Freshwater Advisory Group – Hui 4.5

Date: 15 November 2023

Title of report: Proposed Approach to Forestry Issues in relation to Freshwater

Report no: 2

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Purpose of this report

This report provides an outline of the work Gisborne District Council (Council) is currently undertaking around the better management of forestry environmental impacts on freshwater.

Outcomes sought

Advisory Group members:

- are aware of what plan change work, related to forestry, Council has underway
- have an opportunity to provide feedback on forestry activities at the hui.

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1. Introduction

Sustainable management of forestry activities is critical for Tairāwhiti. Over 155,000 ha (17%) of land in Tairāwhiti, much of it steep and severely eroding, is planted with plantation forestry. Of this, approximately 25% is located on what are considered the most "risky" land classes – where research and experience shows that avoidance of adverse effects when this land is harvested with current methods is difficult and increasingly not possible.

Planting of some of this land with forestry was a deliberate strategy, recognising that much of this land was unsuitable for pastoral farming due to its inherent instability. Subsidies from the Government in the form of the East Coast Forestry Project (established in 1992) led to much of the most severely eroding land being planted with Pinus Radiata (pine trees).

Harvesting of this land accelerated around 2010, and since that time the region has been impacted by greater and more frequent severe weather events – which have combined with forestry harvest to result in unacceptable environmental and community effects.

Earlier in the year, Council commissioned an Issues and Options Report around the better management of forestry harvest, and since June 2023 has been consulting with the forestry industry around potential changes to the Tairāwhiti Resource Management Plan (TRMP). The work commenced ahead of the Ministerial Inquiry into Land Use (MILU) but is also informed by the recommendations from that work.

This report outlines the key proposals currently being developed.

2. Current regulatory framework

The current regulatory framework is different to other land-use activities. Forestry is regulated under the National Environmental Standards for Commercial Forestry (NES–CF), formerly the NES–Plantation Forestry. Council is very restricted in where it can set more stringent rules than what is set under the NES–CF.

Prior to the implementation of the NES–Plantation Forestry in mid-2017, forestry was primarily regulated by the rules in the TRMP. Council can now only add more stringent rules than the NES–CF when they are needed to meet an objective developed under the National Policy Statement for Freshwater Management (NPS-FM) or some policies in the New Zealand Coastal Policy Statement.

The NES–CF is very permissive and assumes that forestry is an appropriate activity across the country. It has a low level of regulation in almost all locations across the country. The NES–CF is very permissive about forestry harvest. Harvest activities can be undertaken without a resource consent in many locations across Tairāwhiti under the NES–CF.

While there have been widespread impacts on communities and infrastructure, the focus for justifying any additional regulation is largely around the impacts on freshwater and coastal environments.

3. Identification of land unsuitable for forestry

Part of Council's plan change work involves identifying land that is unsuitable for forestry under the TRMP. Cyclone Gabrielle and other severe weather events prior to this have seen widespread land failure, land sliding and debris flow occur within steep forestlands.

Council and the industry agree that this is because there is steep, erosion-prone land that is unsuitable for forestry. Council has been working on this issue for several years – starting with

the development of a risk matrix in 2017 and preliminary identification of land-use classifications after the 2018 Queen's Birthday and following week storms. To date this information has been used in resource consent processes, but staff are now working to develop an Overlay for inclusion in the TRMP – known as Overlay 3B.

Identification of this land at an appropriate scale is very important – as the implications for landowners are significant, as this land is also unsuitable for farming.

4. How is the Overlay 3B land being developed?

A number of tools are being used to identify the land.

- **Identification of land at risk of land sliding**

There has been considerable work done by GNS to identify the extent of land sliding that occurred during and after the cyclones at the beginning of the year.

Landcare Research have developed a predictive tool for where land sliding might occur.

- **Gully erosion and other erosion weaknesses**

Alongside land sliding, mass movement through gully erosion is also a significant part of the problem. Prominent local scientist Mike Marden (Landcare Research) has made significant contributions to our understanding of gully erosion in this region.

- **Other land with inherent vulnerabilities**

Council currently uses the Land Use Capability (LUC) system to identify land with inherent vulnerabilities for different land uses. This formed the basis of the current Land Overlay 3A across the region[1]. Council's Integrated Catchments team is working on mapping LUC at a finer grained 1:10,000 scale to improve its ability to identify erosion risk.

- **Putting it all together**

Council's Freshwater workstream plans to pull this information together to have a layer showing the draft Overlay 3B land available early in 2024. The intention is to consult with landowners on the land identified in the draft Overlay 3B identified on a map, and the draft rules for land identified as Overlay 3B.

