# KAIKOURA EARTHQUAKE UPDATE

KAIKOURA EARTHQUAKE UPDATE – no. 22 23 June 2017

This weekly bulletin provides the latest information about the rebuild of road and rail networks damaged by the Kaikoura 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. We're keen to hear your questions about our work, or any feedback on this bulletin. Drop us a line via email at **info@nctir.com** or give us a call on **0800 NCTIREQ** (0800 628 4737) – we'd like to hear from you.

## FIVE OF THE LARGEST LANDSLIDES HAVE BEEN CLEARED


Slip 2 before


Slip 2 during


Slip 2 after

Five of the 10 large landslides that buried parts of State Highway 1 and the railway north of Kaikoura have now been cleared.

NCTIR's earthworks teams and trucks have been working around the clock to get that job done, completely removing giant slips that fell near Mangamaunu, Irongate Stream and Half Moon Bay during November's quake (sites 1 to 4).

Given the size of those landslides, it's estimated that the job of clearing the transport corridor north of Kaikoura is more than half done, and that about 70% of the total material from the fallen mountains has now been removed.

This impressive milestone is the result of a safe and coordinated approach to moving large numbers of workers, machinery and trucks within the narrow ribbon of land between cliffs and the sea. The good weather has helped too.

It has also required the patience and understanding of local residents, who have to put up with trucks moving around at all hours of the day and night.

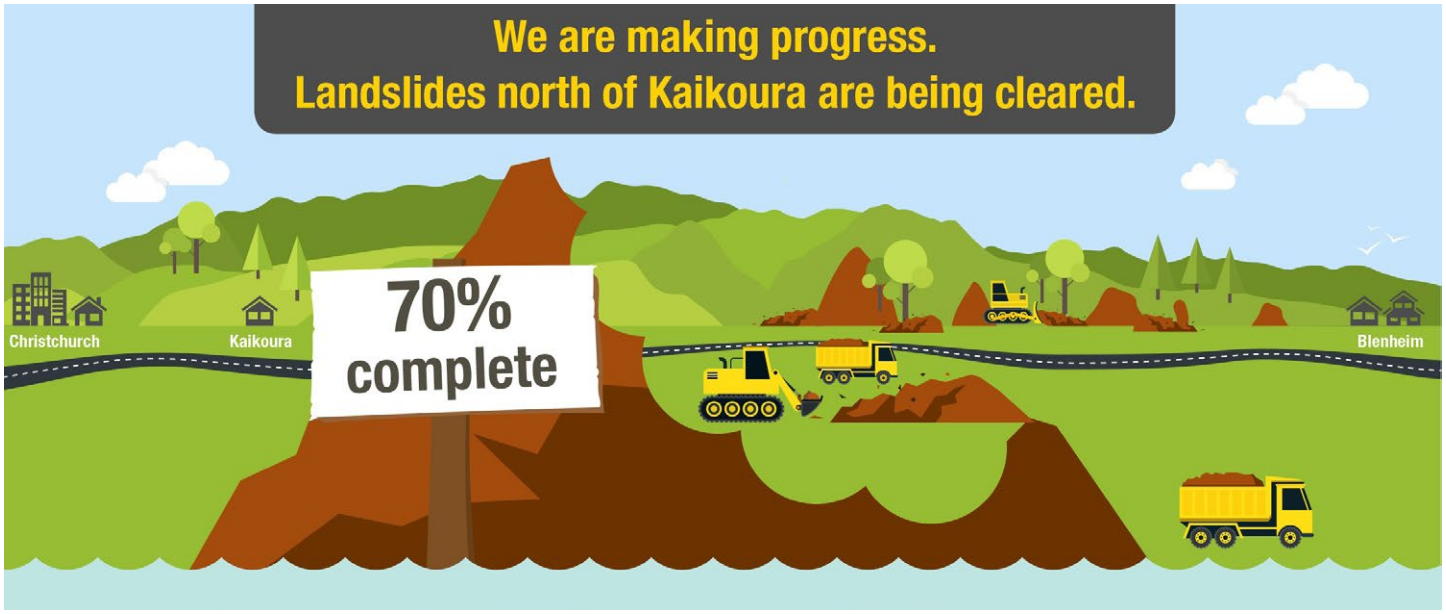
Reaching these targets is critical in our mission to reconnect the local communities affected by the earthquake, and to restore transport links to rest of New Zealand.

