



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA



A82 Corran Ferry to Fort William (Glen Righ) Landslides – Debrief Report

26 October 2014

Version History

Version	Date	Revision
0.1	18/12/14	Initial development.
0.2	20/04/15	Draft developed and finalised by Morag Mackay
1.0	28 May 2015	Final

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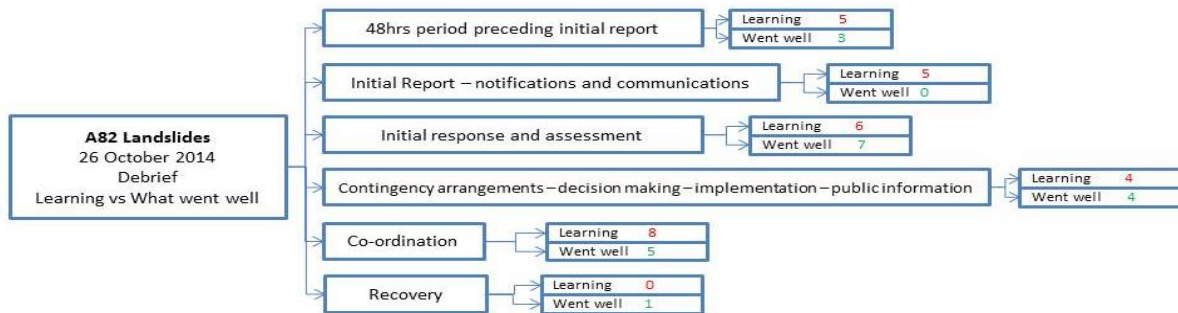
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1. Introduction

- 1.1. On Sunday 26th October 2014 the A82 Glasgow to Inverness trunk road was closed and a number of motorists trapped following three landslides in the vicinity of Glen Righ between Corran Ferry and Fort William. A number of responder agencies were involved in communicating the impact of the closure, establishing/operating diversion routes and undertaking recovery operations.
- 1.2. For any significant incident it is important to reflect on the response and implement learning into future practices and processes. Consequently it was agreed between BEAR Scotland and Transport Scotland (TS) to debrief this event and to open that opportunity to other key partners.
- 1.3. That includes identifying areas where there was scope for improvement, identifying and endorsing good practice, providing recommendations for someone / organisation performing the same role again and general observations. Twenty-two participants were invited to submit written comments by close of play Monday 10th November 2014. Ten returns were received.
- 1.4. The following report provides a combined representation of the ten returns. For easy reference each comment, recommendation, issue raised, is listed under the following headings:
 - 48hr period preceding the event.
 - Initial alert / notification and communications (first 10-minutes following the event).
 - Initial response and assessment (first 2-hours following the event).
 - Contingency arrangements / decision making / Implementation / public information.
 - Co-ordination of the response
 - Recovery.
- 1.5. The final section covers the key recommendations/actions. A full list of actions to be taken forward is included in Appendix B.

2. Executive Summary

The following diagram details the six key elements of the response on the 26/27 October and where reaction from participants are clustered relative to 'learning' and 'what went well'.



There was much that went well in respect of the initial response and assessment and coordination and many of the participants recognised the considerable effort and response operations to get the road opened as quickly as possible and in a safe manner. Commendations were received from Police Scotland for the collaborative working demonstrated between the Forestry Commission (FC) and BEAR Scotland to get the road open as quickly as possible whilst maintaining public safety.

The learning is generally spread evenly over all the headings with the exception of recovery where no comments were provided. Aspects of the response that were deemed to have the potential for improvement include but are not limited to; further development of FC working practices based on experience gained from this event, updating contact numbers for FC to include their 24hr duty officer, clarity of initial location of incidents and communications including improvement in public messaging on Vehicle Message Signs (VMS).

Overall the response operation was considered to have been undertaken well however improvement should still be sought in a number of areas identified by the debrief process.

3. Discussion of Points Raised

The following presents a summary of the main themes identified by the comments provided through debrief process. These comments are presented by firstly highlighting the good practice if noted, followed by areas where there it was considered there is scope for further improvement.

