

#### **Stakeholder Update**

Location: MS Teams
18 November 2020
14:00 – 15:00

# TRANSPORT SCOTLAND

#### **Presentation Summary**

- Overview of Recent Events
- Ongoing Works on Hillside
- Monitoring and Decision Making
- Landslide Comparisons
- Communications
- Next steps
- Q & A



Incident on 4 August 2020 (10,000 tonne event)





Incident on 4 August 2020





A83 carriageway inundated and undermined



Significant channel debris



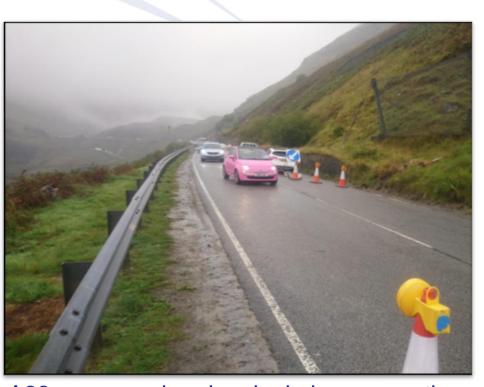
Construction of new retaining wall/culvert



Temporary pit and roadside mitigation

Landslide Recovery Effort – August 2020





A83 re-opened under single lane operation on 7 September.



Enhanced earthwork bund enhanced above Old Military Road.

Incident on 13 September 2020





Incident on 13 September 2020







- A83 inundated with material from newly formed Channel 3b.
- Safety barrier and pedestrian guardrail provided some retention.
- New retaining wall supporting A83 withstood landslide event.

Landslide Recovery Effort - September 2020







- Significant debris clearance undertaken.
- Limited remedial works required to road infrastructure assets.
- A83 re-opened under traffic signal control 24 September.

Channel 3b Mitigation – Watercourse Diversion





Machine helicoptered onto hill to return watercourse to original line.

20 & 21 October 2020 Rainfall Event







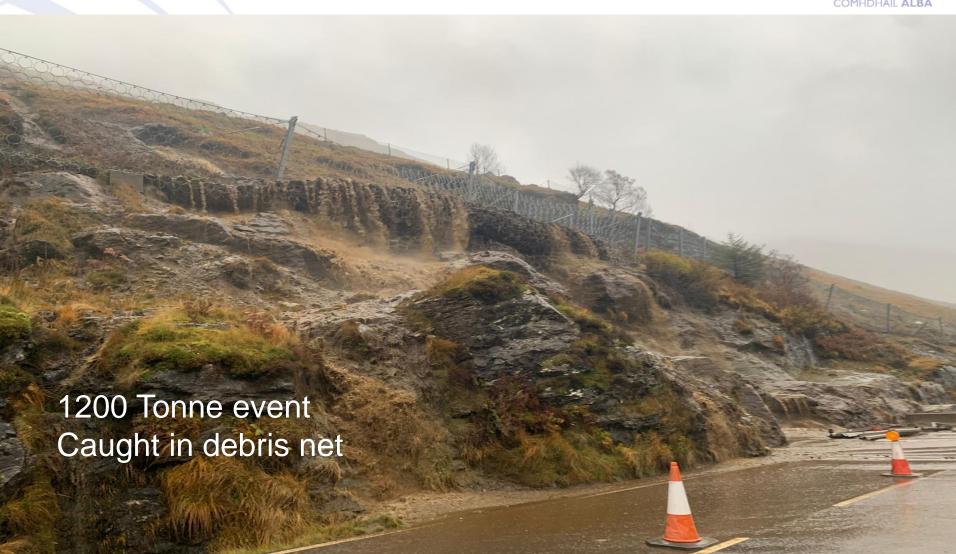
- Yellow weather warning issued for 20 and 21 October.
- OMR local diversion implemented 19 October as proactive measure.
- 86mm of rainfall experienced in 48 hour period.
- OMR closed midnight 21 October due to overtopping and erosion of slope below A83.
- OMR re-opened on 22 October following inspection and remedial action.



