



# The Bulletin Kaikōura earthquake update

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## Daytime freight trains return

On Tuesday 9 October the first daytime freight train in almost two years returned on the Main North Line between Blenheim and Christchurch.

The 375m long and 796 tonnes train left Christchurch early in the morning and arrived in Picton mid-afternoon in a major milestone for KiwiRail and NCTIR. Work undertaken to get to this point has been extensive, including slope work, tunnel repairs and ongoing bridge work and the milestone bring rail services another step closer to the return of the Coastal Pacific in December.

‘For the last 13 months freight trains have been only

running at night to enable the extensive repairs along the coast to continue,’ says KiwiRail’s Acting Chief Executive David Gordon. ‘While there have been some work trains and other rail vehicles using the line during the day, we are conscious that many people who regularly use level crossings along the line may have become used to the lighter levels of rail activity and need to be aware of this change.’

Please help us spread the safety message: always expect trains at any time, from either direction. Always obey signals at level crossings and look both ways before crossing tracks.



## The Great Wall of Ōhau

Technically speaking it’s a bund - but not as we know it - hence Mike Reilly isn’t surprised the nicknames have already started. Mike is project managing the construction of a 515 metre ‘wall’ that will protect motorists and the rail line from falling debris and is placed between SH1 and a rock face just north of Ōhau Point. It is truly massive in scale. A protection wall this long is a rarity, not to mention a considerable engineering feat, hence it will be built in two parts. The southern section is 220 metres long and an imposing 5.4m high. The northern end is 300m long and 3.6m high. The two sections - north and south - are connected by a 20m earth bund and there’s also a 20m earth bund

at the southern toe. So it’s big, really big. And Mike has about six months to build it. Work has already started on the foundations. In the coming weeks it will rise out of the ground in 600mm layers which will be tied together with Terramesh, a commonly used material in rock face reinforced soil walls and embankments. The bund means the current method of protection - a half a kilometre long row of shipping containers - can be removed resulting in a highly visible example of the progress NCTIR is making on the restoration of transport networks. ‘We have become so used to the container wall it will be strange when it is gone. But in its place will be something truly impressive in size and scale and in its engineering.’

This Bulletin provides the latest information about the rebuild of road and rail networks damaged by the Kaikōura earthquake in November 2016. The Bulletin is produced by the North Canterbury Transport Infrastructure Recovery (NCTIR) - an alliance representing the NZ Transport Agency and KiwiRail, on behalf of Government. Please note the next edition of The Bulletin will be published on Wednesday, 24 October.







## Fish passage electrifying environmental work

This is the story of a culvert that resides under the Inland Road to Kaikōura. These waterways are where our native fish grow. The temporary culvert, of which there are many along the route, regularly undergo improvements which will enhance their ecological performance by creating better fish passage potential. How, you ask? That's the tricky bit. Culvert improvements require instream work that could potentially harm resident and migratory fish so a salvage operation is undertaken before improvement work starts. The photos to the right and below illustrate the moment of truth.

On the Electric Fishing Machine (EFM) is Greg Burrell, our intrepid new freshwater ecologist. His task as mission leader is to induce a current into the watercourse to promote the involuntary muscle movements of the target fish without causing undue harm to them (or his team members). The fish are collected and deposited to a safe part of the stream away from the works. The ecologists identify the species, measure, count, record and report the fish caught as part of our Ministry of Primary Industries permit requirements and monitoring programme. Other improvement work can include the placement of spat ropes within the temporary diversion road culverts and the construction of in stream pool and riffle steps. NCTIR's ecology team have saved or relocated over 3400 fish during the restoration of State Highway 1 and the Inland Road, many of them threatened and at risk species. Coastline and inland freshwater ecology has been a top priority during the repair works with fish recovery a routine occurrence on the NCTIR work programme.

Ryan Sutherland is a NCTIR Safety, Health & Environmental Advisor. He's also The Bulletin's latest correspondent. Ryan wrote this article which describes the great work he and the environmental team are doing to preserve the ecology and waterways along the Kaikōura coast.



