

## **NORTH FORK CALAWAH MASS WASTING MODULE CAUSAL MECHANISM REPORT AND PRESCRIPTION**

**WAU:** North Fork Calawah (200315)

**Resource Sensitivity:** Mass Wasting Hazard #5, MWMU #5 – Small Sporadic Deep-Seated Landslides (Map K-2)

### **Landform Description:**

Two small, sporadic deep-seated landslides have been mapped as a MWMU. Both exist in fault gouge/breccia associated with the Calawah Thrust Fault. They are 1-5 acres in size and are moving slowly downhill as one or more simple slump blocks. One is a re-activated portion of a much larger relict deep-seated landslide; current activity pre-dates the most recent era of harvest and road construction. One was re-activated when road construction of a previously orphaned grade cut into the feature. Other, similar but smaller features that did not deliver and re-stabilized within 2 years are mapped as landslides in Map K-1 and were not added to the MWMU.

### **Situation Summary:**

This MWMU is unlikely to deliver sediment to the channel network; this coupled with the limited number and geographic extent of the MWMU causes it to have a low to moderate hazard from the perspective of aquatic organisms, channel geomorphology and water quality. Its primary hazard is that it is a safety issue for road builders. Management of the safety risk will also limit any potential watershed impacts.

### **Triggering Mechanisms:**

One of the mapped features, in Township 29 North, Range 11 West, Section 8, pre-existed the latest era of road construction and harvest (and, in fact, was protected from both). The other mapped feature, in Township 29 North, Range 12 West, Section 33, and the related, smaller features noted on Map K-1 are triggered when road construction or reconstruction undercuts a hillslope of unconsolidated fault gouge/breccia. Occurring as one or more simple blocks, these features usually stabilize after two winters. However, the eastern mapped feature has been active for a period of decades and the western mapped feature may be more persistent.

### **Rule Call for Management Response:**

Hazard: Moderate

Vulnerability: Moderate and High

Rule Call: Minimize and Prevent and Avoid

### **Additional Comments:**

These small, slow-moving features rotate off the cutslope and deposit on the road tread. The western of the mapped features has delivery potential, being co-incidental with an inner gorge, but only if it catastrophically fails. The eastern of the mapped features lies high on Bigler Mountain and generally lacks delivery potential. The smaller cutslope failures have not delivered, or have only indirectly delivered as a trickle of turbid ditch water down to the next stream crossing.

The overall hazard rating from the prospective of public resources is quite low. The real hazard is to road contractors, two of whom have sustained equipment damage as shallow failure has occurred on the front face of a newly activated block.

**Prescriptions:**

## Harvest Prescriptions:

If another small, sporadic deep-seated landslide is located in the WAU, a qualified expert will verify presence, delineate the feature, and provide documentation in the form of a letter to the WADNR which will be submitted with the adjacent FPA. No harvest is permitted on MWMU #5 if delivery to public resources is possible or a threat to public safety exists.

## Road Prescriptions:

Where MWMU #5 exists and delivery to public resources is possible or a threat to public safety exists, road construction shall avoid these sites.

**Justification for and Intent of Prescriptions:**

Where MWMU #5 is identified and road construction that undercuts the slope must occur, that proposal must be submitted as a Class IV-S forest practices application with a geotechnical report.

Where MWMU #5 is identified and harvest of some or all of the feature is proposed, that proposal must be submitted as a Class IV-S forest practices application with a geotechnical report.