



MEMORANDUM

April 29, 2016

TO: Forest Practices Board 
FROM: Hans Berge, Adaptive Management Program Administrator
SUBJECT: FY 2016/2017 and preliminary assessment of the 17/19 Biennial Budget for the Adaptive Management Program

2016 and 2017 Fiscal Years

Attached is the TFW Policy recommended budget adjustments for fiscal years 2016 and 2017 for your approval. As you know, we have been tracking the budgets very closely this year due to the large amount of General Funds that we are not able to carry across fiscal years. As you can see from the attached budget, we are attempting to spend all of our General Fund and Forests and Fish Support Account funds within the current biennium (15/17 biennium).

The adjustments made to the 2016 budget since the last meeting are focused around equipment purchases for CMER research projects (Rows 29-33). The adjustments made to the 2017 budget include equipment purchases for ENREP (\$345,000), analysis and reporting of genetic tissue samples from amphibians collected in 2015 and 2016, and initial funding of a project related to effectiveness monitoring of wetlands following the strategy approved by the Board in August 2015.

In cell B84 of the attached spreadsheet you will notice that we are projecting to be underspent in fiscal year 2016 by \$400,700 for the Program as a whole. This surplus can be carried across fiscal years within the 15/17 Biennium and will offset expended deficits in fiscal year 2017. Ultimately, the projection of the cumulative balance within the biennium of the Program is expressed in cell C84 and is expected to be \$0. The way this was accomplished is with a project placeholder in row 18 which will focus on priorities of the Board such as Type F or unstable slopes topics yet to be defined.

2017/2019 Biennial Budget Request

TFW Policy met on 29 April 2016 to discuss the 17/19 Biennial Budget for the Adaptive Management Program. The purpose of the meeting was to review the Master Project Schedule approved by CMER on 26 April 2016. Policy agreed by consensus that there is no need to seek additional funding for the Adaptive Management Program in the next legislative session. The amount we received last year (\$5.9 M) provides an adequate foundation to accomplish the necessary research and manage the overall needs of the Adaptive Management Program.

	A	B	C
1	CMER Master Project Schedule UPDATE	Program Administration (FFSA)	
2	<i>Approved by Policy on 29 April 2016</i>	General Fund	
3		FFSA Fund Shift	
4		2016 Budget Projected	2017 Fiscal Year
5	<u>Administrative and Support Staff</u>		
6	CMER Science Staff	528,000	741,000
7	Project Support	237,000	237,000
8	Continuing LEAN Improvements - Staffing Env Planner 3	-	109,500
9	Program Administration	267,000	267,000
10	Report to Legislature		10,000
11	Contingency Fund for Active Projects	100,000	100,000
12	CMER Conference (Video, facility, refreshments, programs)		20,000
13	<u>Policy and Facilitation for AMP</u>		
14	LiDAR Water Typing Project	100,000	
15	TFW Policy Committee facilitation	50,000	50,000
16	Cultural Roundtable facilitation	25,000	0
17	Riparian Function Literature Synthesis	-	100,000
18	POLICY_Board Priorities (e.g., unstable slopes. Type F)		328,271
19	POLICY Off-Channel Habitat Proposal Initiation	35,000	15,000
20	POLICY Electrofishing Literature Synthesis	-	0
21	<u>Mid-Year Projects Approved by Board in November 2015</u>		
22	SAGE: Eastside Type F Modeling Evaluation Project	65,000	
23	WETSAG: Wetland Mapping Project	80,000	
24	CMER Scientific Literature Database	-	
25	CMER Technical Writer	10,000	50,000
26	CMER Statistician	-	20,000
27	TWIG Road Prescription-Scale Effectiveness Monitoring--EQUIPMENT	125,000	
28	<u>NEW Proposed Projects</u>		
29	Remote Sensing Equipment for RSAG Extensive, Pilot Model and Wetland Mapping Projects	50,000	
30	ENREP Equipment (12 sites; perennial)		345,000
31	Temperature Dataloggers for Hard Rock and Soft Rock	35,000	
32	Roads BMP Project Equipment	200,000	
33	Amphibian Genetics Laboratory Analysis--Hard Rock Study		150,000
34	Wetlands Management Zone Effectiveness Monitoring		25,000
35	<u>Projects almost finished</u>		
36	Buffer Integrity - Shade effectiveness (amphibian response)	22,000	15,000
37	Eastside Type N Forest Hydrology	20,000	6,500
38	Riparian Hardwood Conversion	80,000	100,000
39	<u>Projects in field implementation</u>		
40	Type N Experimental Buffer Treatment Project in Hard Rock Lithologies	244,000	100,000
41	Type N Experimental Buffer Treatment Project - Hard Rock- Amph Gen - field Post sample	200,000	200,000
42	Type N Experimental Buffer Treatment Project - Hard Rock- Amphibian Demographics/Channel Metrics	165,000	245,000
43	Type N Experimental Buffer Treatment Project in Hard Rock Lithologies - Temp/Sediment/Vegetation/Litterfall	225,000	168,000
44	Type N Experimental Buffer Treatment Project - Soft Rock Lithologies	185,000	178,000
45	<u>Projects in study design or conceptual stages</u>		
46	TWIG: Eastside Type N Riparian Effectiveness - Perennial	71,000	100,000
47	TWIG: Eastside Type N Riparian Effectiveness - Dry	80,000	75,000
48	TWIG: Westside Type F Riparian Prescription Monitoring	25,000	75,000
49	TWIG: Unstable Slopes Criteria Evaluation and Development	25,000	75,000
50	UPSAG: Glacial Deep Seated - Literature Review	75,000	-
51	UPSAG: Glacial Deep Seated - Placeholder funding for strategy execution	-	100,000
52	TWIG: Forested Wetlands Effectiveness Study	10,000	100,000
53	TWIG: Road Prescription-Scale Effectiveness Monitoring	25,000	25,000
54	LWAG: Van Dykes Salamander Project (FFSA)	26,000	
55	LWAG: Van Dykes Salamander Project	30,000	47,000
56	RSAG: Extensive Alternative (Remote Sensing Approach)	150,000	189,129
57	Projected Expenditures Approved by FP Board for 15/17 Biennium	3,565,000	4,366,400
58	GFS Budget spent for research projects (annual fixed at \$2,390,000)	2,390,000	2,744,629
59	Fund Shift FFSA (\$557,000) expenditures on Projects	571,000	560,000
60	GFS Budget Balance	(54,000)	(354,629)
61	Fund Shift Balance	(14,000)	(3,000)
62			
63			
64			
65	GF-S - AMP Carry Forward	240,100	240,100
66	Fund Shift - \$557,000 per FY	557,000	557,000
67	GF-S - AMP Research	2,390,000	2,390,000
68	FFSA - AMP	4,184,100	4,584,800
69	Subtotal of Available Funds - AMP	7,371,200	7,771,900
70			
71	TFW Participation Agreements		
72	Tribal Participation Agreements	2,500,000	2,500,000
73	NGO and County Participation Grants	259,000	259,000
74	Added Commitments / WSAC	216,500	216,500
75	State Agencies	358,500	358,500
76	Added Commitment	71,500	71,500
77	Subtotal of TFW Participation Agreements	3,405,500	3,405,500
78			
79	Expenditures		
80	AMP Research Expenses	3,565,000	4,366,400
81	TFW Participation Agreements	3,405,500	3,405,500
82	Total Expenditures	6,970,500	7,771,900
83			
84	Carry Forward at End of Fiscal Year	400,700	0



April 29, 2016

TO: Washington Forest Practices Board *LB*
FROM: Lauren Burnes, (DNR) on behalf of the Northern Spotted Owl Implementation Team
RE: Update on Activities of the NSOIT

The priority of the NSOIT has been the development of a voluntary, “opt-in” programmatic Safe Harbor Agreement (SHA) for the Northern Spotted Owl (NSO).

The NSO SHA Work Group, convened by the NSOIT, has been meeting regularly over March and April to develop recommendations for the draft agreement. The work group will present their initial recommendations on defining baseline to the NSOIT in May. The work group consists of: DNR (lead); USFWS; WDFW; Conservation Caucus; Industry; and Small Forest Landowners.

Defining the baseline will determine the minimum habitat characteristics (should they exist on the property at time of enrollment) to maintain for the duration of the agreement. Safe Harbor Agreements require a baseline to be taken of the enrolling property from which additional conservation benefit can be measured. Not all landowners are expected to have suitable owl habitat on their property at the beginning of their enrollment, in that case baseline would be zero. Landowners will have the opportunity to grow additional habitat above their baseline without risk of additional ESA restrictions, and once a net conservation benefit has been reached, return their property to baseline at the end of the agreement. Unlike a Habitat Conservation Plan (HCP), an SHA must not incur a mitigation debt.

After baseline is defined, the work group will identify conservation measures and calculate net conservation benefit under the programmatic agreement. The team aims to deliver to USFWS a draft SHA by early 2017. It is anticipated that development of the draft agreement will take ~8 months and development of the NEPA Environmental Assessment will take ~4 months.

I will be available during the May Board meeting should you have any questions.



Cultural Resources Roundtable

April 25, 2016

MEMORANDUM

To: Forest Practices Board

From: Timber/Fish/Wildlife Cultural Resources Roundtable Co-Chairs

Jeffrey Thomas, Puyallup Tribe of Indians

Karen Terwilleger, Washington Forest Protection Association

RE: Staff Report of Timber/Fish/Wildlife Cultural Resources Roundtable to the May 2016 Quarterly Forest Practices Board meeting

The TFW Cultural Resources Roundtable (Roundtable) is pleased to submit this latest report to the Forest Practices Board (Board). During the past quarter, the Roundtable has focused on four tasks which are reviewed below: resetting our facilitation team, developing a presentation for the Forest Practices Board related to cultural resources, creating a strategy for utilizing the survey and educational materials and request for funds, and continuing the discussion about conditioning forest practices applications (FPAs) for cultural resources.

Facilitation

In early March, Department of Natural Resources (DNR) staff announced that DNR and Terracon Consultants had agreed the facilitation and note taking services provided by Terracon have not been successful at improving the overall productivity, forward momentum, and positive group dynamics of the TFW Cultural Resources Roundtable. At that time, DNR and Terracon agreed to cease the contract in

support of Terracon. Roundtable participants discussed this development; the co-chairs have resumed meeting facilitation. Robert Bass and David Powell have volunteered to work on meeting minutes.

Board Presentation

The Roundtable requested (and the Board approved) time on the Board agenda for information related to cultural resources. Roundtable members felt that it is important to provide Board members with information about definitions of cultural resources, the importance of cultural resources, how cultural resources are identified and protected, and potential improvements to the process.

Survey/Educational Outreach

In addition to outreach for the Board, Roundtable members discussed development of a strategy to better inform foresters, small forest landowners, agency personnel and tribes about the process for identifying and protecting cultural resources. Roundtable participants are considering whether to utilize the survey to focus training and evaluate outcomes. Several members are interested in working with tribes in each region to develop cross-training opportunities. During the next 3 months, the Roundtable will outline the strategy, scope each aspect (creation of educational materials, compilation of historical information, targeting forums), and develop a budget request for the Board.

