

Te Tātarakihi

October 2017



Ngati Hine Forestry Trust – Panui 16

October 2017

Notice of the 2017 Annual General Meeting

We invite you as beneficial owners of the Trust to the AGM – Nau mai, haere mai ra e te iwi. The arrangements for the hui are:

Venue: **Kaikou Marae - Eparaima Makapi, Corner Pipiwai and Lovatt Roads, Matawaia**

Date: **Saturday 18 November 2017**

Agenda

8.30 am Owner registration and morning tea

9.30 am Karakia and mihi mihi

Meeting commences, Apologies, Trustee's Report, Financial Report for 2016/ 2017, Auditors Report, Appointment of auditors for 2017/2018 and Marae Capital Grants Policy

1.00 pm Karakia whakakapi

Lunch will be served at the conclusion of the hui.

Trustee Retirements

Clause 4.8 of the Trust Order deals with the retirement and election of nominees for appointment as Trustees. Usually a third of the Trustees are required to retire at each Annual General Meeting (AGM). This regular requirement for Trustees to retire after three years then triggers the need for a Trustee election process. Resignations would also create vacancies which would be filled using the same process. The number of Trustees for the Trust is currently fixed at 7.

Clause 4.8.2 of the Trust Order only requires those Trustees who have served three years since their last election to "retire". As at this 2017 AGM no Trustee has yet served for three years since their last retirement, election or appointment. This means there is no requirement to call for Trustee nominations or hold an election process.

The situation at the 2018 AGM will be that four Trustees will by then have served for three years since their last appointment and they will be required to retire. Nominations for Trustees will therefore be called for leading up to the 2018 AGM and if there are more nominations than vacancies an election process will therefore occur at the 2018 AGM.

Front Cover: From left Jonathan Rishworth (NHFT CEO), Ratahi Cross (Chairman of Nga Tukairangi Trust and Te Awanui Huka Pak in Mt Maunganui) and Denis Barker (Kiwifruit Manager, Turners and Growers) inspecting a Trust kiwifruit orchard in May 2017.

Marae Grants Policy

The Trustees will be seeking approval from the beneficial owners at this AGM to a policy on Grants for Marae Capital Building Projects. The details of this policy will be presented at the AGM.

The establishment of this policy is required by the Trust Order to enable Trustees to consider making grants to Marae. The extract from the Trust Order, Clause 7.6 follows for your information:

7.6 Grants for Marae Capital Building Projects

- a. A policy on Marae Capital Building Projects has been authorised by resolution of the Beneficial owners at a general meeting.
- b. The Trustees are satisfied that adequate provision has been made for reserves as provided for in clause 7.5.
- c. All such expenditure will not exceed one hundred thousand dollars (\$100,000) in any one financial year.
- d. All such expenditure is reported to the owners in the annual report and the financial report at the first Annual General Meeting after the expenditure has occurred or being committed.

Other Information

The Effects of Exotic Forests on Soil, Ground Water, Water Quality, Air Quality and Native Flora and Fauna

At the Special General Meeting held on 19 August 2017 at Motatau Marae the Trustees presented information and material for the purpose of providing scientific data around the impact of pine trees on the environment.

Given that many beneficial owners were not able to attend that SGM extracts of some of the material presented is repeated below for your information. This information was provided by Bob Cathcart, a highly qualified and experienced Land and Environmental Consultant, and with reference to a publication by Maclaren⁽¹⁾ on the effects of exotic forests.

EFFECTS OF PINE TREES ON THE SOIL

Pine trees have the same effects on soil as native trees (except kauri⁽²⁾), no more, no less. There is strong evidence that pine forests improve soils.

Approximately 2/3^{rds} of the Ngati Hine Forestry Trust land has extremely old, infertile gumland⁽²⁾ soils. It is of low natural fertility, is highly erodible and has been in short scrub and eroding since well before Maori arrived in this country. This land got this way because it previously carried dense kauri forests, most of the kauri having killed itself off

long prior to the arrival of the first Polynesians⁽²⁾.

The remaining third is clay hill country which would have originally carried broadleaf (puriri, taraire, kohekohe) and podocarp (rimu, matai, totara, kahikatea, and some kauri) bush.

