

PRELIMINARY ECONOMIC ANALYSIS

Forest Practices Board

Rule Making Affecting Watershed Analysis

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January 28, 2011

OBJECTIVES

The Forest Practices Board is considering changes to the Forest Practices rule, Title 222 WAC, as it relates to watershed analysis.

The proposed rule change implements RCW 76.09.040 which states, “Where necessary to accomplish the purposes and policies stated in RCW 76.09.010 . . . the board shall adopt forest practices rules . . . that . . . establish minimum standards for forest practices . . . (and) . . . allow for the development of watershed analyses.” Among the purposes and policies stated in chapter 76.09 RCW is “. . . that it is in the public interest for public and private commercial forest lands to be managed consistent with sound policies of natural resource protection . . .”

The intent of the proposed rule change is to ensure that timber harvest and road construction¹ within watershed administrative units (WAUs) with approved watershed analyses is conducted with all the public resource protections (i.e., water, fish, wildlife, and capital improvements) afforded in chapter 76.09 RCW and Title 222 WAC and to ensure that forest practice activities do not increase the risk, frequency, and severity of landslides. The proposal is the result of the Board’s reconsideration of the continued use of watershed analysis mass wasting prescriptions as a Class IV-special exemption.

CONTEXT—WATERSHED ANALYSIS

Watershed Analysis Rule

The Forest Practices Board (Board) adopted the watershed analysis rules, chapter 222-22 WAC, in 1992. The required steps and technical requirements for watershed analysis resource assessments and developing prescriptions and management strategies are found in WACs 222-22-050 through -070 and Board Manual section 11, “Standard Methodology for Conducting Watershed Analysis”. WAC 222-22-080 and -090 describe the approval process and the use and review of watershed analysis, respectively.

Watershed analysis uses “modules” to examine mass wasting (landslides), surface erosion, hydrologic change, riparian function, stream channel, fish habitat, water quality, water supply, public works, and cultural resources. The individual module assessments are used to identify the

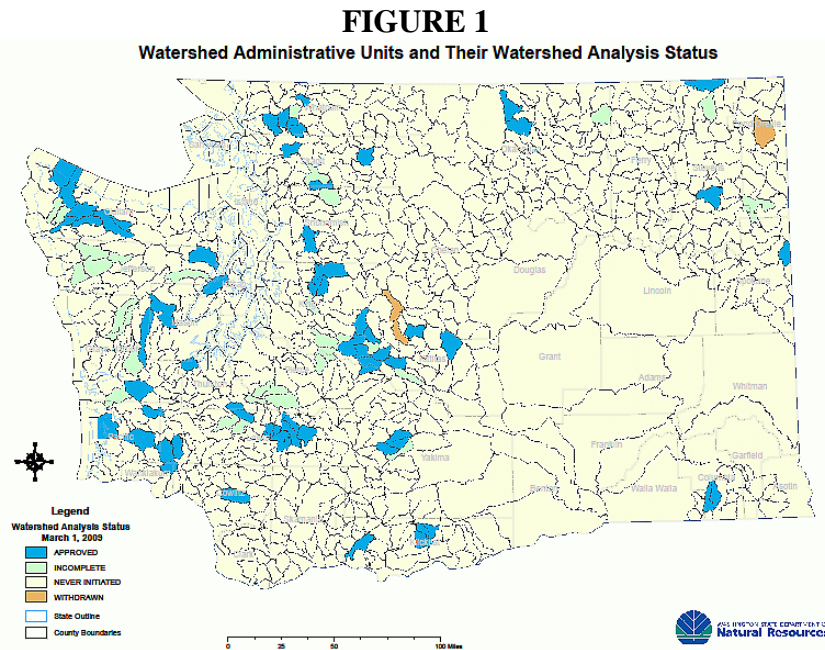
¹ The term “timber harvest and road construction” is used throughout this document as a shortened reference to the forest practices listed in WAC 222-16-050(1)(d): “. . . timber harvest or construction of roads, landings, gravel pits, rock quarries, or spoil disposal areas.”

cause-and-effect relationships between potential hazards and vulnerable resources to locate areas of resource sensitivity. Prescriptions are written for each of the areas of resource sensitivity to address the types of forest practices that have a potential to impact vulnerable resources. Landowners' forest practices applications that implement the prescriptions are SEPA-exempt for the issue covered by the prescription.

Existing Watershed Analyses

Watershed analysis (WSA) is performed on Watershed Administrative Units (WAUs), which are physical drainage basin areas defined by hydrology and geomorphology. WAUs range in size from about 10,000 to 50,000 acres. Of the 825 WAUs delineated in Washington, 754 are forested.

