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# The Bulletin Kaikōura earthquake update



## MILESTONE IN THE SOUTH: PARITITAHU TUNNEL OPEN FOR THE FIRST TIME SINCE THE NOVEMBER 2016 EARTHQUAKE

Traffic was sent through the inland Parititahi tunnel on the Kaikōura coast on 5 July for the first time since the November 2016 earthquake.

The tunnel was completely buried by a landslide and the team has been working to repair it to the point where it is safe to use. Traffic is now using the inland tunnel enabling its seaward, twin tunnel to be repaired.

Both tunnels are also being widened to accommodate larger freight vehicles. This section of SH1 will continue to be one-lane and under traffic management, but completion of the inland tunnel is another step towards the full recovery of SH1.

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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.





## COMING HOME - THE ŌHAU ROCK DAISY STORY CONTINUES



Ōhau rock daisy

The outlook is looking brighter for the native Ōhau rock daisy on its earthquake-damaged Kaikōura coastal home with new plantings and new growth emerging. The Ōhau rock daisy only grows on the Ōhau Point coastal bluffs; but a landslide in the November 2016 Kaikōura earthquake hit its habitat hard. Department of Conservation (DOC) staff estimated only 80 to 100 plants remained and an estimated 95% of its habitat had been wiped out when they checked the plants by helicopter after the earthquake.

Seed from six surviving plants on the steep slope were collected by abseilers last year and taken to Titoki Nursery, near Nelson, where rock daisy seedlings were grown from the seeds to restore the population. Last month DOC staff planted 50 of the propagated rock daisy plants back on the Ōhau Point bluff home and abseilers another 12.



Simon Litchwark of DOC planting Ōhau rock daisy

DOC South Marlborough senior biodiversity ranger Jan Clayton-Greene said NCTIR staff had also reported seeing rock daisy plants on the bluff resprouting from stumps of damaged plants. 'The new plantings and regrowth give us hope of rebuilding the Ōhau rock daisy population but it is early days yet for knowing whether these rock daisies will survive. We will monitor them to determine how well they fare.

'The Ōhau rock daisy population was perilously at risk of extinction because of the sudden drop to such low numbers and in a location where further landslides might occur.

'We now want to get as many rock daisies growing there as we can as the more plants there are, the more seeds will be dispersed into the landscape to help the population recover quicker.'



Ryan Sutherland of NCTIR planting Ōhau rock daisy

'The Kaikōura abseiling teams were pleased to be involved in retrieving the daisy seeds and we hope to use the plants grown from them in new places around Ōhau Point,' says Tim Crow, the Transport Agency's earthquake recovery manager. 'It is great to not only retain this pre-earthquake uniqueness but give the daisy the best opportunity to thrive in its changed home.'

NCTIR plans to put 67 of the propagated rock daisy plants in amenity plantings along the rebuilt transport route at Ōhau Point and some seeds from these are also expected to blow onto the bluffs to create new growth. Another 36 of the propagated plants will remain at the nursery as an insurance population so Ōhau rock daisy plants continue to exist should there be a threat to the survival of those in their natural environment.



## PLANNED THREE DAY, DAYTIME CLOSURE FOR SH 1 NORTH OF KAIKŌURA - EARLY AUGUST

To stabilise a rockface north of Kaikōura at Ōhau Point, there will be a scheduled three-day, daytime closure from Monday, 6 August to Wednesday, 8 August. The section of State Highway 1 between Clarence and Mangamaunu will be closed each day between 8am and 4pm. During this time, any traffic travelling between Picton and Christchurch will need to use the alternate route via Lewis Pass and Murchison. The work involves drilling rock anchors into a 1000-tonne rock above the road to stabilise it, followed by grouting.

### WHERE TO FIND REAL-TIME INFORMATION?

- Call **0800 4 HIGHWAYS** (0800 44 44 49)
- Visit [www.nzta.govt.nz/p2c](http://www.nzta.govt.nz/p2c)
- Check [www.facebook.com/nztasouthisland/](https://www.facebook.com/nztasouthisland/)
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Tresca Forrester, network operations manager at the North Canterbury Transport Infrastructure Recovery (NCTIR) alliance, says this closure is essential to carry out work that can't be completed safely with vehicles travelling on the highway below. 'A closure is necessary as it's dangerous work happening right above the road; strict safety precautions must be put in place. The highway will be open outside these hours - 4pm to 8am each evening and overnight - unless there are any weather events or other reasons for overnight closures. We will keep road users well-informed with progress.'

