



Hood River
WATERSHED GROUP

Hood River Watershed Group

*"...to sustain & improve the
Hood River Watershed through
education, cooperation, & stewardship"*

NOVEMBER 24, 2020 MEETING MINUTES

Watershed Group Members Present

Chuck Gehling	Cindy Thieman	Alix Danielsen	Heather Hendrixson	Megan Saunders
Dick Iverson	Holly Coccoli	Gary Asbridge	Diana Burman	Lauretta Burman
Steve Pribyl	Jim Wells	Megan Shearer	Greg Short	Kate Conley
Jennifer Euwer	Diane Jacobs	Courtney Rae	Lloyd Vivola	Brenna Bell
Michael Krochta	Kevin Liburdy	Regan Stellar	Katie Skakel	Silvan Shawe
Robert Roth	Jeanette Burkhardt	Sue Kelso-Haines	Steve Warila	Meredith Martin
Sam Doak	Bruce Lumper	Max J-S	Les Perkins	John Buckley
Jaylene Hattig	Matthew Barmann	Glenn Ahrens	Paul Haney	Andrew Spaeth
Tracy Willett	Mike Gundlach	Jurgen Hess	Susan Hess	Alice Zawitt
Dan Ball	David Bugni	Nate Ulrich	Beth Flake	David Michalek
Rick Ragan	Doug Thiesies	Brian Nakamura	Karen Wood	Dan Bingham
Dale Hill	Heather Staten	Lindsay Karr	Adam Young	Ron Martin
Hugh McMahan	Llew Whipps	Mallory Pratt		

** This meeting was conducted virtually via Zoom and co-hosted by the Hood River Forest Collaborative.

Welcome and Introductions

At 6:02pm, Chuck Gehling welcomed everyone to the November meeting and stated the mission of the Watershed Group.

Alix read through the list of attendees and their affiliations and provided some general logistics about the meeting. There were 63 people in attendance.

Cindy introduced the speakers, Dave Peterson and Jessica Halofsky.

Dave Peterson is Professor of Forest Biology at the University of Washington, and Emeritus Senior Research Scientist with the U.S. Forest Service Pacific Northwest Research Station. He has conducted research on climate change and fire science throughout the western United States and has published 250 scientific articles and four books on these topics. He was a contributing author for the Intergovernmental Panel on Climate Change and lead author for the Forests chapter of the recent National Climate Assessment. He currently works on climate change assessments and adaptation on federal lands in the western United States. Dave lives in Skagit County, Washington, where he manages Mountain Heart Tree Farm.

Jessica Halofsky is the director of the USDA Northwest Climate Hub and the Forest Service Western Wildland Environmental Threat Assessment Center. Her research interests include fire and disturbance ecology, vegetation dynamics, and climate change (ecosystem impacts and adaptation). Jessica pioneered one of the first climate change vulnerability assessment and adaptation projects with Olympic National Forest and Park. Since that initial project, Jessica has co-lead eight other sub-regional to regional-scale climate change vulnerability assessment and adaptation projects around the western U.S. (all described at www.adaptationpartners.org).

Monthly Informational Presentation

Dave Peterson and Jessica Halofsky presented on *Climate Change and Forest Ecosystems in the Pacific Northwest*.

A warmer climate has major implications for forest ecosystems in the Pacific Northwest. In this presentation, David and Jessica discussed the effects of climate change on forest ecosystems (tree growth and productivity) and other natural

resources (assessment for north-central Oregon), adapting to climate change in forests, and adapting to climate change in other natural resources.

Dave began by showing photos of dead Western red cedars and asked if people had noted similar dying trees in the PNW; many folks noted that they had. Dave explained that the U.S. Drought Monitor data for Oregon shows that 2015 was a kick-off year for an extended drought period between 2015 and 2020 (six consecutive exceptionally hot, dry summers). These dry summers were likely the primary cause of the tree die-offs.