There are 52 approved watershed analyses, encompassing 68 WAUs, scattered throughout the state (shown in blue on **Figure 1**), which is nine percent of the 754 forested WAUs in Washington. Most of the WSAs were approved from 1993 to 2000, with four approved after 2000. An additional 22 watershed analyses, encompassing 32 WAUs, were initiated but not completed (shown in green on **Figure 1**).



Watershed analyses can be sponsored by any landowner or group of landowners that owns at least ten percent of the land in the WAU. Original sponsors of the 52 approved watershed analyses were DNR Regulatory (Forest Practices), DNR State Lands, and ten private timber companies.

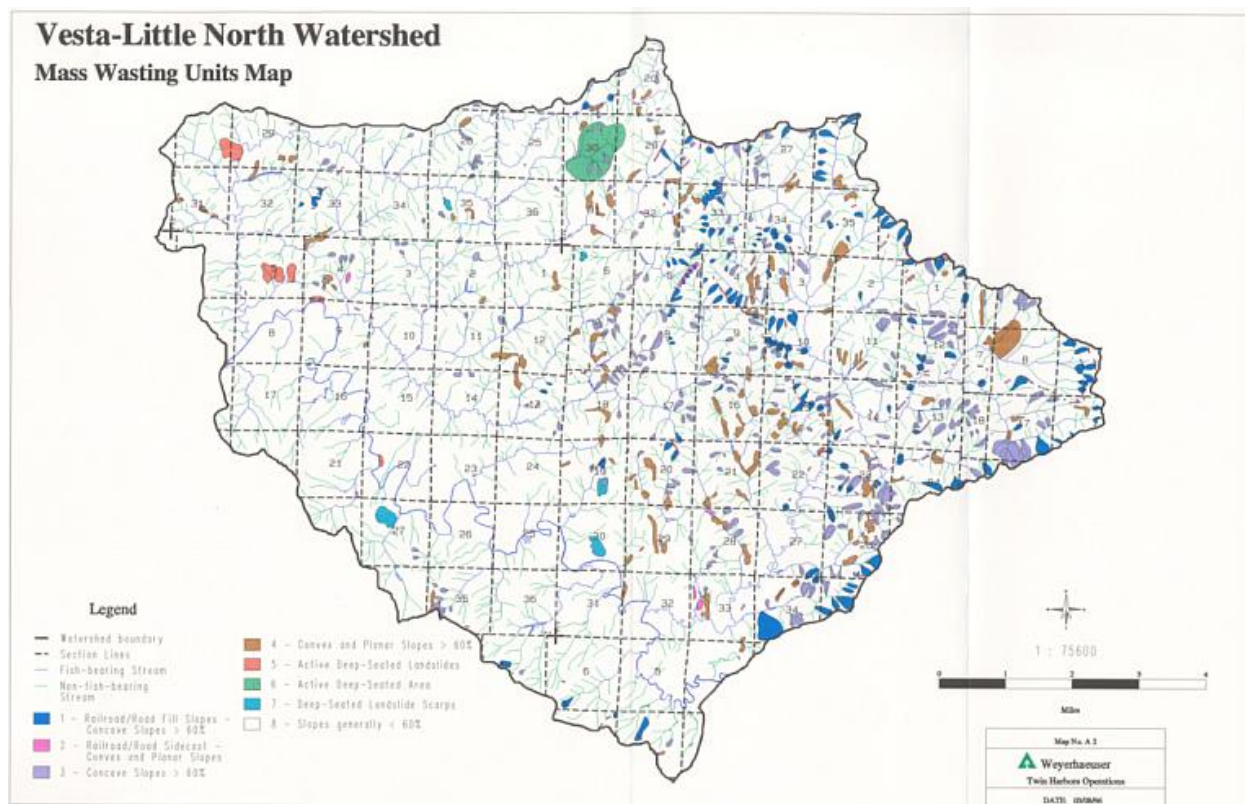
CONTEXT—MASS WASTING IN FOREST PRACTICES RULES

Mass Wasting Prescriptions in Watershed Analysis

Mass Wasting Map Units (MWMUs) are referred to in this document in the sections addressing cost analysis and small business impact analysis. MWMUs are groupings of unstable slopes and landforms identified during the watershed analysis process. They are based on the frequency of landslides and their relation to landforms, topography, slope gradient, geologic units and structures, slope hydrology, and natural vegetation types. **Figure 2** is an example of a map showing MWMUs in a watershed from an approved watershed analysis.

FIGURE 2

Example of Map Showing Mass Wasting Mapping Units in Approved Watershed Analysis



Prescriptions may be developed both for timber harvest and road construction within each MWMU in the WSA. The prescriptions may be “specific” or “non-specific”. Forest practices applications that are conducted in accordance with an approved prescription that is “specific to the site or situation” will not be classified Class IV-special for the issue covered by the prescription. *WAC 222-16-050(1)(d)(iii)*. From a cursory review of summary information about the

mass wasting prescriptions in the approved watershed analyses, it is estimated that about one-half are “specific”.