Water works: The NCTIR team get their hands dirty finding fish at a culvert on the Inland Road. The team search waterways before culvert improvement work and relocate any fish found to ensure their safety.







## Signed, sealed and delivered

The finishing touches: State Highway 1 north of the new Inrongate bridge has had its first coat seal applied. The bitumen and road chip seal was constructed in late September. Senior Project Manager Peter Gibson said that the surfacing work was a success. It marked one of the final phases of reconstructing the highway on the site of slip 2.

## One small step towards the long task of selling the NCTIR Village in Kaikōura

The NZ Transport Agency has started the sale-by-tender process for the NCTIR Village and has called for registrations of interest from potential buyers. The full tender process will follow. But that doesn't mean the village will disappear any time soon.

NZTA earthquake recovery manager Colin Knaggs said: 'There's a lot of work to do before the village is officially wound down, and of course we still need a place for our team to stay in. The sales process is likely to take many months and by that time it is expected our worker numbers will be diminishing. When the village is disestablished we will need to find alternative accommodation for the remaining workers, which will include working with local Kaikōura accommodation providers in a continuation of our relationship with local business and social recovery organisations.'

When the Village is eventually sold, the site will be cleared and returned to its local owner. A second temporary Village located at the former Woodbank School in Clarence is being disestablished this November with many workers moving to the Kaikōura Village.

## How was your trip?

Win a \$50 prezzy card when you tell us about your journey on SH1 between Picton and Christchurch. There's one prize up for grabs each month.

[www.nzta.govt.nz/p2cjourney](http://www.nzta.govt.nz/p2cjourney)



## Subterranean splendour

Welcome to the equivalent of a backstage pass to a construction site. The photo was taken deep inside tunnel 16, a 123m long rail tunnel near Irongate. It depicts a construction method known as shotcrete which is being sprayed onto the walls of the tunnel between steel ribs, to reinforce the 262 rock anchors that were installed during stage one of the tunnel project. Underway now is stage two, a process which strengthens the existing concrete lining and improves tunnel resilience in the event of future seismic activity. 'This project faced many challenges,' says Tunnels Manager, Rafael Ballen. Site engineer Cassandre Gatineau added: 'The ribs were retrofitted into the concrete linings left buckled by the 2016 earthquake



and the team now needs to spray approximately 180 cubic metres of shotcrete. This work needs to be done within tight windows of time to fit around train movements. The team has made great progress, but there is still work to be done.'

## Have your say about speed limit changes

Following the Kaikōura earthquake, emergency speed limits were put in place for State Highway 1, north and south of Kaikōura. These limits expire in December this year, so the NZ Transport Agency is consulting on permanent safe and appropriate speed limits.

The proposals for consultation involve making the existing emergency 80 km/h along the northern coastal section a permanent speed restriction. To the south the proposal is to reduce the most demanding 10.4 km section through the Hundalees to 60 km/h and extend the existing emergency 80 km/h to include the curves south of the Conway Bridge. The current 80 km/h coastal section to the south is already a permanent speed restriction however the proposal includes extending this to include the entrance to the Peketa Beach Motor Camp.

Consultation is now open. You can find out how to have your say at:

[www.nzta.govt.nz/projects/sh1-picton-to-christchurch/proposed-speed-limits](http://www.nzta.govt.nz/projects/sh1-picton-to-christchurch/proposed-speed-limits)

## On the face of it



Valentina Piantoni and Mattia Belingheri make working at great heights look easy. The photo was taken and supplied by Nestori Virtanen

If you've noticed cliff-side abseilers working with an odd-looking piece of equipment and wondered what it was, wonder no more. Weighing in at 600kg, the large tripod is in fact a rock drill, and needs to be helicoptered into place due to its size. In this picture, the abseilers are working on slip 3 - just next door to Peketa - to drill up to six metres into the cliff face. A drill bit is attached to an epoxy-coated galvanised titan bar 40mm in diameter, so that the hole can be drilled and the bar inserted simultaneously. 300 bars like this have been inserted into the rock face at this site alone. Combined, the bolting and layers of mesh (also visible in the image) should stabilise the rock and prevent it from falling on passing traffic for at least 50 years. Handy!

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