State Highway 1 south of Kaikōura and the Inland Road via Waiiau and Mt Lyford (Route 70) will remain open. 'If bad weather is predicted before the planned closure, this work will be postponed to the following week. We will do everything we can to avoid SH1 and the Lewis Pass being closed at the same time,' Ms Forrester says.

'We understand that these day closures will have an impact on the community, the freight industry and all road users. We are all committed to getting this highway safely rebuilt and making the coastline safe and resilient for the future.'

### NEED TO KNOW

- SH1 north of Kaikōura daytime closure from 6 August to 8 August
- Closure between Clarence and Mangamaunu
- Closure times between 8am - 4pm daily
- SH1 south of Kaikōura and Inland Road (Route 70) will remain open
- Closure is subject to favourable weather



## FINDING OUT THE FACTS - ANSWERING YOUR QUESTIONS ON: ŌHAU POINT SAFE STOPPING AREA

Thanks for the great feedback we received at the NCTIR information evening on 28 June - our team is currently working through all the comments. This is the first in a series of myth busters on safe stopping areas along the Kaikōura coast. Please continue to give us your feedback. Most designs for the safe stopping areas are only at the draft concept stage (around 10% complete) and we're still working on them. For more information and to see concept designs go to: [www.nzta.govt.nz/kaikoura-earthquake-response/safety](http://www.nzta.govt.nz/kaikoura-earthquake-response/safety)

### CONCERN: There will be no access to the waterfall at Ōhau Point

The Ōhau Stream walk remains closed at this time and until further notice because it is unsafe due to earthquake damage. Public access is also currently restricted in this area due to the SH1 reconstruction work.

The Department of Conservation together with the owners of the private land that contains the waterfall pool is assessing the feasibility of repairing the earthquake damage and reinstating the track.

### CONCERN: There will be no access down to the sea at Ōhau Point

We heard strong views on access along the coastal corridor, and are currently investigating options on this matter, we will share information on this when we can.

### CONCERN: Work is about to start on Ōhau Point lookout

To ensure value for money we started on the base foundations as part of the seawall production but overall we are still in the design stage. We expect Ōhau Point to be the first safe stopping area completed - by October 2018.

Work on the other areas will also begin later in 2018 and will finish in late 2019.

### CONCERN: The sea wall is really high

To protect the new road and the people travelling on it from extreme coastal weather and earthquakes, the seawall at Ōhau Point is a maximum of 9 metres high (from foundation level).

Following the earthquake, many rebuild options were investigated for Ōhau Point such as building a bridge or a tunnel, or reinstating the former road.

Moving the road onto land the earthquake had pushed up, and protecting it with a seawall was chosen as the most balanced solution because it also included protection from further rockfall as well as being designed to be responsive to earthquakes and extreme coastal weather. Plus, we could re-open SH1 while construction was completed.





# TUNNEL SAFETY SHOTCRETING ACTIVITY

'Safety in tunnels is our number one priority,' says tunnels manager Rafael Sierra Ballen. Every member of the tunnels crew has to go through a Tunnel Operations Safety course before entering any tunnel worksite. And also 7146 US (unit standard) is required for anyone working at the Raramai and Parititahi road tunnels (for milling and shotcreting activities) to comply with the Mining Regulations Act.

Working in the tunnels requires the highest standards of safety and awareness. On approaching any tunnels site, your first stop is the sign-in kiosk. This is where you report your presence on site. Before signing in each person must be inducted and learn the site specific hazards as well as be informed of current works. They must also show evidence of having completed all required courses and training necessary before entering the site.

'NCTIR practice is to always know who is working in the tunnel,' says Rafael, 'so we also created a board where each crew member's name and number as well as visitor tags, are placed to show if they are in or out of the tunnel. It's a procedure to mitigate risk and have oversight on who is in the tunnel during any given time.'

After signing in and placing name tags in the correct position, work begins. In the Raramai north bound tunnels 4782 16mm diameter holes are being drilled through shotcrete and the rock, before placing the 16mm L bars and reinforcement mesh for the new concrete lining. This type of work requires further safety measures. 'Because of the dust that is created, we require full cover and masks be worn inside the tunnel. When we are drilling into shotcrete, the masks prevent us from breathing in airborne fibres', says Rafael. 'Working in the tunnels is a particular skill set that requires specific training and knowledge, but it is well worth the effort each time we get a job well done.'



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