FOREST PRACTICES BOARD

REGULAR BOARD MEETING
November 10, 2009
Natural Resources Building
Olympia, Washington

Members Present:
Peter Goldmark, Chair of the Board, Department of Natural Resources
Anna Jackson, Designee for Director, Department of Fish and Wildlife
Brad Avy, Designee for Director, Department of Agriculture
Brent Bahrenburg, Designee for Director, Community, Trade and Economic Development
Bill Little, Timber Products Union Representative
Carolyn Dobbs, General Public Member
Dave Somers, Snohomish County Commissioner
David Hagiwara, General Public Member
David Herrera, General Public Member
Doug Stinson, General Public Member/Small Forest Landowner
Norm Schaaf, General Public Member
Sherry Fox, General Public Member/Independent Logging Contractor
Tom Laurie, Designee for Director, Department of Ecology

Staff:
Darin Cramer, Forest Practices Division Manager
Patricia Anderson, Rules Coordinator
Phil Ferester, Assistant Attorney General

WELCOME AND INTRODUCTIONS

Peter Goldmark called the Forest Practices Board (FPB or Board) meeting to order at 9:00 a.m. Patricia Anderson, Department of Natural Resources (DNR or Department), provided an emergency safety briefing.

APPROVAL OF MINUTES

MOTION: Sherry Fox moved to approve the August 12, 2009 meeting minutes.

SECONDED: Doug Stinson

ACTION: Motion passed unanimously.

REPORT FROM THE CHAIR

Peter Goldmark reported that the first meeting of the Forest Ecosystem Collaborative took place in early September in Quinault. It was a well-attended meeting of the Forests and Fish principals and others. Participants identified issues for future consideration including the shortfall in the Adaptive Management Program (AMP) budget. He said he convened another principals meeting on November 9 to discuss solutions for the fiscal year 2011 AMP budget. Thirteen ideas were brought forward and are being researched.

At the same time there is the longer-term AMP budget issue. Upon recommendation from the Board in August, he said he will soon send a letter to the Governor asking for her help in finding a solution both for the AMP and the Forest Riparian Easement Program.

In early October he travelled to Washington, D.C. to meet with the federal delegation and federal agencies about short-term and long-term funding opportunities for the AMP. While no immediate resources were made available, there may be opportunities for the state and the Forest Service to collaborate on research that both have on their respective work plans. DNR is exploring how the two agencies may be able to collaborate to efficiently and economically carry out the research which is so important to Washington's forest practices and the Adaptive Management Program.

He will convene a Small Forest Landowner Coordination meeting on December 7 to explore ways to relieve small forest landowners' economic plight.

In addition, Sherry Fox and Carolyn Dobbs have been working to develop bylaws to govern how the Board operates, and a draft should be available for the February 2010 meeting. He mentioned that he himself is also involved in that effort.

HOWARD HANSON DAM/GREEN RIVER UPDATE

Lenny Young, DNR, reported on the status of the Howard Hanson Dam and what the U.S. Army Corp of Engineers is doing to avoid flooding this year. He said he was bringing this to the Board's attention because DNR is concerned that land use should not contribute to any problems, and is assessing current forest practices applications in the watershed. He said so far DNR has not found anything that raises alarm.

PUBLIC COMMENT ON GENERAL BOARD TOPICS

Kara Whittaker, Washington Forest Law Center, commented on problems with the rules regarding unstable slopes, including the SEPA exemption for forest practices with watershed analysis prescriptions. She said the Conservation Caucus is planning to recommend to the Board's Watershed Analysis Subcommittee that landowners should only be allowed to use mass wasting prescriptions in watershed analyses that have undergone a recent five-year review and the prescriptions are effective in protecting public resources.

Peter Goldman, Washington Forest Law Center, said there is legislation in the U.S. Senate that could potentially provide $700 million in conservation forest bonds to purchase forest lands for conservation purposes. He thanked the Washington Forest Protection Association for its help in this effort and urged support from everyone. He also stressed the importance of funding the Adaptive Management Program, as the Forest Practices Habitat Conservation Plan (HCP) hinges on it.

TFW CULTURAL RESOURCES COMMITTEE

Jeffery Thomas, Co-chair, gave an overview of the TFW Cultural Resources Committee's 2009 annual report. During the past year the committee:

- Supported a pilot project to test the watershed analysis cultural resources module and the state's new archaeological predictive model.
- Collaborated with the Board's other committees on cultural resources protection and potential Adaptive Management Program links with cultural resource issues.

