



NELSON CITY COUNCIL
Making Nelson a better place

**SPECIAL FLOOD
ANNIVERSARY
ISSUE**
December 2012

more inside...

Protecting the fish
page 2

Protective planting
page 3

Home at last
page 4

Hold that hill!
page 5

**Coming to grips with
the Grampians**
page 6

Cable Bay
page 7

SPECIAL

Flood Anniversary Issue

DECEMBER 2012

A year on...



Before

**It's been 12 months
since the storm that
devastated our
region; a one in 250
year event for Nelson.**



After

A state of emergency was declared on Wednesday 14 December 2011, after the torrential rain saw more than a quarter of our annual rainfall occur in two days. Roads were closed, including the main thoroughfare of SH 6 Rocks Road, the Maitai River flooded its banks, hundreds of hillsides slipped, and tonnes of mud and debris ran into streets and houses.

Hundreds of people were evacuated in fear of hillsides collapsing on their homes. Multiple

properties were damaged, and a slip put the city's water supply at risk. Cable Bay was cut off for more than a week, with supplies being flown in by helicopter to the trapped residents. Rabbit Island was still flooded five weeks later.

The Nelson City Council and our regional Civil Defence team worked around the clock to restore safety and services as quickly as possible.

By Saturday, 17 December, inspections were underway on more than 300 homes throughout Nelson/

Tasman, and nearly 140 properties were found to be unsafe. Council staff started to map the damage around the region, and note where immediate action needed to be undertaken to protect residents and their homes, and civil property.

A Recovery Plan for the region was developed and has been in action ever since. This edition of Live Nelson looks at what has happened since December 2011.

Live Nelson



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Mind the fish



Local freshwater ecologist Tom Kroos says protection and enhancement has been a focus in the stream recovery work around the region.

Following the storms, Fish & Wildlife Services was contracted by Council to provide expert advice, and work with contractors and engineers to look after wildlife during projects such as gravel extraction and rock protection work.

"We've been looking to mitigate the effects of this work on the aquatic environment, and implement best practice to protect fish and riverbed habitats," says Tom. "In each section of stream, we're trying to come out with something better than we started with."

Tom completed inspections at every site, to make sure everything is rehabilitated after work is completed.

"Sometimes this has meant fish salvage and transfer to a safer location, usually within the same catchment where they can return on their own. Overall, we have captured and transferred well over 9,000 freshwater fish out of harm's way from Nelson's urban waterways – this includes 17 species of native fish.

"Of these fish we have located one lamprey and one giant kokopu – which are very rare.

"In a 680m section of Poorman Stream adjacent to Nayland College, we captured 1,658 fish, including 11 native species. In Orphanage Pond alone 2,000 eels were moved and later reintroduced as favourable habitat conditions returned."

River work often required a small coffer dam to be excavated above the site to divert stream flow

around the gravel removal area. Fish barriers would be temporarily erected above and below the work site so that migrating fish couldn't return until it was safe.

Tom says it's been a great learning experience, with local residents and schools getting involved. "Most people are not aware we have so much biodiversity in our urban waterways, so it's been great to share knowledge about local wildlife and how the community can protect it."

Last autumn, work coincided with whitebait spawning. "Whitebait attach their eggs on plants that are only submerged during the highest spring tides," says Tom, "therefore we made sure we only worked at low tide, so that any sediment washing downstream wouldn't affect the exposed developing eggs.

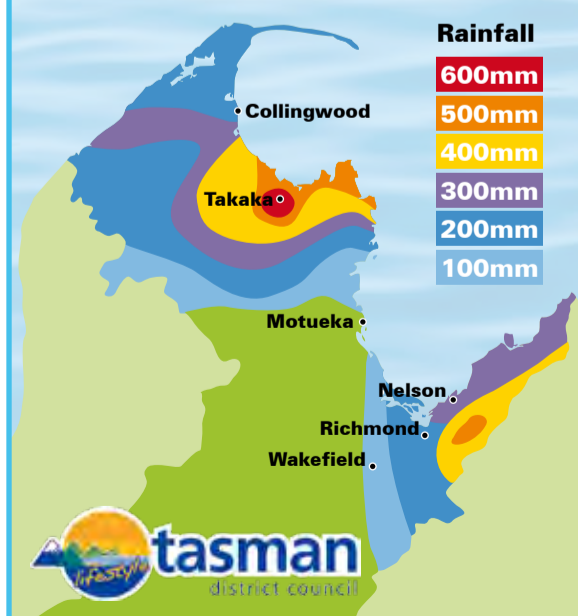
"In Poorman Stream flooding damaged the whitebait spawning habitat, so we created artificial spawning platforms with hay bales until the spring planting season."