5. Better management of forestry harvest

Alongside the identification of land that is unsuitable for forestry, it has also been identified that for land that remains in forestry, and particularly where this is steep and vulnerable land, better management of forestry harvest is required.

Council commissioned work in 2019 from the Canterbury School of Forestry around what approaches were best used around harvest on vulnerable land, and this has been reinforced in the MILU report. Work has been undertaken to develop a set of new policy and rules for forestry harvest on land identified as high and very high risk of erosion (Red and Orange Erosion Susceptibility Land in the NES – CF). The draft rules:

1. Require all forestry harvest on red and orange ESC lands to get a resource consent.
2. Make forest harvest on these lands a Restricted Discretionary Activity if requirements are met:

[1] Gisborne land overlays broadly reflect the land's varying susceptibility to erosion and is identified as a mapping layer in the Tairawhiti Resource Management Plan. Land Overlay 3A currently represents the region's worst eroding land.

    - A maximum amount of a catchment to be harvested over any five-year period.
    - An average coupe harvest area of 60 ha.
3. Introduce requirements for wider riparian setbacks in harvest on steep lands.
4. Introduce the ability for Council to take bonds when steep land forestry harvest is undertaken.
5. Provide a Controlled Activity alternative compliance pathway where the harvest activity is undertaken in accordance with a Certified Forestry Catchment Management Plan.

Council is planning to work with the forestry industry, mana whenua and the community, to develop the Forestry Catchment Management Plans, that are referred to in the rules. The Ūawa catchment will be the first 'cab off the rank' for this approach.

5. Other aspects of forestry

Other aspects of forestry, such as construction of infrastructure, river crossings and any additional requirements for afforestation are intended to be reviewed alongside other land uses through the development of the freshwater provisions of the TRMP (i.e., this process) and in relation to coastal impacts (the wider TRMP review).

6. Timeframes

Council has not yet finalised the timeframes for the Plan Change(s) and the newly appointed MILU Commissioner and Advisor have some views and influence around this.

Council is currently working with a company called Habilis, who are doing an economic analysis of the impacts of the draft Plan Change(s). Their analysis is intended to look across the four wellbeings to also consider the costs and benefits to communities and the environment. This is important work to inform options analysis in Council's decision-making process.

7. Next steps

Input from these two Advisory Groups is sought through the wānanga on:

- your thoughts on the draft Plan Change approach
- the environmental, cultural and community costs and benefits of restricting forestry activities using this approach.

Appendix 1: Background information

OVERVIEW OF TAIRĀWHITI

Gisborne District Council is the unitary authority for the Tairāwhiti/Gisborne region. Tairāwhiti covers a land area of 8,265 square kilometres – 3% of the national land area. Within this is approximately 228,000 hectares of whenua Māori, which is 28% of the total land area in the region. Tairāwhiti also contains around 270 kilometres of coastline. Some of the key industries in the region include horticulture, agriculture, fishing and forestry.

Tairāwhiti has a population of around 50,000 – 1% of the national population. We have the highest proportion of under 25's in Aotearoa and an increasing number of people moving into retirement. Our regional median income is 18.6% less than the national median.

Our population is small relative to the size of our region. Delivering our territorial and regional functions over a large area with a small rating base presents one of the greatest challenges to our organisation.

Our geology is naturally susceptible to erosion

The Gisborne district is well known for its soft rock soil erosion – on a scale and severity greater than any other part of New Zealand. Twenty-five per cent of the North Island's most severely eroding land is found in Gisborne. This presents a big challenge for sustainable land use and protection of our waterways.

Our region has a young geology, located on an actively rising fold of the earth's crust, the crest of which is the bush covered Raukumara Range. A high rate of uplift (4mm a year), tectonic crushing, soft rocks and frequency of heavy rainfall means we have a high natural susceptibility to erosion. That vulnerability has been aggravated by deforestation as native forests were cleared for pastoral farming over the 19th and early 20th centuries.

Some erosion features, particularly gully and streambank erosion, are extremely active and will continue to be the key sources of sediment. For these features, the challenge will be to prevent further land deteriorating to the extent of becoming untreatable.

Restoring a vegetation cover has been key to moderating the erosion issue to date. Further refinement matching the vegetation cover to the land's capability is essential in the future.

THE GROWTH OF PLANTATION FORESTRY

Cyclone Bola – a key driver for forestry planting

A significant area of plantation forest was established by the New Zealand Forest Service commencing in 1960 and continuing into the 1980s. Commercial forestry also under way prior to Cyclone Bola.