48 hr period preceding the event

- 3.1 The preparation/readiness including additional staffing and other resources undertaken by the Operating Company in advance of the severe weather event was noted as good practice.
- 3.2 The landslide event followed a period of severe wind and particularly heavy rain. This should potentially have triggered a higher level of response by agencies in advance. Individual agencies should therefore review their preparatory works ahead of such a weather event.
- 3.3 The Forestry Commission carried out some precautionary tree felling at the site on receipt of the severe wind forecast. Given there had been no previous incidents of felled trees being mobilised during rainfall events, these were left lying on the slope (to await extraction) as was their standard practice. Given the knowledge and experience gained from this landslide event, the Forestry Commission should review their current working practices, particularly in areas of steep ground above the Trunk Road Network, to minimise the risk of a similar event occurring elsewhere during future felling operations.

Initial Alert/notification

- 3.4 The Transport Scotland on call representative was not notified of the landslide event and only became aware of the incident whilst monitoring emails.
- 3.5 Although the Forestry Commission were notified and mobilised to site quickly, the speed of their initial response may have been improved had the Forestry Commission 24hr Duty Officer been contacted. It was also noted that contact with senior Forestry Commission staff was initially difficult. Initial notifications require to be reviewed to ensure that contact details are correct and clarification as to when individuals/agencies should be contacted.
- 3.6 Initial reports of the location of the sites that had been impacted by the landslide event were unclear as the situation developed at the various locations. It was difficult to locate the various sites along the A82 that had been impacted by this event from the information being made available from site as local references/place names were being used. GPS coordinates or a plan showing the sites should be made available at the earliest opportunity to minimise the risk of inaccurate or poor information being disseminated.

Initial Report and Assessment

- 3.7 The good working relationships between the Operating Company, Transport Scotland and the Forestry Commission established under the Forestry Commissions A82 project assisted in delivering excellent communication, collaboration and coordination between all parties during the event.
- 3.8 The Operating Company was able to supplement response resources from other parts of the North East and North West Trunk Road Units which assisted the response/recovery operation.
- 3.9 The information/reports received from Police Scotland in respect of road users being trapped between the individual road closures was initially unclear. It was also noted that the reports from the Operating Company did not include any reference to trapped road users until over 2 hours after the initial notification of the incident. This information is essential to allow Transport Scotland to brief their Minister as well as being able to prepare/respond effectively to media interest. Further awareness by all operational partners of the importance of communicating accurate and timely information on such issues as the above to Transport Scotland.
- 3.10 Although communication during the event between agencies was maintained this could be further improved in the event of any future incident. The communication procedures, for example the regular conference calls should ensure all agencies are involved negating the need for relaying of messages. This can be included in the future Landslide Management Plan being developed by the Operating Company.
- 3.11 Traffic Management in respect of implementing and managing road closures requires improvement. It was noted that some of the travelling public were able to bypass traffic controls and access the area on the A82 impacted by the landslide from the south during the initial clearance operations. Responsibility for implementing and management of road closures needs to be clear in any future events. This should be covered within the response section of the Landslide Management Plan being developed by the Operating Company.
- 3.12 The initial plant mobilised to site by the Operating Company was considered unsuitable for handling the slipped material, the required specialist plant being mobilised by the Forestry Commission. Although collaboration worked well between these agencies, a review should be undertaken by the Operating Company as to the decision making process in deployment of plant and resources, what equipment is available for immediate mobilisation and what sub-contractors are available should specialised equipment be required. Plant and resources could be considered for inclusion within the response section of the Landslide Management Plan being developed by the Operating Company.

Contingency Arrangements/Decision Making/Implementation/Public Information

3.13 It was commented that the information/communication procedures followed by the Operating Company during the recent closures of the A83 at the Rest and be Thankful are a good example of how the public should be continually informed and updated and these should continue to be replicated in response operations of this nature.

3.14 The speed of response by the Operating Company mobilising to site on notification of the event and subsequent resourcing of the response operations including the deployment of Senior Management on site from 07.00 on Monday 27th October ensuring speedy decision making on site and accurate reporting from site was noted as beneficial to the operations.

3.15 Once initial reports of the stranded motorists were made available, BEAR/Police Scotland continued to provide updates on the welfare and works to release these motorists.

3.16 There were a number of issues commented upon in respect of VMS signage on the day of the landslide event where further scope for improvement was noted. A review into the signage and timing of messages and the constraints of messaging on VMS is required to clarify where improvements can and should be made.

3.17 There were a number of issues commented upon in respect of VMS signage on the day of the landslide event. A review into the inaccuracies of the signage and timing of messages is required to clarify where improvements can and should be made.

