# Memorandum

To: Forest & Fish Policy

From: Unstable Slopes Criteria TWIG

Date: May 27, 2015

Re: Problem statement and critical question for the Unstable Slope Criteria project

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Per the Lean pilot process, the Unstable Slope Criteria (Criteria) Technical Writing and Implementation Group (TWIG) is requesting Policy approval of the initial problem statement and critical research questions.

## Background

Washington Administrative Code (WAC) 222-16-050 defines four classes of Forest Practices Application (FPA). FPA class determines the administrative and review process and timeline for an application, including whether it goes through a State Environmental Policy Act (SEPA) review. WAC 222-16-050(1) defines "Class IV-special", which includes timber harvest or road construction, on rule-identified landforms (RIL) that have been field verified by the department and have the potential to deliver sediment or debris to a public resource or threaten public safety. Section 222-16-050(1)(d)(i) lists the five rule-identified landforms (RIL) and directs the reader to Section 16 of the board manual where the RIL and their criteria are described in detail.

The 2015 CMER Work Plan identifies the Unstable Slope Criteria Project as a lean pilot and states that the project will evaluate the degree to which the landforms described in the unstable slopes rules and board manual identify potentially unstable areas with a high probability of impacting public resources and public safety. The project was intended to evaluate the original Forests & Fish Report Schedule L-1 research topic: "Test the accuracy and lack of bias of the criteria for identifying unstable landforms in predicting areas with a high risk of instability." In a February 6, 2014 memo, the TFW Policy Committee (Policy) directed CMER to prioritize development and implementation of the project, and wrote that Policy was "particularly interested in the adequacy of the gradient, slope curvature, and probability of delivery criteria."

Current RIL definitions and criteria are based on landforms and processes that are inferred to yield relatively high landslide densities, are influenced by forest practices, and have the highest likelihood for sediment delivery and probable significant adverse impact. They were developed from field observations, regional research, and watershed analysis data collected from various sources and methods. Observations of storm-induced landslides that have occurred since the

current rules were implemented have shown that a sizable proportion of delivering hillslope landslides may originate from terrain that does not meet RIL criteria. Likewise, as highlighted by the SR 530 landslide which occurred on March 22, 2014, there are no explicit criteria for assessing delivery to public resources or risk to public safety.

## Problem Statement

It remains unclear whether the unstable slope criteria are "adequate" for identifying features potentially susceptible to slope instability from forest practices. This includes associated hazards as well as sites that should receive review by a Qualified Expert. If the unstable slopes criteria are not adequate, some potentially unstable slopes will not be identified or reviewed and the Forest Practices Rules will not have their intended effect.

## Critical question

Could modifications to the unstable slopes criteria result in more accurate and consistent identification of those landforms that are likely to have an adverse impact to public resources or public safety?

## Objectives

Per the lean process, the TWIG's first objective is to review the Best Available Science (BAS) and develop study design alternatives. CMER must approve the scientific merits of the BAS comparison, and then Policy must approve the alternative to be used.