Cyclone Bola in 1988 was a major event in our region's more recent history and emphasised just how vulnerable our hill country and flats are. Central Government initiatives provided the impetus to change the land use on several of the worst affected properties to forestry.

Figure 1: Widespread slips and slumps, Waipaoa Catchment, following Cyclone Bola.

During the 1990s there was significant forestry planting in a range of areas across the district. By 2020 the Gisborne District had about 160,000 hectares of commercial forestry. More than twenty years on from the start of that planting boom, these forests are nearing or at maturity. Over recent years the availability of plantation forests ready for harvest has risen dramatically.

The area consented for forestry harvest has also increased accordingly. This trend can be generally observed since 2003, with a step change increase in harvest areas from 2009.

This significant forecasted increase in forestry has been called the "wall of wood". Eastland Port log exports have increased from around 1 million tonnes in 2010 to around 3 million in 2019. Freight movements have increased in line with this harvest activity. Eastland Port is also being redeveloped to expand its capacity to export logs.

Despite the original intent behind planting for erosion control, forestry has quickly moved to become a major primary commodity. Economics is now a major driver for where and how trees are planted.

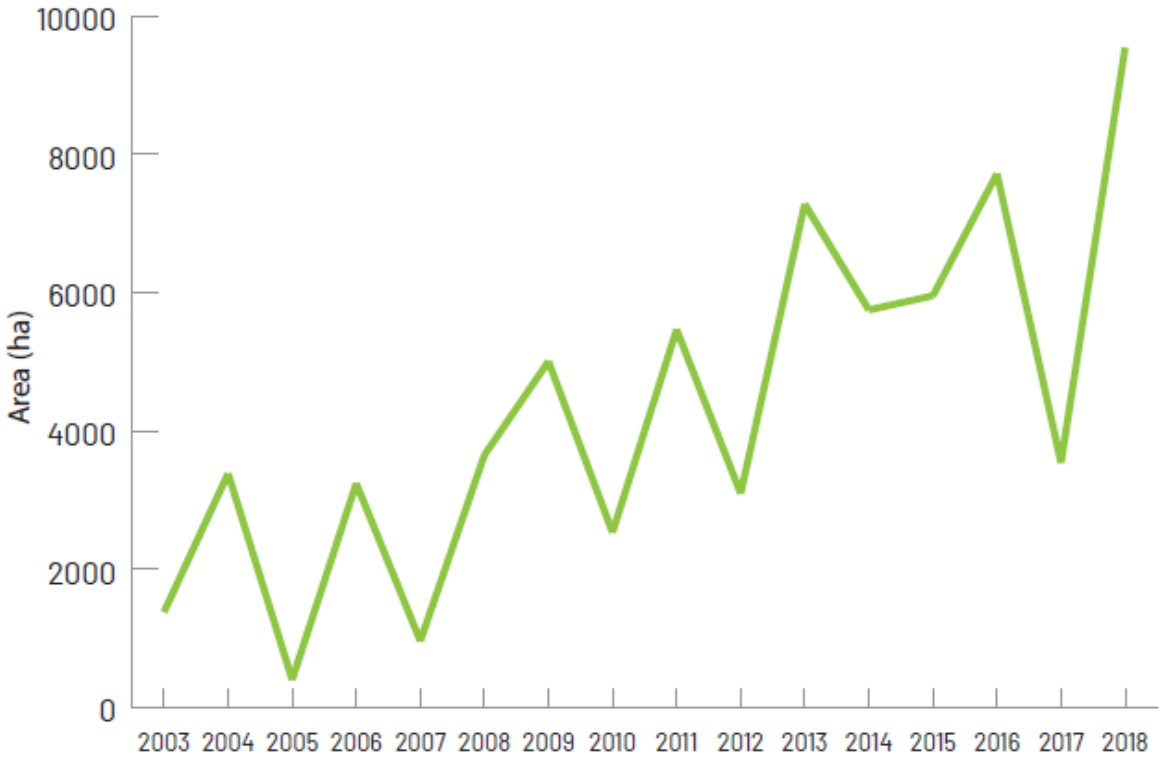

Figure 2: Area of consented forestry harvest (ha) for the Gisborne region

An unintended legacy – what happens after harvest

The post-Bola pine planting was done with the intention of establishing a canopy of vegetation as quickly as possible. Some companies carefully considered harvesting issues but the steeper, highly erosive soils posed more challenges and risks.