Tom says everyone involved recognised the short term impact of the necessary work, and were keen to minimise the effect by implementing best practice.

"By protecting fish, rehabilitating the beds and planting the margins, we can restore and enhance local urban stream ecology," says Tom. "I'm very pleased with the way Council has embraced this best practice approach."

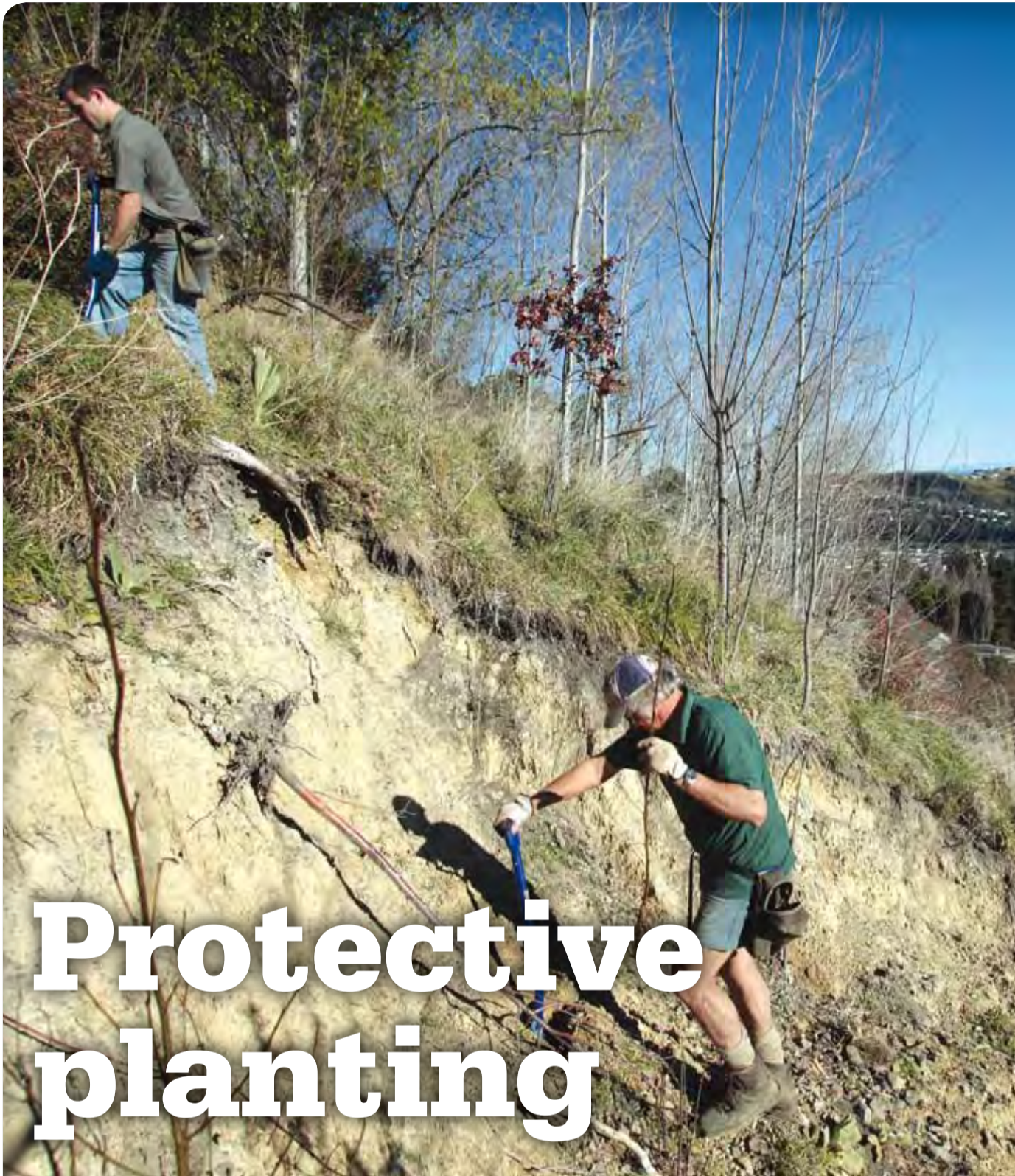


48 Hour rainfall December 2011



By the numbers

- ~ December 2011 saw 446mm of rain fall in Nelson, and 1103mm in Takaka
- ~ During that month, there were 80,000 visits to the Nelson Tasman Civil Defence website
- ~ 500 people were evacuated
- ~ Since the event, 10,000 trees have been planted
- ~ 9,000 freshwater fish have been transferred out of harm's way to allow for stream recovery work
- ~ 16 thousand cubic metres of gravel has been removed from rivers around the region