3.18 It was noted that in standing up the Resilience Room in response to the severe weather event, it became difficult to keep the Transport Scotland On Call Officer up to speed/informed. A review of communication procedures in respect of the On Call Officer/Transport Scotland Resilience Room during such an event should be reviewed with consideration given to mobilising TS On Call Officer to the Resilience Room.

3.19 It was also noted that for an event of such a duration, it is foreseeable that the Transport Scotland On Call Officer will require to be rested however it was difficult to get a stand in. Consideration should be given to establishing a back up On Call Officer for foreseeable periods of network disruption. This should include a review of resourcing in Transport Scotland generally in advance of a severe weather event.

Coordination

3.20 Commendations were received from Police Scotland for the collaborative working demonstrated between the Forestry Commission and BEAR Scotland to get the road open as quickly as possible whilst maintaining public safety.

3.21 Communication between Forestry Commission and their geotechnical contractor, Georope was considered an area where further improvement could be made in respect of

working procedures to initially clear blocked culverts to improve surface water drainage. Clearing blocked culverts improves surface water drainage and therefore improves conditions on the slope.

3.22 With a number of agencies involved in the response and recovery operations clarity is required in respect of who is responsible for the management of safety of operatives on the site, and how safety awareness is communicated.

3.23 During the event it was difficult to arrange operational MART partners calls due to conflicting timelines and updates due to SGORR and Ministerial involvement. Consideration needs to be given as to how the scheduling of operational MART partners calls/SGORR/Ministerial updates can be improved in future.

3.24 It was also noted that the Forestry Commission were invited to one, but not to all the SGORR calls resulting in Transport Scotland having to seek updates from them through their Operating Company. As the Forestry Commission were integral in the response/recovery operations they should have been invited onto SGORR calls. Should any future similar events occur, consideration should be given as to whether the Forestry Commission should be represented on all SGORR calls.

Recovery

3.25 No comments were noted as having scope for improvement under the heading of Recovery.

Recommendations for someone / organisation performing the same role in the future

3.26 Confirmation that appropriate risk assessments are being carried out on an event by event basis in respect of the safety of operatives travelling to site during severe weather events.

3.27 Continue to implement good high level communication between Transport Scotland and the Forestry Commission. Equally as important is to continue with the operational communication between Transport Scotland Area Manager, FC Civil Engineers, Bear Scotland Depot Supervisors and local Police on a site by site basis.

3.28 The incident will serve as a good “case study” for the management of similar incidents in the future. The FC has considerable similar work to deliver along Loch Ness side so it will be crucially important that the effective working relationships established between BEAR, Police & Transport Scotland are mirrored for the northern section of the A82 and that lessons learned from this event are taken forward in the planning of future works.

Further Observations

3.29 Equipment to precisely identify the location of the incident and ability to communicate this directly to Traffic Scotland. A proposal for a dedicated Twitter feed was also noted.

3.30 The expectations in respect of resources available by the Operating Company to deal with this type of landslide (or tree fall) are unrealistically high given the contractual requirements i.e 24 hours for back up response. Some of the trees on steep ground require specialist plant which only the FC have.

4 Key Recommendations

The debrief exercise considered a number of elements of the response operation; the 48 hour period preceding initial response, the initial alert / notifications and communications (first 10-minutes), the initial response and assessment (first 2 hours), contingency arrangements / decision making / implementation / public information, co-ordination and recovery

A number of recommendations were identified across the different elements and these have been assigned to the appropriate partners. Appendix B details the full list of recommendations to be taken forward from the debrief exercise.

The exercise identified that the learning is generally spread over all the headings with the exception of recovery. The key recommendations reflect this and include:

- Create strong out of hour communication lines with the Forestry Commission throughout the North West Unit.
- Continue to establish good working relationships both at a high level but also at a local level between Transport Scotland, the Operating Company, Police Scotland and the Forestry Commission in the on-going steep ground felling project on the A82, potentially on a site by site basis.
- Use the experience and knowledge gained from this incident for planning future working practices and response operations. The Forestry Commission has a number of similar sites to deliver along the A82 so it is crucial to maintain and enhance further the effective working relationships giving each agency opportunity to constructively challenge each other with aim to minimise future risk to the trunk road network .
- Establish a method to obtain and transmit accurate location of incidents to Traffic Scotland.
- Communication procedures, for example the regular conference calls, should ensure all agencies are involved negating the need for relaying of messages.
- A review into the signage and timing of messages and the constraints of messaging on VMS is required to clarify where improvements can and should be made.