Conditioning Authority

The Roundtable has also continued to discuss conditioning authority and a process for resolving the issues.

We look forward to your May 11, 2016 meeting. If you have questions, please do not hesitate to contact us:

jeffrey.thomas@puyalluptribe.com and (253) 405-7478/cell
KTerwilliger@wfpa.org and (360) 352-1500

T/F/W Cultural Resources Roundtable					4/19/2016	Changes from the previous report are in Red or Italics
Project Priority	Action Items		Lead	Status	Next Action	Relationship to the CRPMP
High	1	Continue to review WAC 222-20-120 interpretations and DNR conditioning authority and develop recommendations for implementation. The Roundtable will begin with the following tasks:	Jeffrey, Karen, David, Sherri	Ongoing	Identify specific issues and policy framework	
		Presentations on 3 Models and Cultural Module	David, Robert Morgan Jeffrey	Completed	Presentations at August and September meetings	
		Review DNR's suggested Inadvertent Discovery language	Sherri, Marc	Scheduled Done	Review language at <i>March 2016 meeting</i> . <i>DNR issuing new form soon.</i>	
		Review additional watershed models	Jeffrey, Karen,	Beginning	Discuss what additional models to review	
High	2	Seek funding and staff support for the Roundtable's work		Roundtable will bring a request to the FPB in May	Identify needs and potential resources	
High	3	Prepare the cultural resource guidance documents and tools as agreed to in the CRPMP		Target completion date: 2015		Educational Program and Commitments
		Scope the guidance/manual project to develop a detailed description and outline of the proposed guidance or manual.		Complete		
		Work products:1) Guidance for T/F/W stakeholders, 2) Guidance specific to forest landowners, and 3) Guidance specific to Tribes.	Jesse and Gretchen	In progress	Schedule work group in April to review completed drafts; prepare drafts on remaining sections	
		Post Roundtable guidance documents and other information and training material on the DNR Forest Practices web site		On going		
High	4	Investigate opportunities to develop training workshop curricula and presentation for private industrial foresters, small forest landowners, and agency staff. <i>Develop cross-training and regional training with local Tribes.</i>	Jeffrey Karen	Planning	Schedule work group in 2014 Working on Proposal	An education component of the CRPMP
Medium High	5	Develop a Logo for the Cultural Resources Roundtable	Jeffrey and dAve	In-progress Agenda for May	Draft logo under review Present at May 2016 Roundtable meeting	Publicity
Medium	6	CRPMP amendments to consider and further discuss:	All	Scoping	Members of the Roundtable will provide suggestions for amendments after the guidance document task is completed.	CRPMP Support
		Regarding MOUs, consider adding a statement specifying when DNR has a role in implementing MOUs and if there is a role, specifying its nature.				
		Under "Education Program and Commitments," modify #2 to recognize that agreements are often executed at the field level without the need for higher level contacts				
		Reference a role for the CRPMP in Forest Practices ID team deliberations and preparation of SEPA documents for Class IV Special FPAs	Jeffrey			
Low	7	Prepare a report to the Forest Practices Board on the impact to cultural resource protection and management when forest land is converted to another use and regulatory responsibility passes to local government (county or city)	Jeffrey and Karen	On hold	Wait for other higher priority items to be addressed	

T/F/W Cultural Resources Roundtable				4/19/2016	Changes from the previous report are in Red or Italics
Project Priority	Action Items	Lead	Status	Next Action	Relationship to the CRPMP
On-Going Tasks	1 The Roundtable will: (a) meet quarterly; (b) Report- to the FP Board at each regular meeting; (c) Review the CRPMP each year; (d) Report to the FP Board each August on progress of the CRPMP and implementation of WAC 222-20-120 during the previous FY (e) <i>suggest recommendations for modification to CRPMP</i> .	Co-Chairs		FPB meeting report due	Annual & quarterly obligation
	2 Give a CRPMP presentation at Regional TFW meetings as new CRPMP support material is released.	All		Next opportunity for TFW presentations after the 20-120 rule and supporting manual is passed by the FPB	Communication
	Create a Roundtable presentation about the CRPMP and Roundtable activities with a singular message and bullet points	Jeffrey and Jesse			
	3 Maintain an annual calendar of recurring Roundtable tasks and functions and post on DNR's website. Include FP Board report due dates, DNR regional TFW meetings and upcoming training opportunities. Emphasize accomplishments when communicating progress on implementing the CRPMP. Post examples of successes and cooperative opportunities on the DNR Forest Practices web site.	Jeffrey	Planning	Select calendaring software	CRPMP Support; Communication
	4 Contact individual FP Board members to "champion" CR Roundtable issues	All		Collaborate with current FP Board members regarding cultural resources issues coming to the Board.	Advance the Roundtable's work
	5 Individual caucuses will continue to support funding for a full time position at DAHP for the maintenance of CR data in support of the forest practices risk assessment tool.	Individual Caucuses	Currently the position has 1/2 time funding	Next opportunity is the 2014 Legislature	DNR Forest Practices Program support
	6 Seek funding for a CR Module pilot project		On hold	Waiting for the next opportunity	Board Manual Section 11 Appendix J

T/F/W Cultural Resources Roundtable				4/19/2016	Changes from the previous report are in Red or Italics
Project Priority	Action Items	Lead	Status	Next Action	Relationship to the CRPMP
Completed Items	1 Cultural Resource Protection and Management Plan (CRPMP)		Completed 2003		
	2 Forest Practices Board adopted the rules recommended in the CRPMP		Completed 2005		
	3 Statutory exemption for sensitive cultural resource information gathered during a watershed analysis CR module or stand-alone CR module		Completed 2005		
	4 Updates to the CRPMP		Completed 2008		
	5 Recommendation to DNR staff and the Board for changes to the historic site definitions in Class III and Class IV Special definition to correct long standing interpretation issues		Completed 2008		
	6 A recommendation to include a cultural resource question on the Phase II 15-year small landowner permit application.		Completed Spring 2009		
	7 Draft a motion for the Forest Practices Board to request that the staff create a CR page on the Department's forest practices website		Complete (Board action was unnecessary)		
	8 With the support of the Commissioners Office, a Charter for the Timber/Fish/Wildlife Cultural Resources Roundtable (formerly known as TFW Cultural Resources Committee) delivered to the Forest Practices Board		Completed 2011		
	9 Consensus recommendation on changes to WAC 222-20-120 delivered to the Forest Practices Board		Completed 2011		
	10 As requested by the FPB, review and comment on a suggestion to amend 222-20-120 Sub-Section (3)(c)(i)		Completed 2011	Recommendation adopted by the Board in Feb, 2012	
	11 Prepare a streaming video of Lee Stilson's lecture on cultural resources that typically may be found in Washington's managed forests		Completed May 2012		
	12 In time for the FY 2012 report to the FPB, develop a method for formally assessing the performance CRPMP in accomplishing its purposes as stated on page 1 of the plan.		Completed June 2012		
	13 Two new cultural resource links have been added to the DNR Forest Practices webpage. Roundtable agendas, notes and action item list are on the Forest Practices Board's webpage		Completed September 2012		
	14 Improve knowledge, understanding and use of the GLO, historic and current USGS quad maps and other publicly available information to identify historic features recognized during 19th century land surveys.		Completed October 2012		Making available tools to improve identification and recognition of cultural resources in the field
	15 Update the instructions for question 7 of the forest practices application.	Sherri	Completed October 2013	Draft submitted to DNR for inclusion in the next update of FPA Instructions.	This would be an edit to Appendix B of the Cultural Resources Protection and Management Plan
	16 Follow the State Environmental Policy Act rule making by the Department of Ecology to draft rules to increase categorical exemptions.	Gretchen	Completed November 2014	<i>Ecology is recommending that Cultural Resource be considered as one of three top priorities for Phase 2 rulemaking.</i>	



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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Memorandum

April 27, 2016

TO: Forest Practices Board

FROM:  Mark Hicks, Ecology Forest Practices Lead

SUBJECT: Clean Water Act Milestone Update

The Washington State Department of Ecology (Ecology) committed to provide the Forest Practices Board (Board) with periodic updates on the progress being made to meet milestones established for retaining the Clean Water Act (CWA) Assurances for the forest practices rules and associated programs. Our last update to the Board occurred at your May 2015 Board meeting.

Under Washington state law (Chapter 90.48 RCW) forest practices rules are to be developed so as to achieve compliance with the state water quality standards and the federal Clean Water Act (CWA). The CWA assurances establish that the state's forest practices rules and programs, as updated through a formal Adaptive Management Program (AMP), will be used as the primary mechanism for bringing and maintaining forested watersheds in compliance with the state water quality standards. The CWA assurances were originally granted in 1999 as part of the Forests and Fish Report (FFR). Those original assurances were to last for only a ten year period. After conducting a review of the program and hearing from stakeholders that they were committed to making the program work, Ecology conditionally extended the assurances for another ten years. This extension was based on the expectation that the program meet a list of process improvements and performance objectives. These are the milestones reported on in this update.

During this past year none of the remaining Non-CMER Project Milestones were completed or had a change in status, and three milestones remain off track. These include resolving disputes with identifying the uppermost point of perennial flow, orchestrating an independent review of the AMP, and assessing the risk from small forest landowner roads.

Also during this period, one CMER research milestone was completed, and two were downgraded based on a slowed pace, or no work having been initiated, and inadequate time

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remaining to meet the milestone. Two studies of particular concern are the examination of the effectiveness of the Rule Identified Landforms (RIL), and the eastside Type N effectiveness monitoring study. The Technical Writing & Implementation Group formed to develop the RIL study has stopped all work and effectively disbanded. The eastside Type N study should have been put into the field in 2013, and yet CMER has still not been able to identify a study design cooperators will all approve.

The Lean revisions and their approach for gaining step-wise buy-in of both CMER and Policy has clearly not resulted in the intended improvements. Conflict over project purposes, methods, and results occurring both at CMER and TFW Policy remain a prime factor for project delays. Simply getting agreement over testing the existing rules in a study has become a source of protracted conflict.

The 2009 CWA Assurance milestones were established to create a path of steady improvement. The milestones were intended to spur efforts to gather critical information to assess the effectiveness of the rules in protecting water quality as mandated by state law. Equally important, was the intent to encourage process changes that would lead to cooperators working more productively together to create a durable and effective research program to test and adjust the rules long-term. With three years remaining until the last of the 2009 corrective milestones becomes due, and key milestones more than four years behind schedule, the desired outcome remains elusive.

