

# COWS *out of* creeks

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Water quality improvement in the Sherry River following bridging of crossings on raceways

## Background

- Monitoring of the Sherry River as part of water quality survey in the ICM programme identified faecal pollution (high *E. coli* bacteria concentrations)(refer Figure).
- Pollution attributed to dairy farming in the Sherry Valley, (particularly dairy herds crossing the river).
- The water pollution caused by a herd crossing the Sherry R was studied (see accompanying poster).
- Cow crossings found to produce appreciable water quality degradation – including reduced visual clarity because of sediment disturbance as well as faecal pollution.
- Several crossings now bridged (table).

Table: Water quality sampling sites – Sherry River

Site No. (Km*)	Name	Reason
1 (18.6)	Cave Creek	Below pine plantation. Upstream of farming, (except some cattle grazing).
2 (15.2)	Above Granity Creek	Upstream of dairying. <b>3 dairy farms – all with bridges as at May 2000, but only 2 being used routinely</b>
3 (7.1)	Matariki Bridge	Downstream of three of the four dairy farms <b>1 dairy farm –with a crossing still in operation</b>
4 (0.5)	Blue Rock	Just upstream of confluence with Whangapeka River

\* kilometers from river mouth

## On-going work

- Water quality of the Sherry River sampled monthly at four sites by NIWA (table). (TDC also sample the River quarterly in their SoE monitoring programme.)

## Interim findings

- E. coli* concentrations have been appreciably lower than historically at all sites (figure).
- The lower *E. coli* at Sites 1 and 2 may partly reflect reduced beef cattle grazing in the pine plantation upstream of Site 1.
- The reduced faecal pollution at Sites 3 and 4 may be attributed to cow bridges being used routinely on the two upstream dairy farms.
- Guidelines for contact recreation are still being exceeded at Sites 3 and 4.

## Conclusions

- Bridging of cow crossings on the Sherry River has reduced water pollution by cows, but faecal bacteria levels are still rather high (unsuitable for contact recreation).
- Further water quality improvement might require exclusion of livestock from drains and tributaries of the Sherry River, as well as bridging of the remaining crossings.

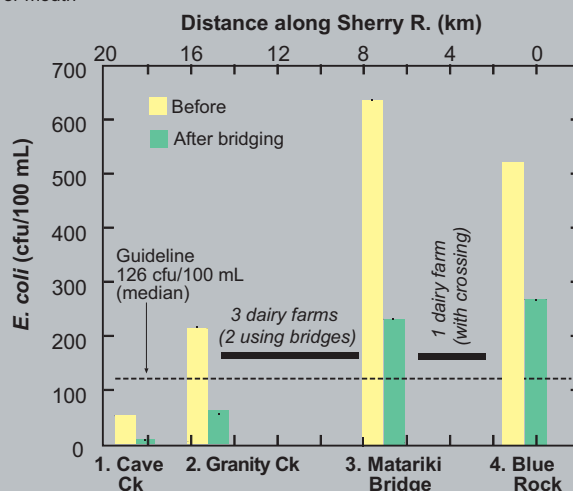
## Future work

- Complete monthly sampling and report results.
- Augment monthly sampling with special studies of (a) daily variation in water quality and (b) faecal pollution during floods - due to pasture wash-off and entrainment of contaminated sediments.

Figure

*E. coli* at four sites along the Sherry River.

A guideline for median *E. coli* (for contact recreation) is shown for comparison.



1. The way it was – cows crossing the Sherry River during the cow crossing experiment (October 2001).



2. New bridge on the Sherry River – Frank and Lisa White (farm owners) on their brand new bridge near the former herd crossing (May 2002).



3. Latest new bridge – A third dairy raceway bridge under construction at Matariki on the Sherry River (May 2003).



4. Cows crossing by bridge – Sherry River (October 2003).