

# Code Of Practice (CoP) – Moroa And Longwood Water Races

Revised by Water Race Users Group – 16 October 2017

**Status:** A CoP is essential if the council is to comply with the Wellington Regional Council's consent to take water. The CoP should be read in conjunction with the Moroa Water Race Bylaw 2007 and Longwood Water Race Bylaw 1936

**Best Practical Means:** This Code of Practice is based on encouraging users to adopt a "best practical means" of meeting the main purposes of reducing wastage and minimising pollution. What this means is that there may be several ways of addressing a particular problem, and each property owner may select the way which best suits their particular situation. Stopping stock wading in the race, for example, could be met by;

- fencing off the race and pumping water from the race to stock troughs,
- locating an electric wire along the centre of the race, allowing stock to access the edge for drinking but not into the race for wading and wallowing,
- create drinking bays allowing stock to access while minimizing contamination
- regular cleaning
- tree planting near the water race with approval (keep access clear on one side for maintenance access.
- return any eels, fish upstream while cleaning water race.

To assist with determining the best practical means, the Water Race Users Group will provide an advisory service, either through their members or with assistance from the South Wairarapa District Council, depending on the needs of individual race users. Information is available and contact details for members are available on the council website. <http://www.swdc.govt.nz/south-wairarapa-water-race-users-group-wrug>

Acting in accordance with this code of practice, the race users intend that negative effects and practices associated with the races can be minimised, allowing users and the environment to continue to receive the benefits of access to the race waters.

**Purpose:** This code of practice is designed to minimise:

- the wastage of water from the Moroa and Longwood Water Races,
- the input of contaminants from various farming and land activities to these races.
- other adverse environmental impacts from the race systems and their associated operation.

### **Minimising Race Water Contamination:**

The Moroa Race water starts at the Waiohine River, and the Longwood race at the Tauherenikau River. Where these waters leave their source rivers, they are of high quality. As the water flows along the races, however, it is progressively degraded to a lower quality.

This is from such causes as:

- **Stock wading** along the races instead of just accessing them from the edge for drinking,
- **Drainage ditches** and pipes that may be directed to the races, adding to the contaminant load the race waters carry,
- **Stock driving races** which pass over the water race and the runoff from these when it rains flowing into the water race,
- **Vehicle and stock crossings** passing through the water race, stirring up sediment and washing debris from tires and vehicle undercarriages into the races
- **General land drainage**, putting contaminants such as; sediment, microbes, and nutrients from fertilizers into the water race,
- **Sediment, weeds or inappropriate herbicides** from race clearing activities,
- **Fertilizer application**, being undertaken too close to the race or too steep banks to the race.
- **Stormwater** from roads and urban areas

While some of these activities are hard to avoid, it is possible to minimise their effect and monitoring of the water races have shown an improvement.

The poor water quality which currently occurs in the lower reaches of many branches of the race can create stock health problems for the users in these areas, and can have a significant impact on the water quality of the rivers and streams that the race branches eventually flow into.

Where the quality of these receiving waters is currently not high, the intention is to gradually improve this quality with. This improvement will not occur straight away, but will happen over a matter of years, if the individual discharges of effluent and contaminated waters to the waterways are reduced. Such district wide improvements are already starting to happen with the South Wairarapa District Council obtaining new consents to upgrade the community wastewater treatment facilities for Greytown, Martinborough, and Featherston, and continual improvements in farming practices.

### **Minimising Environmental Impacts:**

The race systems have been in existence for so long that although man made, they have now become an important part of the natural ecosystem. In particular they are home to various fish life including eels, kokopu, and brown mudfish. During drain cleaning activities, all eels and other fish should be returned to the race up stream of the cleaning activity

### **Minimising Water Wastage:**

The resource consent to take water from the Waiohine River for the Moroa Water Race allows for a maximum take of 500 litres per sec when there is normal flow in the river, reducing to 350 litres per sec during low flow conditions.