Ecology is urging the Board and the leaders of the various caucuses to encourage renewed commitment to the cooperative principles of TFW, and the agreement to work together to test and adjust the rules where necessary, and to do so with a shared commitment to meet the four goals of the agreement: 1) to meet the Clean Water Act; 2) to comply with the ESA; 3) to ensure harvestable supplies of fish; and 4) to meet the above resource goals in a manner that will maintain an economically viable timber industry in the state. This renewed commitment needs to be transmitted clearly to all levels of our AMP, all the way down to the people assigned to participate on Science Advisory Groups (SAGs), and the program's ad hoc workgroups.

Enclosed are two tables showing the CWA milestones and summarizing their current status. The first table shows the non-CMER project milestones. These milestones are implemented outside of the CMER research program and are largely within the control of the Forest Practices Operations Section of the Department of Natural Resources (DNR), or the Timber Fish and Wildlife Policy Committee (Policy). The second table lays out the progress being made on the CMER research study milestones. **Changes in status occurring since your last briefing are highlighted in red font for your convenience.**

Please contact Mark Hicks, Ecology Forest Practices Lead, if you have any questions or concerns at: mark.hicks@ecy.wa.gov or (360) 407-6477.

Attachments (2)

Summary of CWA Assurances Milestones and current status:

<i>Non-CMER Project Milestones</i>		
	Summarized Description of Milestone	Status as of April 2016¹
2009	July 2009: CMER budget and work plan will reflect CWA priorities.	Completed October 2010
	September 2009: Identify a strategy to secure stable, adequate, long-term funding for the AMP.	Completed October 2010
	October 2009: Complete Charter for the Compliance Monitoring Stakeholder Guidance Committee.	Completed December 2009
	December 2009: Initiate a process for flagging CMER projects that are having trouble with their design or implementation.	Completed November 2010
	December 2009: Compliance Monitoring Program to develop plans and timelines for assessing compliance with rule elements such as water typing, shade, wetlands, haul roads and channel migration zones.	Completed March 2010
	December 2009: Evaluate the existing process for resolving field disputes and identify improvements that can be made within existing statutory authorities and review times.	Completed November 2010
	December 2009: Complete training sessions on the AMP protocols and standards for CMER, and Policy, and offer to provide this training to the Board. <u>Identify and implement changes to improve performance or clarity at the soonest practical time.</u>	Underway Initial training completed and a training regime has largely been incorporated into the AMP for new Board and Policy members as an ongoing program. The AMP portion of the new Forest Practices Board member training was expanded to include new training materials. Issues identified for improvement were added to the Policy and CMER task lists for future action in 2010. Since that time Policy has reviewed FFR Schedule L1 research questions for both the Type N and the Unstable Slopes Research Programs. CMER has additionally updated 6 chapters of its' Protocol and Standards Manual and is working on Chapter 7. Policy is in the process of revisiting its task list to ensure that issues previously noted as important to improve the program will be reaffirmed addressed.
2010	January 2010: Ensure opportunities during regional RMAP annual reviews to obtain input from Ecology, WDFW, and tribes, on road work priorities.	Completed September 2011

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of April 2016¹
	February 2010: Develop a prioritization strategy for water type modification review.	Completed March 2013
	March 2010: Establish online guidance that clarifies existing policies and procedures pertaining to water typing.	Completed March 2013
	June 2010: Review existing procedures and recommended any improvements needed to effectively track compliance at the individual landowner level.	Completed November 2010
	June 2010: Establish a framework for certification and refresher courses for all participants responsible for regulatory or CMP assessments.	Completed September 2013
	July 2010: Assess primary issues associated with riparian noncompliance (using the CMP data) and formulate a program of training, guidance, and enforcement believed capable of substantially increasing the compliance rate.	Completed August 2012
	July 2010: Ecology in Partnership with DNR and in consultation with the SFL advisory committee will develop a plan for evaluating the risk posed by SFL roads for the delivery of sediment to waters of the state.	Off Track DNR tried to get a sense of the risk by conducting a pilot project in its' NW Region. A draft report was shared with Ecology October 2014. Approximately 92% of SFLs did not respond or denied access to DNR. Of the 76 roads surveyed, most were reported as functioning appropriately, with 11% delivering sediment to streams. DNR initiated additional SFL outreach efforts on a statewide basis in 2015 in an effort to conduct a more comprehensive roads assessment. The results of this assessment may be provided to Ecology and the public soon. However, without the jurisdictional authority to conduct a representative survey, fully satisfying this milestone may not be possible.
	July 2010: Develop a strategy to examine the effectiveness of the Type N rules in protecting water quality at the soonest possible time that includes: a) Rank and fund Type N studies as highest priorities for research, <u>b) Resolve issue with identifying the uppermost point of perennial flow by July 2012</u> , and c) Complete a comprehensive literature review examining effect of buffering headwater streams by September 2012.	Off Track A strategy was developed, and Policy and its' technical subgroups were working to implement the strategy. Conflict over providing default distances for defining the UMPPF stalled implementation, then the Forest Practices Board made Type F and mass wasting Policy priorities. This resulted in Policy setting aside work on completing the Type N milestone. Ecology agreed that due to the limited capacity of Policy, they needed to temporarily suspend work on resolving the

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of April 2016¹
		Type N milestone in order to succeed in meeting the new Board priorities. But this work remains necessary and overdue.
	October 2010: Conduct an initial assessment of trends in compliance and enforcement actions taken at the individual landowner level.	Completed November 2010
	October 2010: Design a sampling plan to gather baseline information sufficient to reasonably assess the success of alternate plan process.	Completed December 2014 DNR satisfied this milestone by releasing an Alternate Plan <u>Guidance memo (12-10-14)</u> designed to strengthen the overall process for issuing alternate plans. Success depends on how well the new directives are translated into action. DNR completed training in all Regions regarding rule, alternate plan board manual and memo guidance. DNR has also committed to refresher training as needed for Alternate Plans. Ecology would like to work with DNR to evaluate how well the guidance is being implemented.
	December 2010: Initiate process of obtaining an independent review of the Adaptive Management Program.	Off Track Policy support for this review waned after the state auditor's office dropped its plans to begin a review in FY 2012. Policy is hoping internally derived changes (e.g. shorter timeline for dispute resolution and the lean process being piloted by CMER) can create enough improvements to negate the need for this milestone. No improvements are evident at this time. Policy representatives included a requirement for a process audit in draft AMP funding legislation in 2014, but that bill did not pass.
2011	December 2011: Complete an evaluation of the relative success of the water type change review strategy.	Completed March 2013
	December 2011: Provide more complete summary information on progress of industrial landowner RMAPs.	Completed September 2011
2012	October 2012: Reassess if the procedures being used to track enforcement actions at the individual land owner's level provides sufficient information to potentially remove assurances or otherwise take corrective action.	Completed June 2012

Non-CMER Project Milestones

	Summarized Description of Milestone	Status as of April 2016¹
	Initiate a program to assess compliance with the Unstable Slopes rules.	<p align="center">Ongoing</p> <p>DNR is evaluating alternative pathways to satisfying this milestone other than using the standard post-harvest compliance monitoring framework. The DNR Compliance Monitoring Program is presently evaluating its ability to include an assessment of unstable slopes rule compliance in the program. A pilot study will be conducted in 2016. Implementation of the assessment is targeted for 2017.</p>
2013	November 2013: Prepare a summary report that assesses the progress of SFLs in bringing their roads into compliance with road best management practices, and any general risk to water quality posed by relying on the checklist RMAP process for SFLs.	<p align="center">Off Track</p> <p>Discussed above for Oct 2010 survey milestone.</p>

CMER Research Milestones		
Description of Milestone		Status as of April 2016¹
2009	Complete: <u>Hardwood Conversion – Temperature Case Study</u>	Completed June 2010 Completed as data report.
	Study Design: <u>Wetland Mitigation Effectiveness</u>	Completed October 2010 Draft pilot study plan was developed then project de-prioritized in response to concerns raised about study limitations.
2010	Study Design: <u>Type N Experimental in Incompetent Lithology</u>	Completed August 2011
	Complete: <u>Mass Wasting Prescription-Scale Monitoring</u>	Completed June 2012 Study delivered in dispute to Policy with Majority Minority Reports. Dispute resolved in late 2013 by Policy.
	Scope: <u>Mass Wasting Landscape-Scale Effectiveness</u>	Off Track No work has occurred. Policy moved this project to the hold list pending review as part of developing the unstable slopes research strategy. It was also omitted from the MPS list that went to the Board. Policy should discuss this with the next review of the MPS.
	Scope: <u>Eastside Type N Effectiveness</u>	Completed November 2013
2011	Complete: <u>Solar Radiation/Effective Shade</u>	Completed June 2012
	Complete: <u>Bull Trout Overlay Temperature</u>	Completed May 2014
	Implement: <u>Type N Experimental in Incompetent Lithology</u>	On Track Preharvest monitoring is complete and all experimental basins were harvested on time.
	Study Design: <u>Mass Wasting Landscape-Scale Effectiveness</u>	Off Track

CMER Research Milestones		
Description of Milestone		Status as of April 2016¹
		Described above for 2010 scoping milestone.
2012	Complete: <u>Buffer Integrity-Shade Effectiveness</u>	Underway This study was in dispute over concerns arising from the Spring 2013 Independent Scientific Peer Review (ISPR). Final report has been edited and may be submitted again to ISPR in March 2016.
	Literature Synthesis: <u>Forested Wetlands Literature Synthesis</u>	Completed January 2015
	Scoping: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting.</u>	Not Progressing Policy approved project objectives and critical questions June 2016 to guide scope of study. Work subsequently stopped due to the inability of TWIG members to meet and develop study design alternatives. One outside expert left due to the problems, but work may be reinitiated soon.
	Study Design: <u>Eastside Type N Effectiveness</u>	Underway Completed supplemental field work in 2014 to help in developing a study design in 2015. TWIG submitted two draft study designs for CMER review. Issues of concern continue to be raised in early 2016 over what is being measured and the prescriptions proposed for testing. Efforts to involve Policy in resolving conflicts at the CMER level have been unsuccessful.
2013	Scoping: <u>Forested Wetlands Effectiveness Study</u>	Underway Policy approved revised problem statement, study objectives, and research questions January 2016. The TWIG is beginning work to develop study design alternatives.
	<u>Wetlands Program Research Strategy</u>	Completed April 2016. Incorporated into proposed revisions to CMER workplan going to Policy for approval
	Scope: <u>Road Prescription-Scale Effectiveness Monitoring</u>	Underway TWIG first met in June 2014, developed documents to guide project purpose. Document using Best Available Science to support recommended study design

