



RIVER AND STREAM HEALTH

Annual Monitoring Summary 2014/15

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, farming, recreational activities, managing storm water and industrial use. Human activities and discharges to rivers from various sources affect the quality of water and its suitability for human use and biodiversity.

How we classify Nelson's water quality

Nelson's streams and rivers are classified from grades A to E (Excellent to Very Degraded) based on regular water quality and stream sediment monitoring across 28 sites. A long term water classification has been derived from monitoring data collected from 2000 to 2012. The long term classification provides a 'bench mark' and better indicator of the health of our rivers and streams than annual results as it reduces the influences of short term events, such as floods.

Trends in water quality

Overall the 2014 annual water quality class for each site has reflected the long term trend. Three sites on Orphanage, Jenkins and Brook Stream showed minor improvements and one tributary of the Wakapuaka declined, compared to the Long Term Classification.

There were seven sites classed as Degraded or Very Degraded in 2014 compared to 12 sites, respectively in 2013. This decrease in Degraded sites is partly explained by 2013 being a 'wetter' year than 2014, with more rain (and run-off from land) in summer and autumn.

Nelson waterways have been impacted recently from two high intensity rainfall events in December 2011 and April 2013, resulting in flooding and sedimentation of river channels. In-stream flood recovery works to protect Council infrastructure and private property have caused short term disturbance to stream channels and banks, which are recovering naturally.

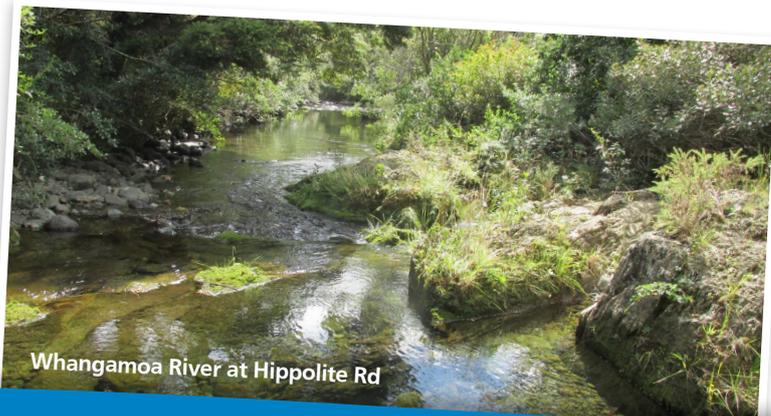
Low flow conditions in streams and rivers over early summer 2014 led to unwanted blooms of algae, slime and blue-green cyanobacteria (toxic algae), which impacted on freshwater macroinvertebrate (aquatic bug) diversity at some sites.

The annual classification for all water quality monitoring sites is summarised in Table 1.

Table 1. 2014 Annual water quality grades for each catchment. Sites are listed by classification A to E

Nelson Freshwater Classification		2014 Annual Classification
Map #	Stoke Catchment	
4	Poorman at Barnicoat Walkway	B
2	Orphanage at Saxton Rd East	C
1	Saxton at Main Rd	D
3	Poorman at Seaview Rd	D
5	Jenkins at Pascoe St	D
Maitai Catchment		
9	Brook at Motor Camp	A
12	Maitai South Branch at Intake	A
8	Brook at Burn Pl	B
7	Brook at Manuka St	C
10	Maitai at Riverside	C
11	Maitai at Groom Rd	C
28	Hillwood at Glen Rd	C
13	Sharland at Maitai Confluence	D
14	Groom at Maitai Confluence	D
15	Todds at SH6	D
6	York at Waimea Rd	E
Wakapuaka Catchment		
16	Wakapuaka at Duckpond Rd	A
17	Wakapuaka at Maori Pa Rd	B
18	Wakapuaka at Hira	B
19	Teal at 1.9km	B
20	Pitchers at 890m	B
21	Lud at SH6	C
22	Lud at 4.7km	C
Whangamoā Catchment		
23	Whangamoā at Hippolite Rd	A
24	Graham at SH6	A
25	Whangamoā at Kokorua Bridge	B
26	Collins at SH6	B
27	Dencker at Kokorua Rd	B

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Biodiversity fish surveys

Wade-able fish surveys were undertaken on the Brook Stream and lower Maitai at river ecology sites. Koaro were abundant at the Waimarama Sanctuary, indicating fish passage work on the Manuka Street weir and culvert in 2006, and ongoing maintenance have been successful. Smelt and brown trout were also recorded upstream of the concrete box culvert, indicating some fish passage. A high diversity of 14 fish species were present in the lower Maitai at Riverside, reflecting the good connectivity to the Haven estuary and Tasman Bay.