How will trees grow in this warmer climate? Low elevation, westside forest is moisture limited, so it is expected that species in this area will have decreased growth (Douglas fir, Western hemlock, Western red cedar, Sitka spruce). Eastside coniferous forest is moisture limited and growth will decrease for species here (Ponderosa pine, Douglas fir, Western larch). High elevation, coniferous forest is energy limited (heat and sun limited) and it is expected that these species will increase in growth (Subalpine fir, Mountain hemlock, Lodgepole pine). With a warmer climate and less snowpack, these species may increase in growth. Riparian areas, wetlands, groundwater-dependent systems are water controlled and growth and regeneration will change (species composition, fire susceptibility). There will be some winners and some losers.

The biggest challenge will be extreme events. For example, climate change affects insects. The warmer temperatures have increased the spread of Mountain pine beetle since 1990 to upwards of 50 million acres, which is an unprecedented growth.

Climate change also affects wildfire. In the Western U.S., for a 2-degree F increase (by 2050), the annual area burned will be 2-3 times higher than it has been historically. Dave showed a brief animation of the interacting disturbances of wildfire and insects/disease over a 20-year time period. It's expected that this trend will continue to increase over time.

Dave showed a snapshot of 2020 fires in NW Oregon. Strong east winds were a key driver of fire spread and fires were similar to east wind-driven events in the past. It is difficult to say that a particular fire event or season is associated with climate change, but the 2020 event was consistent with what we might expect to occur more frequently with climate change. It is important to note that it is not expected that these east winds will increase because of climate change.

In summary, in most forests, it is expected that there will be lower growth and higher mortality from biotic disturbances (insects, fire), there will be larger fires and more area burned, there will be more non-native species, there will be loss of some subalpine forests, and there will be decreased conifer dominance and younger forests.

Jessica then explained the Columbia River Gorge National Scenic Area, Mount Hood National Forest, and Willamette National Forest Adaptation Partnership (CWMAP). Project objectives included, 1) synthesize the best available scientific information to assess climate change vulnerability and develop adaptation strategies, and 2) develop information and tools for resource managers to incorporate best available climate change science.

This is a "science-management partnership", and the general approach is to conduct a vulnerability assessment, identify adaptation strategies and tactics (led by managers), and develop and publish a peer-reviewed report. Core topics include climate, water resources and infrastructure, fisheries, vegetation and disturbance, wildlife, recreation, and ecosystem services (carbon, pollination, water quality, cultural heritage).

A science team for each topic developed and synthesized scientific data and information. Regional Program Managers provided guidance and assisted with interpretation, and Forest Specialists provided data, local expertise, and written interpretation, and developed adaptation strategies and tactics. A 2-day in-person workshop for ~100 people focused on collecting feedback on the Vulnerability Assessment (scientists presented results and managers provided feedback) and developing adaptation options (managers identified primary vulnerabilities and developed strategies and tactics). The entire process took just over two years.

Jessica explained additional resource analysis included in the report, beyond forests, including:

Hydrology will be affected by snowpack changes over time. Snow water equivalent and snow residence times looking out to 2080s show a substantial decline in snowpack and number of days snow persists on the ground (as much as 83 days in a year). Glaciers are expected to continue to shrink. Stream flow will also decline – less winter snowpack will mean earlier

melts; large absolute change in winter snowpack in higher elevation means greater changes in low flows (50-80% reduction). Increased winter peak flows are expected, particularly in higher elevations on the east side of the study area (up to 40% increase). A shift in timing of floods is expected from spring to winter.

Roads and infrastructure will be more vulnerable as a result of peak flow and snowpack. Mapping identifies where roads are particularly vulnerable. With decreased snowpack, there will be more access to recreation, but greater potential for debris flows and flooding.

Higher air temperatures and lower streamflow lead to higher stream temperatures. Increasing stream temperatures will affect bull trout habitat, for example. Mapping of future stream temperature conditions can help prioritize restoration efforts for particular streams and fish species. There were several analyses conducted around specific habitats (i.e. subalpine) and how wildlife will be affected.