- Participated in cultural resources educational programs and statewide planning sessions, and assisted in securing agreements on potential rule changes to respect tribal sovereignty.

The committee's current work priorities for 2010 are:

1. Gain Forest Practices Board approval of a committee charter.
2. Complete recommendation to revise WAC 222-20-120, Notice of forest practices to affected Indian tribes.
3. Prepare the cultural resources guidance documents or manuals as anticipated in the Cultural Resource Protection and Management Plan.
4. Improve the knowledge and use of Government Land Office (GLO) documents and information to identify historic features recognized during 19th century public land surveys.
5. Support funding for a full time Department of Archaeology and Historic Preservation position to maintain cultural resources data in support of the DNR forest practices risk assessment tool.
6. Seek participation and funding for an eastside Watershed Analysis Cultural Resources Module pilot project.
7. Continue to support cultural resources education opportunities including DNR State Lands cultural resources training and WSU extension services outreach to small forest landowners and tribes.
8. Obtain operating funds for professional administrative support of the TFW Cultural Resources Committee.

Pete Heide, Co-chair, stressed that part of the committee's value to the Board is in its ability to make consensus decisions and take consensus recommendations to the Board. He said the committee is developing a charter that articulates its role as an official permanent entity, with tasks, responsibilities and deliverables – the primary responsibility of which is to implement the Cultural Resources Protection and Management Plan.

Tom Laurie asked whether there are other Board committees that are chartered committees. Heide answered that the Northern Spotted Owl Policy Working Group is chartered, as well as the current committee on watershed analysis and the Forests and Fish Policy Committee, although the latter is in rule.

Laurie asked if there is guidance for cultural resources in the Forest Practices Board Manual. Thomas answered that the cultural resources module of watershed analysis is in the watershed analysis portion of the manual, but not the guidance that is recommended in the Cultural Resources Protection and Management Plan.

Norm Schaff congratulated the committee for its achievements and for good collaboration. He noted that small forest landowners may be in particular need of help with identifying cultural resources and communicating with tribes. He asked for more information on the committee's work with the Small Forest Landowner Advisory Committee. Heide said those discussions focused on filling out cultural resources information on the small forest landowner long-term application. He said he agreed that small forest landowners are generally located in lowland areas and near water which is where cultural resources are most likely located. He said the Small Forest Landowner Advisory Committee has done a good job of outreach for the landowners who are members of the Washington Farm Forestry Association and who participate in field days. He added that there is also information on cultural resources in the Forest Practices Illustrated.

Heide said getting support for the Cultural Resources Committee is really a relationship issue. Thomas said he was a member of both committees and noted there is almost no meaningful crosswalk between the two committees' work other than the long-term application even though there are cultural resources implications for all of the Small Forest Landowner Advisory Committee's subjects of discussion. He said it would be very beneficial if the Board could play a role in improving that cross-coordination with a purpose of developing high quality assessment services.

Laurie asked for elaboration on the issue with WAC 222-20-120. Heide explained it has to do with responsibilities between landowners and tribes where forest practices applications involve cultural resources. The rule says the landowner shall meet with the tribe and effectively puts the responsibility on the tribe. This has been brought up as problematic. He said the committee will provide good background information when it proposes a rule change.

Carolyn Dobbs asked about mechanisms for providing the support the committee is seeking. Heide answered the bottom line is funding, and getting a charter in place is thought of as necessary to start a conversation about getting some financial support for the programs the committee thinks are necessary.

Dobbs asked them to elaborate about their interest in using a website for outreach. Thomas said the committee has already identified a relatively unpopulated page on DNR's website that may be a possibility. However, DNR told the committee that funding was not available now to do that. Dobbs agreed that in this day and age having web presence is critical. Thomas added there are still questions as to what entities can post information, how the committee is viewed, and the committee's place in the Forests and Fish implementation framework.

Goldmark requested that any charter the committee drafts be brought to him, and suggested the co-chairs meet with him to discuss appropriate next steps to meet some of the committee's needs. David Herrera asked if he could join in on discussions, to which Goldmark said yes.

Dave Somers commented the committee has done very good work for many years. He said he thought the Board should consider the charter and take a look at how to support the committee.

FIXED WIDTH PROPOSAL INITIATION UPDATE

Darin Cramer, DNR, summarized progress to date on the fixed-width riparian management proposal which the Board forwarded to him (as Adaptive Management Administrator) in May, and he forwarded to Forests and Fish Policy in August. He noted that the Board expected a product by February 2010.