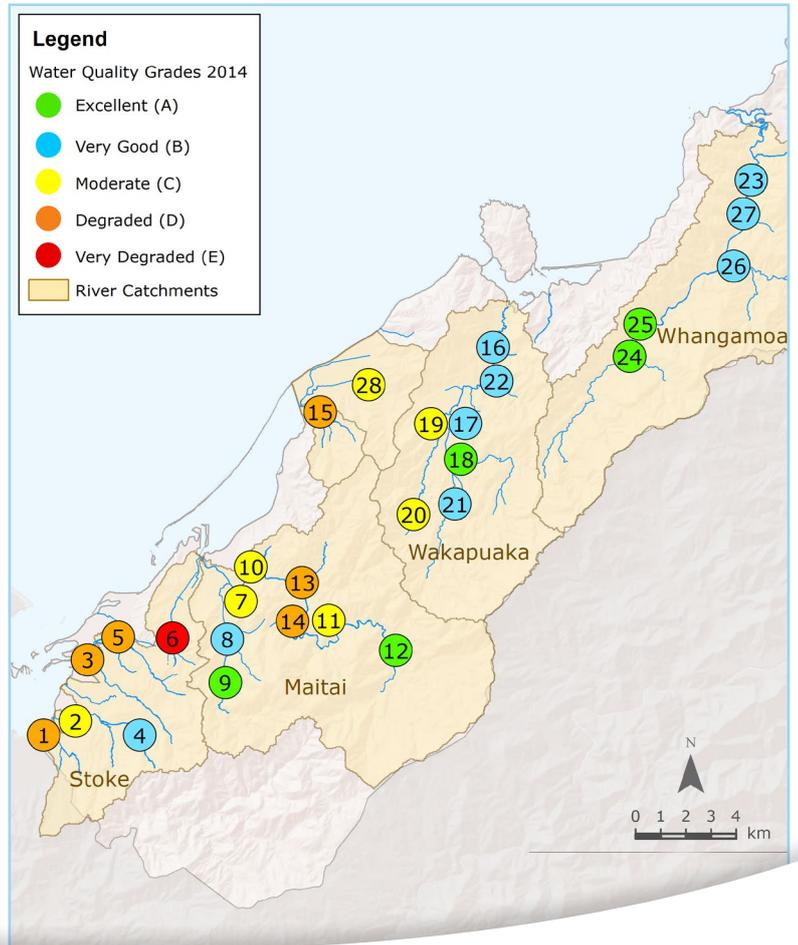
A summary of the freshwater fish species and their known distributions within the Nelson region is available in the environment / freshwater section of the Nelson City Council website, nelson.govt.nz.

Council will be undertaking further fish monitoring, fish passage and habitat enhancement as part of the Nelson Nature programme. For further information contact Lynne.Hall@ncc.govt.nz



Koaro fish – abundant in the upper Brook Stream

Figure 1. 2014 Annual water quality grades for the Nelson region



Initiatives to improve water quality

The Friends of the Maitai community group was established in 2013. The group promotes a collaborative responsibility for the health of our waterways and gives community members a gathering place to learn about the issues that face our river and work together to take positive action. For more information about Friends of the Maitai contact friendsofmaitai@gmail.com.

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.

Council is collaborating with NIWA, the Friends of the Maitai and the Wakapuaka River Care Group to trial a new community stream monitoring programme. The NIWA led citizen science project will assess whether community monitoring data can be used alongside regional council water quality monitoring and add value to the

national environmental picture. For more information about NIWA's community monitoring projects, visit www.niwa.co.nz.

Project Maitai/Mahitahi has an overarching goal to create a river that is safe to swim in and take kai from. The integrated projects are addressing a range of issues affecting water quality. For more information email Jo.Martin@ncc.govt.nz or visit nelson.govt.nz (search = project maitai).

Council will be working with community groups to discuss values and water uses as part of the process to establish Fresh Water Management Units and monitoring requirements under the National Policy Statement for Freshwater Management. For further information contact Sharon.Flood@ncc.govt.nz.

For further information about Nelson's water management, visit the Nelson region section on the Land- Air- Water- Aotearoa (LAWA) website, which provides a summary of the national and regional outlook for water quality at freshwater and recreational bathing monitoring sites, news stories and events across the country.

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