

Vegetation of the Green Corridors

Green Corridors - Contact info (Michael Duindam City council coordinator?)

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- Plantings commenced in 2001.
- This group aims to enhance native bush along streams, aims of improving water quality
- Involvement of volunteers, work in partnerships with community groups and land owners
- Aims of planting up to 10,000 trees a year. Riparian margins are eco sourced with indigenous plant species. Trees that are planted: Rimu, Kahikatea, Titoki, Kamahi, Tawa, Manuka, Kanuka. Native grasses : Nikau, cabbage trees.
- Planting season tends from May-Sept
- GC are owned by a mixture of public organisations (mainly PN city Council), support from Horizons, and environment network Manawatu
- Manawatu river as an ecosystem has been heavily modified. Lowland indigenous forest has been cleared, wetlands drained.

Site description

- The zones that follow the Turitea Stream, can be described as highly treasured riparian strips, plantings occurring on average 20 meters either side of the stream.
 - Intentions = birdlife towards the Manawatu river and PN city.
 - Zones in the drainage reserves in the Summerhill area are much wider which means a more denser population can be planted, the layout of the land here means several wetland areas can be planted.
 - Land is heavily sloped and was previously hill country farmland

GENERALISED SOIL MAP

MAP 1

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Geology and Soils (Green Corridors document)

Turitea Valley

- The soils of the Turitea Reserve are derived from Greywacke and will be strongly leached and acidic.
- Soils that make up the profiles found along the 4 sample site on either side of the Turitea Walking track as well as titoki reserve are principally silt.
- Some difficulty of establishment due to the amount of metal creating excessively free draining sites with little top soil, creating limited rooting depth.
- Soil has a weak structure, dry in summer months, water abundant on either sides during winter months (water table tends to be quite high) .
- Limited organic matter in the top soils, due to the age of plantings and majority of trees and shrubs being evergreen.

Summerhill

- Soils are due to land activity. Land is prone to erosion as it becomes waterlogged with the drainage reserve being formed on clay above building sites.
- Most of land and natural drainage system has been altered due to property development on the top of the hill
- Loss of original soil character through urbanisation

Profile- Turitea Valley

- 1 out of 4 soils were selected, very similar, and found that soils were quick draining and retain little moisture in the heat of summer. Moderate to low nutrient levels. Stonier sites difficult to establish

Profile- Titoki Reserve

- soil represents much of the soil found through the gullies of Summerhill. Soil is strongly gleyed, waterlogging through winter and spring ? soil is likely to remain moist all year round.

Vegetation:

- The plants of Green Corridors are all eco-sourced (from either Gorge reserve, Turitea reserve/valley and remnants on the eastern side of the Manawatu river, within the PN boundary). Plants that are eco-sourced have a higher chance of survival as well as the maintenance of local biodiversity.
- Plantings are nursery species/ early successional species so this provides shelter and protection for the next succession species (secondary i.e Maupo which becomes sub-canopy and outlive the nursery sp). Nurse species are Karamu, Koromiko and manuka. Canopy sp: Rata, Titoki, Kamahi and Tawa which are long-lived.

Erosion control

- Plants such as toetoe/ribbonwood are planted to reduce erosion. The eroding of stream banks and hillsides is a common issue of NZ. The land in the Turitea valley must withstand high volumes of water along the stream banks and in Summerhill.

Sediment Control

- Sediment can be caused by erosion and decomposition of fauna and flora

- Wetland species are planted in the turitea the ability to maintain a sustainable level of sediment.
- Rushes/Purei

Speciality Species

- Plants that are iconic to NZ
- Cabbage tree/ferns

Non eco-sourced species

- Plants that are not naturally regenerated in the Green Corridors
- Sourced from a plug nursery
- Swamp/mountain flax

NICKNAMES – decoded

- **‘Picnic Spot’** and **‘Peanut Slab Block’** = Seed sourced from nearby keebles bush
- Upper Turitea section, successful plantings carry through to the Ngahere Park Bridge
- Successful gully restoration ‘Manga O tane Reserve’
- **‘Middle Titoki’** is the Titoki Resereve. This area similar to Manga O tane Reserve, (Cashmere Drive to 2010 planting boundary). This area continues to establish itself

Challenges section of the doco

- Lower Turitea has three nicknames given **‘The Rock Farm’** , **‘Dog’s Leg’** and **‘Valley Views’** . Plantings are only 1-2 years old. Land extremely well drained and dries out quickly, only a small number of eco-souced sp can be planted here. Plants will take a longer time to establish here.
- Pari (Upper) Titoki and Addertone Reserves. These three sections were planted before the founding of the Green Corridors Project. Natives aren’t found here.
- Greatest challenge for Green Corridors is the control of plant pests (largely exotic species).

Invertebrate sampling

- The pitfall traps were allocated at random, and results varied.

History- The land

- Was once dominated by Tawa trees (<30m) , Mahoe and Nikau as understorey species
- Areas of Northern Rata and Kamahi scattered through the valley.