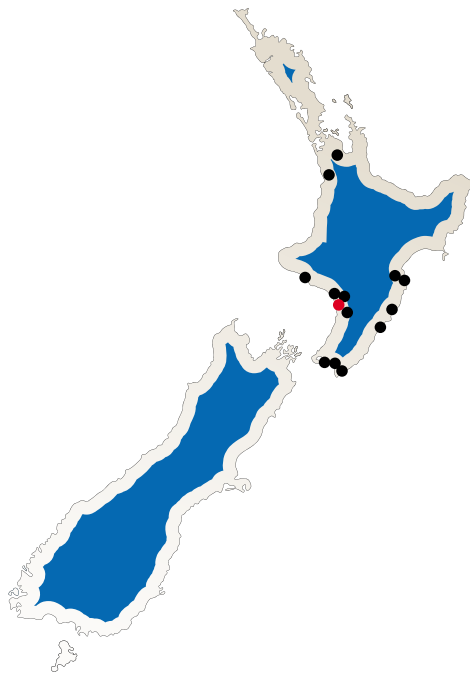
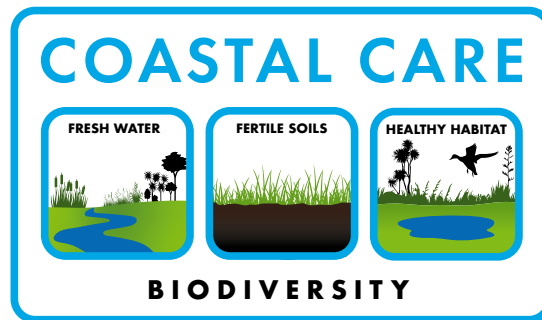


Feeding you sustainably



T U N N E L  H I L L

2022



Feeding you sustainably

Since inception the Coastal Lamb Brand has connected our customers to us as farmers. This connection is a key point of difference for our brand and something that is deeply valued by consumers.

Climate change is a worldwide phenomenon in 2022 and all countries are making moves to address this problem. Customers want to know who is producing their food and now more than ever want to know how their food is produced.

Communicating the focus we have on farming sustainably and the care we take of our farm environments is now essential. **Coastal Care** gives us a tool to communicate our sustainability stories effectively with our consumers.

In Hong Kong leading hotels have a **"Quota for Sustainably produced product"** Our **Coastal Care** programme gives us the ability to showcase our credentials and participate in this growth opportunity.

The focus of Coastal Care is looking at the following elements and how they combine to create biodiversity.

Fresh Water + Fertile Soils + Healthy Habitat =

BIODIVERSITY

Biodiversity is a great measure of the health and sustainability of our farm environments.

Our aim is to document each farms current status and looking to the future, encourage anything that improves the sustainability of our farming systems.

Fresh Water

Fresh water is critical for the survival of all living organisms.

Freshwater is the lifeblood of farming at Tunnel Hill and something we pay constant attention to.

The water table in the Sand Country is critical to the length of the growing season. The following are things we have done or are doing to monitor water quality and manage water at Tunnel Hill.

- Monitor Bore water monthly and test water bi annually in conjunction with Horizons.
- Chair the Makirikiri Scheme Liaison Group.
- Fencing off Wetlands and Waterways, working towards excluding stock from all waterways.
- Enhancing wetland filtration of the wider districts catchments water.
- Creating new Wetlands and enhancing existing Wetlands to improve water quality.
- Service and test our irrigation system annually to ensure water efficiency.
- Extensive use of moisture probes to work out efficient irrigation strategy (2015). Monitor usage on phone.
- Member of Rangitikei Rivers Catchment Collective (RRCC)
- Tunnel – Drop Structures – Flume
- Member of Makirikiri Flood Control Scheme.