CMER Research Milestones		
Description of Milestone		Status as of April 2016¹
		alternatives going to Policy in February 2016.
	Study Design: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting.</u>	Earlier Stage Underway Project discussed above for 2012 scoping stage.
	Implement: <u>Eastside Type N Effectiveness</u>	Earlier Stage Underway Project discussed above for 2012 study design stage.
2014	Complete: <u>Type N Experimental in Basalt Lithology</u>	Underway This study is steadily progressing, but the pace slowed well behind expectations as the study report chapters are finalized and moved through the ISPR process. Study appears likely to be completed in 2018.
	Study Design: <u>Road Prescription-Scale Effectiveness Monitoring</u>	Earlier Stage Underway Project discussed above for the 2013 scoping stage.
	Scope: <u>Type F Experimental Buffer Treatment</u>	Completed December 2015 A study design alternative was selected by TFW Policy. TWIG will now need to develop a study design.
	Implementation: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting</u>	Earlier Stage Underway Project discussed above for 2012 scoping stage.
	Study Design: <u>Forested Wetlands Effectiveness Study</u>	Earlier Stage Underway Project discussed above for 2013 scoping stage.
2015	Complete: <u>First Cycle of Extensive Temperature Monitoring</u>	Underway Of the four strata: one stratum is complete and two are in ISPR. Problems using the DNR hydro layer to find Type Np study streams on the eastside thwarted efforts to find sites for the final strata. Policy decided not to fund temperature monitoring on the final strata and deprioritized temperature trend monitoring for the others. Final

CMER Research Milestones		
Description of Milestone		Status as of April 2016¹
		reports on the three tested strata expected to be complete in spring 2016.
	Scope: <u>Watershed Scale Assess. of Cumulative Effects</u>	Off Track
	Scope: <u>Amphibians in Intermittent Streams (Phase III)</u>	Not Progressing Project milestone exists only if needed to fill research gaps left from Type N Experimental in Basalt Lithology.
2017	Study design: <u>Watershed Scale Assess. of Cumulative Effects</u>	Off Track
	Study Design: <u>Amphibians in Intermittent Streams (Phase III)</u>	Not Progressing Project discussed above for 2015 scoping state.
2018	Complete: <u>Roads Sub-basin Effectiveness</u>	Earlier Stage Underway Resample for trend analysis planned for 2022. This later project timeline does not conflict with the intention of this milestone. Ecology agrees it's prudent to wait until RMAP time extensions have ended before conducting further trend sampling. RMAP programs implemented through DNR Forest Practices Operations may also negate the need for this follow-up sample of progress in fixing roads.
	Implement: <u>Watershed Scale Assess. of Cumulative Effects</u>	Off Track
	Complete: <u>Type N Experimental in Incompetent Lithology</u>	On Track
2019	Complete: <u>Eastside Type N Effectiveness</u>	Earlier Stage Underway Project discussed above for 2012 study design stage.

¹ **Status terminology:**

- “Completed”** - means milestone has been satisfied (includes those both on schedule and late).
- “On Track”** - means work is occurring that appears likely to satisfy milestone on schedule.
- “Underway”** - means work towards milestone is actively proceeding, but likely off schedule.
- “Earlier Stage Underway”** – means project initiated, but is at an earlier stage than the listed milestone.
- “Not Progressing”** - means no work has begun, or work initiated has effectively stopped.
- “Off Track”** - means: **1)** No work has begun and inadequate time remains, **2)** key stakeholders are not interested in completing the milestone, or **3)** attempt at solution was inadequate and no further effort at developing an acceptable solution is planned.



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Washington Department of Natural Resources
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PO Box 47012
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forest.practicesboard@dnr.wa.gov

Re: Petition for Rule Making

Dear Forest Practices Board Members,

The Upper Columbia United Tribes would like too formally request that you include our petition regarding notification of application of forest chemicals on the Boards, May 11th agenda. We would like the opportunity to present the petition to the Board and answer any questions at the May meeting.

The Upper Columbia United Tribes continue to be concerned about the lack of notification regarding forest chemical applications and the impacts to tribal members who might be utilizing plant and or animal resources from the application areas. Without knowing the chemicals applied there is no way to inform tribal members of the possible risks, the time required to allow for safe entry and potential impacts to natural resources. The purpose of our proposed rule is to facilitate better communication between landowners and the public through improved public notice and reporting of forest chemical spraying.

The UCUT brought this issue forward well over a year ago and attempts to work collaboratively with stakeholders and relevant agencies have not resulted in an identified system for appropriate notification. The only option we have identified for resolution is rule making through the Forest Practices Board.

Thank you very much for your consideration in regards to including our petition on the May agenda. Please let me know if you have any additional questions or concerns.

Respectfully,

Marc Gauthier
Forest Practices Coordinator

509-795-9714



Washington State Forest Practices Board

**Petition for New Forest Practices Rule (RCW 34.05.330; WAC 222-08-100)
Related to Notice and Disclosure for Aerial Spraying of Forest Chemicals**

May, 2016

Responsible Agency: Washington State Department of Natural Resources

Petitioner: Upper Columbia United Tribes

Summary: Recent attempts to engage the DNR and TFW Policy Committee regarding forest herbicide application reporting have not led to any resolution. State law and managing agencies (WDA and WDNR) do not require reporting of chemical applications. WDA does require that applicators keep records for seven years, but does not require reporting. As an adjacent landowner or interested land manager there is no easy way to determine when, where, and/or what was applied. Considering forest applications are generally large areas and are applied aurally, knowing the areas to be sprayed, our proposed solution is to amend the Forest Practice Rules to require herbicide application notification and reporting.

To address the inadequacies in the current rules, we propose the development of a Forest Practices Rule that:

- Requires all adjacent landowners to receive a letter of notice of the planned spray location no less than 14 days prior to the intended application;
- Requires a system to allowing interested parties to receive notice of herbicide spray applications within the state of Washington or a lesser predefined area within the State;
- Requires the land owner of the FPA to file a simple post-application report with the Washington State Department of Natural Resources (“DNR”) indicating the date, herbicide used, rate of application, and area applied (if altered from the original FPA);
- Requires reports to be filed with the DNR within 14 days of the completion of spraying; and
- Require Washington DNR to add forest chemical application sites to their compliance monitoring reports. The DNR does not currently monitor forest chemicals.

The FPB possesses the regulatory authority to make this request under WAC 222-08-160.



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April 27, 2016

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forest.practicesboard@dnr.wa.gov

Re: Petition for Rule Making

Dear Forest Practices Board members:

On behalf of the Northwest Center for Alternatives to Pesticides, Skykomish Valley Environmental and Economic Alliance, and Defenders of Wildlife, the Washington Forest Law Center, with the assistance of the Regulatory Environmental Law and Policy Clinic at the University of Washington School of Law, submits the enclosed petition for the adoption of a new rule regarding forest chemicals. Supporting materials are provided on CDs. We request that the petition be placed on the Board's agenda for the May 11, 2016 meeting and respectfully request 15-20 minutes to present the proposed rule to the Board, solicit input, and respond to any questions.

Public concern about exposure to potentially dangerous forest chemicals has been a common issue before the Board from a broad swath of stakeholders. The purpose of our proposed rule is to facilitate better communication between landowners and the public through improved public notice and reporting of forest chemical spraying. The petition does not propose to ban any particular chemical or change how any chemical is used in forest management; rather it proposes to provide warning of aerial chemical applications to those most at risk of exposure. Notice will allow residents to communicate concerns to the spray permittee and to take precautionary steps to protect themselves, their families, and their animals. The rule is based upon measures already in place at the Department of Natural Resources Proprietary Division and the Department of Ecology.

Thank you for your consideration of our request for time on the Board's May 11 agenda to present the petition and proposed rule. I am very happy to provide additional materials or answer any questions upon request. Additionally, the petitioners will reach out to each of you to explain the basis of the petition and to respond to questions or concerns.

Sincerely,

Wyatt Golding
wgolding@wflc.org 206-223-4088 x. 7

Washington State Forest Practices Board

Petition for New Forest Practices Rule (RCW 34.05.330; WAC 222-08-100)

Related to Notice and Disclosure for Aerial Spraying of Forest Chemicals

April 27, 2016

Responsible Agency:

Washington State Department of Natural Resources

Petitioners:

The Northwest Center for Alternatives to Pesticides, Skykomish Valley Environmental and Economic Alliance, and Defenders of Wildlife

I. Executive Summary

The Northwest Center for Alternatives to Pesticides, Skykomish Valley Environmental and Economic Alliance, and Defenders of Wildlife petition the Forest Practices Board for a new rule regarding the aerial application of forest chemicals. The Washington Forest Law Center prepared the petition with the assistance of the Regulatory Environmental Law and Policy Clinic at the University of Washington School of Law. We request that the Board provide time on the schedule at the May 11, 2016 meeting for us to present the petition and solicit feedback from the Board. The Board can then determine whether to make a decision on the petition at the meeting or at a later date. Forest chemicals include herbicides, fungicides, insecticides, rodenticides, and fertilizers. The use of forest chemicals has been a common issue before this Board, with concerns registered by representatives of hunting groups, environmental groups, and tribal governments.

The purpose of the petition is to improve notification and reporting of forest chemical spraying. Without warning, individuals living in rural Washington witness helicopters spraying chemicals across hundreds of acres near their homes and families. This is a truly frightening experience—many of the chemicals in common use have documented human health effects, and as science continues to develop we learn that chemicals previously thought to be safe are in reality hazardous. According to the World Health Organization and the State of California, glyphosate, one of the most common herbicides used in forestry, likely causes cancer. Atrazine, another herbicide commonly used in forestry, and chlorothalonil, a fungicide, have well-documented human health effects. Recent whistleblower accounts of reckless spray practices from chemical applicators in the region document heightened risk of exposure. When we have inquired to find out what chemicals were sprayed where and when, they have discovered that there is limited oversight, monitoring, and reporting of forest chemical use in the current regulatory regime.

The proposed rule seeks to increase transparency and facilitate better communication between landowners and the public through improved public notice and reporting. The rule proposes the following measures:

- Pre-spray notice to individuals living in close proximity to the planned spray location.
- Submission of a simple post-application report with the Washington State Department of Natural Resources (“DNR”) to be uploaded to DNR’s online Forest Practices Application Review System (“FPARS”).

We also request that the Board direct the DNR to add forest chemicals to their compliance monitoring program. The proposed rule change does not propose substantive changes to how chemicals are sprayed, and therefore does not function as any sort of ban on particular chemicals or chemical use. The proposed rule does not cover aquatic resources and therefore does not necessitate use of the adaptive management program.

The proposed measures are beneficial because they will provide advance warning to those most at risk of exposure. Better communication and information will allow landowners to take simple measures to avoid spraying in critical areas, and allow residents to take precautionary steps to protect themselves, their families, and their animals. Many forest chemicals are toxic at varying levels, mixtures, and concentrations to fish, wildlife, and humans, and the petitioners believe that it is fundamentally important to at least understand where, when, and in what quantities the chemicals are used. Reporting would enable residents to know what chemicals were used in the event that health effects do occur, and also will facilitate long-term study of chemical impacts.

The proposed measures are also beneficial because they will gather extremely useful data. If individuals in a given area fall sick or experience other health effects after spraying, those individuals and their medical care professionals will be able to quickly determine what chemicals they may have been exposed to and how to most effectively respond. If individuals would like to have their blood or urine tested for exposure, they will know what chemicals to test for. Similarly, comprehensive spray records would allow the State and other groups to monitor the aerial application of chemicals and assess the efficacy of current regulations.

