WASHINGTON STATE DEPARTMENT OF
Natural Resources

PETER GOLDMARK
Commissioner of Public Lands

July 26, 2012

MEMORANDUM

TO: Forest Practices Board

FROM: Rachael Jamison, Energy and Climate Policy Analyst

SUBJECT: Forest Practices Biomass Work Group

The Forest Practices Board adopted into rule in 2010 a revision of the definition of "Forest Practice" to include the harvest of forest biomass. At the November 2010 Forest Practices Board meeting, Commissioner of Public Lands Peter Goldmark made a commitment that DNR would convene interested stakeholders into a Biomass Work Group to review the potential impacts to public resources from the harvest of biomass from forestlands.

The group has completed a review of potential impacts from biomass harvest based on an overview of the Forest Practices Rules, review of current applicable science, and Best Management Practices and rules from other states to identify potential areas of follow-up.

DNR will present the work group's consensus recommendations at your August 14th meeting. Attached for your review is the Forest Practices Biomass Work Group final report. If you have any questions feel free to call me at 360.902.1104 or Marc Engel at 360.902.1390.

RJ/
Attachment

Forest Practices Biomass Work-Group
FINAL REPORT TO THE FOREST PRACTICES BOARD

Forest Practices Biomass Work-group Members

At the November 2010 Forest Practices Board meeting, Commissioner of Public Lands Peter Goldmark made a commitment that Department of Natural Resources (DNR) would convene interested stakeholders to engage in a dialog about how to ensure biomass harvest from forestland is economically and ecologically sustainable and protects public resources. In the same year, the definition of "Forest Practice" was revised by the Forest Practices Board, to include the harvest of forest biomass. During the stakeholder discussions around this rule change, concerns were expressed regarding the potential need for specific best management practices (BMP's) and/or further modifications to existing Forest Practices Rules related to biomass harvest.

The work-group that was convened was comprised of the following members:

Bridget Moran, Chair	Department of Natural Resources
Rachael Jamison, Co-Chair	Department of Natural Resources
Marc Engel	Department of Natural Resources, Forest Practices
Craig Partridge	Department of Natural Resources, State Lands
Stephen Bernath	Department of Ecology
David Whipple	Department of Fish and Wildlife
Bill Hermann	Hermann Brothers Logging
Chris Mendoza	Conservation Caucus
Kara Whittaker	Conservation Caucus
Doug Hooks	Washington Forest Protection Association
Peter Goldman	Conservation Caucus
Ed Tolan	Nippon Paper, Inc.
George Cave	Port Townsend Paper
Marty Acker	NOAA
Dick Miller	WFFA
Eveleen Muehlethaler	Port Townsend Paper
Norm Schaaf	Merrill & Ring
Darin Cramer	Department of Natural Resources, Forest Practices Division Manager

A kick-off meeting was held on January 31, 2011 to begin the process to gain a clear understanding of the specific concerns about forest biomass harvest under existing forest practices rules; to develop a plan for "next steps" by the group; and to determine the efficacy of existing Forest Practices rules in protecting Washington forests and public resources during the collection of biomass.

The group developed a team charter, which defined the purpose of the group to:

> "Educate ourselves on the science/policy and available technologies related to biomass harvest, the Forest Practices rules that apply to such harvest and biomass harvest BMPs. Discuss and determine if specific BMP's and/or Forest Practices rules and/or rule revisions related to forest biomass harvest are needed in Washington. If so, identify a path toward identifying what is needed."

The group agreed to the following deliverables at the conclusion of the process:

- Charter
- Regular status reports to the board
- Final recommendations to the board
- Supporting documentation/data.

The aim of the group was to reach consensus in the final recommendations to the Forest Practices Board (FPB). DNR will present the group's final consensus recommendations at the August 2012 Forest Practices Board meeting. In cases where consensus could not be reached on specific recommendations, DNR will present those differences to the Forest Practices Board.

Monthly meetings were conducted from January 2011 through June 2012. Over the course of this time, the group met for a total of 87 hours.[1] The group developed a work-plan that was intended to ensure all relevant topic areas, including available scientific findings, were evaluated in depth, the group had time to visit biomass collection operations in the field, and adequate time was provided to synthesize information and develop recommendations.

