



## Appendix 1: Background Information

### **Makaretu Scenic Reserve (Department of Conservation Reserve) - 5.3ha.**

This reserve forms a scenic backdrop to the Rere 'rockslide' upstream of Rere Falls, a much utilised summer recreation area on the Wharekopae River. The reserve covers steep and moderate slopes (200-300 m a.s.l) on the true left of the river, which support advanced secondary tawa-titoki-(kowhai) forest. *Pittosporum ralphii*, kamahi, mamaku, putaputaweta, kohuhu and wineberry are also present. The reserve has a 'moderate' botanical conservation ranking (Beadel 1989) (Pg 58, '*Tiniroto, Mahia, and Matawai Ecological Districts – Survey Report for the PNA Programme*', DoC, June 2001).

### **Tiniroto Ecological Survey District**

#### **Location and setting**

Rere is situated in the Tiniroto Ecological District. The district has a broad base of interior hill country lying between the Waikaremoana and Matawai Ecological Districts and the more coastal/lowland Waihua and Turanga Districts; and a narrow band of elevated hill country extending to an apex at the Coast and the Wharerata Hills north of Mahia Peninsula.

The north eastern edge of the district is drained by western tributaries of the Waipaoa River, which flows into Poverty Bay.

Almost all the large tracts of indigenous primary and secondary vegetation that remain lie towards the north and west where the cooler wetter climate and steeper topography meant forests was less easily cleared and cleared areas have regenerated well. Many of the large tracts are Crown-owned and administered by Department of Conservation.

## Geology and landforms

The district is underlain primarily by young sedimentary rocks mainly of late Tertiary (liocene, pliocene) age, especially sandstone, siltstone and mudstone with localised bands of limestone. It is structurally simple, dominated by great thicknesses of layered rocks dipping into the southeast on the northwest side of the district and dipping to the west on the eastern side of the district. Where thick layers of erosion-resistant sandstone or limestone alternate with softer rocks, scarps and many regular planar dip-slopes are prominent.

*Tiniroto, Waihua, Mahia, and Matawai Ecological Districts, Department of Conservation (2001)*

## Trout Fishing in Wharekopae River

This river is one of the best in our district for catching Trout. This river is first crossed at Taumata Station which is approximately 48 kilometres from Gisborne on the Ngatapa-Rere Road and can be fished from about one mile below this bridge up to the foot of the Wharekopae Hill.

Access by road after crossing this bridge is again made about 3km further on by turning left into the Tangihau Station Road. The next contact by road is at Rere where a left turn is made above Rere Falls, and from there on the river is close to the road, again being crossed about 5km further up. This river holds brown Trout only. The best times for fishing this river are early morning or night.

*Guide to Trout Fishing in the Gisborne Area, Gisborne Anglers Club*

## Microbiological Water Quality Guidelines Freshwater Recreational Areas 2003

The 2003 Guidelines use a combination of qualitative risk grading of the site and surrounding area, together with the direct measurement of appropriate faecal indicators to assess the suitability of a site for contact recreation.

Two components are used to determine a suitability grade for an individual site, they are:

(a) The Sanitary Inspection Category (SIC)

This generates a measure of the susceptibility of a water body to faecal contamination.

(b) Historical Microbiological Results

This generates a Microbiological Assessment Category (MAC), which provides a measurement of the actual water quality over time allowing for variations in climatic conditions. The MAC is calculated from five years of historical microbiological data (at least 100 results). The MAC categories range from A, B, C to D.

These two categories combined give an overall Suitability for Recreation Grade (SFRG). This describes the general condition of a site at any given time, based on both risk and indicator bacteria count. This grade helps to determine whether ongoing monitoring is required, and provides the basis for informing the public whether it is safe to enter the water.

The SFRG grades range from **Very Good, Good, Fair, Poor to Very Poor**. Sites with less than 100 results within five years of data are given an interim MAC category based on available data. The risk of becoming sick from swimming at a site is inferred from the associated grade.

## Rere Falls and Rere Rockslide

These two sites have been monitored for recreational water quality since 2001. Monitoring includes regular water testing over the summer period from Dec 15<sup>th</sup> to February 15<sup>th</sup> each year.

A total of 68 tests have been taken over the seven years and E Coli colonies have been monitored.

Using the Suitability for Recreational use grades the following table shows the current status of the water quality at Rere.

	< 130 /100mls	131-260/100mls	261-550/100mls	>550/100mls
	Very good	Good	Fair to poor	Poor to very poor
Rere Falls	1	9	26	32
Rere rockslide	0	1	24	43

Table: "e Coli" in water measured as Colony forming units (CFU) per 100mls of sample water.

The above results show that the water quality at Rere is not in pristine condition for locals and tourists to spend a lot of time in while pursuing recreational contact with the water.

It should be noted that the water quality tests are only done over summer when flows are not high. This means that any dilution factor from good water flow is diminished.

Swimming and rock sliding generally occurs when temperatures are at a peak over the summer and the warm temperatures tend to provide a good environment for the coliform organisms that are being measured to thrive.

## Management options to improve water quality

Coliform organisms that are found at Rere are not human derived. They are present due to the potential contamination from farm animals, wild animals and birds.

Any management options that may reduce contamination need to be considered as part of a "Whole Catchment" approach. A catchment approach could consider the following:

- Keeping livestock away from water courses.
  - This may require increasing culvert numbers on tracks that allow concentrated numbers of livestock.
  - Providing more stock water dams or water troughs so that livestock don't need to obtain water from creeks.
  - Leaving a grass buffer along waterways when sowing crops that may require more intensive grazing – particularly for any summer crop.
  - When grazing intensively along waterways to provide temporary electric fencing to ensure stock stays on the paddock and not wandering into the stream.
- Planting riparian margins of waterway. This will help keep water temperatures down in summer.
- Control feral animals within fenced off riparian reserves.
- Ensure dead animals are disposed of well away from waterways and remove any animal that has had a mishap near a waterway. Recreational hunters could also be encouraged to remove their kill from the vicinity of a waterway.

*Gisborne District Council Water Conservator Management Advice September 2010*