More earthworks teams and trucks are clearing landslides at Okiwi and Waipapa bays. All of these teams are working their way towards the 'monster' 300m-high slips that fell at Ohau Point and completely blocked the highway. (Currently, the only way past these landslides is by air or sea, although an access track is being formed).

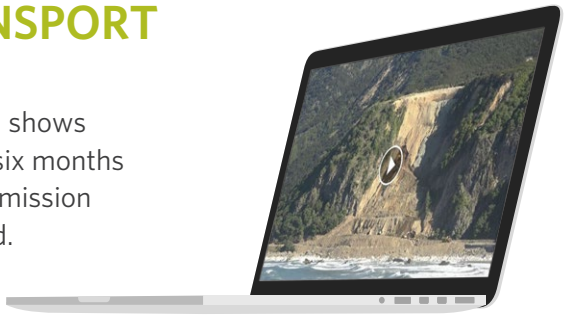
Once a landslide has been cleared, the road and rail realignment crews are able to move in. We are working towards re-opening the road by Christmas and the rail network as soon as safely possible.

The photos above show the 'before, during and after' stages of clearing the landslide at Site 2 near Irongate.

Thank-you to local residents for their support. This is by nature a dirty, dusty and sometimes noisy operation. Please contact us if our work is causing problems for you, as we are committed to resolving issues wherever possible.




## OUR MISSION IS TO REBUILD YOUR TRANSPORT SYSTEM



More than 70,000 people have already watched the NCTIR video which shows progress made by the team since it was established by the government six months ago. This video shows compelling footage that captures the scale of our mission and the challenges faced by the 1000-plus people working on the rebuild.
Please watch and share the video to show support for our crews.
You can find the video here: **tinyurl.com/eqrepairs**

## SIX MONTH MILESTONES

**by Project Director David Loe**

Six months ago NCTIR was established. It was tasked with restoring SH1 and the Main North Line railway, as well as managing, repairing and improving the roads people must travel over including Lewis Pass, or along the backcountry route to reach Kaikoura.

As a team, we have accomplished an incredible amount in the past six months, and we are celebrating some of those achievements this week.

One of these achievements was getting workers' accommodation villages up and running in Kaikoura and Clarence. We now have over a 1000 people working for us, responsible for a huge variety of tasks, and many need to be housed close to our construction sites.

I spent all of last week working out of Kaikoura: living at the village, meeting our crews, experiencing some of their daily routines including the night shift.

Our team on the ground are the driving force of the rebuild. I am continually struck by their commitment to their work and by their commitment to their fellow New Zealanders who have been affected by the earthquake.

They put in long hours, whether they are in the field or behind a desk. Many of them are away from their families. Sometimes they work in cold damp conditions. They are all determined to put their professional skills to good use.

Our safety record to date is hugely important to me. Although there is much work to do against deadlines, our team is working in seismic environment while building the transport network of the future. Our most crucial job as an organisation is to ensure every single person goes home to their family.

We look forward to keeping you up to date on this project.

# COLLABORATION IS THE KEY TO MOVING MOUNTAINS

The effort to clear the 300m-high landslide at Site 7, near Paparoa south, is a great example of collaboration between the different crews working on the ground.

About 60% of this giant landslide that completely buried SH1 and the railway has now been removed.