Mass Wasting in “Standard” Forest Practices Rules

Outside of the WAUs with approved WSAs, the “standard” forest practices rules pertaining to timber harvest and road construction on potentially unstable slopes and landforms apply.² WAC 222-16-050 (1)(d). The rules were established in the 1999 Forests and Fish law and were based on the experience gained through the development of mass wasting prescriptions and MWMUs in the various approved WSAs, which revealed common physical characteristics associated with slope failure on forest lands.

Under the standard rules, forest practices applications to conduct timber harvest or road construction activities on these landforms may be classified as Class IV-special if DNR determines there is a potential for delivery of sediment or debris to a public resource, or the potential to threaten public safety. The applications that are classified as Class IV-special are subject to SEPA analysis. The SEPA analysis must include a report prepared by a qualified expert to describe the likelihood of delivery of sediment or debris to any public resource or in a manner that would threaten public safety and describe any possible mitigation for identified hazards and risks. WAC 222-10-030.

Board Response to Recent Mass Wasting Events

After recent intense storm events that caused extensive landslides in some areas of the state, the Board became concerned about whether the rules related to mass wasting watershed analysis prescriptions are adequate for the protection of public resources.

The Board identified two issues needing to be addressed related to watershed analysis:

1. WAC 222-22-090 places the onus on DNR to perform watershed analysis reviews. Entities with interest in maintaining watershed analysis mass wasting prescriptions should be responsible for committing sufficient resources to the review process and keeping watershed analysis prescriptions current . . .
2. WAC 222-22-090 does not explicitly provide DNR authority to withdraw prescriptions if reviews are not completed, or supplement prescriptions if necessary, prior to and during a review.³

The Board requested that the Adaptive Management Program (AMP) address these issues and make recommendations to:

- Reinforce the concept that watershed analyses need to be kept up-to-date;

² The term “standard rules” is used throughout this document as a shortened reference for the forest practices rules applicable to timber harvest or construction of roads, landings, gravel pits, rock quarries, or spoil disposal areas that are proposed on potentially unstable slopes or landforms described in WAC 222-16-050(1)(d).

³ Memorandum, Peter Goldmark, Forest Practices Board Chair, to Jim Hotvedt, Adaptive Management Program Administrator, dated April 23, 2010.

- Specify that entities with interest in maintaining mass wasting prescriptions in watershed analysis should be responsible for committing sufficient resources to the review process and keeping watershed analysis prescriptions current, in addition to the available resources provided by the DNR to administer the review process;
- Determine how to address watershed analysis reviews where resources are insufficient to conduct the review;
- Give DNR the authority to supplement mass wasting prescriptions, if necessary, prior to and during the review process with the regulatory process that is utilized in watersheds not subject to watershed analysis; and
- Give DNR the authority to withdraw mass wasting prescriptions within WAUs in which the required reviews have not been completed within a specific timeline after initiation.⁴

PROPOSED RULE

The proposed rule language modifies the review process to ensure that reviews and updates occur and are paid for by those who elect to continue to use this process to protect resources. The AMP recommended rule changes to the Board at its November 2010 meeting. The changes are concentrated in WAC 222-22-090, “Use and Review of Watershed Analysis”. Those pertinent to this economic analysis are as follows:

- The department is required to review the prescriptions from approved watershed analyses every five years, determine whether a reanalysis is necessary, and determine which modules and prescriptions are required to be included in the reanalysis. *WAC 222-22-090 (4) and (6)*. The term “reanalysis” is introduced; it is the process that takes place to evaluate the effectiveness of WSA prescriptions.
- If the department determines reanalysis is necessary, the landowner(s) interested in maintaining those prescriptions are responsible for committing sufficient resources to complete the reanalysis for the WAU, including hiring the professionals required to conduct the assessments. *WAC 222-22-090 (5)*.
- Reanalysis of mass wasting prescriptions requires a “qualified expert” as defined in current rule. *WAC 222-10-030 (5)*.
- If no landowners choose to participate in the reanalysis, or if the timeline set for completion of the reanalysis is not met, the department may rescind the prescriptions. *WAC 222-22-090 (7)(d)(ii)*.

IMPACT OF PROPOSED RULE CHANGE ON EXISTING WATERSHED ANALYSES

The main impact of the rule proposal is on private forest landowners in the 52 approved watershed analyses and is caused by the requirement that DNR conduct reviews of all approved watershed analyses to determine whether reanalysis is necessary. If DNR determines reanalysis is necessary, the eligible sponsors will need to decide whether they want to incur the costs of

⁴ Ibid.

conducting a reanalysis to retain the mass wasting prescriptions or opt out of the WSA mass wasting prescriptions. The impact on other landowners in the WAU will depend on the sponsors' decisions. This is described and analyzed in more detail in the cost-benefit analysis.