- 1 All trees remove and return nutrients from and to the soil. Kauri, however returns few nutrients to the soil and makes it so poor and acidic that it eventually kills itself out. (See explanation in Reference 2)
- 2 Trial work in New Zealand has shown that pine trees do not degrade or kill the soil. Instead, they improve nutrient cycling in the soil and improve internal soil drainage.
- 3 Pine trees make the soil no more acid than native bush, certainly nothing like kauri, and recycle nutrients in the same way as native trees. Trials on sand dune forests have shown that pine trees do not 'leach' soils of nutrients like kauri trees.

EFFECTS ON GROUND WATER

Pine trees have no greater effect on soil water than native trees of the same height and forest density.

Trees, native or pines, have several effects on water in the soil and the rocks beneath.

- 1 Interception – Rain falling on trees catches on the leaves, needles and branches. The height of the tree rather than the type of tree has the main influence on interception. Only the first 0.5 to 2.5mm of each rain is intercepted by the plant, the rest finding its way down to the ground.
- 2 Evaporation – Some of the rain, fog and dew intercepted by trees evaporates from the leaves and trunks, and does not reach the ground.
- 3 Transpiration –All plants take up water through their roots, pump it up through the plant and transpire or breathe it out through pores in the leaves. Interception of heavy rain by bush or forests slows down the rate of runoff and can reduce flood peaks in smaller catchments.
- 4 Tree roots, growing much deeper in the soil than grass or scrub, soak up water and transpire it through the leaves. This has three main effects.

- i It slows down slip movement;
 - ii It soaks up water from our heavy, often waterlogged clay soils, provides drainage and improves the soil; and
 - iii It can reduce the amount of water than finds its way down into the rock beneath and so reduces spring flow; **although,**
- 5 It can increase the amount of water getting down to groundwater by tree roots creating drainage through heavy clays soils and pans.
- 6 The combined effect of interception, evaporation and transpiration by bush or forests can use up to 40 and 80mm of the rain falling each year. Kawakawa receives an average 1400mm of rain each year while Kaikohe receives 1860mm. If the whole area was in forest it could reduce the yield of the Kawakawa River catchment by 2.5 to 6%. Most of the catchment, that is the area draining into the Kawakawa River, has a higher rainfall than Kawakawa so the total effect would be minimal. Pine forests are only returning the catchment flows to what they were when the catchment was in native bush.

Work by Waugh⁽³⁾ showed that low flows in Northland during a drought are determined by rock type - some rocks hold more water which they can release for longer. The sedimentary rocks under the Ngati Hine Forestry Trust land, shale, mudstone and sandstone, are not good water-yielding rocks because they do not have a large number of voids or cracks in which water can be stored.

This is partially offset by the large wetlands that remain within the Kawakawa River catchment and the swampy valley bottoms that have been restored to their natural state with afforestation and prevention of fires. That is, while the rock types do not yield much water in a dry year, the wetlands, which have stored winter rains, do help sustain low flows.

EFFECTS OF PINE TREES ON WATER QUALITY

“The water quality of streams draining relatively mature, undisturbed stands of exotic conifers is generally high and comparable with water quality of streams draining native forests”— O’Loughlin and Will 1981 and 1996⁽⁴⁾

Trial work throughout New Zealand show that pine plantations control soil erosion and

improve water quality better than scrubland or grassland. There is, however, a risk of erosion or sediment and nutrient loss during harvesting and for the next three to five years until the new trees become established.

Good management practices like retaining wetlands, allowing or encouraging reversion of riparian areas to native vegetation, using logging techniques that reduce land disturbance, retaining slash on the land during harvesting, carefully maintaining roads to prevent erosion and not using fire to prepare land, all reduce the short-term impact of logging. Most of the Ngati Hine Forestry Trust plantations drain into wetlands which capture any sediment washing off newly logged areas and from roads.

Scientific evidence shows that:

- Sediment yield from pine forests is similar to or less than that from mature native forests.
- In a pine forest, sediment and nutrient loss is much less and therefore water quality will be far superior to that in eroded scrub or grassland.
- Sediment load will rise during harvest and for up to five years afterwards but this rise can be minimised by following good forestry practices.⁽⁵⁾
- The pH, acidity, of pine forest streams is the same as native forest streams.

Pine trees or pine needles do not 'poison' water. Any discolouration of the water in Ngati Hine Forests will be due to peat-stained water draining out of the numerous wetlands that have re-established within the pine forests since burning has been controlled. These peat swamps are large natural filters, capturing any silt and nutrient runoff from adjoining forest land, and storing and gradually releasing floodwaters.

Fish and stream fauna studies in Waitangi, Glenbervie and Waipu forests show high numbers of fish, including trout, rare frogs, etc.