While the earthworks team continue work, construction teams have been able to move in to start building seawalls and the new transport corridor. This site is also an example of where the road and railway alignment is being moved gently seaward and away from the unstable cliffs; this design feature will make the transport corridor safer and more resilient into the future.

This week a hiab and crane were used to lift containers into place that will act as temporary rock fall protection for construction teams working below.

Two drainage crews have also started work installing two new concrete storm water culverts on the site of the old road. A rail platform will then be built above with ballast and track laid for the new rail line.

This work ties in with the other rail repairs that will make it possible for work trains to run along the full length of the corridor.

# WORKING ON THE RAILWAY: A LONG TRIP WITH A LONG LOAD

When the 1km-long work train reached Kaikoura two weeks ago, the question many people asked was, 'What was it carrying?' KiwiRail's more than happy to provide an answer.

Work Train 70 (pictured)consisted of:

- A front locomotive
- Six wagons carrying long lengths of rail track
- Each of those wagons also had a crane on board for lifting the rail track
- 12 wagons carrying new concrete sleepers to replace damaged or buried ones
- 12 ballast wagons (carrying the stone ballast which forms the bed of a railroad track)
- 1 plough van for spreading the ballast on the track
- 500m empty flat-decks
- A tamper – this is the regulator machine that clears ballast off the sleeper tops and more accurately places it. The tamper then lifts the sleepers and packs ballast around them
- A back locomotive

Tamper – photo credit Maurice Brown

Why two locomotives, and why so long? The 'locos' at each end of the train were used to push and then pull the train through the badly-damaged Tunnel 13, which is still under repair. This was done to remove any risk to the train drivers. The empty flat-decks were needed to make the train long enough to stick out of the ends Tunnel 13 and the adjacent Tunnel 12, so the drivers could transfer from the front to the rear of the train before pushing the train through the damaged tunnel.

## EXPECT TRAINS AT ANY TIME, FROM EITHER DIRECTION

- Stay off railway tracks
- Always slow down as you're approaching a level crossing, and be prepared to stop
- Look out for trains, and obey signs and signals


Work trains and hi-rail vehicles (trucks that go on rail tracks) are now operating between Blenheim and Clarence, and Christchurch and the Kaikoura area.

## ONLY 23 KM OF RAIL REPAIRS TO GO

With only 23km of rail repairs to reconnect for work trains and track machines to start working, crews working north of Kaikoura continue to make great progress reconnecting the rail line.

At Site 1 north of Mangamaunu, the coastal realignment team is laying track around the toes of the large landslides. By moving the rail line and road away from the fractured and broken hill face, the old SH1 will turn into a rock fall catch bench and the risk of future landslides impacting the road and rail line will be significantly reduced.

Further north in Half Moon Bay, a huge amount of material has been cleared, allowing rail crews to move in. Like an archaeological dig, the once-buried track has been re-exposed. Crews will carry out minor repairs to the track so work trains can get on to the job.

Continuing north, earthworks teams on Site 8 at Waipapa Bay have handed things over to the rail team who will soon be laying track for work trains to use. The landslide will continue to be cleared as this work takes place.

Finally, a major earthworks operation at The Pines is drawing to a close. The picture below show the transformation of the site as new ballast and track is laid so the work trains can continue south.