Forestry estate on steeper country is highly vulnerable to large scale land-sliding in the period immediately following harvest. This has been referred to as a 5-7 window of vulnerability nationally but work on landslide risks by GNS is indicating that the window of vulnerability is worse in Gisborne/Tairawhiti with reduced storm intensities and durations needed to trigger large scale land-sliding in the region compared with elsewhere.

Tairāwhiti has a relatively high level of harvest residues compared to other regions which makes this an even greater risk[2]. Large scale harvesting of whole catchments can and has resulted in mobilisation of significant volumes of slash. In some instances, the weight of material is so significant it will crash through remaining pine or native riparian areas or buffers, which get incorporated into the mobilised woody residues.

Since 2010, this issue has become increasingly prevalent as steeper land such as the Wharerata Ranges, upper Waimatā River and inland Tolaga Bay have been harvested. As other very steep lands are harvested, these concerns are expected to continue.

A range of measures are required to address this issue with retirement of vulnerable land being key and is essential in places. Additional steps include partial catchment and compartment harvesting, delaying sensitive areas, and increasing setbacks alongside waterways.

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[2] Visser, R., Spinelli, R., and Brown, K. (2018) Best Practices for Reducing Harvest Resideues and mitigating Mobilisation of Harvest Residues in Steepland Plantation Forests. Enviro Link Contract 1879-GSD152. Prepared for Gisborne District Council, July 2018.

Recent storm events have exposed these risks

Ex-tropical Cyclone Cook struck Tairāwhiti in April 2017 causing woody debris within recently harvested forests to mobilise. The headwaters of the Ūawa and Waiapu catchments received the most rainfall. It was found that while not regionally extensive, those relatively small landslides that did occur were frequently associated with forestry areas that had been harvested in the previous five years. Analysis of woody material established a dominant role of pine in the woody debris mobilised by the storm.