He said Policy formed a sub-group and gave the group responsibility to develop a charter, oversee proposal development, and deliver regular updates to Policy. The sub-group recommended a two-pronged approach to the Board's proposal, and Policy is forwarding the recommendation to the Board. The proposal is to make a fixed width buffer available to small forest landowners through an alternate plan template. The sub-group has made good progress on developing that template and expects to have it ready for the Board's consideration in February. As for developing a fixed width alternative for all landowners, that project would be put on Policy's prioritized work list to do at a later time.

Norm Schaff asked if the Board could expect a consensus recommendation and Cramer answered yes.

Sherry Fox said Adrian Miller and Marc Engel should be recognized for their good work developing the metrics for the template.

SPOTTED OWL POLICY WORKING GROUP

Lois Schwennesen, Facilitator, gave a brief overview of the Northern Spotted Owl Policy Working Group's *Report to the Forest Practices Board* dated November 10, 2009. She started by saying that this group's charter was an important structural piece that has helped the group a lot.

She commented that she was personally amazed at what the group had accomplished in 10 months, especially with the members' extremely different perspectives, missions, and views on how to solve problems. She said all of them gained her respect as statesmen and stateswomen because they work and fight hard, speak clearly, and are willing to listen. They have found common denominators which they believe can provide the foundation shifting the approach for conservation on non-federal lands.

She summarized areas of group consensus:

1. Endorse a voluntary financial incentives program for landowners to achieve conservation goals.
2. Support an action program – outreach to owners of specific land inside and outside SOSEAs.
3. Promote Barred Owl control experiments and research.
4. Continue the current decertification process for owl sites during a transition period.
5. Initiate two Washington pilot projects for thinning and habitat.
6. Support identification and design of a flagship incentive project.
7. Approve measures of success.

She said items 4 and 5 involved rule making actions and would be discussed by staff later in the meeting.

Peter Goldmark asked if the group is hoping to proceed for three more meetings to complete the work that is not yet complete. Schwennesen answered yes and pointed out the areas of difference on page 5 of the report that could be worked on further if the Board gave them the opportunity to do so.

Norm Schaff commented that the group has accomplished a lot and was concerned about any work being dropped when the group disbands. He commented there are no processes specified for implementing the recommendations other than the relatively straightforward rule making items.

Schwennesen said the group acknowledges that and hopes the Board will authorize additional time to work on such issues. She said she personally believed that a small group of four to five members tasked with keeping the ball rolling would be extremely valuable. Goldmark said the Board can make sure the work isn't dropped.

Schaff referred to page 10, item 6 of the document, regarding assessing whether the incentives program will have sufficient funding, and asked how success will be determined – number of owls?, number of acres? Schwennesen said the group wanted more time to work on those details.

Carolyn Dobbs said she attended several meetings in the beginning and was impressed by what she had observed between then and what she sees now in the document. She also said she was very pleased that the eastside and westside pilot project ideas have been carried forward. She wondered, with so much emphasis on voluntary incentives, what if landowners don't volunteer? Schwennesen referred to page 5 of the document and pointed out this is an unresolved issue that the group would like to keep working on. She added if the group cannot find a path acceptable to all members, it will go the Board with pros and cons of various pathways. She commented that Dobbs had brought out one of the group's big issues.

Dobbs asked if there is a problem with the lag time between the end of Schwennesen's contract and the Board's next (February) meeting. Schwennesen said it didn't seem worthwhile for the Board to have a special meeting in December because information, like legislative initiatives that the group may want to bring forward, can be handled by report and by other communications.

Sherry Fox, noting that Section 6 funding through the U.S. Department of Fish and Wildlife is often for development of habitat conservation plans, asked if those funds can be used for a flagship project specified in the report. Schwennesen answered that members of the group are coordinating with federal officials and others on the state level and in tribal governments to plan for a grant proposal.

PUBLIC COMMENT ON NORTHERN SPOTTED OWL RULE MAKING

Peter Goldman, Washington Forest Law Center, suggested that the certainty sought by the forest industry can best be obtained through federal habitat conservation planning. He also mentioned there is University of Washington research currently under peer review on a technique that involves dogs in surveys for owl presence. He said it is a very economical and efficient way to survey for owls and will allow landowners to survey in a relatively short time with high degree of accuracy.