Similarly there are reducing water volumes allowed to be taken from the Tauherenikau River for the Longwood Water Race as the river flow drops. For Longwood the maximum take is 240 litres per sec at normal river flow reducing to 100 litres per sec during low flow conditions.

Even with the maximum allowable takes the flows at the ends of the races are minimal and stock can be deprived of water. It is therefore important to make the best use of the water and not to waste any, particularly during low flow conditions in summer.

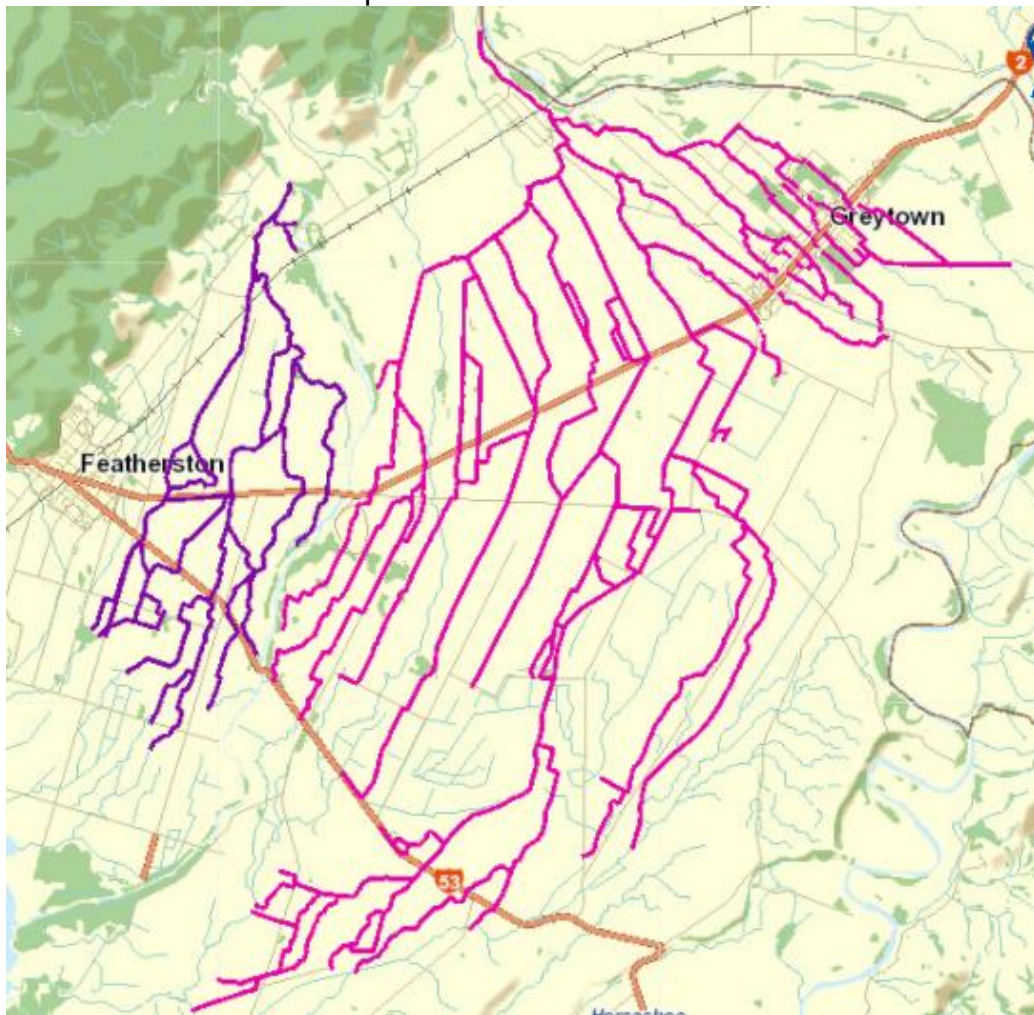
Water wastage can be minimized by the following practices:

- **Not Allowing** the race to become wider and shallower than is necessary to handle the flow and provide stock access. A wider race has a larger surface for evaporation. For every 100km of race length, a doubling of the race width from say 1m to 2m, would provide an extra 500m<sup>3</sup> of water loss by evaporation per day on a dry windy day. The Moroa Race is 240km long and the Longwood Race is 31km. A shallow race with low freeboard, (the height between the top of the race bank and the water level), can also allow water to escape onto surrounding land, and may create rather than remove flooding during high rainfall events.
- **Not Allowing** the base and sides of the race to become more permeable for water to seep into the surrounding ground. This could be by cracking, having a gravelly base with permeable soils below, or could be occurring at a moderate rate through the existing soils. Such losses can be reduced by appropriate maintenance and repairs, including lining the race with low permeability soils such as clay or synthetic lining materials.

Advice on cleaning, maintenance and repair of the race to make best use of the water is available from farmers on the Water Race Users group, Council's Contractors, and the South Wairarapa District Council.

<http://www.swdc.govt.nz/south-wairarapa-water-race-users-group-wrug>

**Background:** The South Wairarapa District Contains two water race systems that total some 300 km in length, as shown in map below. The Longwood race takes water at some 250 litres per second from the Tauherenikau River; the Moroa race takes 400 litres per second from the Waiohine River.



The Moroa and Longwood races have resource consents which allow them to take water for the race (for stock watering purposes), and discharge contaminants to waterways at the end of the race branches. Although some people who have the races passing through their land do not want them there, surveys of users have shown that most people do want them. The races were created to allow dry land to be farmed. For some users their existence is still vital and without them many farmers could not sustain their current farming practices.

The water-race systems also provide an important service in run-off control and management of stormwater. They have developed their own individual ecosystems and are an established part of the environment.

For those with alternative water sources or who do not farm their land intensively, costs for upkeep of the race systems can seem a burden. However, the fact remains that the best option for the community as a whole, is to keep the races, and the races cannot continue to function within their consented conditions unless all people whose land the race passes through understand and adopt this voluntary code of practice.

### **Landowner Checklist:**

Take a fresh look at your races and fill in the Landowner checklist.

Listed are the most common causes of excessive water wastage and entry of contaminants.

Consider how you could make improvements to reduce wastage and contamination of the water in the race as it passes through your property.

Landowners may choose their own preferred solution or seek assistance. WRUG provide an advisory service, either through their members or with assistance from the South Wairarapa District Council, for both water races.

This Code of Practice provides an opportunity for the farming industry, representatives of which have frequently complained of excessive regulations and controls, to demonstrate their ability to voluntarily adopt common sense and workable solutions to a common problem, and ensure the continuance of the races for the benefit of the community as a whole.

Compliance with the code of practice will also significantly contribute to improving and sustaining the quality of water in the waterways of the South Wairarapa District.

## Landowner Checklist:

**Property:** \_\_\_\_\_

**Owner:** \_\_\_\_\_

**Occupier:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Number of Race Branches:** \_\_\_\_\_

**Total Length of Race:** \_\_\_\_\_

**Minimising Water Wastage:**

<b>Problem</b>	<b>Current State on Property</b>	<b>Preferred Fix of Problem</b>	<b>Date Fixed</b>
Race Width (should be as narrow as possible).			
Race Freeboard (side height above water level)			
Water Loss Through Race (assistance can be provided to measure this)			
Water Used for Other Purposes.			

**Minimising Race Water Contamination and Other Effects:**

<b>Problem</b>	<b>Current State on Property</b>	<b>Preferred Fix of Problem</b>	<b>Date Fixed</b>
Stock wandering in races			
Drainage feeding into race			
Stock races draining into race			
Vehicle crossing in race			
Race cleaning			
Fertilizer application (application to be kept away from race and steep banks leading to race)			