Protective planting

More than 10,000 trees have been planted in slip zones around the region in a move to replace those lost and hold the land together.

Following independent assessments of slips caused by last year's floods, Council has planted more than 10,000 poplars and alders in affected areas around Nelson, which include the Grampians, Bolwell Reserve, Highview Reserve, Pipers Park, Sir Stanley Whitehead Park and Emano East Reserve.

"Consultants were engaged to assess the slips and report back to Council on slope stability," says Team Leader Parks, Lindsay Barber. "Remedial work and clearance of slip material began where it was most urgent – that is, those slips that were threatening to move further or were obstructing drainage, particularly near houses. Grass was sown out to provide initial stability, but when it came to choosing the trees for replanting, we sought expert advice from local

nurseryman Bruce Dippie."

Bruce recommended poplars and alders for the replant due to their fast growth and extensive root systems.

"We looked at each environment, and chose species to suit," says Bruce. "Poplars and alders are a good choice because their root systems bind the soil together and ensure slope stability."

Different types of poplars and alders were matched to each slip site, depending on the tree's need for sun, water, or shelter.

"These trees will take root fast and provide amenity value to the slip sites.

"We would have loved to use natives, but they were not the best solution right now," says Lindsay. "Once the deciduous

planting is complete, we will look to interplant some of the slip sites with native species."

Lindsay says the first two phases of slip recovery – sowing grass and planting trees – are almost complete.

"There are some cases where we have had to hold back until engineering work – for example, putting in retaining walls – has been completed, and then we can go in and plant. The final phase for some of these slopes will be the interplanting of natives once the exotic trees have developed strong root systems and slope stability has been achieved."

Much of this work has been completed by Nelmac on behalf of Council.

Mayor's message

A year on from the devastating floods and Nelson is slowly but surely making progress towards a return to normal.

While at times it has felt like slow going due to the sheer extent of the damage caused by the emergency, there's been a huge amount of recovery work going on behind the scenes to restore our city to its former glory.

More than 10,000 trees have been planted, 9,000 freshwater fish have been moved out of harm's way to allow stream recovery work, and 16,000 cubic metres of gravel has been removed from rivers around the region.

Council has also been working very closely with affected property owners, fast tracking building consents relating to recovery work and dealing with a vast range of issues from individuals.

The emergency stretched our region's services and resources to the limit and I want to pay tribute to all those who went above and beyond the call of duty not only during the emergency but for many months after. This includes hard working Civil Defence and Council staff, contractors, consultants, neighbours, residents and friends, who all helped out in different ways.

My thoughts are with those people who are still grappling with issues to their properties and homes affected by flood damage, some of whom are not able to enjoy the festive season in their own homes. We will continue working closely with each of you to keep the process moving as quickly as possible.

Council has much recovery work to continue in the new year, after a short yet well deserved break. Wishing you and yours a happy, restful and hopefully sunny holiday season.

Aldo Miccio
Mayor
of Nelson



Home at last

Cherie Johansson was evacuated on 15 December 2011, as slips from a neighbouring property threatened her house in Fountain Place. Now, almost a year later, she's returning home.



Cherie Johansson

"Those first few days were pretty scary and hectic," says Cherie. "My neighbour's property sent a slip up against the wall of my office, where I would have been if I was at home."

"But the emergency services were fantastic. We got immediate support from everyone, it was very responsive and things happened quickly to ensure people's safety."

Now, after working with Council, the EQC, and her insurance company to take the necessary steps to make her home safe again, Cherie has celebrated moving back in.

"The building and consents staff at the Council have been great. They communicate well, know what they're talking about, talked me through all the processes, and provided me with everything I needed to do the consents."

"The community meetings for those of us who were still displaced were really useful. It was good to be able to put faces to the names of people we're dealing with, and to meet others in our situation who could lend

support."