The proposed rule achieves significant benefits with minimal burden imposed on landowners and DNR. The advance notice aspect of the proposed rule would build off of the existing regulatory framework. DNR Proprietary already voluntarily provides advance notification by letter of spraying on State trust lands, which has proven to be efficient and effective. Many forest landowners already send letters or are able to meet in person with adjoining landowners prior to spraying, meaning that for those landowners the notice requirements would pose no additional burden. The reporting aspect of the proposed rule is efficient because the existing rules already require recording of spray information and submission to the Department of Agriculture upon request. The new rule would require limited expenditure of agency time and resources because it builds on DNR’s existing FPARS system.

This Board has previously adopted rules regarding the handling, storage, and application of forest chemicals and the policy behind rules concerning forest chemicals under the statutory authority of Chapter 34.05 RCW, RCW 76.09.040, RCW 76.09.050, RCW 76.09.370, RCW 76.13.120.¹ The Board has the authority to adopt the proposed rule, and doing so is necessary to help protect public safety and improve communications between landowners and the public.

¹ See WAC 222-38-010, WAC 222-38-040.

II. Background and Current Rules

Forest chemicals include herbicides, fungicides, insecticides, rodenticides, biological agents, and fertilizers.² Spraying forest chemicals is standard practice the Washington State timber industry. Chemicals may be used at nearly every stage of growth. Herbicides facilitate site preparation. Fungicides attack pests that grow on densely-packed stands. Insecticides and biological agents, used less frequently than other chemicals, target damaging insects. Fertilizers facilitate regrowth after existing biomass is removed. For the sake of efficiency, landowners typically choose to spray large areas in short periods of time, generally using helicopters. While it is unknown exactly how many acres are sprayed per year, a recent Oregon report documented an 184,320 acre study area. In that area, approximately 18,000 pounds of pesticides were sprayed on forest land in a given year.³ While Oregon has weaker forest chemical prescriptions than Washington, given similar growing conditions and private landowners, it is reasonable to assume that the overall amount of chemicals used per acre is similar. If extrapolated across the roughly 8 million acres of private forest land in Washington, it is likely that hundreds of thousands of pounds of chemicals are used in forest management each year. Many of these private forest acres border residential communities, schools and other public buildings, and public lands used for hiking and hunting. While spraying also occurs on State trust lands, DNR has a strong track record of communicating with local residents about spraying issues and DNR's spray records are generally available through public records requests.

The aerial application of chemicals on forestland in Washington State is regulated under Chapter 76.09 RCW "Forest Practices," Chapter 222-20 WAC "Application and Notification Procedures" and Chapter 222-38 "Forest Chemicals." In order to spray forest chemicals, landowners are required to submit a Forest Practices Application ("FPA") to DNR's Forest Practices Division. The aerial application of chemicals is classified as a Class I, Class III, or Class IV forest practice depending on the nature of the chemical application. Class III and IV forest practices require DNR approval of an FPA. Washington forest practices rules require a 200-foot buffer around residences and a 100-foot buffer around agricultural lands.⁴ No forest practices rule requires buffers around schools or businesses. No forest practices rule restricts use of forest chemicals to protect domestic wells or groundwater. Approval of a spray FPA by DNR is effective for three years. Unlike other FPAs, spray permits are free and have no processing or other fees.⁵

Once a spray FPA is approved by DNR, it is valid for three years.⁶ Because the FPAs seek authorization for a wide range of chemicals over a long time span, the reviewing public does not know when spray will occur, which chemicals listed on a given application are sprayed, the amount sprayed, the chemical mix used, or the degree to which an applicator deviates from the

² As used in the forest practices rules, the term "pesticide" includes herbicides, fungicides, insecticides, and rodenticides. WAC 222-16-010. This petition does not focus on rodenticides, because our understanding is that those chemicals are rarely used and when used are not aerially applied.

³ Bernstein et al. 2013. *Oregon's Industrial Forests and Herbicide Use: A case study of risk to people, drinking water and salmon*. Beyond Toxics publication. <http://www.beyondtoxics.org/work/pesticide-reform/forestry-pesticide-project/oregons-industrial-forests-and-herbicide-use-dec-2013-report/>

⁴ WAC 222-38-020(4)(e).

⁵ http://www.dnr.wa.gov/publications/fp_form_fpanfees.pdf

⁶ The duration of a spray permit authorization was previously one year, and forest landowners typically submitted permits shortly before the spraying season. However, the duration for forest chemicals FPAs was lengthened along with other permits as part of a larger negotiation in June 2011.

permit terms. To the best of our knowledge, DNR has never taken enforcement action relating to spraying. The result is that there is very little information available regarding what chemical use is actually occurring across the Washington landscape.

Applicators are required to keep detailed records of each spray application of pesticides. These pesticide spray application records must detail which chemicals were applied, in what amount, and the area sprayed.⁷ The records are retained by the spray applicators for seven years, and are available only upon written request from the Director of Washington's Department of Agriculture.⁸ To the best of our knowledge, DNR is not conducting and has never conducted any compliance monitoring for forest chemical use on private lands and has not taken any enforcement actions regarding forest chemicals.

III. Request for Adoption of New Rule

The Washington Forest Law Center hereby submits this petition for rulemaking on behalf of the Northwest Center for Alternatives to Pesticides, the Skykomish Valley Environmental and Economic Alliance, and the Defenders of Wildlife, pursuant to the Washington Administrative Procedure Act ("APA"), chapter 34.05.330 RCW, Washington Administrative Code ("WAC") section 82-05, and WAC 222-08-100. This petition conforms to all rules governing rulemaking petitions before the Forest Practices Board.

IV. Weaknesses in the Current Rules

The current Forest Practices Rules provide inadequate notice and disclosure to nearby residents for the following reasons, set forth in further detail below:

- Although FPAs may be reviewed by members of the public, they are valid for three years, have very generalized lists of chemicals, and do not indicate when the listed chemicals will be sprayed.
- The posting of access points is insufficient because the location of signage is discretionary based on what the landowner deems to be a significant and regular access point, and the notice is focused on individuals who are attempting to access the specific spray unit. The notice does not directly address adjacent landowners via drift or entry into ground or surface water.
- There is ample evidence suggesting that the current rules are under-protective of public health, which makes transparency and data collection all the more important.

⁷ The following information is also required: The full name and address for whom the pesticides were applied, the date and exact start and stop time of application, the product name and EPA number of the applied pesticide, wind and temperature conditions at the time of application, the amount of pesticide applied per one acre, the concentration of pesticide applied, the apparatus license plate number, and the number of acres to which the pesticide was applied the licensed applicator's full name. WAC 16-228-1320(1).

⁸ WAC 16-228-1320(3).

- There is no comprehensive, public record of aerial chemical spray operations on privately-owned forest land. Neither the public nor DNR knows how much of which forest chemicals are sprayed where.

A. Current Rules Provide Insufficient Notice and Disclosure

Under current rules, public notice is provided via forest practices applications available on FPARS and public signage at the location of the spraying.

The FPARS system is a valuable tool for public review of FPAs, but it does not by itself provide adequate notice to the public for three reasons. First, approved FPAs are valid for a period of three years.⁹ They give no indication of when during that three-year period spray operations will be conducted.¹⁰ Chemically sensitive individuals or those with children, pets, or livestock cannot prepare ahead of time for a nearby chemical spray operation. With adequate notice, families could reduce the likelihood of exposure by keeping children and pets indoors and bringing livestock to sheltered areas. The three-year permit approval window does not allow nearby residents to prepare in real-time for personal safety.

Second, FPAs usually contain a long list of chemicals which could be applied. For example, a recent spray FPA located near Wallace Falls State Park authorizes the use of twenty-two (22) separate herbicides and two surfactants.¹¹ Later communications with the landowner established that the landowner actually used three (3) of the chemicals and one surfactant.¹² Nearby residents are given no indication of which chemicals will be applied in a given spray operation, when they will be applied, or where in the indicated application area they will be applied. A nearby resident has no way of knowing which chemicals listed in the FPA are being applied.¹³ Perhaps most critically, if there are any health effects, the individual will be unable to notify their health care provider of what chemicals they were potentially exposed to.

Third, many residents in nearby communities may have never heard of the FPARS system. The system only works if an individual knows about it and actively checks it. Members of the public who do not use the FPARS system do not even receive the limited notice provided in FPAs.

Posting access points is a useful but limited tool. Posting is targeted at individuals seeking to enter an area that will be or has been aerially sprayed with pesticides, but is ineffective for providing notice and disclosure to nearby landowners and residents. Posting rules do not apply to aerial applications of fertilizers or other forest chemicals, which may pose a health risk to the public individually, or as a mixture. More importantly, the aerial application of chemicals has the potential to create health risks outside of the immediate application area via chemical drift as well as both direct and indirect entry into surface water. Finally, posted signs are temporary and do not create any sort of easily distributed or lasting record.

⁹ Prior to June 20, 2011, approval of an FPA was valid for a period of two years. WSR 11-12-009. Effective June 20, 2011, the period was extended to three years further exacerbating the problem. WSR 13-01-007.

¹⁰ Oregon forest practices regulations, which generally are less protective than Washington's, have a 1-year authorization window.

¹¹ See FPA No. 2814793.

¹² <https://svena.org/current-projects/chemical-spraying/>

¹³ See, e.g., <https://svena.org/letter-of-protest-for-toxic-spray/>

B. Current Rules Provide No Post-Application Records of What Chemicals are Actually Sprayed

The current rules are also deficient in that they do not provide public post-application records of aerial chemical spray operations. As a result, neither the public nor the regulating agencies have knowledge of what chemicals, and what quantity of chemicals, are used in forestry in Washington.

The public may review FPAs, but there is no required post-application follow up. Members of the public have no way of confirming what was actually sprayed and when. There is also no way for the public to know the environmental conditions under which the spray was conducted as there is now way to find the date and time of a past spray. Nearby residents cannot adequately evaluate whether or not they might have been exposed to chemicals from a spray operation. Department of Agriculture regulations allow the director of the department to request spray records, but there is no means by which the public can do so.¹⁴

The lack of records on file with DNR hampers the agency's ability to conduct compliance monitoring for aerial applications of chemicals. Linking specific chemical applications to a date and time would allow DNR to conduct informed testing for water quality damage and chemical drift. Without easy and consistent access to this information it will be difficult for DNR, the Department of Ecology, or the public to evaluate the adequacy of the current rules. With other forestry operations, practices are easily viewable after the fact. Inspectors can view roads or measure buffers and determine whether or not rules were followed. However, because forest chemicals are largely invisible, especially in small quantities, meaningful assessment of the rules requires reporting on what is actually happening on the landscape.