NORTHERN SPOTTED OWL RULE MAKING

Darin Cramer, DNR, asked for a motion to extend the Northern Spotted Owl Policy Working Group to the end of the year. Carolyn Dobbs asked about the downside of extending it until the Board's February meeting. Cramer said the facilitator's contract and the participation grants expire the end of December. Peter Goldmark added that deadlines are useful.

MOTION: Tom Laurie moved to extend the Northern Spotted Owl Policy Working Group to the end of December 2009.

SECONDED: Carolyn Dobbs

<u>Board Discussion</u>

Anna Jackson said she had attended some of the meetings, and thought there was value in allowing for the extension even if it is just to outline the non-consensus options, which in itself could take a lot of time.

ACTION: Motion passed unanimously.

Gretchen Robinson, DNR, summarized the rule making activities since December 16, 2008 to institute a temporary evaluation function by a three-member spotted owl conservation advisory group in the process of site center decertification. On that date the Board adopted an emergency rule and

directed staff to begin permanent rule making with the same language, which specified an end date of December 31, 2009 for the advisory group's existence. She said the public review period did not result in any comments from the public.

Acknowledging that the Northern Spotted Owl Policy Working Group recommended that the rule language be amended, Robinson recommended a process that would continue the three-member advisory group's function in rule beyond 2009. She said the Board would need to adopt a new emergency rule that changes end date, and the permanent rule making process could be continued at the Board's regular February 2010 meeting. In the meantime, the rule language could be amended pursuant to the Northern Spotted Owl Policy Working Group's general recommendation, and staff would accordingly revise the preliminary cost-benefit analysis to prepare for the Board's approval in February. Then if the Board approved, staff would file a supplemental CR-102 in February and plan a hearing to take place in March or April. The Board would then have the opportunity to adopt the rule at its May meeting.

MOTION: Carolyn Dobbs moved that the Forest Practices Board adopt an emergency rule that amends WACs 222-16-010 and 222-16-080 and directed staff to file a CR-103 Rule Making Order by December 25, 2009.

SECONDED: Dave Somers

ACTION: Motion passed unanimously.

Robinson then requested that the Board direct staff to continue the current permanent rule making and present a revised draft rule and revised preliminary cost-benefit analysis to the Board for its consideration at the February 2010 meeting.

MOTION: Tom Laurie moved that the Forest Practices Board continue rule making that amends WACs 222-16-010 and 222-16-080 relating to Northern Spotted Owl conservation and direct staff to present a draft rule packet at the regular February 2010 meeting for a supplemental CR-102.

SECONDED: Dave Somers

ACTION: Motion passed unanimously.

Darin Cramer initiated discussion on the Northern Spotted Owl Policy Working Group's recommendation to commence a pilot project in forest stands with high stem density. He referred to a CR-101 Preproposal Statement of Inquiry that the group drafted for the Board's consideration, and said the Board could approve it immediately. However, he added, he hadn't seen a detailed plan that specifies administrative details like project oversight, which in his experience is needed for a project to be successful and meet its objectives. He reiterated that the Board was free, however, to approve the proposal as written.

Peter Goldmark asked for a recommendation. Cramer said he would like to see a project plan go with the proposal before the Board takes action. He said his experience with pilot rules is from the Adaptive Management Program, where prior to a proposal going to the Board there is complete and

detailed study design with assignments. Goldmark asked why the proposal is on the agenda if a more detailed project plan is recommended. Cramer said it was his impression it was forwarded to the Board because it was one of the Northern Spotted Owl Policy Working Group's recommendations.

Carolyn Dobbs asked what the downside would be of deferring approval until February. Cramer said he would defer to the group or the facilitator for an answer. Lois Schwennesen said February would be okay. Doug Stinson asked who would be coming forward with a project plan. Cramer answered someone from the group would need do that. Sherry Fox commented that the pilot project itself is a good idea.

Goldmark asked Cramer for a recommended action. Cramer said the Board could either approve the pilot rule as is, or if the Board wanted to wait until February no action was necessary until then.

Goldmark asked Board members if anyone wanted to make a motion. Hearing no response, he said the Board would look toward February to provide time for the process to be completed.

FISCAL YEAR 2010 ADAPTIVE MANAGEMENT PROGRAM BUDGET UPDATE

Darin Cramer, DNR, explained the status of several ongoing efforts regarding funding. He referred to Commissioner Goldmark's earlier report on the November 9, 2009 meeting of the Forests and Fish principals, and repeated that the dozen or so possibilities brought out in the meeting were currently being researched. Also ongoing is a short list of long-term funding options as well as consideration for doing an independent performance review of the program and dealing with future recommendations that may result. He said he hoped solutions will be identified in the very near term, recognizing that the short-term funding issues are crucial and need to be resolved by June.