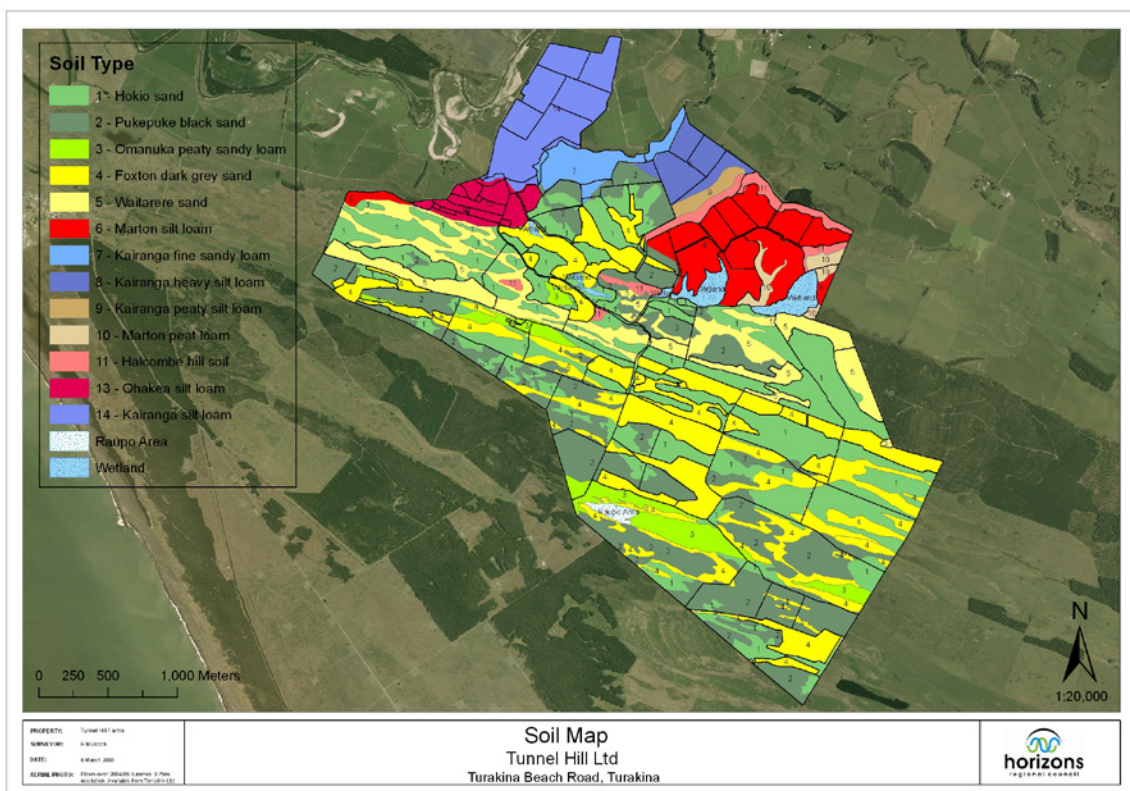


Fertile Soils

Land or soil that is fertile is able to support the growth of a large number of strong healthy plants.

We have a diverse group of soil types at Tunnel Hill ranging from river silt to sand. We have developed a farming system that integrates these soil types and focuses on their strengths, while also maintaining an awareness of weaknesses.

- **We developed the first Environmental Plan with Manawatu-Wanganui Regional Council (1996)**
- Protection afforestation of fragile sand dunes throughout property (220 ha to-date).
- Sustainable forest planted from 1992 - 20 % of property.
- Marram grass planted on sand dunes to stabilise soils.
- Multiple refinements of Tunnel Hill Soil Type map to allow accurate subdivision by soil type.
- Farming systems and subdivision developed by soil type.
- Intensive soil test monitoring of fertiliser requirements by enterprise. Deep N tests.
- Fertiliser applied differentially to each soil type by blend, rate, and month of application.
- Direct Drilling of sand country from 1980 to help maintain soil structure and health. 80 ha regrassed annually.
- Sand Pivot. Maize Grain grown to build humus. Oats cover crop grown for 10 years to improve humus on sand.
- Clay soils tile drained – cattle excluded from clay country during winter.
- Winter feeding blocks established on dry sand areas for calving cows.
- Differentially spread Clay and Sand soils at different times of year.
- Member of S.U.B.S. (Soils Underpinning Business Success) group.
- Work with Fertiliser Rep intensively to balance nutrients to requirements and soil types.
- Following an environmental plan for 30 years to protect fragile sand country.