It is important to note that the proposed rules were written to be broad enough to cover the need for reanalysis of all of the watershed analysis prescriptions (not just mass wasting). However, the impetus for the proposed rule change is to make sure that the mass wasting prescriptions are up-to-date and it is the Board's intent that DNR's focus at this time should only be on determining the need for reanalysis on mass wasting modules, not any of the others. Also, DNR foresees a need to require reanalysis for only the mass wasting prescriptions in the near-term. This analysis, therefore, will consider the impact on landowners who currently use WSA mass wasting prescriptions and whose situation in that regard may change if the rule is adopted.

It is already known that 19 of the 52 watershed analyses will not be undergoing reanalysis. DNR is the sponsor of those 19 and has determined it will not sponsor reanalyses of mass wasting prescriptions. See **Figure 3**.

FIGURE 3
Summary of Reanalysis Intent on Approved Watershed Analyses

	Maintain Mass Wasting Prescriptions			Relinquish Mass Wasting Prescriptions	To Be Determined	TOTAL
	Meets Reanalysis Requirement	Reanalysis Not Likely Required	Expected to Conduct Reanalysis	Expected to Opt Out of WSA-- No Reanalysis		
DNR Regulatory (Forest Practices)				14		14
DNR State Lands				5		5
Timber Company w/HCP Requirement	7					7
Other Timber Companies		3		5	18	26
TOTAL	7	3	0	24	18	52

The sponsor of seven of the 52 watershed analyses is a timber company whose habitat conservation plan (HCP) with the federal services⁵ requires that it perform five year reviews of the prescriptions in these seven watershed analyses. This company has been reviewing the prescriptions and has a schedule in place for five-year reviews. This sponsor is meeting the requirement for reanalysis by its ongoing efforts to meet its HCP obligations. The rule proposal, therefore, will have no direct impact on these seven watershed analyses.

The timber company sponsors of the remaining 26 watershed analyses may or may not decide to undertake reanalysis. However, DNR has projected that it will likely not require reanalysis for

⁵ "Federal services" means the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA), which review and approve habitat conservation plans (HCPs) under the federal Endangered Species Act.

mass wasting prescriptions on three of these WSAs based on their relatively lower number of annual landslides per square mile as interpreted from historical aerial photo records.

We can project further that five of the 23 remaining watershed analyses are very unlikely to undergo reanalysis. DNR Forest Practices staff informally polled WSA sponsors about whether they would conduct reanalysis if DNR determined it was necessary. The sponsors of these five watershed analyses said they would not. The sponsors of the remaining 18 watershed analyses did not respond, presumably because they are waiting to see the final rule before making a decision. None of the timber companies said that they were interested in conducting reanalysis in order to maintain the WSA mass wasting prescriptions.

In summary, of the 52 approved watershed analyses, it is assumed that the sponsors of 24 will not conduct a reanalysis (19 DNR and five no interest), the sponsor of seven would be considered to be already meeting the requirement for reanalysis by its ongoing HCP obligations, DNR will not require reanalysis on three, and the sponsors of the remaining 18 have not indicated their intent.

COST-BENEFIT ANALYSIS

According to the Administrative Procedure Act (RCW 34.05.328), before adopting rules, agencies must complete a cost-benefit analysis to:

- Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented; and
- Determine, after considering alternative versions of the rule, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives of the statute that the rule implements.

Benefits

The expected benefit of the rule proposal is the added assurance that WSA mass wasting prescriptions are as protective of public resources as the standard rules. The proposal is intended to ensure the approved WSAs are kept up-to-date so that any resource risk associated with mass wasting prescriptions are avoided or minimized to the greatest extent possible. This is what the standard rules are intended to do, and it is what all mass wasting prescriptions should do. The expected result is that any timber harvest or road construction activity will not increase the risk of mass wasting events beyond natural rates of occurrence, regardless of whether the activity is regulated through standard rules or through mass wasting prescriptions.

In addition, the rule proposal fulfills the Forest Practices Board mandate to adopting rules that are protective of public resources while preserving the viability of the state's forest products industry. The rule proposal adds greater assurance of public resource protection, but it does not disallow the use of all WSA mass wasting prescriptions – it only requires that prescriptions are as protective as standard rules.

Costs to Watershed Analysis Sponsors

As previously explained, the sponsors of 18 approved WSAs will need to decide whether to conduct and pay for reanalysis of the mass wasting prescriptions. DNR estimates the cost of reanalysis will range from \$21,000 to \$64,000 (\$42,500 on average) per WSA, depending on the quality and specificity of the existing mass wasting prescriptions, the size of the watershed, and the amount of time required to complete the reanalysis. These costs would be spread out over the time it would take to complete the reanalysis.