Dawn Rosie, whose usual role is Building Consent Officer, visited Cherie's house to discuss the consent process and what needed to happen with her property.

Dawn became the primary contact for those affected following the flood event.

"I usually work with resource and building consents, so I have a good understanding of the processes involved and I was glad to be able to help people and be a signpost for the right direction."

"Over the last few months I feel I've developed personal connections with those affected. I know their stories and I'm doing my best to make things easier and give them a hand."

"With Cherie, she needed to talk to a range of people in Council so I arranged for everyone to get together in one room and one time, which meant she didn't have to go round different departments. And now, we've

managed to get it to a point where she can move home."

Dawn says Council is fast tracking building consents related to recovery work, which are currently taking an average of six days. She encourages anyone with questions to call Council.

"Please come and ask. We'll meet with you, we'll talk our way through it. We want to help."

Cherie says what she'd like to see now is commitment in the Long Term Plan to working with residents to assess and fix stormwater issues, to ensure the same thing doesn't happen again.

"I think Council is doing the best it can within the framework, which might not provide for remedial works in areas like my property which are vulnerable to storm water. The Long Term Plan says that Council wants to see us feeling safe in our homes. I want that too."



Gravel extraction Poormans Stream

"The gravel extraction has been a pretty massive operation," says Council Engineering Officer Josh Large. "Our teams - made up of council workers, contractors, and advisors - have been at work in streams and rivers all around Nelson."

"The Maitai River, Arapiki, Brook, Jenkins, Little Go, Maire, Oldham, Orchard, Orphanage, Poormans, Todd Valley and York streams have all had material removed."

Local Freshwater Ecologist Tom Kroos has been on board to ensure the rivers are returned to their natural states with minimal disruption to wildlife.

Much of the gravel that has been removed has been able to be re-used, in locations close

to the original sites.

"To minimize transport costs, we sourced sites near to the areas where gravel extraction was required," says Josh.

"From the Maitai, 1540m³ went to the OK Corral housing development site in the Brook Valley."

"650m³ has been stockpiled at Rutherford Park to be used in the construction of the Maitai walkway, and 3400m³ removed from the streams in the Stoke area has been stockpiled at Saxton field to be used as hard fill in future developments there."

"From the Brook we took 230m³ to the Riding for the Disabled to repair a walkway washed out by the flood, and a further 190m³

was used to do reconstruction work where the bank was washed out at Tindle Place.

"We removed 315m³ from York stream and took that to the landfill to be used as capping material."

"Some material wasn't suitable for this sort of re-use, so it went to Saxton Field to create an embankment."

Tom Kroos says that all care has been taken to ensure the natural environments are restored after work is complete. "We're following best practice and it's been a great learning experience for everyone, working together to make sure we're doing the best we can for the wildlife."

That's a lot of gravel!

After the removal of over 16 thousand cubic metres of gravel from rivers around the region, our waterways are getting back to their pre-December 2011 state.



Hold that hill

October 2012

After 10 months of investigation, testing, and design, work at Poynters Crescent has resulted in a retaining structure comprised of 19 six metre long steel poles, and 18 anchors reaching nine metres into the bank.

The Crescent, the most convenient route to Harbour Terrace, was closed in December by a substantial slip. Council was happy to announce the re-opening in October.

The land had to be stabilised before debris at the base near Rocks Road could be removed.

Graduate Engineer Daniel Welwood says Council appreciated the cooperation and understanding of residents while the work was being completed.

"We were very mindful of the inconvenience to residents and we tried to make the process as pain-free as possible. We kept people informed with regular letter-drops and email updates."

Resident Liz Bewley says that communication with those affected has been useful, and that they are pleased with the final outcome.

"The work is good – the road is wider now and the wall looks sturdy and safe, so hopefully we won't face the same thing again. Once the grass grows in it'll be great."

"Our aim was to restore it to better than it was before," says Daniel. "We have stabilised things and the storm water is being carefully managed so we shouldn't have the same issues."

The \$225,000 project was completed by Fulton Hogan, who had been on site since August.



December 2011





Coming to grips with the Grampians

Despite delays caused by the weather and the breadth of work needed, residents of the Grampians are pleased that progress is being made.

The Grampians was one of Nelson's areas most affected by slips, and an unusually wet winter hasn't improved the amount of work needed, but resident David Kenning says the community has developed a good relationship with Council and are seeing the remedial work progress.