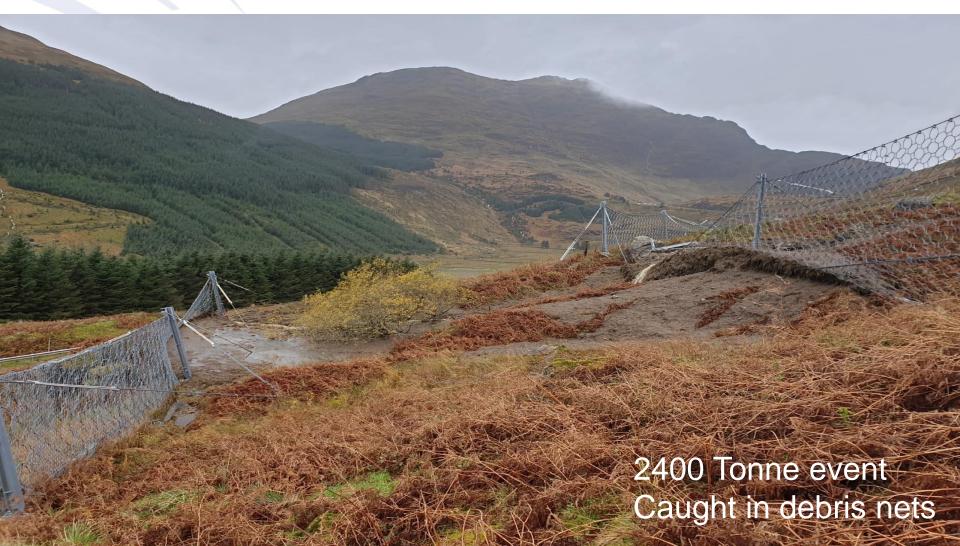


- OMR diversion implemented 30 October in response to Yellow weather warning.
- OMR closed 31 October (AM) due to landslip events and surface water flow.
- 106mm of rainfall experienced in 48 hour period.