Some sponsors may determine that the benefits of maintaining the Class IV-special exemption outweigh the cost of reanalysis. Each sponsor will need to make an informed decision, weighing the specific costs and benefits to that firm and in that WSA. If sponsors decide to conduct reanalysis on all 18 of these WSAs, the upper limit of total cost is estimated to be \$765,000 (18 x \$42,500).

However, it may be more likely that few, if any, sponsors will undertake and incur the costs of WSA reanalysis. In an informal survey of WSA sponsors, none of the forest landowners who responded said they intended to pursue sponsorship of a reanalysis.

It is possible that a sponsor could elect to undertake reanalysis and then abandon the effort and elect to opt out. In this case, the sponsor would incur some additional costs without achieving the benefits, financial and otherwise, of having approved WSA prescriptions.

It is presumed that the total cost for reanalysis after subsequent five-year reviews will be significantly lower because the need for reanalysis is likely to be less.

Costs to Watershed Analysis Landowners

The other type of impact would be to all landowners, including the sponsor, who own lands with potentially unstable slopes or landforms in approved WSAs where the sponsor elects to opt out of reanalysis, or in cases where landowners submit FPAs in MWMU areas undergoing reanalysis.⁶

As explained in a previous section, the sponsors of 24-42 approved WSAs have indicated they intend to opt out of the mass wasting prescriptions (see **Figure 3**). It is expected that the actual number is likely to be close to 42, if not 42. WSA sponsors have already indicated their intent to opt out of reanalysis in 24 WSAs (the 19 sponsored by DNR and the five where timber companies have indicated they will opt out). The other 18 WSAs are those where larger forest landowners have not indicated their intent, but are more likely to opt out than not.

⁶ According to proposed WAC 222-22-090(7)(c), when reviewing forest practices applications within a mapped reanalysis area, DNR will classify proposed forest practices undergoing reanalysis, if necessary, pursuant to WAC 222-16-050.

If the sponsor elects to opt out of the mass wasting prescriptions in a given watershed analysis, those prescriptions will no longer be available to all the landowners within the WAU.⁷ Any FPAs proposed on lands with potentially unstable slopes or landforms in that WAU would then be subject to the standard rules. Any proposals for timber harvest or road construction that are determined by DNR to have the potential to deliver sediment or debris to a public resource would be classified Class IV-special and the landowner would need to conduct a SEPA analysis and pay for a qualified expert's geotechnical report. DNR estimates these costs would be \$2000-5000, or \$3500 on average, to obtain the report and \$750-800, or \$775 on average, to complete a SEPA checklist. In other words, the landowner would be negatively impacted by an average of \$4275 (\$3500 + \$775) for each FPA undertaken where previously they would have utilized WSA mass wasting prescriptions. There is also the possibility of additional costs in the form of foregone income due to the lost ability to harvest timber on potentially unstable slopes or landforms which might be harvested under the WSA mass wasting prescription but not under the standard forest practices rules. It is not known whether the WSA prescriptions would allow more harvest on unstable slopes. This would require a detailed analysis on every mass wasting prescription in every approved WSA.

Alternatively, landowners could elect to not pursue timber harvest or road construction on areas of concern and avoid these requirements and costs if they determine that the costs outweigh the benefits.

It is not possible to predict the total cost impact across all the WSAs and through time because there is no information available on how many timber harvest or road construction activities on lands with potentially unstable slopes or landforms have been approved under mass wasting prescriptions. Since 1995, there have been an average of about 40 FPAs per year per approved WSA, but it is not known how many activities were proposed in MWMUs. Each landowner ultimately has individual choice and a decision to make on the location and layout of each potential activity in relation to potentially unstable slopes or landforms.

For discussion purposes only, assume that one out of every 200 FPAs within approved WSAs is located on lands with potentially unstable slopes or landforms with "specific" mass wasting prescriptions. The total increased costs to all WSA landowners due to rescinded prescriptions would average about \$855 per year (current dollars) in each approved WSA. This is based on one-half of one percent (one out of every 200 FPAs) of the average number of 40 FPAs per year, multiplied by the \$4275 average new costs per FPA (for a qualified expert's geotechnical report and for completing the SEPA checklist). For the 24-42 WSAs in question, the total annual cost would then be in the range of \$20,500-36,000 for all affected landowners. Again, this is for illustration purposes only since there is no information available to determine whether the assumption is valid. If only one out of 2000 FPAs in these WSAs were on potentially unstable slopes or landforms with "specific" prescriptions, the total annual cost would be in the range of

⁷ All WAUs included in the 52 approved watershed analyses will still be under WSA, but some of the WSAs will have their mass wasting prescriptions rescinded. The other prescriptions in those WSAs will remain valid and in effect.