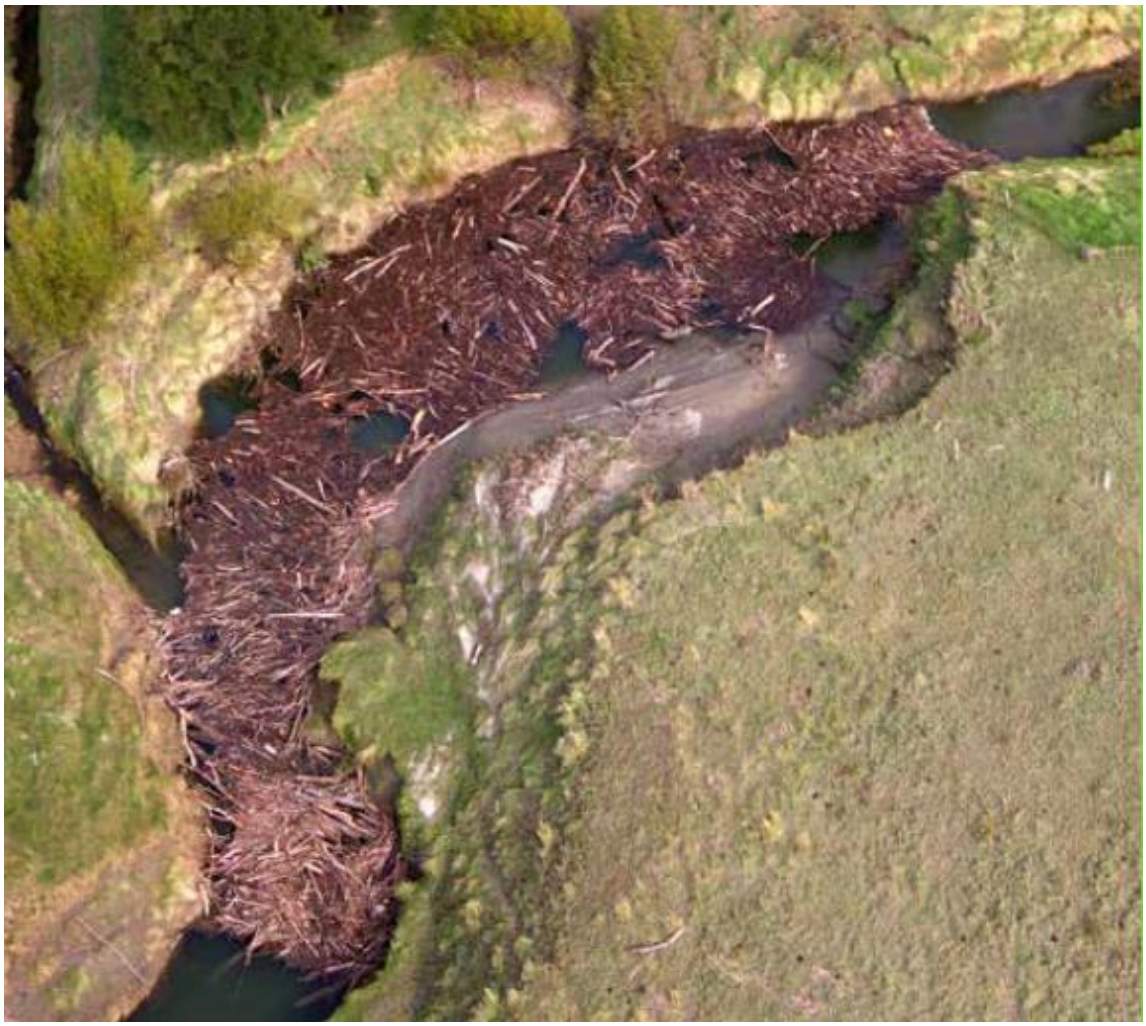

Figure 3: Log jam of pines in the Mangaheia river after Cyclone Cook

During the Queen's Birthday storm in June 2018, heavy rain fell in the hill country of the Ūawa river catchment. The rainfall triggered thousands of landslides and debris flows. Many of the landslides were in newly harvested areas in commercial forests and carried woody debris left on hillsides after harvest, down into the rivers and streams. The flood event resulted in around 47,000 m^3 of woody debris being deposited on the beach at Tolaga Bay and at least a further 400,000 m^3 of woody debris estimated still resident within the catchment in locations vulnerable to remobilisation in a future storm event.

Year	Location	Key impacts
2018	Mangapoike, Waimata, Tolaga, Waiau, Waiapu	Extensive landslides and slips with significant mobilisation of forest harvest residues, particularly in the inland Tolaga Bay (Uawa) area, Waiapu, Waimata, Kanakanaia, and Mangapoike
2017	Waimata, Tolaga, Mata	Extensive landslides and slips with significant mobilisation of forest harvest residues, particularly in the inland Tolaga Bay (Uawa) area
2015	Wharerata Forest	Major slash mobilisation, debris on beaches, sedimentation of waterways and coastal environment, destruction of farm infrastructure
2014	Inland Tologa, Wharerata Ranges	Slash mobilisation, debris on beaches
2013	Tokomaru Bay	Slash mobilisation, debris on beaches
2012	Wharerata Forest	Major slash mobilisation, debris on beaches, sedimentation, loss of railway line, loss of culvert on SH2 (closing the road)
2002	Muriwai-Manutuke	Widespread flooding caused by forestry slash blocking culverts on public and private land
1994	Wharerata Forest	First major post-forestry harvest event – substantial erosion and landsliding, sedimentation and slash mobilisation
Annual	Region-wide	Localised storms causing sedimentation of downstream waterways, blocking of private & public road culverts, forestry debris on local beaches

Figure 4: Weather events recorded as causing harvest residue mobilisation in Tairāwhiti

RESPONDING TO EROSION – PROGRAMMES OF WORK

While the challenge of dealing with some of the worst eroding land in the country is huge and will take time, Council continues to make progress across our rohe. Solutions have largely involved a range of different plantings that respond appropriately to the types of erosion risk present. With new technology and information being gathered (such as LIDAR and finer grain land use capability mapping), we continue to improve our approach to sustainable land use management.

Initial response to reducing erosion

Initial efforts to re-establish vulnerable hill country areas in trees began in the 1950s and came together as the East Coast Project in 1970. That project set about planting exotic forests in the back country, small woodlots and strategically placed trees in the pastoral forelands.

Much of the forestry was planted as a result of erosion protection schemes, with the rate and number of plantings accelerating after Cyclone Bola. Plantings from Cyclone Bola onwards were based on land use capability although at times the targeting has been broad and included a wider range of land types.

The Sustainable Hill Country Project

Our most highly erodible land is identified under the TRMP as Land Overlay 3A, land with severe to extreme soil erosion. The Sustainable Hill Country programme was established to increase protection of this particularly vulnerable land type. Under this programme, landowners have been required to treat these areas with effective tree planting or reserve fencing.

Works plans were required to be submitted by 2011 and treatment works completed by 2021 to achieve this. While some properties are still yet to complete their plans, substantial progress has been made in both securing funds and in progressing planting and reversion works with the ECFP funded by MPI available to assist in establishment cost.

While the project has been successful, work remains to be done to ensure treatment across the remainder of 3A land. By April 2019 an estimated 7,223ha (14.4%) of Overlay 3A remained untreated[3].