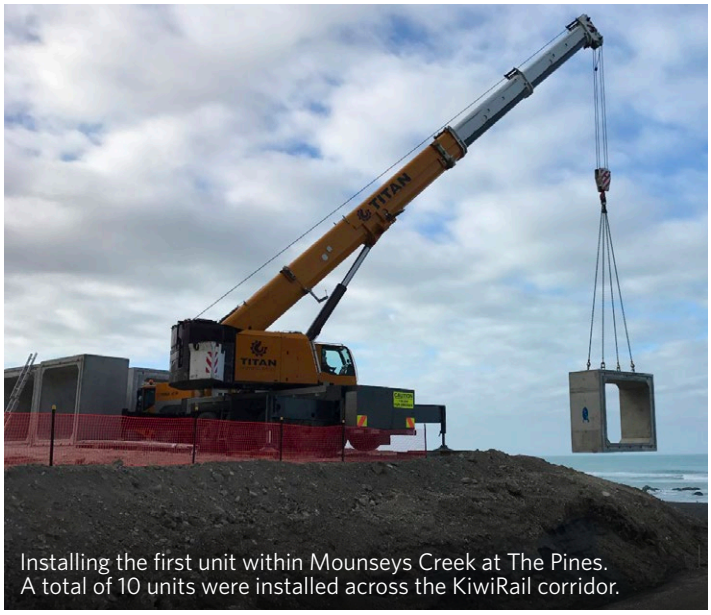
# PROGRESS ON IMPORTANT CULVERT WORK NEAR THE PINES

November's earthquake caused massive damage at Mounseys Creek at The Pines (see picture to the right). To make sure this creek is now able to flow into the ocean a new culvert was installed last weekend. This is a huge step forward in progress to open the Main North Line.

The following photos show progress on getting this job done.


The first large box culvert units delivered to The Pines site, just north of Waipapa Bay.


Off loading each unit, measuring 3m by 2.5m and weighing 17 tonnes each.




Installing the first unit within Mounseys Creek at The Pines. A total of 10 units were installed across the KiwiRail corridor.

Aerial taken on 16 June, during the operation.


The 10 units being installed.

# ON THE ROAD

## NEW WEATHER STATIONS HELPING TO KEEP ALTERNATE ROUTE OPEN

Newly-installed weather stations, like the one shown here through Lewis Pass, are providing valuable information for the 24/7 road crew that is working hard to keep the alternate Christchurch to Picton route open.

As the weather can change quickly, more localised information will mean our road crew can respond quicker and more effectively to keep the road open such as applying grit along the route.

Remember: Using snow chains on the alternate route is not an option this winter – quickly changing weather conditions make driving treacherous. To keep everyone safe, sections of this route (including the Lewis Pass) will either be 'open' or 'closed' over winter. Please still carry snow chains while travelling, as there could be other roads on your trip where they must be used.

## DON'T FORGET: THERE ARE NOW REGULAR CLOSURES ON SH1 SOUTH of KAIKOURA

State Highway 1 south of Kaikoura is now subject to a weekly schedule of closures as work continues to repair the highway.

Drivers should know that:

- The highway is open during daylight hours (7am – 6pm) on Fridays, Saturdays, Sundays and Mondays. Give yourself plenty of time to travel this route as delays are possible.
- The highway is closed on Tuesdays, Wednesdays and Thursdays.
- When the road is closed there will be morning and evening escorted convoys for residents living in affected areas. These convoys leave at 7am and 6pm.
- The Kaikoura Inland Road (Route 70) is open 100% of the time.

The closure schedule is expected to remain in place until the end of September.

## ROAD CLOSURE AND DETOUR AT WAIPARA NEXT WEEK

An upgrade to the Waipara rail crossing on State Highway 7 will temporarily close the road at the crossing, with traffic driving a short detour.

The closure is scheduled from around 4am on Monday 26 June until the end of that week. This is subject to favourable onsite and weather conditions; if necessary the closure would be extended.

Driving north - If you are driving on SH1 from Christchurch on the alternate Christchurch to Picton route drive past the Waipara turnoff and turn left on to Johnston St, and then back through Waipara to SH7.

Driving south – If you are driving along SH7 towards the SH1 turnoff, you'll be detoured through Waipara just before the railway crossing, and then via Johnston St on to SH1.

All drivers are asked to follow the signs, drive to the conditions and take care along the detour. (See map).

## OARO BRIDGE RESTORATION UNDERWAY

One of the most extreme examples of earthquake damage to SH1 is what happened to the Oaro road and rail bridge.

Work to repair and restore this vital piece of infrastructure is underway and staff are planning for traffic to be rolling across the bridge as soon as possible.