Healthy Habitat

A diverse environment where a plant or animal naturally or normally lives, grows and reproduces.

The 220 ha of plantation forestry we have established in conjunction with our Wetlands means we have wildlife corridors right through Tunnel Hill. We currently have 25 ha or 61.5 acres of Wetlands. We are actively working on improving habitat in waterways and growing wetland and amenity plantings.

- Native Fish monitoring in Tunnel Hill waterways.
- Adding fish migration aids to waterways.
- 220 ha of Pinus Radiata, planted as protection afforestation.
- TB Knockdown in early 2000s has led to reduced Opossums, Ferrets and Wild Cats.
- Oaks, Alders and Plane Trees planted in the Reserve (Memorial to my brother Graham).
- Lake and specimen trees planted in front paddock.
- Marram Grass has been planted to stabilise moving sand.
- Gum trees have been established to stabilise a water course.

Tunnel Hill Wetlands:

8.7 ha Sash Door Wetland - pre 1850

7.2 ha Lake Wetland - pre 1850

1.0 ha Jungle Wetland - pre 1850

4.5 ha Tunnel Wetland - established 1998

3.5 ha Pivot Wetland - established 2008



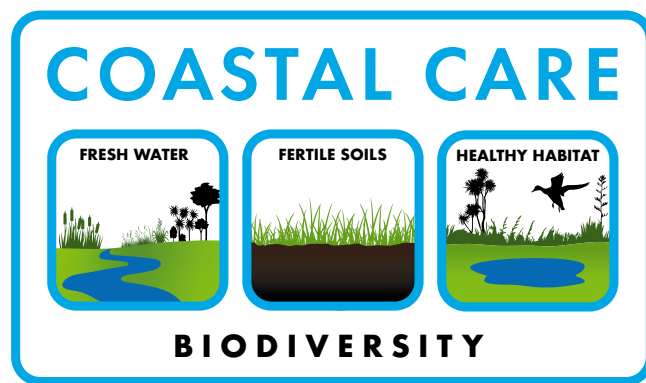
Biodiversity

The amount of diversity between plants, animals and other species in a given habitat at a particular time.

Tunnel Hill's biodiversity includes a long list of flora and fauna. We have a large number of different species of birds, both native and introduced. We also have a diverse range of fish life, both New Zealand natives and introduced. Regarding trees, we have important areas of native vegetation fenced off and protected as well as 220ha of Pinus Radiata stabilising fragile sand dunes. All of these elements combine to create amazing biodiversity and the best work place on earth.

- Bird-life friendly, including Pheasants, Quail, Blue Heron , Grey Duck, Brown Teal (Pateke), Pukeko, Dab Chick (Weweia), Bittern (Matuku), Fantail, Tui, Silver Eye (Tauhau), Spotless Crake (Puweto), Grey Warbler (Riro Riro), King Fisher (Kotare), Morepork (RuRu) and even Banded Rail (Moho Pereru) being a reasonably regular sight.
- Fish-friendly, including Inanga, Fresh Water Koura, Shortfin Tuna (Eels), Longfin Tuna (Eels), Banded Kokopu, Fresh Water Shrimp and Common Bullies.
- Water cress, Flax, Cabbage Trees, Oaks, Alders, Pinus Radiata, Gum, Macropus, Kowhai, Karaka.
- New Native Tree plantings 6500 between 2018 – 2021 to improve habitat.
- Sambar Deer were protected in conjunction with DOC by my father in the 1970s and 1980s when they were threatened. Now they are actively hunted for recreation.
- Actively cull pests such as rabbits and possums that impact biodiversity on Tunnel Hill. Regular trapping.





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