Year	Area of Overlay 3A with effective tree cover	Area of Overlay 3A remaining to be treated
2016	41,466ha	8,703ha
2019	42,946ha	7,223ha

Figure 5: Total of Overlay 3A in Gisborne region: 50,169ha

The East Coast Forestry Project

The ECFP (East Coast Forestry Project) was established in 1992 to address the severe erosion problems in the Gisborne district. The fund provided for the planting required in the TRMP under the Sustainable Hill Country Programme after 2009.

The ECFP provided a grant for establishing an effective tree cover through planting or encouraging natural reversion to native bush.

The Ministry for Primary Industries (MPI) provided funding through the ECFP to Gisborne district landholders and community groups to help reduce wide-scale erosion problems.

The ECFP expanded to include managed reversion, poplar and willow plantings, has been running for a number of years and has also contributed significantly to the establishment of effective tree cover on both Overlay 3A and other eroding land within the Gisborne district.

Forestry was once the major component of ECFP grant approvals. However, in recent years there has been a trend towards increased use of indigenous reversion. This has been particularly notable in areas more remote from Gisborne Port, and on land less suited to plantation forestry, and follows changes to the funding scheme to better reflect iwi and community aspirations for long-term land uses.

ECFP grants approval data shows a very successful picture of engagement from 2016-18, with a further 11,105ha now being included in the ECFP scheme. Of this, 5,544ha is apportioned to forestry, 507ha to manuka, 3,952ha to reversion and 1,102ha to pole planting - in the previous three years there was only 1,625ha committed to the scheme. The increase in ECFP engagement can be attributed to a better understanding of landowner needs to treat erosion, adjustments made to treatment options and a concerted effort by GDC and MPI staff in developing landowner applications. Implementation of existing ECFP grant agreements will an ongoing focus for Council to ensure the funding results in effective tree cover.

On Farm Soil Conservation Planting

The strategic planting of poplar and willow trees in gullies and earthflows on land with slight to moderate soil erosion has worked well (see figure 6). Plantings have been established on more stable Class VII and Class VI. Works were assisted through individual Soil and Water Conservation Plans and Catchment Control Plans until the late-1980s and more recently as a treatment added to the ECFP. Trees have been established as 3 metre poles with protective

[3] This does not include land that holds an Erosion Control Funding Programme (ECFP) grant where treatments have yet to be implemented.

sleeves in the presence of livestock allowing ongoing grazing of the site. During dry autumn conditions branches from these trees can provide valuable autumn feed for cattle.

Figure 6: Successful example of strategic on-farm willow and poplar plantings

Figure 7: Combination of willow and plantation forestry

A combination of willow planting in gullies and exotic plantation forestry has also proven effective in some situations (see figure 7). The willow material provided protection to the slopes while the plantation trees were establishing and provide ongoing protection subsequent to harvest. The willow material has been retained and provides a protective barrier to minimise the possibility of slash being transferred offsite down the gullies during a heavy rainfall event.

Figure 8 shows indigenous vegetation established on erosion prone slopes and gully areas with exotic forestry planted on easier less erosion prone land. The fast-growing exotic species have reduced runoff rates into the gullies and allowed revegetation with indigenous reversion during the first rotation of plantation forest growth. When the plantation species are harvested the slopes will be protected from further erosion during re-establishment by the adjoining indigenous vegetation which is providing an increased level of protection.

Figure 8: Indigenous vegetation established in gully areas with exotic forestry planted on easier country

Figure 9: Balanced native and exotic forestry

Figure 9 shows an example of the right tree in the right place with significant riparian areas retained in sensitive gully areas. This site is located close to the sea and the inclusion of significant riparian buffers minimises the opportunity of slash entering watercourses and ultimately ending up on the adjoining beaches.

Protecting and enhancing Waingake, our water catchment

Waingake, also known as "Waterworks Bush", comprises 1,100ha podocarp-tawa beech forest owned by Council. This important forest is the catchment area for Gisborne's water supply. Waingake is important both locally and nationally. It offers the largest and one of the most diverse primary lowland forests in the eastern soft-rock lowlands of the North Island.