The topics covered by the group were:

1. Forest Practices Rules Overview
2. Best Management Practices/Resource Considerations Overview
3. Soil Health and Productivity
4. Silviculture and Roads
5. Disturbance (pests, disease, fire, conversion)
6. Dead wood, slash disposal, and carbon storage
7. Water Quality, Riparian Zones/Unstable Slopes, and Water Infiltration
8. Wildlife, Biodiversity and Cultural Resources

Each meeting included, for the topic being discussed, an overview of the Washington Forest Practices Rules, Best Management Practices for biomass removal from a few other states, and current applicable science. The current science reviewed by the group was not the result of a formal literature review process on forest biomass, and should not be considered as such. Rather, it was a collection of related articles (including peer reviewed, field trip hand-outs, and grey literature) known to exist by stakeholder participants. This collection of relevant information provided grounding for the discussions that followed, helped identify follow-up topics of concern, and ensured that potential recommendations were not at odds or redundant to existing forest practices rules and board manuals.

Throughout each meeting, as topics emerged that were of concern to the group or that the group determined would need follow-up action, they were "flagged" and returned to at later meetings when the issues were being synthesized. The flagged items were then grouped into five "buckets" based on their relevance to biomass collection specifically[2]: Two field trips to observe biomass collection were conducted: one in eastern Washington, one in western Washington.

Throughout the process, all meeting resources and notes were uploaded to a public website. The documentation contained therein traces the evolution of what are now the final recommendations of this group. The information can be found at: http://www.dnr.wa.gov/ResearchScience/Topics/OtherConservationInformation/Pages/em_forest_practices_biomass_work_group.aspx

[1] This only counts time in meetings. This does not include time spent out of meetings doing research and other related activities.

[2] The following are the five "buckets" flagged items were divided into:

1. Topics that related to biomass exclusively.
2. Topics that are primarily timber related but that affect biomass.
3. Topics that are timber specific.
4. Topics that affect state lands only.
5. Topics that fall outside the existing jurisdiction of Forest Practices Rules.

Consensus Recommendations

Definitions[3]

The Forest Practices Biomass Work-group recommends the FPB consider rulemaking adding the following definition of "forest biomass" to the Forest Practices Rules:

> "Forest Biomass" means material from trees, and woody plants that are by-products of forest management, ecosystem restoration, or hazardous fuel reduction treatments on forest land. Although stumps are a by-product of these activities, only those removed for the purpose of road and landing construction, forest health treatments, or conversion activities may qualify as forest biomass."

The Forest Practices Biomass Work-group recommends the FPB consider rulemaking amending the definition of "Forest Practice" to read as follows:

> **"Forest practice"** means any activity conducted on or directly pertaining to forest land and relating to the growing, and removal through harvesting or processing of timber or forest biomass, including but not limited to:
>
> Road and trail construction;
> Harvesting, final and intermediate;
> Precommercial thinning;
> Reforestation;
> Fertilization;
> Prevention and suppression of diseases and insects; Salvage of trees; and
> Brush control.
>
> 'Forest practice' shall not include: Forest species seed orchard operations and intensive forest nursery operations; or preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms, and other products which cannot normally be expected to result in damage to forest soils, timber or public resources."

Forest Biomass Retention Levels[4]

Funding for Landscape Level Wildlife Assessment Models

The Forest Practices Biomass Work-group recommends the Forest Practices Board prioritize the identification of funding to finish the Landscape Level Wildlife Assessment models. This will provide necessary information to determine whether existing requirements are sufficient or if a rule change is necessary to ensure wildlife habitat is sufficiently provided for in the Forest Practices Rules.[5]

RMZ Retention

1. Given that forest practices rules don't currently have fine woody debris (FWD) requirements, increased intensity of biomass harvesting may require an Adaptive Management review of the efficacy of the rules to maintain and protect riparian function where biomass harvest has occurred within RMZ inner and outer zones. Of particular interest is the importance of FWD in the retention of fine sediments to meet riparian function within the RMZ. It is expected that such a review could inform quantitative retention thresholds.