\$2050-3600; if it was 1 out of 20 FPAs, the total annual cost would be in the range of \$205,000-360,000.⁸

Based on available information, it appears that most of the “specific” mass wasting prescriptions in approved WSAs may not be significantly different than standard forest practice rules. But the reason for requiring reanalysis is to determine whether the mass wasting prescriptions are adequately protecting public resources or need to be amended.

The overall magnitude of this potential impact is further mitigated because it only exists in nine percent of the state’s forested WAUs.

Comparison of Benefits and Costs

As previously explained, the sponsors of 18 of the 52 approved WSAs will need to decide whether to conduct and pay for reanalysis of the mass wasting prescriptions. If all 18 make the decision to undertake a reanalysis, the upper limit of the total cost is estimated to be \$765,000, at an average cost of \$42,500 per reanalysis.

If the WSA sponsor elects to opt out of the mass wasting prescriptions, this will impact all owners of lands with potentially unstable slopes or landforms within the 24-42 WSAs which are potentially affected. If approved mass wasting prescriptions are no longer available and an FPA is proposed under standard rules on a potentially unstable slope or landform, the landowner would incur new costs estimated to be \$4275 on average. The total cost for affected landowners is very difficult to predict, but could possibly be in the range of \$20,000 to \$36,000 annually.

To the degree that mass wasting prescriptions are not as protective of public resources, requiring that they undergo reanalysis or be rescinded will reduce the risk of mass wasting events beyond natural rates of occurrence.

For this analysis, it is reasonable to conclude that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs, and the specific directives of the statutes being implemented (see “Objectives”).

Alternatives to Rule Making and Consequences of Not Adopting the Rule

An alternative to the proposed rule would be a rule that rescinds all mass wasting prescriptions in approved WSAs in their entirety and does not afford an opportunity for reanalysis. This is not

⁸ In the Small Business Analysis subsection to follow, it was found that one-half of the acreage in a sample of 15 WSAs with available data was in tax parcels where mass wasting mapping units (MWMUs) are located, indicating the presence of potentially unstable slopes and landforms on that tax parcel. However, it does not follow that 1 of every 2 FPAs within approved WSAs would be located on potentially unstable slopes and landforms (and therefore be classified as a Class IV-special). This is because the MWMUs do not cover the tax parcels in their entirety, and because many of the tax parcels are very large (a full section of land, or 640 acres more or less). Also, since only about one-half of the WSA mass wasting prescriptions are “specific”, there is no new cost impact for landowners for FPAs located on MWMUs without “specific” prescriptions. This is the basis for the 1 out of 20, 200, and 2000 scenarios, but they are speculative given there is no reliable information available.

what the Board chose to do. The Board considered the HCP commitments of the timber company sponsor of seven WSAs, as described in an earlier section. The Board also considered the investments of time and money that sponsors made when originally conducting watershed analyses, and acknowledged that some prescriptions are working well. The Board did not intend to preclude sponsors from undertaking reanalysis in order to maintain the exemption from a Class IV-special classification on FPAs that include proposals to conduct forest practices on potentially unstable slopes or landforms.

The consequences of not adopting the rules are that the onus of WSA review would continue to be on DNR, and the rules would not be explicit about DNR's authority to require reviews if appropriate. Presumably, not adopting the rules could result in some prescriptions being less effective at protecting public resources than protection under standard rules.

Least Burdensome Alternative

The Administrative Procedure Act states that agencies shall determine after considering alternative versions of the rule, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives of the statute that the rule implements.

The proposed rule change is less burdensome than the alternative of rescinding all mass wasting prescriptions in approved WSAs and not affording an option and opportunity for reanalysis. First, DNR is likely to determine that not all WSAs will require reanalysis. Second, WSA sponsors retain the choice as to whether to conduct and pay for reanalysis, and will weigh the benefits and costs for themselves. Also, according to DNR staff, DNR will conduct a prioritization so that multiple WSAs will not be required for reanalysis at the same time.

SMALL BUSINESS IMPACTS

A small business economic impact statement is required by the Regulatory Fairness Act (chapter 19.85 RCW) to consider the impacts on small businesses of administrative rules adopted by state agencies. The statute defines small businesses as those with 50 or fewer employees. To determine whether the proposed rule will have a disproportionate cost impact on small businesses, the impact statement compares the cost of compliance for small business with the cost of compliance for the ten percent of businesses that are the largest businesses required to comply with the proposed rule.

Small Business Analysis

Two data sets generated by DNR's GIS were used to analyze impacts to "small businesses". An analysis using both allows us to conclude that small businesses would not be disproportionately impacted by the rule proposal.