Any sort of tree shading a stream will keep the water cool and provide a better habitat for fish.

EFFECT ON AIR QUALITY

Radiata pine pollen is not generally allergenic.

- 1 Pine pollen is produced for a short period in late July and early August and, being smooth, when compared with other pollens, rarely affects health. All plants produce pollen and some like grasses, privet, gorse and wattles do cause allergies. (Tests of a sample of 200 people in the USA showed 155 had allergic reactions to pollen but only 5 reacted to radiata pine pollen.)
- 2 Trees, and particularly pine trees, trap air particles in the air – they filter the air – catching dust and absorbing things like sulphur from smoke.

EFFECT OF PINE TREES ON NATIVE FLORA AND FAUNA

Pine plantations, particularly those in Northland with patches of native bush, provide favourable habitat for native flora and fauna.

- 1 Waitangi Forest supports one of the highest populations of North Island brown kiwi populations in New Zealand. DoC has collected kiwi eggs from Glenberrie for their Operation Nest Egg.
- 2 Mahurangi and Waipu Forests have populations of the rare Hochstetter's frog, there are long tail bats in Riverhead and Te Kao Forests, and Tom Tits have been mist netted in the pine plantations of Glenberrie Forest to recolonize indigenous areas where they are no longer found.
- 3 Control over burning in the vicinity of the pine forests has protected the pockets of native bush and wetlands, allowing them to recover and thrive.
- 4 Pest control (possum and goats) during pine forest establishment has protected adjoining native plants and bush.
- 5 Wider riparian strips or edges between pine trees, wetlands and streams would provide even greater opportunity for native flora and fauna to spread.

REFERENCES/EXPLANATIONS

- (1) **Maclaren, J. P.**, Environmental Effects of Planted Forests in New Zealand, F.R.I Bulletin No 198, New Zealand Forest Research Institute 1996
- (2) **Gumland** –A dense stand of kauri strips everything out of the soil and eventually makes the site so poor, so hostile, that the kauri dies off. The only plants that can survive on such poor sites are very low fertility-demanding short scrub plants like manuka, rushes, umbrella fern, club mosses, orchids and sun-dew (insect-eating plants) – gumland scrub.

Kauri trees drop large volumes of litter – bark, leaves and small branches – which, because it is very acid, doesn't break down to form humus and mix into the topsoil. Instead, the acid litter is 'pickled', just as you do when you pickle food using an acid like vinegar or lemon juice, and remains on the surface of the soil as a peaty layer. Rainwater draining down through the litter carries what is a relatively strong acid down through the soil. All iron and aluminium (which give most of the brown colour in the soil) and all nutrients are leached (stripped or washed) out of the upper layers of the soil, leaving behind a layer of white or light grey, almost pure silica. The white layer is often called 'pipe clay' but is really sand or silt as clay is also leached out of the upper layers.

Gumland scrub produces acid litter, just like kauri, so the soil remains poor. Providing the gumland soil remains intact, it is not eroded away, the vegetation will remain low scrub, at best manuka 3 to 4 metres high. Only if the silica pan is eroded away and the sticky clay layers or the rock beneath exposed will bush regenerate.

- (3) **Waugh, J.R.** 1970. The Relationship between Summer Low Flows and Geology in Northland, MWD Water Soil Misc. Hydrology Pub. No 6.
- (4) **O'Loughlin, C.L.** and **Will, G.M.** 1981, The effects of exotic forestry, Water and Soil Misc. Publication No. 23, National Water and Soil Conservation Organisation, NZ, and **O'Loughlin, C.L.**, 1994 The Forest and Water Relationship, New Zealand Forestry, November 26-30.
- (5) **Best Environmental Practice** –The New Zealand Environmental Code of Practice for Plantation Forestry was developed and adopted by the NZ Forest Owners Association, the NZ Farm Forestry Association and the Forest Industry Contractors Association to ensure all forest operations are carried out in an efficient, economic and effective manner whilst

meeting appropriate environmental standards. This is a comprehensive handbook which should guide all those working in the forest industry. It provides instruction on how to implement what is accepted best environmental management practices in production forests.

- (6) **Burridge, B.E. & Cathcart, R.W.**, 1967, Soil Conservation Survey of the Kawakawa River Catchment, Northland Catchment Commission.

ENDS.

The Trustees look forward to meeting beneficial owners at the AGM!

Na reira haere mai, nau mai, piki mai ra koutou



Pita Tipene
Chairman

Ngati Hine Forestry Trust Trustees:

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