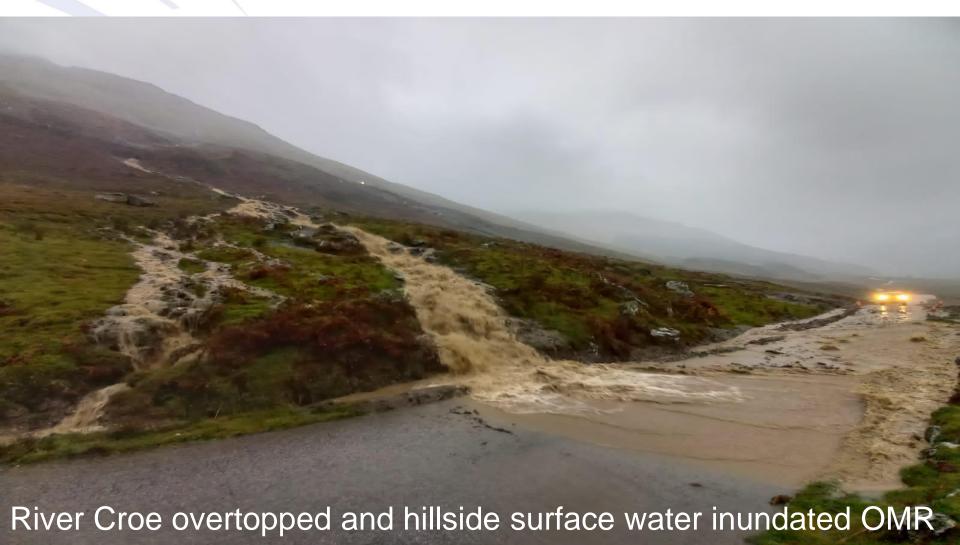






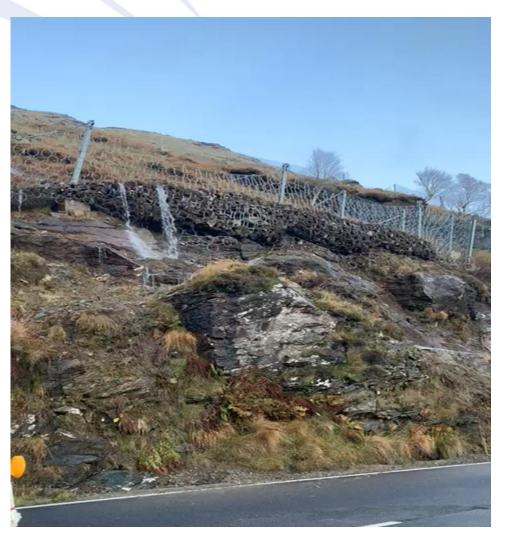






Landslide Recovery Effort - November 2020

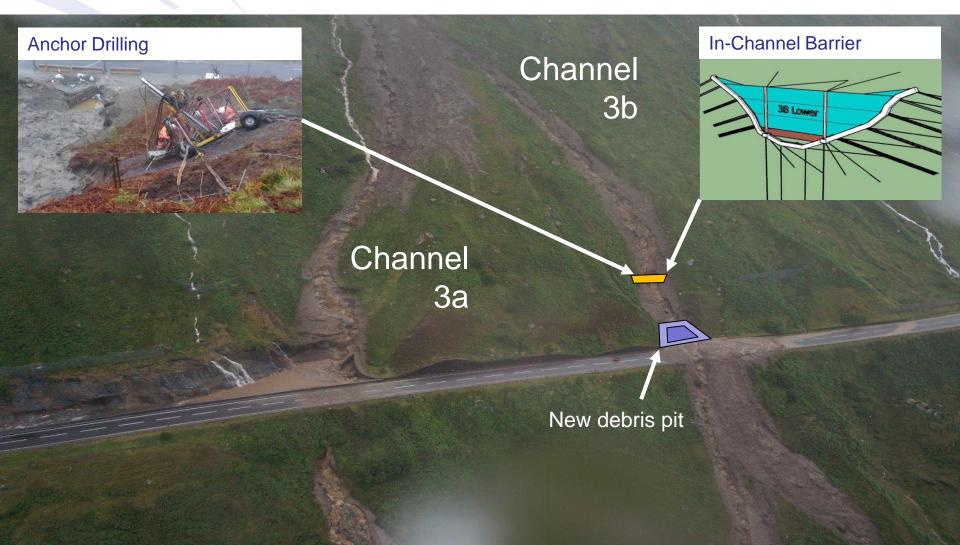




- OMR re-opened to traffic 2 November.
- Rock fall barriers emptied and debris clearance undertaken.
- Rockfall barrier repairs required for A83 to become operation.
- A83 readied for re-opening 16 November.

Further Mitigation Measures in Channel 3b





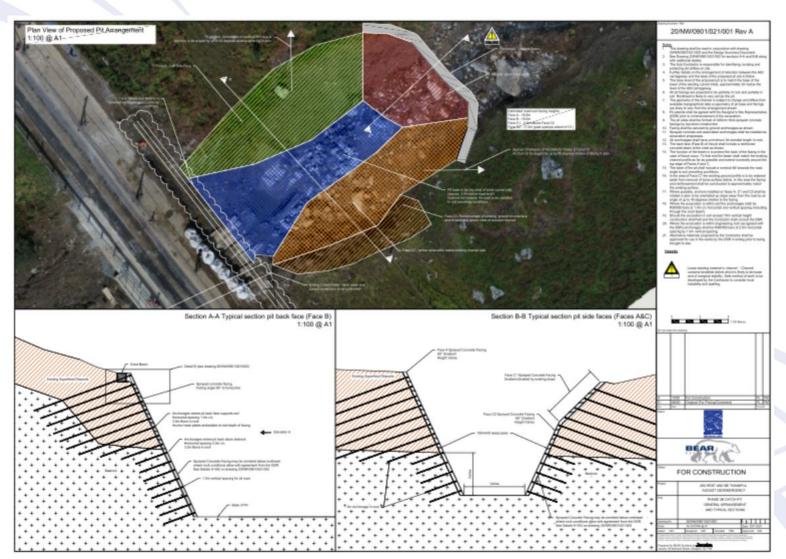
Further Mitigation Measures in Channel 3b