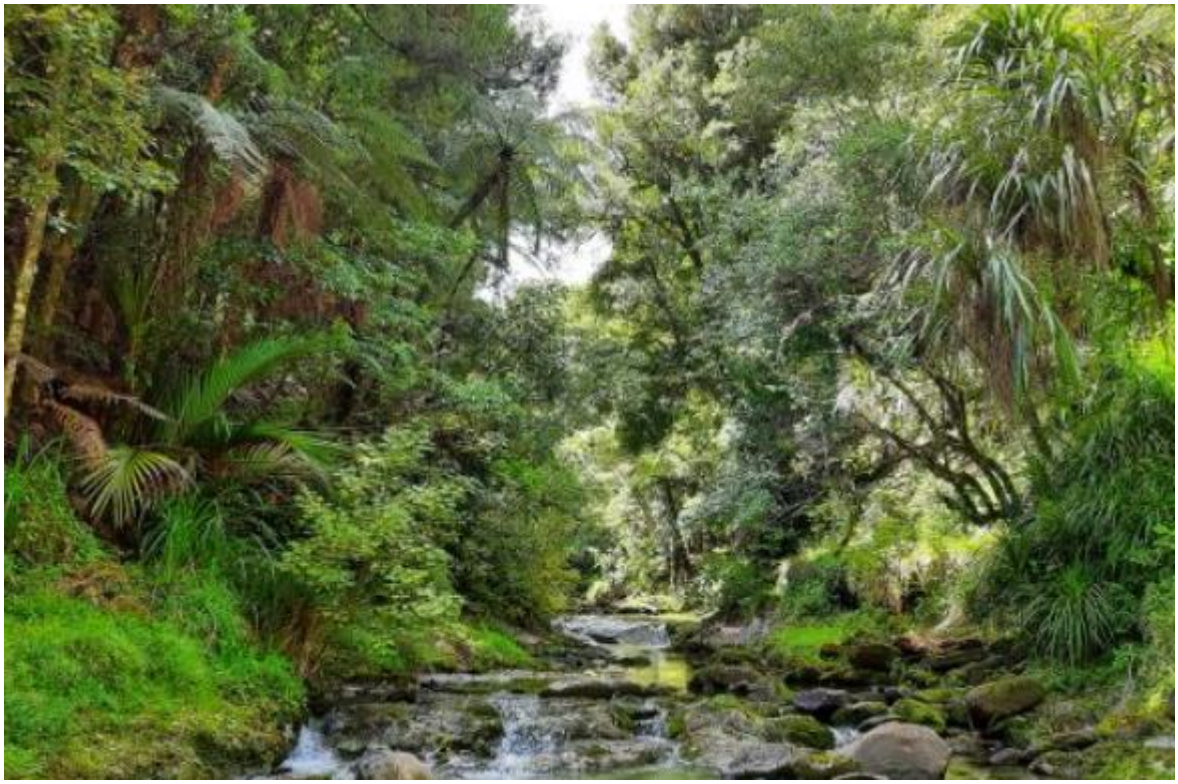

Figure 10: Waingake bush above Gisborne municipal water take

Council has implemented a five-year animal control and monitoring programme to protect and enhance the area's biodiversity and to maintain and improve the quality of the water supply.

Waingake transformation programme aims to create vital native forest. In partnership with mana whenua, we will transition 1,200ha of pine plantation to indigenous forest. Establishing permanent indigenous cover in these catchments and removing pests will help reduce sediment, lifting water quality, restoring mauri and upholding Te Mana o Te Wai.

One million native trees will be planted; combined with weed control and pest control to aid in the protection of highly erodible land and to revitalise the natural environment.

This is a transformational project for our region that delivers multiple benefits. But it also requires significant financial resourcing and many people and their time to deliver and maintain. We expect to receive a significant level of external funding for the programme over this Long-Term Plan cycle. We also expect to receive ongoing income from the second rotation commercial forest, and from other commercial opportunities.

Restoring the Waiapu Catchment

The Waiapu River has the highest suspended sediment yield of any river in New Zealand. Each year 35 million tonnes of soil flow out from the river to the sea. The Waiapu River's high sediment yield is attributed to the region's natural geology and the impact of decades of

unsustainable land use practices. If erosion remains untreated in key areas, models suggest there is the potential for current erosion and sedimentation to double by 2050.

Restoring the Waiapu River catchment in the Gisborne district is a collaborative programme between MPI, Te Runanganui O Ngāti Porou (TRONPnui), and the Gisborne District Council. The programme aims to treat erosion, stop greater physical damage to the catchment, and bring social and economic gains to iwi and landowners.

The Waiapu catchment will benefit from a collaborative partnership between Gisborne District Council, the Ministry for Primary Industries and TRONPnui.

Restoring the Waiapu River catchment will take time and the effects of erosion will take decades to remediate. The timeframe for this programme is 100 years, evolving over 4 phases with an initial focus on the first 10 years.

While some progress was initially made in developing a broad strategy for restoration, implementation has been slow due to a range of factors.