C. Forest Chemicals Create Risk to Public Health

The use of forest chemicals in Washington creates risk to public health in a variety of ways. Individuals can be exposed via overspray, drift, or as particles settle out of the air onto objects that humans may come into contact with like cars, houses, playsets, and mailboxes. Exposure may occur by entry of chemicals into drinking water, either via shallow wells, groundwater, or surface water. Studies on chemical behavior indicate that exposure likely occurs. Anecdotal evidence confirms the likelihood that exposure occurs in forested communities in Washington. Studies in residential communities near industrial forest land in Oregon have revealed that forest chemicals become persistent in urine and blood samples of nearby residents.¹⁵ A thorough news report from the Center for Investigative Reporting, which aired on PBS NewsHour in 2012, describes common practices in the use of forest chemicals in Oregon, and sets forth citizen concerns relating to exposure and health effects.¹⁶ Similar exposure risk likely occurs in Washington. Common forest chemicals present persistent and serious human health risks.

¹⁴ WAC 16-228-1320. An individual who complains of direct damage from spraying violations has a right to obtain the Department of Agriculture's decision as to whether or not to pursue enforcement action. *See* WAC 16-228-1020.

¹⁵ U.S. Department of Health and Human Services 2012. *Health Consultation Exposure Investigation: Biological Monitoring for Exposure to Herbicides; Highway 36 Corridor, Lane County, Oregon.*

<http://www.atsdr.cdc.gov/HAC/pha/Hwy36CorridorEIReport/Highway36CorridorEI03052012.pdf>

¹⁶ *See* "Forests in Oregon at Risk from Timber Industry and Chemicals," PBS NewsHour 2012, available at <https://www.youtube.com/watch?v=E1L2ajli61M>.

1. The use of forest chemicals in Washington likely causes human exposure.

The most direct means of exposure is overspraying. Due in part to lack of reporting and enforcement, it is currently unknown how often overspray occurs. However, there is significant anecdotal evidence that it occurs periodically due to equipment malfunction or worker oversight. One monitoring study on DNR State Trust lands suggests that overspray may be a regular occurrence. During the spring 2012 Sustainable Forestry Initiative forest certification audit of DNR-managed lands, two instances of aerial herbicide overspray within type 5 stream buffers were discovered in the Pacific Cascade Region. These oversprays occurred during the summer 2011 aerial spray application. As part of the agency's corrective action plan, DNR committed to conduct periodic monitoring of its aerial herbicide program. Even where applicators knew monitoring was occurring, overspray occurred. On average, the herbicide effects were observed 14.78 feet outside of the spray unit boundaries, with a maximum average of 50.33 in one of the units. Repeated oversprays, even of protected areas, strongly suggests that overspray occurs onto properties near forestland.¹⁷ Whistleblower accounts from a worker at Applebee Aviation, which operates currently in Washington, have documented regular instances of overspray affecting workers and surrounding areas.¹⁸

Exposure also occurs via drift. The ability of aerially sprayed chemicals to drift from their intended target is well documented.¹⁹ Off-target chemical drift can pose health and environmental risks.²⁰ Chemical drift can occur due to operator error, failure to account for environmental factors such as unpredictable wind patterns, humidity, precipitation, and the elevation profile of the spray area.²¹ A report prepared by the Washington State Department of Ecology and the Timber/Fish/Wildlife Policy Committee clearly evidenced the inadequacy of the rules to safeguard against drift.²² According to the report, the rules and the Board Manual were not effective at preventing "drift causing direct entry" into water.²³ Testing revealed that aerial chemical spraying results in pesticide contamination that exceeds recommended water quality standards.²⁴ The report also noted that the current rules are not effective at achieving compliance with EPA and Washington State Department of Agriculture approved labels.²⁵ According to a thorough literature review by Dr. Ken Giles, in order to prevent drift in most instances, buffers would have to be at least 100 meters (328 feet).²⁶ Current buffers around homes are 200 feet, with no buffers prescribed for public roads, schools, parks, and other facilities. WAC 222-38-020(4)(e)(i). Chemicals can also volatilize into micro particles following spray application. The

¹⁷ See attached files.

¹⁸ *BLM Investigates After Company Sprays Pesticide On Public Land Without License*, Earthfix, OPB, October 27, 2015, <http://www.opb.org/news/article/blm-investigates-after-company-sprays-pesticide-on-public-land-without-license/>

¹⁹ United States Environmental Protection Agency 2009. *Introduction to Pesticide Drift*, <http://www.epa.gov/reducing-pesticide-drift/introduction-pesticide-drift>; Washington State Department of Health 2013. *2013 Pesticide Data Report*; Washington State Department of Health 2009. *2009 Annual Report: Pesticide Incident Reporting and Tracking*.

²⁰ *Introduction to Pesticide Drift, supra*; *2013 Pesticide Data Report, supra*; *2009 Annual Report, supra*.

²¹ *Effectiveness of Best Management Practices, supra*.

²² *Id.* at 76.

²³ *Id.* at 58.

²⁴ *Id.* at 55.

²⁵ *Id.* at 60.

²⁶ See declaration of Ken Giles.

volatized particles transport easily and create inhalation exposure for surrounding landowners. “Even when sprayer equipment nozzles and line pressures are carefully selected and calibrated, a proportion of the pesticide spray will invariably exist in smaller spray droplets...and stay suspended in the air mass” (Ramaprasad 2004).²⁷ The impacts of volatilization can persist for weeks, but are strongest immediately after application, particularly on hot days. *Id.*

A variant of drift is movement of chemicals that attach to soil. Erosion then delivers the soil, via wind or runoff, onto surrounding property or into water. This phenomenon has caused widespread exposure in the agricultural context, suggesting that the same occurs in forested areas.²⁸ Similarly, contaminated dirt and dust can cling to clothes of individuals or pets that travel through recently sprayed areas, and extend exposure into the home. For instance, research has shown detectable levels of pesticides in house dust of agricultural workers (Rohlman et al. 2005).²⁹ “Take-home” exposure is particularly concerning because children are at much higher risk of neurological and developmental impacts from pesticides. *Id.* Because replanting and road maintenance activities can occur after forest chemical use, forestry workers and their families likely bear risk of exposure.

Direct and indirect entry of aerially sprayed chemicals into groundwater, shallow wells, and surface water is also a cause of concern for nearby communities. Water contamination may still occur due to inadvertent buffer violations, operator error, unaccounted for environmental factors, chemical runoff into surface water, or a failure to identify all bodies of water such as small seasonal streams.³⁰ Testing by the U.S. Department of Agriculture in 2011 found imazapyr, a common forest herbicide, in the well water at a public school in the Triangle Lake area, west of Eugene, Oregon. Several tests have found imazapyr to be highly mobile in soil and groundwater, with resulting detectable concentrations 10 feet deep in soil and in surface and groundwater following spraying. Between 2002 and 2010, the U.S. Geological Survey took samples from Oregon’s McKenzie River Basin, an area dominated by timberland, and found that nearly half of all samples included the herbicides hexazinone, 2,4-D, atrazine and glyphosate, which rank among the most frequently used herbicides in forestry.³¹ Given the potential for aerially applied chemicals to drift as well as to enter bodies of water, posting access points to spray areas provides insufficient notice and disclosure for nearby residents.

The proposed rule change does not propose substantive changes to how chemicals are sprayed, and therefore will not directly change forest practices. But given the evidence that the current rules do not prevent exposure, it is all the more important that the public receive adequate notice and disclosure of aerial spray operations. The current lack of transparency prevents the public from taking measures to protect themselves or monitor impacts to their neighborhoods.

²⁷ See Ramaprasad et al. 2004. *The Washington Aerial Spray Drift Study: assessment of off-target organophosphorus insecticide atmospheric movement by plant surface volatilization*. *Atmos Environ*: 38: 5703–5713.

²⁸ *Hundreds of farmers face BLM in lawsuit over herbicide, lost crops*, *The Oregonian*, June 7, 2009, http://www.oregonlive.com/environment/index.ssf/2009/06/hundreds_of_farmers_face_blm_i.html Oregonlive 2009.

²⁹ See Rohlman et al. 2005. *Neurobehavioral Performance in Preschool Children from Agricultural and Non-Agricultural Communities in Oregon and North Carolina*. *Neurotoxicology* 26(6): 589-98.

³⁰ *Effectiveness of Best Management Practices*, *supra*.

³¹ See *Timberland herbicide spraying sickens a community*, *High Country News*, November 10, 2014, <https://www.hcn.org/issues/46.19/timberland-herbicide-spraying-sickens-a-community>.

2. Exposure to forest chemicals can cause significant health problems including cancer.

Herbicides, fungicides, insecticides, fertilizers, and chemicals used along with active ingredients to facilitate spraying, such as surfactants and adjuvants, can all have serious health effects. Areas near industrial forests are likely exposed to these chemicals repeatedly over many years, creating risk of both high-dosage exposure from overspray and chronic long-term exposure via drift, entry into groundwater, inhalation, and mobility in soils. Children in particular are highly susceptible to the impacts of even low levels of pesticide exposure.³² Children have a higher inhalation rate to body weight ratio than adults, and may have comparatively immature detoxification and clearance systems, and therefore are at higher risk than adults to adverse effects of airborne toxicants (Ramaprasad et al. 2004).

Herbicides are the most commonly used forest chemical in Washington. For example, we analyzed a recent FPA authorizing spraying near Goldbar, Washington. That FPA authorizes spray of the active chemicals imazapyr, glyphosate, and triclopyr, among others, in close proximity to residential areas. Four peer-reviewed studies demonstrate the ability of glyphosate-containing herbicides to cause genetic damage to DNA (mutagenicity), even at very low concentration levels.³³ According to the World Health Organization, glyphosate “probably” causes cancer in people.³⁴ In 2015 the California Environmental Protection Agency’s Office of Environmental Health Hazard Assessment issued a notice of its intent to list glyphosate as a chemical “known to the state” to cause cancer.³⁵ Triclopyr is highly mobile in groundwater and somewhat persistent, and has been found in surface water after forestry spraying.³⁶ Triclopyr significantly increases the frequency of breast cancer (mammary adenocarcinomas) in rats and mice.³⁷ More than 30 studies show associations with insecticide and herbicide use and leukemia (McCauley 2006).³⁸

Fungicides also can have human health impacts. For example, a recent FPA in Southwest Washington allows the spraying of chlorothalonil. Chlorothalonil is a probable human carcinogen.³⁹ The label of chlorothalonil products states that it is “toxic to aquatic invertebrates and wildlife,” that “[c]hlorothalonil degradates are known to leach through soil into ground water under certain conditions as a result of label use” and advises “[d]o not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, recreational park athletic fields, athletic fields located on or next to schools (ie., elementary, middle and high

³² *Children and Lawn Chemicals Don’t Mix*, Beyond Pesticides 2005.

<http://www.beyondpesticides.org/assets/media/documents/lawn/factsheets/Pesticide.children.dontmix.pdf>.

³³ *Children and Lawn Chemicals Don’t Mix*, Beyond Pesticides 2005.

³⁴ *Weed Killer, Long Cleared, Is Doubted*, The New York Times, March 27, 2015,

http://www.nytimes.com/2015/03/28/business/energy-environment/decades-after-monsantos-roundup-gets-an-all-clear-a-cancer-agency-raises-concerns.html?_r=0.