#### Further Mitigation Measures in Channel 3b





Monitoring





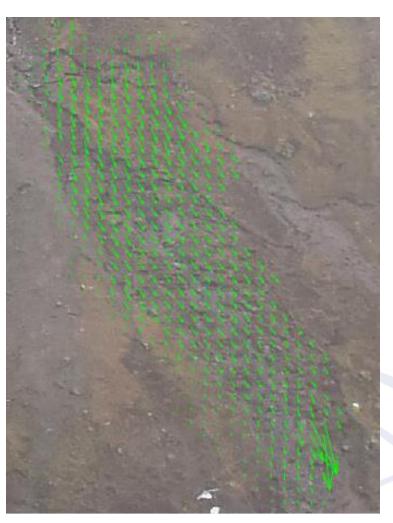
#### Monitoring



**Upper Slope above Channel 3b** 



**View from Channel 3b to upper slope** 



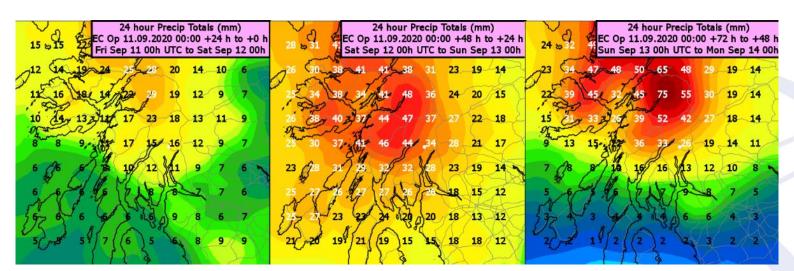
**Time-lapse Imagery - Movement Vectors** 



#### **Decision Making**



- Transport Scotland and BEAR Scotland engage on a daily basis.
- Expert advice taken from geotechnical and meteorological specialists, Police Scotland and Traffic Scotland.
- Inputs support pre-emptive planning/decision making for road operation.
- Two calls per day held when weather and on-site monitoring poses concern.
- The safety of road users and operatives is paramount in decision making.



#### Landslide Comparisons



#### 2020 Events

- 3 major landslides totalling 20,000 Tonnes of material.
- Considerable depth of soil present within Channel 3b.
- Channel 3b contains significant residual material.
- Saturation of scarred area maintained by wet weather.
- Slope degrading with continuing material movement.

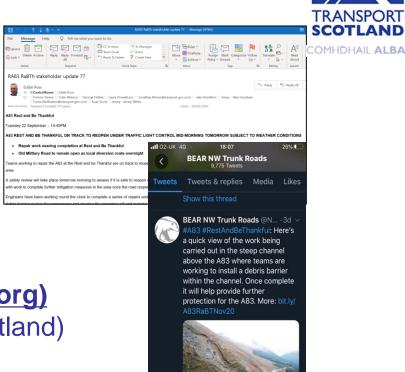
Risk to A83 and OMR generated by weather and hillside conditions.

#### **Pre-2020 Events**

- Maximum landslip event induced 2500 Tonnes of material.
- 2007 to Jan 2020 landslide cumulative total <10,000 Tonnes.</li>

#### Communications

- Stakeholder Updates
   Issued daily or as required
   (142 issued to 17 November 2020)
- Twitter Updates
   BEAR Scotland (@NWTrunkRoads)
- Traffic Scotland (www.trafficscotland.org)
   Website or app and Twitter (@traffic Scotland)
- Variable Message Signs
- Press releases, media including:
   Radio, TV, local & national newspapers
   (82 issued to 17 November 2020)



▼Traffic Scotland

#### **Next Steps**



- In-Channel 3b barrier (end Nov / early Dec subject to weather).
- Channel 3b catch-pit construction.
- Repair Channel 3a and 3b lower slopes above OMR (Spring 2021)
- Continue planned construction of Channel 1 catch-pit and debris fence.
- Ongoing monitoring of hillside conditions and mitigation.
- Investigate and design further mitigation works.
- Assess condition of the OMR and improve as required.
- Hillside tree planting Autumn 2021 (Deer fence Spring 2021).



## Thank you

Q & A







## TRANSPORT SCOTLAND

#### Glen Croe Forestry Commission Track





#### Glen Croe Forestry Commission Track