Warm weather recreation will be affected by increased temperatures. An increase in shoulder season activity is expected. There may be a moderate increase in warm weather activity, with a few caveats including fire events. Snow-based recreation accounts for about half of activity. This is expected to be highly affected by climate change (shorter season will lead to greater low elevation effects). Jessica showed percentage decline in snow residence time, which would affect some of the lower-elevation resorts (ex. Hoodoo).

Assessment information will be published online. Reports and additional information can be found at adaptationpartners.org.

Dave continued with an explanation on how we can manage for resilient forests in a warmer climate. Regeneration is a critical stage – tree establishment following disturbance will determine winners and losers in a warmer climate. Seedlings must cope with variation in temperature and moisture at the soil surface. “Good practices” are actions that will encourage reduction in climate change impacts and help with this transition. We will need to pamper seedlings and saplings (retain soil moisture for summer growth, protect trees from other stresses); select drought-tolerant species where possible (right tree, right place, right reasons), including Douglas fir, Ponderosa pine, Grand fir; increase species diversity and structural diversity (closed and open canopies; accommodates for any one particular species impact); be more flexible with seed zones (plant seedlings that were propagated from seed zone in which you live); keep forests healthy (manage stand density and fuels).

Jessica discussed vulnerabilities and adaptation. For water, with higher peak flows in fall and winter, we can design infrastructure that is more resilient (install larger culverts, decommission roads in floodplains, relocate campgrounds). For fisheries, with higher temperatures and degraded habitat, we need to retain cold water habitats by restoring structure and function and maintaining riparian vegetation. For wildlife, with increased disturbance leading to loss of habitat, we will need to increase resilience by protecting, maintaining, and recruiting legacy structures (large trees, downed wood, snags). For summer recreation, with a decrease in suitable sites but an increase in demand for water-based recreation we need to increase flexibility in how water-based recreation is managed. Strategies include increasing boat ramp lengths and managing capacity and expectations. See the “Climate Change Adaptation Library” for all adaptation options (close to 900 options) at adaptationpartners.org/library).

In summary: we should manage for 30 years from now (warmer temps, higher extremes), diversify plant species, genotypes, and spatial patterns, use disturbances as an opportunity for changing trajectories and experimenting, implement risk assessment and risk management, and monitor, learn, and adjust as needed.

Questions:

Michael Krochta – Since the collaborative group regularly provides recommendations on Forest Service projects, do you have any examples of how we might expect the agency to be using this information on a project level? Any ideas for how we can encourage/help them do a good job with that?

Dave noted that implementation of adaptations on public and private land has been slow, but they are coming (especially in the next four years). Fisheries and infrastructure actions are leading the way. These topics should be discussed in collaborative setting as much as possible.

Ron Martin – Anything that can be done to mitigate low flows anticipated in summer? This could be a big problem for agriculture? Cindy noted this was a very big priority for the Watershed Group and our partners, specifically with delivery

system upgrades. Brenna Bell noted that Bark is working with the Forest Service to increase the beaver population in the Clackamas Watershed to increase summer water storage and slow release.

Jessica noted that any practice that helps to increase stream function (reconnecting floodplains, restoring riparian habitat, etc.) will help slow water down and keep it on the landscape. Dave noted that talking to people about this problem and what people can do to help is a highly productive option.

Courtney Rae – Will there be more information about impacts to drinking water resulting from hydrological changes discussed? Jessica noted that there will be information on this in the report particularly for the Bull Run Watershed and City of Eugene. Wildfire is an additional big component of drinking water protection.

Glenn Ahrens – If you were looking at 100 acres of west-side Douglas fir/Western hemlock that just burned, how would you approach replanting, mixing species, mixing seed zones of Douglas fir? Dave would first look at what the soils were like and the moisture capacity. Dave would emphasize planting Douglas fir, as well as Western red cedar and hard woods in the right sub-climates. In terms of genetic characteristics, Dave would focus on 50% local sources and 25% from several lower elevation sources.

