RIVER AND STREAM HEALTH

Annual Monitoring Summary 2010

Why we monitor water quality and ecosystem health

Rivers and streams have important natural and cultural values. They are also important resources for drinking water, recreational activities, managing storm water flushes and industrial use. Direct discharges to rivers, or indirect via storm water and run-off from land affects the quality of water and it's suitability for human uses and biodiversity.

Key Results

The water quality classification for each site in 2010 is compared to the 'long term' classification, derived from data collected between 2000-2007 to track changes in water quality at each site and within catchments.

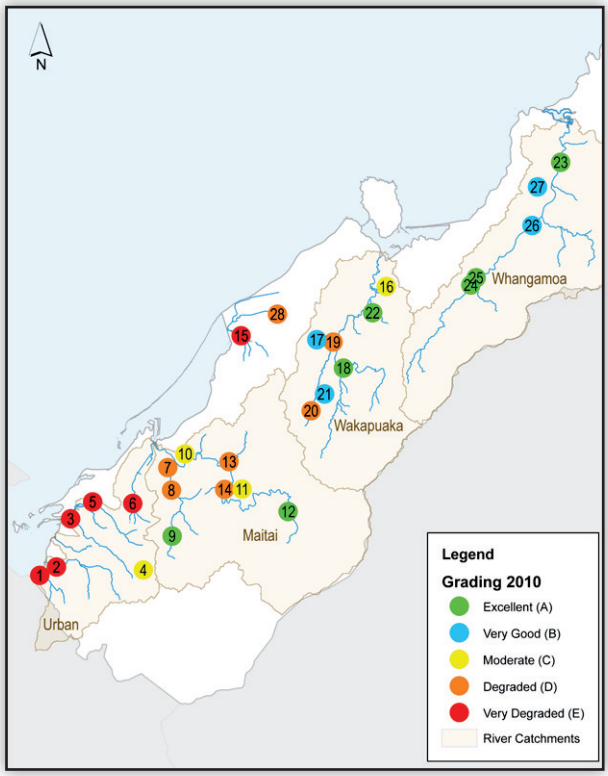
Rural streams and rivers in the Whangamoa, upper Wakapuaka and upper Maitai catchments have maintained Excellent-Very Good (grades A and B).

Streams within the Nelson urban and lowland pastoral farming areas are degraded (grades D and E) and have not improved.

Catchments

The key water quality issues are summarised for the four river catchments, the Maitai, Wakapuaka, Whangamoa and urban streams. The catchments and water quality grades for each site are shown in Figure 1.

Fig. 1. Nelson river and stream water quality grades, 2010.



Maitai River Catchment

Water quality in the Maitai ranges from Excellent at the South Branch Intake to Moderate (grade C) at Groom Road and near Riverside Pool. Grades at these three sites have remained the same or improved.

The water quality grades at Sharland and Groom Creek have fallen to Degraded. Both these sites have elevated nitrate and poor water clarity scores, which coincides with recent logging activities in these catchments. The aquatic animal and plant communities are in good condition despite the nutrient and water clarity issues.

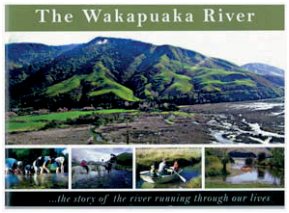
Wakapuaka River Catchment

Water quality in the upper Wakapuaka catchment ranges from Excellent at Duckpond Road and Pitchers Creek to Very Good at Teal River. The Teal River has upgraded from Moderate to Very Good, from improvements in bacteria counts and aquatic animal and plant communities.

The Lud River has declined in water quality from Moderate to Degraded, which has impacted on the Wakapuaka at Hira Reserve, falling from Excellent to Very Good. Water quality in the Lud has elevated nitrates, mainly from pastoral land use in the Lud valley.

The Māori Pa Road Reserve in the lower Wakapuaka catchment has a Moderate grade, no change from the long term classification. Source tracking of bacteria has indicated that livestock and wildfowl are the main cause of elevated bacteria levels in the Lud and at the Māori Pa Road Reserve.

The Wakapuaka River booklet is available from Hira school.