Figure 11: Waiapu river

OPPORTUNITIES

We see two further opportunities ahead which could significantly improve our local situation:

- Widen the scope of the National Environment Standard Plantation Forestry (NES-PF)
- Promote and support the use of Farm Environment Plans (FEPs) to include all land uses.

Realignment of the Emission Trading Scheme (ETS)

In much the same way that Government afforestation grants provided an exit for unsustainable farming after Cyclone Bola, the ETS offers an opportunity for commercial forestry blocks to transition to permanent forestry on our most vulnerable land. Ultimately, we need to retire land from active use into permanent indigenous forest.

However, we do not believe the scheme, as it currently stands, supports this goal. We see no sophistication in the ETS scheme to recognise areas of land that are suited to permanent forestry and those that are not. The ETS in its current form favours exotic pine over indigenous reversion. This is a barrier for landowners looking to achieve biodiversity gains or who are interested in a longer-term approach to land use management. Consideration of the long-term benefits of the vegetation cover and enhanced biodiversity is essential. This includes the strategic use of pine to establish immediate cover and to successfully transition towards permanent indigenous forest.

Multiple owned Māori land and areas of marginal/low productive land on small to medium land holdings are also currently precluded as the initial establishment cost is unaffordable.

Many members of our community are also concerned about the implications that the pricing scheme may have on land ownership and the long term social and environmental outcomes. The region is good at growing plantation forests and land has been comparatively cheap compared with other regions. The ETS scheme and carbon afforestation is likely to favour larger out-of-region investors or consortiums who can purchase large land blocks for conversion to permanent forestry. We see this happening now with land purchases to overseas interests for the purpose of carbon farming.

The current ETS scheme runs the risk of driving land use change that favours short-term individual economic benefits at the expense of long term regional economic resilience, social cohesion, and environmental improvements.

We see the opportunities here for amending the ETS so it incentivises land-use that has multiple benefits and provides for a more resilient future. We consider the ETS should:

- Promote "the right tree in the right place for the right reason" based on sustainable long-term benefits- matching soil erosion issues to the land, e.g. managed reversion.
- Incentivise conversion of plantation forestry to indigenous or long-term species where a long-term vegetation cover is required, without liabilities.
- Incentivise tree planting in the presence of livestock to the benefit of carbon sequestration.
- Provide front loading assistance for establishment of long-term species where sequestration will take significant longer than short-lived exotic species.
- Defer establishment costs against the Carbon Credits (a scheme providing actual and reasonable costs for establishment with credits returning to the funding agency until costs have been covered).
- Support animal health and land health in a changing climate.

Broaden the focus of Farm Environment Plans (FEP)

Farm planning has become an important pathway for growers and farmers to gain environmental compliance for the work they do. The idea behind farm planning is that if completed to an acceptable standard, farmers can use these as an alternative to obtaining a resource consent to undertake farm activities. A FEP approach provides an integrated path forward for long-term sustainable land use.

Legislation is moving toward the application of freshwater farm plans. The objective is for freshwater farm plans to identify solutions to improve waterways that are tailored to a

particular farm's circumstances, physical environment and what is important in the catchment that farm sits in.

We support farm planning as a means to achieve improved outcomes for freshwater. We see an opportunity for Government to support the implementation of freshwater farm plans as well broadening their scope to adopt a 'whole of farm' perspective.

Council will be progressing a series of catchment plans as a requirement of the National Policy Statement for Freshwater Management 2020 (NPS-FM). This catchment scaled approach is the perfect vehicle for progressing farm planning and ultimately a region-wide response to land use change and management. Responding to erosion issues at the farm scale enables a strong collaboration between landowners and Council and allows us to achieve our catchment vision.

Expanding the focus of MfE's Freshwater Farm Plans could include:

- A long-term vision supported by monitoring and funding opportunities.
- Environment Plans on all land uses, currently only required for "farming".
- Improving water quality by:
    - addressing soil erosion and reducing sediment
    - removal of stock from waterways to reduce bacterial contamination
    - strategic distribution of fertiliser to reduce nutrient contamination.
- Plantation and permanent forestry requiring long term planning, particularly where sensitive land is being.
- Considering catchments, not just farm plans in isolation.
- Finalising the farm planning template includes realistic requirements (matching land use to land treatments).
- Identifying priorities on a property is key and should be based on the land's capability (where locally detailed Land Use Capability (LUC) surveys provide a means of identifying priority sites).
- Clustering of similar LUC units to provide a basis for LMUs (Land Management Units) and provide priority comparisons across properties, catchments and regions.