Goldmark added that the federal services and the Governor's office have been very supportive and have come forward with ideas.

Sherry Fox asked how the Forests and Fish Support Account is doing. Cramer answered that revenue is down about 25 percent.

Brad Avy asked Cramer to paint a general picture of the potential consequences. Cramer said it means about $2 million to $2.5 million shortfall that needs to be filled by fiscal year 2011. If not filled by June, the program will need to be reduced by 60 to 70 percent, which means a significant reduction in staff and suspension of most of the projects.

WATERSHED ANALYSIS SUBCOMMITTEE REPORT

Chuck Turley, DNR, reported the status of the subcommittee's activities. The four Board members that make up the subcommittee are Tom Laurie, David Herrera, Norm Schaff, and Sherry Fox. In the first meeting on October 12, Nancy Sturhan, with Stephen Bernath's input, gave a presentation about forest practices watershed analysis, which helped ground the members in the history. Forest Practices staff presented an overview of DNR's operational review of the forest practices applications with watershed analysis prescriptions, how these applications are implemented and the actions that DNR took after that review. The subcommittee also heard from Darin Cramer, Adaptive Management Program Administrator at the time, about proper process.

The second meeting was held on October 19, in which there was additional presentation by Forest Practices staff about completed watershed analyses and five-year reviews. Also, at the request of the subcommittee members, Scott Swanson of Westfork Timber explained his company's five-year review process.

He said a third meeting is scheduled, and subcommittee members plan to have recommendations developed for the Board soon.

Sherry Fox commented that the subcommittee is completely focused on the issues and a positive outcome.

Norm Schaff said the group has worked well together and is close to having a consensus recommendation. He added that the presentations have been helpful in providing the information needed.

CLEAN WATER ACT ASSURANCES

Stephen Bernath, Department of Ecology (DOE), referred to the October 9, 2009 memorandum to the Board from Jay Manning, then DOE Director, with attached 2009 Clean Water Act Assurances Review of Washington's Forest Practices Program. He pointed out he had provided the Board with a succinct list of milestones from that document for the Board's convenience. He said he would like to update the Board quarterly on the progress and completion of milestones, and DOE would continue to provide annual reports that reflect Clean Water Act priorities in the CMER budget.

He commented on the status of 2009 milestones, including progress and work needed on operational issues and adaptive management processes. He summarized the status of three 2009 CMER research projects.

Sherry Fox asked how the transition of a new Adaptive Management Program Administrator would affect progress on the milestones. Darin Cramer, who recently transitioned from that position to Forest Practices Division Manager, said it was challenging to manage the two fronts in the interim, but there would be a solution shortly.

2008 WATER QUALITY ASSESSMENTS (303D LIST)

Stephen Bernath, DOE, gave a presentation on the 2008 Water Quality Assessment of Washington forest practices, and explained that he gives a similar presentation to the Board every three to four years when a new water quality assessment is done. He explained the basic process of assessing and achieving water quality standards, and that the Forest Practices program and rules, with the integral Adaptive Management Program (AMP), are used as a means to implement the "control actions" (cleanup) in Washington.

Carolyn Dobbs asked what would happen to Clean Water Act assurances if the AMP were to experience significant budget cuts. Bernath said DOE would then have to perform TMDLs (total maximum daily load assessments) watershed by watershed. He said that would not be the best use of our dollars, and DOE would prefer that the AMP be successful and that the AMP determine where improvements need to be made.

Peter Goldmark asked how watershed analysis fits in. Bernath answered it fits into the context of mass wasting prescriptions needed to protect clean water. Goldmark asked if DOE evaluates watershed analyses. Bernath said DOE was part of the review and approval process just as all other parties were when it was happening in the mid 1990s, and DOE actually helped staff some of those watershed analyses. Goldmark asked if the standards adopted then are sufficient to meet the standards for assurances today. Bernath replied that with the knowledge gained from watershed analysis at the time, the Board was asked to adopt, and did adopt, a new Class IV-special mass wasting rule to ensure more detailed SEPA review. He added that some people envisioned those mass wasting prescriptions would last until the Landslide Hazard Zonation (LHZ) mapping project was completed. Once completed there would be a complete map of all the unstable slopes in the state, and the mass wasting prescriptions would be phased out. Goldmark asked when that might happen. Bernath said that it is unsure because the LHZ program was defunded last year.