³⁵ See California Environmental Protection Agency, *Office of Environmental Health Hazard Assessment Notice of Intent to List Chemicals By the Labor Code Mechanism: Tetrachlorvinphos, Parathion, Malathion, Glyphosate* (September 4, 2015),

http://oehha.ca.gov/prop65/CRNR_notices/admin_listing/intent_to_list/pdf_zip/090415NOIL_LCSet27.pdf.

³⁶ Fact sheet.

³⁷ *Id.*

³⁸ McCauley et al. 2006. *Effectiveness of cleaning practices in removing pesticides from home environments*. *J Agromedicine*: 112 81-88.

³⁹ See State of New Jersey chlorothalonil fact sheet.

schools), campgrounds, churches, and theme parks.”⁴⁰ Chlorothalonil also causes skin rashes. When people are exposed repeatedly, their skin can become sensitized so that they develop allergic reactions to the fungicide. Greenhouse workers, nursery workers, field workers on banana plantations, workers in chlorothalonil manufacturing plants, painters, and home gardeners have all developed skin rashes and sensitivities.⁴¹ Insecticides are less commonly used, but also have some of the most severe health risks.

The active ingredients in herbicides and fungicides are registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act. However, registration focuses on short-term acute exposure with severe impacts, and it is harder to quantify the risks posed by longer term, chronic exposure and less severe impacts. Studies demonstrate that outside of the laboratory setting, chronic low level exposure creates long-term impacts to human health (particularly to children) that are not captured in the laboratory setting.⁴² Also, commercial forest chemical products contain far more than the listed active ingredient. A given product will contain the active ingredient and a host of other chemicals, which are not disclosed to the public because they are trade secret. Furthermore, companies often spray herbicides in cocktails of various chemicals at different concentrations. It is unknown how the various products behave when mixed. Some studies strongly indicate that there are adverse synergistic effects to chemical cocktails that exceed that of any of the individual products used in isolation (Relyea 2009).⁴³

Fertilizers, and in particular the chemicals used to deliver them, also have human health risks. For example, a recent FPA authorizes the spraying of fertilizers across approximately 10,000 acres of property in southwest Washington.⁴⁴ The fertilizer of choice is named “Agrotain,” and according to its warning label the product “[c]auses serious eye damage. Suspected of damaging fertility or the unborn child.”⁴⁵ Often fertilizers are sprayed in pellet form, which reduces risk of drift and volatilization and resulting human exposure.

In order to reduce drift and volatilization, companies often mix chemicals with adjuvants or surfactants. These products also have potential human health impacts and receive far less scrutiny from regulating authorities because they are not the active ingredient in a pesticide. According to Bakke 2007, a paper assessing various commonly used adjuvants and surfactants in Washington, some of the chemicals are rated by the EPA as a “Danger,” and the majority are rated as deserving “Caution.”⁴⁶ The ratings are due to skin and eye irritation and corrosiveness.

3. Forest chemicals can harm domestic and wild animals, and the humans that interact with those animals.

Exposure to herbicide-treated lawns has been associated with significantly higher bladder cancer risk in dogs. Research found herbicide presence in the urine of dogs that travel through areas

⁴⁰ See Primera One label.

⁴¹ Fact sheet.

⁴² See Rohlman et al., *supra*.

⁴³ See Relyea 2009. *A cocktail of contaminants: how mixtures of pesticides at low concentrations affect aquatic communities*, *Oecologia* 159:363–376.

⁴⁴ FPA No. 2929540.

⁴⁵ *Id.* (warning appended to FPA).

⁴⁶ See Bakke 2002; Revised 2007. *Analysis of Issues Surrounding the Use of Spray Adjuvants With Herbicides*. Prepared for U.S. Forest Service, Pacific Southwest Region, Vallejo, CA. 61 pp.

treated with herbicides such as 2, 4 D, an herbicide also common to forestry (Knapp et al. 2013). Dogs also can serve as vectors for herbicide exposure, by travelling through treated areas and then returning to human homes.⁴⁷ The study suggested that exposure decreases relatively quickly following treatment, and that homeowners could take simple safety measures such as cleaning animals' feet when they return home from treated areas.

EPA registration labels for many common forest chemicals do not allow exposure to livestock. For example, the label for atrazine⁴⁸ warns:

- Do not feed treated grass hay to livestock.
- Do not graze treated areas.
- Do not use seeds for bird food.
- Do not dump or spill product or dispose of containers within reach of livestock.

The label for chlorothalonil also advises “DO NOT apply this product in a way that will contact workers or other persons, or pets, either directly or through drift.”⁴⁹ These restrictions raise concerns for the many areas where agriculture and commercial forestry interface, as well as for wild species similar to livestock and poultry that thrive in the brushy post-logging environment, such as ungulates and wild birds. Again, animal exposure can result in human exposure. Finally, forest chemicals pose risks to aquatic ecosystems including game species such as salmon and trout.⁵⁰ Fishermen may be exposed via ingestion of fish.

In sum, forest chemicals can have a variety of human health impacts as demonstrated in laboratory studies and anecdotal accounts. While there is a contentious field of science in which there are many perspectives on the relative toxicity of different chemicals at different exposure levels, there is little question that aerial spray of chemicals increases risk of nearby residents' risk of exposure, and that exposure generally elevates risk of human health effects. Less is known about the mix of various chemicals, because those mixes vary with each application and have received little formal scrutiny. Evidence indicates that cocktails of chemicals have adverse human health effects that are not fully understood.

With better notification, individuals could manage their own level of risk by restricting access to sprayed areas on days of spraying and immediately thereafter. Individuals could also limit risk by restricting domestic animal access to sprayed forestland and not ingesting wild species from sprayed areas. The proposed rule would allow residents to communicate with forest landowners to express concerns, avoid areas on days of spraying, and provide information to healthcare providers in the event of exposure. Each of these measures would reduce the human health risk created by the use of forest chemicals.

⁴⁷ See Knapp et al. 2013. *Detection of herbicides in the urine of pet dogs following home lawn chemical application*. Science of the Total Environment 456-457: 34-41.

⁴⁸ See Atrazine 4L label.

⁴⁹ See Primera One label (emphasis in original).

⁵⁰ See Gilliom 2006, Gomi 2002, Relyea 2005, Relyea 2009.

VI. Proposed New Forest Practices Rule

The new rule would be an additional requirement within the current chapter of the forest practices rules dedicated to forest chemicals.

A. Text of Proposed Rule

WAC 222-38-050

(1) The permittee must give notice to the public and to the department of the intended aerial application of forest chemicals. The permittee must provide the notice at least 10 days prior to the planned date of application. Updated notice must be provided if the planned spraying is delayed by more than 5 days.

(a) Public notice requires:

(i) A physical letter to all people within a 1 mile radius of the planned location of application; and

(ii) An additional method, such as local broadcast or print media, reasonably calculated to reach residents within 5 miles of the forest land to be treated.

(b) The public notice must include the following information:

(i) The names of the landowner, timber owner, and operator;

(ii) The purpose of the application;

(iii) The name, EPA or State registration number, FPA number, and active ingredient(s) of each chemical to be applied;

(iv) The planned location and map of the area to be treated;

(v) The planned date and time the chemical is to be applied;

(vi) Any potential risks to animal or human health, as well as a number to call for accidental drift or health emergencies; and

(vii) A list of state Species of Greatest Conservation Need (SGCN) located within the permit area.

(2) Within 10 days of aerial application of forest chemicals, the permittee shall submit a post-application report (“report”) to DNR, which DNR shall make publically available without redaction through FPARS within 30 days of receipt. The report must use the form specified by the Department.⁵¹ The report must include the following information:

(a) The Forest Practices Application/Notification Number under which the aerial application of chemicals was authorized;

(b) Legal names of the Landowner, Timber Owner and Operator;

(c) Actual date of the aerial chemical application;

(d) The time at which the application started and the time at which the application stopped;

(e) The wind speed and direction at the time of application;

(f) The Name and EPA/State registration number of each chemical applied, the actual amount of each chemical applied, and the total actual acreage treated;

(g) A map indicating the actual areas where chemicals were applied;

(h) An explanation of any deviations from the authorized Forest Practices Application/Notification.

(i) A statement of whether the authorized forest practices are completed, and if not, when the permittee reasonably expects to recommence spraying.

⁵¹ An example form is attached to this petition under Appendix A.

B. The Proposed New Rule is Necessary and Practical

The proposed rule is necessary because individuals in rural areas are likely regularly exposed to forest chemicals that can cause serious and persistent human health effects. The proposed rule's notice provisions allow individuals at risk of exposure to forest chemicals to notify landowners and applicators of specific concerns, such as well sources, livestock areas, or areas often used for hunting or recreation. Better communication would allow affected communities and landowners to work collaboratively to minimize risk.

The new rule is also necessary to provide data on what is being sprayed where. Under current rules, there are no directly available public records of chemical use, which creates near total absence of regulatory oversight. Public records are imperative in the event of health impacts. If an individual suspects that he or she is exposed to chemicals, he or she must the nature of those chemicals in order to have effective testing and/or treatment. Systematic, comprehensive reporting is also fundamental to any monitoring and long-term research into environmental impacts of chemical use in forestry. By creating a mechanism that requires applicators to check back in with their FPA and note any variations, the DNR and affected individuals will have a means to assess the effectiveness of forest practices rules.

The proposed rule is practical and doable, as demonstrated by practices on State lands and in other jurisdictions. We have designed the rule to follow existing models and where possible, to build off of existing regulatory infrastructure, such as FPARS and already required spray records.

The use of letters to notify nearby landowners is already in place on State lands in Washington and has proven practical and relatively effective. In a work session before the Washington Senate Natural Resources Committee on January 20, 2016, DNR staff explained their regular practice of sending letters to bordering residents as well as those in immediate proximity when appropriate.⁵² Similarly, the Department of Ecology requires that “[e]very residential and business occupant within or abutting a proposed treatment area will receive a mailing explaining the project and providing agency contact information” as part of general permit conditions for certain spraying.⁵³ The Department of Ecology further requires that “[t]he permittee shall publish a notice in the legal notices section of a local newspaper of general circulation (or nearest regional paper if a local paper does not exist) and/or in the State Register for the insecticide application in each management area during the pending treatments,” as well as comprehensive, multilingual sign notification.⁵⁴

The notice aspects are also similar to those provided for in South Carolina Pesticide Control Act § 46-13 and California Food and Agricultural Code § 5265. The South Carolina statute authorizes that the regulating agency “may by regulation require that notice of a proposed application of a restricted use pesticide be given to landowners adjoining the property to be treated or in the immediate vicinity thereof, if he finds that such notice is necessary to carry out the purpose of this chapter.”⁵⁵ In California, if a pesticide is used in certain areas to remove invasive species, the

⁵² <http://www.tvw.org/schedule-main/?category=1&start=01%2F20%2F2016+1%3A30pm> (work session at 1:30 PM)

⁵³ <http://www.ecy.wa.gov/programs/wq/pesticides/insect/index.html> (see Invasive Moth Control Permit as example).