The first data set provided tax parcel and landowner information for 37 of the 52 approved WSAs where such data was available (eight of the 37 had only partial data coverage). A total of

904,000 acres of forest land is contained in the 37 WSAs (represented in whole or in part). The tax parcels are classified into ten land use designations, the most common being “Resource Production and Extraction”, which contains 92 percent of the total acreage and is the land use most likely to be subject to timber harvest and road construction activities, and regulation under the Forest Practices Act.

In the data available representing land ownership in all the approved WSAs, there are 766,000 acres in the Resource Production and Extraction category which are owned by 1339 different entities (landowners). Of these 1339 landowners, 15 had over 50 employees and the remaining 1324 are “small businesses” as that term is defined in chapter 19.85 RCW. Seventy percent (70%) of this land, 539,000 acres, is owned by “large businesses” which have an average holding of 36,000 acres. The “small businesses” are further divided into 1302 individuals and 21 land organizations (which include conservation organizations and real estate investment firms). The land organizations own 120,000 acres total, or 16 percent, averaging 5700 acres each, while the individuals own 106,000 acres total, or 14 percent, averaging 81 acres each.

Not all forest lands within the approved WAUs will be impacted by this rule; only lands that are associated with potentially unstable slopes and landforms will be impacted. Such data was available in a second DNR GIS data set that listed each tax parcel that intersects with a mapped MWMU within each of the approved WSAs. This data set had information for 18 WSAs which had both tax parcel data and MWMU data in GIS (except three of the 18 had only partial coverage). The data for three WSAs where DNR is unlikely to require reanalysis was removed from the data set, leaving 15 WSAs in our sample. These 15 WSAs accounted for 444,000 acres of the total WSA acreage in the Resource Production and Extraction category in the first data set. There are 11 “large businesses” owning 387,000 acres, or over 87 percent of the total acres in these WSAs, and an average of 35,000 acres each. There are ten land organizations that own 30,000 acres, or 7 percent, averaging 3000 acres each. There are 350 individual landowners that own the remaining 26,000 acres, or six percent, averaging 75 acres each.

In the second data set composed of a sample of 15 WSAs, there are tax parcels totaling 222,500 acres that intersect with MWMUs, indicating that those lands include areas with potentially unstable slopes or landforms. Of the total parcel acreage, the portion in areas with potentially unstable slopes or landforms is substantially less. Eight large companies own 206,200 acres or 92.7 percent of the acres associated with unstable slopes, an average of 61,000 acres each. Three land organizations own 8000 acres, or 3.6 percent, which is an average of 2600 acres each. Forty individuals own 8300 acres, or 3.7 percent and averaging 208 acres each. See **Figure 4** for a detailed breakdown of ownership by category in the 15 WSAs in the sample data. The sample shows that “large businesses” own 94 percent or more of the acreage in tax parcels intersecting with MWMUs in 13 of the 15 WSAs, and 87 and 83 percent in the other two. “Small businesses” (individuals and land organizations) owned one percent or less of the acreage in tax parcels intersecting with MWMUs in 11 of the 15 WSAs.

FIGURE 4															
Summary of Ownership of Lands With Potentially Unstable Slopes and Landforms in Selected WSAs															
WSA	A	B	C (pt.)	D (pt.)	E	F	G	H	I	J	K	L (pt.)	M	N	O
Acres in Tax Parcels with MWMUs in WSA	1,297	4,611	5,488	13,226	16,413	7,890	12,094	7,556	8,636	26,251	13,330	12,103	26,379	41,930	25,320
Parcels with MWMUs in WSA	3	1	2	2	3	7	3	1	2	5	1	1	2	10	20
# of Tax Parcels with MWMUs in WSA	11	29	89	113	119	73	167	30	40	290	189	82	190	718	242
PERCENTAGE OF UNSTABLE SLOPE AREA BY OWNERSHIP															
Sponsor Timber															
Company Owner	94%	100%	76%	89%	94%	86%	85%	100%	100%	99%	100%	100%	100%	57%	74%
Other Timber															
Company Owner(s)			(1) 24%	(1) 11%	(1) 5%	(1) 1%	(2) 15%							(2) 40%	(1) 9%
Conservation and Holding Cos. (#)					(1) 0.5%	(2) 11%								(1) 3%	
Individual(s) (#)	(2) 6%					(3) 2%			(1) 0.1%	(4) 1%			(1) 0.3%	(6) 1%	(18) 17%

Another indicator of the impact on the large and small landowners is the number of intersections (as opposed to acres) of tax parcels and MWMUs. Large businesses had 2217, or 94 percent, of the 2370 tax parcels intersecting with MWMUs in the second data set. Small businesses had 153 parcels (37 for land organizations and 116 for individuals) intersecting with MWMUs, or 6 percent of the total in the sample.