David, who is a member of Residents' Committee formed with others whose properties were affected by slips, says the weather's been a challenge and there's a lot to do.

"Council has attended Residents' Committee meetings to discuss the work with us, and I feel we have developed a good rapport with them. We've experienced good open communication, despite the time that has elapsed since the event last December and the amount of work required."

David says Council has been responsive to resident's concerns.

"Recently, Council workers were fixing some tracks near our property, and we had some concerns about the work. We called Council and they responded within two hours. They came and talked us through the process. The next day, they were there fixing the areas we had pointed out."

Lindsay Barber, Team Leader Parks, says that the slip recovery work at the Grampians has been extensive and will continue to be a focus.

"The Grampians Reserve has posed a number of problems for Council staff involved in the post flood event remedial works, as it is steep and covers a wide area," says Lindsay.

"One of the biggest challenges has been directing rainfall run-off to areas where it

will cause the least amount of grief for local residents. The very wet winter has not helped matters and slip material has continued to fritter away and block drainage channels and sumps. Keeping the sumps clear of debris, and drainage channels open and clear is crucial to managing drainage on the Grampians. Access for large machinery is difficult because of narrow track widths and steep access, which has prohibited slip spoil removal by truck.

"However, we are making progress, having upgraded the track to channel water in a controlled manner and will be looking at our method of directing stormwater to existing pipe networks. This will continue to be a focus for us in the new year."

See your story in The Prow and Kete Tasman

The Prow and Kete Tasman are still collecting and archiving local flood stories. Shortly after the floods of last year, the Prow published a story on the floods, which set them in their historical context and gathered together further sources of information about flooding in the region – see:

<http://www.theprow.org.nz/nelson-and-tasman-floods>

We would like to link your story to ours. If you have a story to tell, or some photographs or videos you want to share, please contact us, or add your material directly to the Kete Tasman:

http://ketetasman.peoplesnetworknz.info/local_disasters/topics/show/56-december-2011-floods

- where we will archive them, and link them into our Prow story. For further information please contact us at Nelson or Tasman District Libraries:

library.ref@ncc.govt.nz
or libraryinformationservices@tasman.govt.nz



Cable Bay was hit hard by the December event and is one of the major restoration projects for Council.

The process has been ongoing to get life back to normal for the residents, who are still affected by a reduced speed limit on the road to the bay.

186 design drawings have been produced for the 28 sites at Cable Bay needing remedial work, and the consent process is well underway.

Senior engineering Officer Simon Talbot says that Council will invite tenders for the work before Christmas, and hope to have it completed by the end of the summer.

“Almost three kilometres of road at Cable Bay is affected and needs remedial work, including new culverts and retaining structures,” says Simon. “Each site has had extensive geo-technical work and ground modelling. Tonkin and Taylor have worked with us to do design drawings for 28 areas, resulting in 186 drawings overall.

“We’ve included residents in this design process. We held a meeting at the end of September to share the drawings and get feedback. The next step will be working with

those affected to get the consents we need to complete the work. This means residents, the Department of Conservation, and local iwi.”

Simon says the work will include upsized drainage underneath the road to cater for larger volumes of stormwater, and retaining structures made of mesh wire boxes, timber, or concrete.

“There are 11 culverts, and 22 retaining structures planned at this stage.”

Remnant from WWII makes its last stand

The Gun Battery Observation Post, which has been under constant surveillance since the flood event, is to stay.

“Along with New Zealand Transport Agency, we have been monitoring the situation since the slips occurred,” says Shane Davies, Manager Rooding and Solid Waste. Following the floods, number 36 The Cliffs had to be evacuated - the Battery Observation Post is in the back of the section.

“NZTA advised us when things became really risky, and we stepped up the monitoring to include the “tell-tale” GPSs, which take measurements every day.”

Council has received independent advice on the cliffs, and recommendations on the future of the Post.

It was built by hand in 1943, by six men working 14 hour days. It weighs 60-80 tonne, which is one of the reasons it’s just not viable to move it, says Shane.

“We’re very pleased we’ll be able to retain this piece of heritage. We’ll work with NZTA on monitoring and to ensure that it is walled off against safety risks.”



NELSON MAIL



THANK YOU EVERYONE

Council wants to thank all the residents of Nelson/Tasman, especially those heavily affected by the flood event. It has not been an easy twelve months, with some residents still facing challenges and we appreciate your understanding and patience. We are looking forward to working together in 2013 to continue to make Nelson a better place.