LONG TERM RIVER CLASSIFICATION		
1	Saxton at Main Rd	E
2	Orphanage at Saxton Rd East	D
3	Poorman at Seaview Rd	D
4	Poorman at Barnicoat Walkway	C
5	Jenkins at Pascoe St	E
6	York at Waimea Rd	E
7	Brook at Manuka St	D
8	Brook at Burn Pl	*
9	Brook at Motor Camp	A
10	Maitai at Riverside	D
11	Maitai at Groom Rd	C
12	Maitai South Branch at Intake	A
13	Sharland at Maitai Confluence	C
14	Groom at Maitai Confluence	B
15	Todds at SH6	D
16	Wakapuaka at Maori Pa Rd	C
17	Wakapuaka at Hira	A
18	Wakapuaka at Duckpond Rd	A
19	Lud at SH6	C
20	Lud at 4.7km	C
21	Teal at 1.9km	C
22	Pitchers at 890m	A
23	Whangamoa at Kokorua Bridge	A
24	Whangamoa at Hippolite Rd	A
25	Graham at SH6	A
26	Collins at SH6	B
27	Dencker at Kokorua Rd	B
28	Hillwood at Glen Rd	D

Key to site codes in map

* No long term grade

Whangamoa River Catchment

Water quality in the upper Whangamoa, Graham Stream and lower Whangamoa is Excellent with no change from the long term classification. The Collins and Denker Creek have Very Good grades.

Urban streams

Hillwood, Saxton, Orphanage, Jenkins, York and lower Poorman stream all have Degraded or Very Degraded grades that have not improved. These small streams have elevated nitrates, bacteria levels, poor water clarity and aquatic animal scores. Wastewater from household, garden and industrial activities combine with fine sediments and pollutants from roads and earthworks, which are transported to the streams in stormwater and runoff. Elevated nutrients and temperatures along unshaded stream banks promote increases in aquatic plants and slime during summer months that are detrimental to aquatic animals and limit flows.

Initiatives to improve water quality

Working with land owners

The Nelson City Council Land Management Adviser provides free advice for land owners and financial assistance toward fencing and native plants for riparian planting and biodiversity enhancement. Improving water quality in the Lud is a key focus for 2010/11. Residents are being visited to discuss the water quality results and provided advice on best practice land management and related issues including maintenance of septic tanks.

WORKING WITH COMMUNITIES

Since 1999 the Wakapuaka Rivercare Group has carried out regular monitoring on the river and its tributaries. For the people involved it represents an on-going commitment to the river and its surrounds. Collectively they published the booklet, The Wakapuaka River, which was distributed to all local households and is still available from Hira School. As well as having their own site to monitor, the school runs a tree nursery, and every year young native trees are made available to people living in the area and, in time, this will contribute to a more forested catchment.

The Waimaori Streamcare Programme works with schools and local people to actively monitor the health of streams through practical hands-on-workshops at the riverside. This raises community awareness about water quality and also brings a cultural perspective as to why clean water matters. For more information about Waimaori contact waimaori@ncc.govt.nz or 03 545 1752.

Council is working with the Brook and wider community to improve riparian management of the Brook Stream. This includes removal of weeds and community planting days to reinstate native vegetation along the streambanks. Community planting days include information stands, the presence of Waimaori, the Brook Sanctuary and other interest groups.

Council has also initiated a case study on the Orphanage Creek and is supporting a Nelson Intermediate School initiative to clean up York Stream.

Council wants to work with other communities and schools to improve the health of streams and caring for them. If you are interested in getting involved please contact Lynne Hall, Land Management Adviser 546 0308 or Jo Martin, Environmental Education Officer 03 546 8728.

Nelson City Council work in progress

Preparing a Maitai Catchment Management Plan is proposed for 2011/12. The Catchment Plan will look at the best way to improve the health of the Maitai while addressing flood risks.

Upgrades to storm water are integrating the ecological values of streams, such as improvements to fish passage at the Brook Stream outlet at Nile Street and Manuka Ford.

Working with NIWA to evaluate the most appropriate technical solutions to improve existing storm water systems and minimise contaminants from roads and adjoining land reaching rivers and streams.

Working with Cawthron to study the water quality from the bottom of the Maitai Dam and how its discharge to the Maitai impacts on the aquatic animal and plant communities.

For further information about Council environmental monitoring please visit www.nelsoncitycouncil.co.nz/environment

Waimaori with Brook community.

Nelson City Council
te kaunihera o whakatū

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