Based on the sample data available⁹, “small businesses” own only 7.3 percent of the acreage in tax parcels and only 6 percent of the number of tax parcels associated with unstable slopes or landforms in approved WSAs. This compares with 13 percent of the total acreage in the Resource Production and Extraction category in the second data set with 15 WSAs, and 30 percent of the total acreage in that land use category in the first data set with 37 WSAs.

Based on the sample data available, “large businesses” own a disproportionate share of the tax parcels associated with unstable slopes--92.7 percent by acreage of tax parcels and 94 percent by number of tax parcels. Therefore, we conclude it is highly likely that “small businesses” will not be disproportionately impacted by the proposed rule.

Reducing Costs for Small Businesses

RCWs 19.85.030 and .040 address an agency’s responsibility in rule making to consider how costs may be reduced for small businesses, based on the extent of disproportionate impact on the small businesses. As stated above, there is no disproportionate impact on small businesses.

Estimated Number of Jobs Created or Lost

⁹The data used in this analysis was not based on a sampling technique, but rather was determined by the available data across the 52 approved WSAs. The WSAs (in their entirety or in part) do not appear to be geographically unrepresentative of the 52 WSAs.

RCW 19.85.040 (2)(d) requires that the economic analysis include “(a)n estimate of the number of jobs that will be created or lost as the result of compliance with the proposed rule.”

In so far as WSA sponsors elect to opt out of the mass wasting prescriptions and not conduct and pay for reanalysis, there may be more work for “qualified experts” (engineering geologists and hydrogeologists) conducting geotechnical reports on potentially unstable slopes and landforms in the forested environment. If one out of 100 FPAs in the 24-42 WSAs where the WSA sponsor elects to opt out of the mass wasting prescriptions will now require a qualified expert’s geotechnical report, then there would be a demand for an average of 4.8 to 8.4 new reports per year, at a total cost of \$20,500-36,000 per year. This work would support less than a half time job for a geotechnical expert if that one person got all the new work. It is more likely that the additional work would be dispersed among several of the existing experts and would therefore not create any new jobs. Therefore, it is estimated that no jobs will be created or lost as a result of the new rule.

SUMMARY

The rule proposal affects 52 approved watershed analyses encompassing 68 Watershed Administrative Units (WAUs), or nine percent of the 754 forested WAUs in Washington.

Larger forest landowners who have sponsored 18 approved WSAs will need to decide whether to conduct and pay for reanalysis of the mass wasting prescriptions. The upper limit of total cost is estimated to be \$765,000 if all 18 sponsors undertake reanalysis at an average cost of \$42,500 per WSA. Some WSA sponsors in some WSAs may decide that the ongoing benefits of maintaining the exemption from a Class IV-special FPA and SEPA will outweigh the cost of reanalysis.

Owners of all lands with potentially unstable slopes or landforms in 24-42 approved WSAs will potentially incur costs if the sponsor elects to opt out of reanalysis. If an FPA under standard rules is proposed on a “rule identified” potentially unstable slope or landform it would be Class IV-special and the landowner would need to pay for a qualified expert’s geotechnical report and complete a SEPA checklist, together estimated to cost \$4275 on average. It is not possible to accurately characterize the potential total cost impact across all the approved WSAs.

The expected benefit of the rule proposal is the added assurance that WSA mass wasting prescriptions are as protective of public resources as the standard rules. The expected result is that any timber harvest or road construction activity will not increase the risk of mass wasting events beyond natural rates of occurrence, regardless of whether the activity is regulated through standard rules or through mass wasting prescriptions.

This analysis indicates it is reasonable to conclude that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and specific directives of RCW 76.09.040.

An alternative to the proposed rules would be to rescind all mass wasting prescriptions in approved WSAs and not afford an opportunity for reanalysis. This would preclude the choice by WSA sponsors to undertake reanalysis in order to maintain the exemption from a Class IV-special classification on FPAs on potentially unstable slopes or landforms and the costs incurred in the development of WSAs would be lost.

The other alternative would be to not change the current rules. This would not fulfill the Board's goal to ensure that WSA prescriptions are kept up-to-date and that resource risks associated with mass wasting prescriptions are avoided or minimized to the greatest extent possible on an ongoing basis.

In consideration of these alternatives to the proposed rule and the estimated costs for landowners, the proposed rule is the least burdensome for landowners that will still protect public resources and achieve the Board's goals.

It is highly likely that "small businesses" (50 or more employees in the state) will not be disproportionately impacted by the proposed rule. Based on available sample data, large businesses (more than 50 employees) own a disproportionate share of forest lands associated with Mass Wasting Mapping Units (MWMUs)--92.7 percent by acreage of tax parcels and 94 percent by number of tax parcels that intersect with MWMUs.

It is estimated that no jobs will be created or lost as a result of the new rule.