   The group asks DNR consider adding an element to the Compliance Monitoring Program, during the time prior to an Adaptive Management process, to estimate the percentage or quantity of post-timber harvest biomass that remains on site.

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[3] The group determined there is no need to define the word "harvest." The word "removal" is used throughout the FP rules and is sufficient (with the proposed definition of "forest biomass") to capture the intent. "Slash," "harvest" and "salvage" are already defined in rule. If the proposed definition of "forest biomass" is adopted, it will provide the clarification that any revisions to these definitions would have sought to achieve.

[4] *Large woody debris in unbuffered Type Ns and Np streams.* The Forest Practices Biomass work-group, by consensus, determined that, as it pertains to the potential removal of biomass, there is no need for additional rules regarding large woody debris in the unbuffered portions of Type Np and Type Ns streams riparian management zones. See WAC 222-16-030, WAC 222-30-021, and WAC 222-30-022.

[5] A discussion regarding the efficacy of existing WRT/GRT requirements was the catalyst for this outcome.

2. The group asks the Forest Practices Board consider developing the following guidance with regard to the harvest of biomass in the managed portion of the inner zone: The only biomass harvested from the managed portion of the inner zone should be a function of site preparation and forest health improvements.

Upland Retention Levels
The Forest Practices Rules require retention of specific numbers and sizes of snags and logs, and also provide protection of forest soils and prevention of sedimentation into typed waters.

Snags, as well as course and fine woody debris, are important habitat elements for many wildlife species. Today's biomass harvest rates, driven by market conditions, result in current forest biomass harvest being limited to the removal of post-timber harvest woody material. If this changes, the issue should be revisited.

The Forest Practices Biomass Work-group recommends the Forest Practices Board pursue funding and collaboration opportunities for the Wildlife Work-Group[6] to complete the following after the completion of the Landscape Level Wildlife Assessment models and before the end of 2016:

- Re-evaluate biomass harvest practices using the LLWA habitat models (or similar tool), in light of the lack of knowledge of the potential effects of biomass harvest under different harvest rates and conditions.

- Develop and implement a practical and reliable methodology or tool to accurately estimate the amount and characteristics of biomass left on a sample of harvest units after a timber harvest and biomass removal. This information can provide data for the LLWA models.

- Identify potential funding sources to complete this work.

- The FPB will ensure that the Wildlife Work-group provides an annual review of progress on this effort and convey that to the interested stakeholders and FPB.

Slope
The Forest Practices Biomass Work-group recommends the FPB consider rulemaking amending WAC 222-30-020 to read:

> WAC 222-30-020 Harvest unit planning and design. (1) Logging systems, <u>including forest biomass removal operations</u>, must be appropriate for the terrain, soils, and timber type so that yarding and skidding can be economically accomplished and achieve ecological goals of the rules.

Timing
Road abandonment requirements and need for biomass to cure; Landowner notification to DNR.
The Forest Practices Biomass Work-group determined that no rule change or BMP's were needed to address road abandonment and timing issues.

The Forest Practices Biomass Work-group recommends to the Department of Natural Resources' Forest Practices Program, that when biomass is being harvested after the timber harvest is complete (when the biomass has had time to cure on site for a period of time), the FPA be conditioned with the 2-day notification requirement under existing rule, WAC 222-20-040. The group formally requests DNR to direct Forest Practices foresters and notify landowners and operators (perhaps at TFW meetings) that this rule be considered in the conditioning of FPAs that include the removal of forest biomass.

State timber contracts and road abandonment/re-abandonment.

[6] The Washington Forest Practices Board (Board) endorsed a Wildlife Work Plan in March 2003 in response to Forest Practices Rules requiring periodic evaluation of the Board's rules to protect wildlife resources. The Board's Wildlife Work Plan consists of four major elements: 1) a review of current wildlife rules intended to protect wildlife; 2) a Landscape Level Wildlife Assessment (LLWA); 3) landowner incentives and wildlife protection implementation mechanisms, and; 4) adaptive management. The Board requested the Washington Department of Fish and Wildlife organize the work plan process and scientific analyses with stakeholder involvement. The purpose of the multi-stakeholder Wildlife Work Group is to develop the policy framework for all four elements of the Forest Practices Board's Wildlife Work Plan, and make any necessary recommendations to the Board to implement outcomes of the work-plan.