Appendix A – List of Responders to Debrief Questionnaire

Name	Organisation
Alex J Macleod	Forestry Commission
Seymour Macleod	Forestry Commission
Bob Mitchell	Transport Scotland
Kevin Campbell	BEAR Scotland
Stewart Maclean	A82 Partnership
Sarah Roberts	Transport Scotland
Graham Edmond	Transport Scotland
Morag Mackay	Transport Scotland
Chris Holt	Jacobs
Stewart Leggett	Transport Scotland

Appendix B – Action List

Ref	Action	Action Owner	Review Date
1	The Forestry Commission should review their current working practices particularly in areas of steep ground above the Trunk Road Network, to minimise the risk of a similar event occurring elsewhere during future felling operations.	Forestry Commission	June 2015
2	Ensure any visitors to site including the media are provided with a safety briefing and full Personal Protection Equipment appropriate to the site. All multimedia activity should be carried out at safe distance from site hazards.	BEAR Scotland, Forestry Commission	May 2015
3	Create strong out of hour communication lines with the Forestry Commission.	BEAR Scotland	May 2015
4	Communication procedures, for example the regular conference calls, should ensure all agencies are involved negating the need for relaying of messages.	TS/BEAR	Future Event
5	Establish a method to obtain and transmit accurate location of incidents to Traffic Scotland.	BEAR Scotland	May 2015
6	Confirmation that appropriate risk assessments are being carried out in respect of operatives travelling to site in respect of whether the journey should be postponed in the interests of driver safety. Some operatives/specialists may have to travel some distance on a network that may be being impacted by the on-going severe weather event.	All	July 2015
7	Continue to establish good working relationships both at a high level but also at a local level between Transport Scotland, the Operating Company, Police Scotland and the Forestry Commission in the on-going steep ground felling project on the A82, potentially on a site by site basis.	BEAR Scotland/TS	On-going
8	Use the experience and knowledge gained from this incident for planning future working practices and response operations. The Forestry Commission has a number of similar sites to deliver along the A82 so it is crucial to maintain and enhance further the effective working relationships giving each agency opportunity to constructively challenge each other with aim to minimise future risk to the trunk road network .	BEAR Scotland, Forestry Commission, TS and Police Scotland.	On-going
9	A review into the signage and timing of messages and the constraints of messaging on VMS is required to clarify where improvements can and should be made.	Traffic Scotland	July 2015
10	With a number of agencies involved in the response and recovery operations clarity is required in respect of who is responsible for the management of safety of operatives on the site, and how safety awareness is communicated.	TS/ BEAR Scotland/ Forestry Commission/Police Scotland.	June 2015
11	A review of resourcing in Transport Scotland generally in advance of a severe weather event to	TS	October 2015

	enable back up resources to be put in place for resting staff such as on call officer.		
12	A review of communication procedures in respect of the On Call Officer/ Transport Scotland Resilience Room during such an event should be reviewed with consideration given to mobilising TS On Call Officer to the Resilience Room.	TS	October 2015
13	Consideration needs to be given as to how the scheduling of operational MART partners calls/SGORR/Ministerial updates can be improved in future. Should any future similar events occur, consideration should be given as to whether the Forestry Commission should be represented on the SGORR call.	TS	October 2015
14	Individual agencies should review their preparatory works ahead of a severe weather event.	All	July 2015
15	Further awareness by all operational partners of the importance of communicating accurate and timely information on such issues as trapped road users and welfare issues to Transport Scotland to allow them to brief their Minister as well as being able to prepare/respond effectively to media interest.	All	June 2015
16	Responsibility for the implementation and management of road closures needs to be clear in any future events.	BEAR Scotland/Police Scotland	June 2015

Appendix C – List of Acronyms

FC	Forestry Commission
GPS	Global Positioning System
MART	Multi-Agency Response Team
NSR	Network Status Report
OC	Operating Company
PPE	Personal Protective Equipment
RBT	Rest and be Thankful (A83 location Argyll and Bute).
SG	Scottish Government
SGoRR	Scottish Government Resilience Room
TS	Transport Scotland
VMS	Variable Message Sign