

Regulatory History of Unstable Slopes in Forest Practices

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Agenda

- History of unstable slope rules
- Watershed Analysis
- Forests and Fish commitments
- FFR rules

History of unstable slope rules

- No unstable rules pre-1982, however, broad conditioning authority (potential or actual material damage to public resources)
- 1982 established Class IV Special trigger for roads, “construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas when conducted on excessively steep slopes or slide prone areas “ 222-16-050(e) and road construction and maintenance chapter “where feasible, do not locate roads on excessively steep or unstable slopes or known slide prone areas as determined by the department” 222-24-020(6).

History of unstable slopes rules(con't)

- 1983 flood in Northwest Region
- TFW agreement (negotiated 1986-7) – investment in technical expertise, better information – maps, ID rain-on-snow zones (triggers for some events), monitoring
- Support DNR conditioning, harvest on slide prone areas were Class 3 priority issue => IDteams
- Hired first regulatory geologist 1988
- Many other FPAs in western WA were reviewed for unstable slopes

History of unstable slope rules (con't)

- Soil scientist hired in 1990
- 1990 emergency rules
 - rain-on-snow
 - Harvesting on unstable slopes - Class IV special
 - No specific SEPA guidance on unstable slopes
- 1992 permanent rule (outcome of sustainable forestry roundtable), 1990 legislation
- Watershed analysis rule part of package

Watershed Analysis

- Team of hydrologists/soil scientists/geologists (10)
- Watershed analysis included mass-wasting module
 - Qualified scientists asked to delineate mass-wasting maps units
 - At first general mapping
 - Got more sophisticated, better delineation
 - Most WA's resulted in Rx's around 4 kinds of unstable slopes

Forests and Fish Commitments on Unstable Slopes (ESHB2091)

- Screen each application for risks associated with unstable slopes (forest practices on potential unstable slopes)
- Screening tools would be developed and made available to help with this
 - model for shallow rapid landslides
 - Deep-seated landslide inventory
 - Develop 10 meter digital elevation model (DEM) statewide to assist with modeling and water typing
 - Hazard zonation mapping
- DNR forester would verify whether an unstable landform was present & had potential to deliver

FFR commitments (con't)

- Foresters (both DNR and others) would be trained to recognize unstable slopes
- Unstable slopes to be recognized were:
 - Inner gorges, convergent headwalls & bedrock hollows steeper than 70%
 - Toes of deep-seated landslides with slopes > 65%
 - Groundwater recharge areas for glacial deep-seated landslides
 - Outer edge of meanders of an unconfined meandering stream or CMZ (channel migration zone)
 - catch all category (indicators of instability)
- Look to see if other regional landforms that should be included

FFR commitments (con't)

- Landowners are required to show unstable landforms on FPAs
- Landowners were encouraged to voluntarily provide a geology report on risks up front
- And where the potentially unstable slope has the potential to deliver sediment or debris to a public resource or to threaten public safety .
 - Concerns about public safety stemming from 1983, snow avalanche slopes, forest practices on unstable slopes above developed areas.

FFR commitments (con't)

- Specific SEPA guidance – geology report
 - What forest practices proposed on potentially unstable slopes
 - Is it likely to increase potential for failure
 - if the slope failed had the potential to deliver to public resource or threaten public safety
 - Mitigation for identified risks
 - SEPA checklist
- Develop board manual for use by qualified experts in making SEPA assessments with respect to potentially unstable slopes.

FFR Commitments (con't)

- SEPA guidance meant to:
 - Provide assistance to DNR on how to review a completed proposal with goal of:
 - Keeping mass-wasting that delivers to public resources or threatens public safety at near natural rates and make the required threshold determination.
- **DNR reviews application with qualified expert and determines whether the proposed forest practice is likely to increase the probability of a failure that would deliver then it is likely to cause significant adverse impacts. If so, then EIS.**

FFR rules on unstable slopes

- Class IV special rule refined to include specific landforms and snow avalanche slopes (222-16-050(d & e))
- SEPA guidance added (222-10-030)
- Shallow rapid landslide screen completed
- Deep-seated inventory completed based on known mapping to date
- Hazard zonation mapping began, but not completed due to budget cuts (3-4 years work may still be needed)

FFR rules (con't)

- Inner gorges, convergent headwalls, bedrock hollows, deep-seated landslides, groundwater recharge areas for glacial deep-seated landslides and threaten public safety was defined (222-16-010)
- Forest Practices Board Manual was adopted (16)
- Regional features were explored
- Training occurred for foresters
- Qualified experts were defined (222-10-030)

Performance Targets

- Schedule L-1 “No increase in sediment over natural background rates”
- CMER Work Plan – “prevent forest practices from increasing or accelerating mass wasting beyond naturally occurring rates”

Questions?