The Forest Practices Biomass Work-group determined that no Forest Practices rule action is necessary to address this issue that was raised. The work-group recognizes the high-priority that RMAPs are given by DNR State Lands and acknowledges that dialogue will remain open with regard to DNR State Lands progress on developing contracts (short and long term) for the sale of forest biomass from state lands that don't conflict with RMAP priorities or compliance with other road rules.

Soil Quality

The group requests that the Small Forest Landowner Advisory Committee consider undertaking the following project to assist Small Forest Landowners (SFL):

- Develop a nutrient risk assessment tool that SFLs can use to determine if soil nutrient deficiencies exist on their forest lands.
- Develop education and outreach materials for SFLs to use to assess soil nutrients and potential risks to physical properties associated with timber productivity. This could include best management practices.
- Seek funding for these efforts through NRCS.

Carbon Storage

Carbon storage is not addressed in Forest Practices rules.

The Forest Practices Biomass Work-group determined no action is necessary to address this issue that was raised. The workgroup determined it is beyond the scope of this committee's objectives and, if addressed, would need to be done in a different forum.

Five Year Recommendations

The group asks the Forest Practices Board to recognize the dynamic nature of the biomass industry and to check back, in 5-years, on several issues that may arise as the industry continues to mature[7]:

- The question of whether reforestation species will shift for biomass production was raised, particularly in the RMZ outer zone.
- The question of whether shrubby vegetation will be collected in the future for utilization as biomass was raised. Concerns were raised about collection of shrubs from the RMZ inner zone. There may be a need to revise the rules that relate to what can/can't be harvested in the inner zone of the RMZ and near unstable slopes.

<u>Non-Consensus Recommendations</u>

Ecosystem Functionality

The question of whether all FP rules could apply a standard of ecosystem functionality was raised. There are differences of opinion on whether or not the Forest Practices Act and rules addresses ecosystem functionality. The group agreed that no agreement was possible. There are two perspectives that emerged in the discussion. Not all participants' views are represented by these two positions.

> *Position #1*
>
> The Forest Practices Act states "that coincident with maintenance of a viable forest products industry, it is important to afford protection to forest soils, fisheries, wildlife, water quality and quantity, air quality, recreation and scenic beauty." This legislative finding and declaration does not include ecosystem functionality, a concept that is not universally or well defined. Ecosystem functionality could be applied to the forest practices rules including biomass harvest when directed by the Washington State Legislature. (Forest Product Industry and Landowners)
>
> *Position #2:*
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> Biomass harvest may negatively impact biological diversity and ecosystem functionality, especially through cumulative impacts to public resources and forest soils. Hence, the following concepts need to be added to either the Forest Practices Rules and/or a Board Manual. Forest biomass harvest shall:

[7] Several items were discussed and the group determined that no further action was necessary:

1. A dynamic forest products market defines end use of all products. Concerns about a greatly expanded biomass market was the focus of the conversation.
2. The FP requirements to leave snags may conflict with L&I safety rules. Leaving snags is important for wildlife habitat. No FP rule action is needed. This is an issue that would need to be addressed with L&I.

- Be planned in the context of the larger landscape in which it is located across the full harvest cycle;
- Maximize habitat structural complexity and spatial heterogeneity;
- Mimic natural disturbances or intermediate frequencies, scales, and intensities of disturbance; and
- Retain and recruit biological legacies:
    - Downed wood and snags of varied size, species, and decay classes;
    - Understory vegetation; and,
    - A well-developed forest floor. (Conservation Caucus)

Recommendations to the Department of Natural Resources

Washington State Forest Biomass Assessment

The Forest Practices Biomass Workgroup recommends that the Department of Natural Resources undertake a QA/QC review of the methods and models used in the 2012 UW/DNR Statewide Forest Biomass Assessment.