Anna Jackson asked how TMDL assessments would be funded. Bernath answered that the Environmental Protection Agency (EPA) provides some funding, but forestry TMDLs would be prioritized with all the other TMDL needs.

Bernath continued with his presentation which included information about how DOE puts the assessment together and the categories of findings. He pointed out that results of the 2008 assessment were more overall temperature listings, and that mixed-use TMDLs have identified implementation plans for addressing some listings. He said the next assessment that focuses on fresh water data will be in 2012, and there will be a new hydrologic data layer in that assessment.

Goldmark requested that Bernath let him know what the current temperature standards are, variances between the current standards and the current stream temperatures, and locations of the streams were that variance exists.

Norm Schaff asked if there is a quantification of non-compliance, like how many instances per stream length, or percentage of total, when a stream is listed on the 303d list for non-compliance. Bernath answered that is all contained in a written policy put together every time an assessment is done, and there is a public review of the policy.

Dave Somers asked if there is ever an action that is triggered. Bernath said once there is a TMDL on a water body, part of the TMDL is putting an implementation plan together, and the plan establishes milestones for future years to determine if the TMDL needs to be revisited. For example, the action triggered for forestry was the 2009 review in which DOE concluded that there wasn't enough information to determine if things are working or not.

Goldmark asked if it was difficult if there aren't enough data points to show trends. Bernath answered that several of the CMER projects address trends, but CMER is also looking at BMP (best management practices) effectiveness. For example, CMER is looking at the effectiveness of the Type N buffer requirements in the rules for water temperature.

Anna Jackson asked if DOE has the discretion on which waters will be focused on in a given assessment. Bernath answered all data available for waters in the state are done every time an assessment is done, but for Washington it is such a huge workload that can take up to four years to

assess. So DOE has made a recent agreement with EPA to assess marine waters in 2010 and fresh waters in 2012.

2010 WORK PLANNING

Darin Cramer, DNR, summarized the status of the Board's activities listed on its 2009 work plan. He then referred to a 2010 work plan staff developed for the Board's discussion listing expected rule making, board manuals, and reports. After discussion with the Board, the items added to the plan are: a Clean Water Act assurances standing quarterly report; recommendations from the watershed analysis subcommittee at the February meeting; additional recommendations from members of the Northern Spotted Owl Policy Working Group at the February meeting; and a potential rule making regarding cultural resources.

Staff will revise the 2010 work plan as discussed and submit it to the Board prior to the February meeting.

In addition to discussing the items on the draft work plan, the Board discussed the following:

- The Board will meet on the following dates in 2010: Wednesday February 10, Tuesday May 11, Tuesday August 10, and Tuesday November 9.
- There will not be a field tour scheduled unless there is an urgent need. If there is no field tour, the 2011 work planning session will be in November.
- Peter Goldmark asked for a CMER budget update in February.

CLIMATE CHANGE

Jeremy Littell, University of Washington, gave a PowerPoint presentation on the forest resources portion of a recent climate impacts change assessment conducted by the Climate Impacts Group. He provided information from climate model projections on potential changes (due to climate change) in the distribution of Douglas fir, pine species vulnerable to the mountain pine beetle, expected climate and tree growth responses per forest ecosystem type, and fire, insect, and disease implications.

He spoke about the "water balance deficit", the difference between plants' atmospheric demands for water and the amount water available to satisfy that demand. As this deficit increases, tree growth and regeneration typically become more limited. Different tree species have different tolerances, fuel moisture declines and tree stress increases. Even though there may be an increase in winter precipitation, there is likely to be an increase in summer deficit because evaporation in summer is likely to far exceed surplus winter precipitation increases.

His final slide listed some concluding thoughts:

- *Planning around vegetation types and communities will be forced by nature to become more dynamic as assemblages erode and accrete.*
- *Monitoring tree growth, establishment, and mortality together provide the clues to the nature of climate impacts as they happen.*
- *Extreme events – novel disturbances, or combinations of disturbances, will accelerate species turnover, landscape evolution.*
- *Science to support future decisions in the wake of big disturbances therefore needs to accelerate too.*

He ended by saying that more information on Columbia Basin and Pacific Northwest climate impacts and planning for climate change is available on the Climate Impacts Group's website at www.cses.washington.edu/cig.

EXECUTIVE SESSION

No executive session.

Meeting adjourned at 2:05 p.m.