riparian zones

The overall quality of freshwater in the region is maintained or improved, and the life supporting capacity, ecosystem processes and indigenous species and their associated fresh water ecosystems are safeguarded.

Objective 7.2.4 Integrated management of fresh water resources

Fresh water is sustainably managed in an integrated way within and across catchments, between activities, and between agencies and people with interests in water management in the community, considering:

1. the Ngāi Tahu ethic of Ki Uta Ki Tai (from the mountains to the sea);
2. the interconnectivity of surface water and groundwater;
3. the effects of land uses and intensification of land uses on demand for water and on water quality; and
4. kaitiakitanga and the ethic of stewardship; and
5. any net benefits of using water, and water infrastructure, and the significance of those benefits to the Canterbury region.

Policy 7.3.1 Adverse effects of activities on the natural character of fresh water

To identify the natural character values of fresh water bodies and their margins in the region and to:

1. preserve natural character values where there is a high state of natural character;

2. maintain natural character values where they are modified but highly valued; and
3. improve natural character values where they have been degraded to unacceptable levels;
unless modification of the natural character values of a fresh water body is provided for as part of an integrated solution to water management in a catchment in accordance with Policy [7.3.9](#), which addresses remedying and mitigating adverse effects on the environment and its natural character values.

Policy 7.3.3 Enhancing fresh water environments and biodiversity

To promote, and where appropriate require the protection, restoration and improvement of lakes, rivers, wetlands and their riparian zones and associated Ngāi Tahu values, and to:

1. identify and protect areas of significant indigenous vegetation and significant habitats, sites of significant cultural value, wetlands, lakes and lagoons/Hapūa, and other outstanding water bodies; and
2. require the maintenance and promote the enhancement of indigenous biodiversity, inland basin ecosystems and riparian zones; and
3. promote, facilitate or undertake pest control.

Policy 7.3.4 Water quantity

In relation to the management of water quantity:

1. to manage the abstraction of surface water and groundwater by establishing environmental flow regimes and water allocation regimes which:
 - a. manage the hydrological connections of surface water, groundwater and the coastal environment;
 - b. avoid long-term decline in groundwater levels and saltwater intrusion of coastal groundwater resources;
 - c. protect the flows, freshes and flow variability required to safeguard the life-supporting capacity, mauri, ecosystem processes and indigenous species including their associated ecosystems and protect the natural character values of fresh water bodies in the catchment, including any flows required to transport sediment, to open the river mouth, or to flush coastal lagoons;
 - d. provide for any existing or reasonably foreseeable needs of surface water or groundwater for individual, marae or community drinking water or stockwater supplies;
 - e. support the exercise of customary uses, including any flows required to maintain wetlands or water quality for customary uses; and
 - f. support any flow requirements needed to maintain water quality in the catchment; and, having satisfied the requirements in (a) to (f), provide for: recreational values (including the patterns and timing of flow variability desired by recreational users) and amenity values; and
 - g. any actual or reasonably foreseeable demand for abstraction (for uses other than those listed in (d) above), unless Policy 7.3.4(2) applies; and
2. Where the quantum of water allocated for abstraction from a water body is at or exceeds the maximum amount provided for in an environmental flow and water allocation regime:
 - a. avoid any additional allocation of water for abstraction or any other action which would result in further over-allocation;
and
 - b. set a timeframe for identifying and undertaking actions to effectively phase out over-allocation;
and
 - c. effectively addresses any adverse effects of over-allocation in the interim.

Policy 7.3.5 Water quantity and land uses

To avoid, remedy or mitigate adverse effects of land uses on the flow of water in surface water bodies or the recharge of groundwater by:

1. controlling the diversion of rainfall run-off over land, and changes in land uses, site coverage or land drainage patterns that will, either singularly or cumulatively, adversely affect the quantity or rate of water flowing into surface water bodies or the rate of groundwater recharge; and
2. managing the planting or spread of exotic vegetation species in catchments where, either singularly or cumulatively, those species are or are likely to have significant adverse effects on flows in surface water bodies.

Policy 7.3.6 Fresh water quality

In relation to water quality:

1. to establish and implement minimum water quality standards for surface water and groundwater resources in the region, which are appropriate for each water body considering:
 - a. the values associated with maintaining life supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, and natural character of the water body;
 - b. any current and reasonably foreseeable requirement to use the water for individual, marae or community drinking water or stockwater supplies, customary uses or contact recreation;
 - c. the cultural significance of the fresh water body and any conditions or restrictions on the discharge of contaminants that may be necessary or appropriate to protect those values; and
 - d. any other current or reasonably foreseeable values or uses; and
2. to manage activities which may affect water quality (including land uses), singularly or cumulatively, to maintain water quality at or above the minimum standard set for that water body; and
3. where water quality is below the minimum water quality standard set for that water body, to avoid any additional allocation of water for abstraction from that water body and any additional discharge of contaminants to that water body, where any further abstraction or discharges, either singularly or cumulatively, may further adversely affect the water quality in that water body:
 - a. until the water quality standards for that water body are met; or
 - b. unless the activities are undertaken as part of an integrated solution to water management in the catchment in accordance with Policy [7.3.9](#), which provides for
 - c. the redress of water quality within that water body within a specified timeframe.

APPENDIX 4- NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT

The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:

- first, the health and well-being of water bodies and freshwater ecosystems
- second, the health needs of people (such as drinking water)
- third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

Assessment of how freshwater will be managed in accordance with the concept of Te Mana o Te Wai (Policy one);

(1) Every regional council must engage with communities and tangata whenua to determine how Te Mana o te Wai applies to water bodies and freshwater ecosystems in the region.

(2) Every regional council must give effect to Te Mana o te Wai, and in doing so must:

- actively involve tangata whenua in freshwater management (including decision-making processes), as required by clause 3.4; and
- engage with communities and tangata whenua to identify long-term visions, environmental outcomes, and other elements of the NOF; and
- apply the hierarchy of obligations, as set out in clause 1.3(5)
- when developing long-term visions under clause 3.3; and
- when implementing the NOF under subpart 2; and
- when developing objectives, policies, methods, and criteria for any purpose under subpart 3 relating to natural inland wetlands, rivers, fish passage, primary contact sites, and water allocation; and
- enable the application of a diversity of systems of values and knowledge, such as mātauranga Māori, to the management of freshwater; and
- adopt an integrated approach, kaitiaki, to the management of freshwater (see clause 3.5).

(3) Every regional council must include an objective in its regional policy statement that describes how the management of freshwater in the region will give effect to Te Mana o te Wai.

(4) In addition to subclauses (1) to (3), Te Mana o te Wai must inform the interpretation of:

- this National Policy Statement; and
- the provisions required by this National Policy Statement to be included in regional policy statements and regional and district plans.