The restoration process will involve removing existing guard rails, clearing out the damaged sections of retaining walls and forming a suitable base to construct new retaining structures. This is a tricky, labour-intensive job that will include repairing and replacing wire baskets and excavating the road out approximately 2m behind the wall to place flexible reinforcing so the wall can be tied into the pavement. In short, it is not an easy fix.

## COME SEE US: NEW OFFICE ON SH1 AT PARNASSUS

A new NCTIR office is now open in Ferniehurst to get staff working in the region closer to the action. The centralised office is attached to the McKeown Parnassus 24/7 petrol station, and it will also serve as a drop in centre for locals and commuters to find out about progress on the project.

The new office will service projects on SH1 south of Kaikoura as well as those on the Inland Road (Route 70), the alternative route between Picton and Christchurch. It is 1.5hrs from Christchurch, 1hr from Kaikoura and 30 minutes to the Oaro, Hundalee and Waiau areas.


# EMPLOYMENT OPPORTUNITIES

The North Canterbury Transport Infrastructure Recovery alliance (NCTIR) is committed to hiring from within the local community where possible. Right now we are looking for a Kaikoura-based communications advisor and temporary traffic coordinator. Interested and suitably-qualified people can contact **movingmountains@nctir.com**

# KEEP UP-TO-DATE

How to contact us and keep up to date with our road and rail projects:

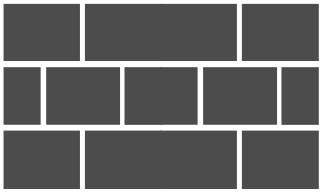
- Subscribe to our weekly bulletin by emailing **info@nctir.com**, with 'Bulletin' in the subject line.
- Visit our website: **www.nzta.govt.nz/kaikoura-earthquake-response/**
- Call our freephone: **0800 NCTIR EQ** (0800 628 4737)
- Email us if you have a question: **info@nctir.com**
- Attend a community meetings - keep an eye on your local newspapers for details.
- Follow us on Facebook, see: NZ Transport Agency – South Island **www.facebook.com/nztasouthisland/** and KiwiRail **www.facebook.com/kiwirailNewZealand/**
- For travel information about road conditions, see: **www.nzta.govt.nz/traffic/regions/11**

# The numbers

December 2016 - June 2017

**69** road bridges were earthquake affected – **2** require total replacement

**35,000** tonnes of concrete blocks



are needed to build the seawalls north of Kaikoura

NCTIR's workforce has grown to over **1000** people from more than **100** organisations

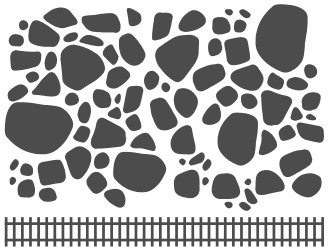
**$60m** investment to improve the alternate route between Christchurch and Picton making it safer for travellers

**200** seedlings have propagated from the seeds of **6 rare** Ohau Point Rock Daisy plants collected in April to re-establish the plant in its natural areas over time

Post-earthquake up to **4x** more vehicles use the alternate Christchurch to Picton route

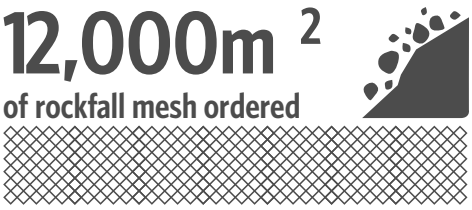
**4500** vehicles per day travel through Murchison

**50,000m$^3$** of ballast produced to repair the rail corridor



The new NCTIR Village in Kaikoura has capacity to house **300** people

**12,000m$^2$** of rockfall mesh ordered



New Zealand Government

NZ TRANSPORT AGENCY WAKA KOTAHI / KiwiRail

North Canterbury Transport Infrastructure Recovery