⁵⁴ *Id.*

⁵⁵ S.C. Code § 46-13-30.

applicator must provide notice to affected local governments and the public, and the notice must include “The implications of the use of the pesticide and the inert materials on human health, domestic animals, fish and wildlife, and the environment.”⁵⁶ There must also be a public hearing prior to spraying.⁵⁷ A separate provision requires notices to physicians and residents in the area via local broadcast and print media.⁵⁸ Furthermore, in California it is illegal to spray known carcinogens such as glyphosate and chlorothalonil in such a way that would cause exposure to residents. Cal. Health & Safety Code § 25249.6 (“No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individual, except as provided in Section 25249.10.”). The notice to the department 10 days prior to spraying of forest chemicals mirrors recent legislation proposed in Oregon.⁵⁹

The rule’s requirements for what must be included in the notice given to the public largely mirror those required for applicators through the Environmental Protection Agency’s (“EPA”) Workers Protection Standard.⁶⁰ With further public information focused on alerting the majority of individuals in the area, the problems in the current rules would be better addressed. By aligning the requirements with models from the EPA and other states’ rules, Washington is meeting the standards already set around the United States.

The post-application reporting requirements would be cost effective because the reporting form would draw from the information in existing spray records and the forest practices permit. For most chemicals, applicators are already required to keep records of information relating to the chemicals sprayed, the date and time of application, and the weather conditions at that time.⁶¹

By combining stronger notice requirements and a post-application reporting requirement, this new rule would help fix current weaknesses in the Forest Practices Rules. The rule does so while taking into consideration the regulatory burden placed on permittees.

VII. Legal Authority for a New Forest Practices Rule

The Board has the authority to adopt a new or proposed rule into the Forest Practices Board Manual per RCW 76.09.040, which looks at RCW 76.09.010. The Board has the authority to adopt a new or amended rule if it affects public health and safety pursuant to RCW 76.09.300 and RCW 76.13.120. The Board has adopted rules regarding the handling, storage, and application of forest chemicals and the policy behind rules concerning forest chemicals under the statutory authority of Chapter 34.05 RCW, RCW 76.09.040, RCW 76.09.050, RCW 76.09.370, and RCW 76.13.120.⁶²

⁵⁶ Cal. Food & Agric. Code § 5265.

⁵⁷ *Id.*

⁵⁸ Cal. Food & Agric. Code § 5771.

⁵⁹ *New pesticide regulations for Oregon timber companies*, High Country News, March 2, 2015, <https://www.hcn.org/issues/47.4/latest-new-pesticide-regulations-for-oregon-timber-companies>.

⁶⁰ Environmental Protection Agency, Workers Protection Standard, <http://www.epa.gov/pesticide-worker-safety/agricultural-worker-protection-standard-wps> (last visited February 18, 2016).

⁶¹ WAC 222-38-020(9).

⁶² See WAC 222-38-010, WAC 222-38-040.

A. The Proposed New Rule Does Not Require the Adaptive Management Process

RCW 76.09.370(6) specifies which rules are required to go through adaptive management. The statute states that “[a]fter the board has adopted permanent rules . . . changes to those rules and any new rules covering aquatic resources may be adopted by the board but only if the changes or new rules are consistent with recommendations resulting from the scientifically based adaptive management process.”⁶³ In other words, for a rule to avoid the adaptive management process it cannot: 1) amend a rule that was adopted pursuant to RCW 76.09.370(2) or 2) cover aquatic resources.

This petition requests a new rule, and therefore does not amend any rule. The Washington Code Reviser’s Office defines a “new rule” as one that would be given a brand new section number. For example, if RCW 111-11-111 is a permanent rule, a new rule would be RCW 111-11-222. The proposed new rule also does not cover aquatic resources, because it does not change any substantive prescriptions or attempt to protect water quality. Rather, the proposed new rule is procedural. The rule is similar in function to DNR’s recent amendment to WAC 222-10-030, which stated the nature of DNR’s ability to require information from landowners relating to steep and unstable slopes and did not go through adaptive management. Because the proposed rule does not amend a rule and does not affect aquatic resources, it does not require adaptive management.

B. The Board Has the Authority to Adopt the New Proposed Rule

The proposed new rule falls squarely within the Board’s rulemaking authority. The provisions of the proposed rule are merely a necessary expansion of the existing procedural rules for aerial chemical applications. The proposed rule is similar in function to the existing requirements to post signage regarding what chemicals are sprayed in a given location. WAC 222-38-020(4)(g).

The proposed rule does not infringe on the Washington State Department of Agriculture’s authority to regulate pesticides. Recently the Board denied a petition requesting that it ban the aerial application of certain herbicides.⁶⁴ The Board noted that it lacks the authority to ban the use of specific chemicals or chemical mixes and that such concerns fall within the purview of the State Department of Agriculture.⁶⁵ In contrast, our proposed rule would not ban or restrict any chemicals. The proposed rule also does not seek disclosure of trade secrets or proprietary information, but rather information available in records that are already retained under State law.

VIII. Compliance Monitoring

In addition to the proposed rule, we also request that the Board direct the DNR to add forest chemicals to their compliance monitoring reports. The Board already possesses the regulatory authority to make this request under WAC 222-08-160. WAC 222-08-010(4) states:

Compliance monitoring. The department shall conduct compliance monitoring that addresses the following key question: “Are forest practices being conducted in compliance with the rules?” The department shall provide statistically sound,

⁶³ RCW 76.09.370(6).

⁶⁴ Washington State Forest Practices Board. *Re: May 2014 Petition for Rulemaking to Change Aerial Application Rules and Eliminate the Use of Certain Herbicides* (2014).

⁶⁵ *Id.*

biennial compliance audits and monitoring reports to the board for consideration and support of rule and guidance analysis. Compliance monitoring shall determine whether forest practices rules are being implemented on the ground. An infrastructure to support compliance will include adequate compliance monitoring, enforcement, training, education and budget.

To the best of our knowledge, DNR has never conducted compliance monitoring for aerial application of forest chemicals.⁶⁶ Under the Board's authority, we request that DNR be directed to add forest chemicals to the department's compliance monitoring reports. Specifically, we believe that DNR should inquire as to whether landowners comply with buffers around residences and riparian areas, actually screen for flowing water in seasonal streams prior to spraying, correct the often inaccurate DNR hydrolayer in order to fully protect public resources, and test water following spraying to determine if contamination occurs via point or non-point source entry.

DNR currently monitors riparian protection, wetland protection, road construction and abandonment, and haul routes for sediment delivery.⁶⁷ DNR cannot monitor all Forest Practices Rules due to budget and staffing concerns; they have prioritized the four categories they currently monitor as the most important rules.⁶⁸ Given the importance of the timber industry in the state of Washington, the overlapping concerns of forest chemical application with wetland and riparian zones, and the concerns of the many individuals living and working in areas where forest chemicals are regularly applied, the DNR should conduct compliance monitoring for aerial application of forest chemicals. If necessary to accommodate budget needs, DNR could identify other rule areas with typically high compliance and reallocate resources from those rules to forest chemicals. To generate oversight funds for spraying, DNR could also charge a \$150 fee for spraying application as it does for other FPAs.⁶⁹ Given DNR's ability to conduct compliance monitoring of the Forest Practices Rules, they are the best department to receive the post-application reports suggested by the proposed rule and to use these reports to further monitor forest chemicals and ensure compliance.

IX. Conclusion

Forest landowners spray thousands of pounds of herbicides, fungicides, and fertilizers across Washington every year. Inevitably, rural residents in industrial logging areas are exposed to those chemicals and the health risks they create. In the proposed rule, we seek to reduce health risks for rural residents and their loved ones.

Greater communication and transparency regarding spraying would facilitate trust between local communities and forest landowners. Reporting requirements would for the first time provide the public and the regulating agency, DNR, with comprehensive information regarding what

⁶⁶ See Obermeyer et al., 2014. *2012-2013 Biennium Forest Practices Compliance Monitoring Report*, Washington State DNR; Andrews and Shelley 2015. *2014 Interim Forest Practices Compliance Monitoring Report*, Washington State DNR.

⁶⁷ *2012-2013 Biennium Forest Practices Compliance Monitoring Report*, *supra* at 1.

⁶⁸ *Id.* at 10.

⁶⁹ The Forest Practices Act allows a fee for "applications and notifications relating to the commercial harvest of timber." RCW 76.09.065. Because spraying of forest chemicals relates to commercial timber harvest, DNR could likely elect to charge an application fee but currently does not.

chemical use is occurring as part of forest practices. The rule places a minimal burden on landowners. The flexible public notice requirement allows landowners to choose the method, and the post-application report form is straightforward and requires only basic information. Finally, we also ask the Board to direct DNR to conduct compliance monitoring for aerial applications of forest chemicals. Aerial chemical application compliance monitoring should be prioritized to ensure that the Forest Practices Rules are being followed.

The purpose of the new rule and compliance monitoring is to protect public health and promote better forestry through better access to information. We welcome your input and questions and hope that the Board moves forward on this pressing public and environmental health issue. Please feel free to contact me to discuss any questions or concerns you might have about this petition.

Sincerely,

A handwritten signature in black ink, appearing to read "Wyatt Golding". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Wyatt Golding
Washington Forest Law Center
Phone: 206.223.4088 x. 7
Email: wgolding@wflc.org

*On behalf of the Northwest Center for Alternatives to Pesticides, Skykomish Valley
Environmental and Economic Alliance, and Defenders of Wildlife*

Appendix A-
Proposed Post-Application Report Form

**WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES**

**Forest Practices Report Form
Post Application Report for Aerial Chemicals**

TYPE OR PRINT IN INK:

1. FPA/N #, Landowner, Timber Owner and Operator

FPA/N #:
Name of Landowner:
Name of Timber Owner:
Name of Operator:

2. Date and Time of Application

Date of Application:	Start Time:	End Time:
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3. Conditions at Time of Application

Wind Speed	Wind Direction
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4. Chemicals Applied

Chemical Name	EPA or State Registration #	Amount Applied and Acres Treated

5. Please Answer the Following Questions:

a. Yes No **Did you apply the above chemicals to the entire area indicated in the Forest Practices Application/Notification? If you answered NO, please attach a map indicating the areas where chemicals were applied.**

b. Yes No **Did you deviate from the Forest Practices Application/Notification in any other way? If you answered YES, please attach an explanation of the deviation(s).**

6. I hereby certify that the above information is true correct to the best of my knowledge.

<u>Signature of Landowner</u>	<u>Signature of Timber Owner</u>	<u>Signature of Operator</u>
<u>Print Name:</u>	<u>Print Name:</u>	<u>Print Name:</u>
<u>Date:</u>	<u>Date:</u>	<u>Date:</u>