Brenna – Will there be a more formal presentation/workshops for the Climate Vulnerability Assessment like the one you recently facilitated for coastal forests? Jessica noted that the local workshop took place last year, but the assessment will be published soon. Dave noted that the Watershed Group could encourage the local Forest District to host roll-out events around the assessment release.

Dale – Impacts of harvesting activities on carbon releases, sequestration potentials, and possible reductions in more costly management practices has not been addressed in the presentation tonight. More and more research tends to link these issues with improved possibilities in ecosystem services particularly in carbon release impacts. Thoughts? Dave noted there are a lot of different aspects in this topic, but most importantly, Dave stresses the importance of keeping forest land as forest land.

Cindy – In terms of increased growth for higher elevation forests, is there any research or thoughts on whether we might see an increase in the timberline on Mt. Hood; could the forest line creep up and perhaps stabilize the dynamic nature of Mt. Hood? Dave noted that we do not see a lot of change in the tree line area yet, but we are seeing filling in within the “parkland” habitat. There is some evidence in Glacier NP at tree line, but in general, regeneration is typically a slow process so perhaps by the end of the century there will be increased change.

Robert Roth – With the major fires in the Clackamas Basin, how do we make sure climate change is considered with post-fire restoration? Jessica noted that they are rushing to get the report out the door so that it can influence post-fire restoration activities. The Pacific Northwest Research Station is planning to work with local districts to help with restoration planning and implementation.

Susan Hess – An increasing population is resulting in increased clearing and development. Did the assessment take into account population levels and forestry? Jessica noted that this came up a lot in discussions about water availability and quality, as well as habitat and how species may or may not be able to respond without connected habitat corridors. Dave noted the biggest increase in fire suppression costs is around urban/rural areas, which will impact social and economic management decisions.

Courtney Rae – Will the increase of fire area burned (2-3x current average) provide sufficient young forest for beneficial carbon sequestration? Dave – we hope so, if forests that burn can regenerate. We will not be storing carbon but hopefully we can regenerate.

Cindy – on that same topic, in the report do you talk about human management in relation to fire starts (ex. campfires occurring in high-risk places/times of year)? Jessica noted that there isn't much on this topic in the report, but the PNW Research Station is focusing on this and how patterns have played out historically. California may be a useful reference for PNW planning.

** This presentation was recorded and can be found at: <https://hoodriverwatershed.org/watch-climate-change-and-forest-ecosystems-in-the-pacific-northwest-presentation-by-david-peterson-jessica-halofsky/>

Review and Approval of Last Meeting Minutes

Chuck asked if there were any corrections to the October minutes. No changes were noted and the group approved the minutes.

Old Business

None.

New Business

DEQ 2022 Integrated Report Methodology for Watershed Assessment Units

Cindy explained that DEQ will have a comment period in January for their '2022 Integrated Report Methodology for Watershed Assessment Units'. With this new methodology, HUC-12 watershed assessment units are determined by dumping different monitoring station data together even if streams are not hydrologically connected. This could affect Watershed Group projects in several ways, including an increased cost of permit reviews if a project is taking place in a listed stream. Megan Saunders noted that if it is a listed stream the cost goes up to \$12,000.

This issue was raised at a meeting about a year ago, but the comment window did not allow sufficient time for HRWG to respond. Now that there is ample notice, HRWG could consider submitting a comment letter in January. As background, Cindy shared the letter that the Farmers Irrigation District recently submitted as informal comments to DEQ (thank you to Megan Saunders for all the background research!). Their letter highlights some of the issues HRWG may encounter as we undertake restoration projects, which often require DEQ 401 review.

Heather asked if fees are charged even for restoration projects. Megan noted that with any removal/fill permit you will need a 401 certification that will initiate fees.

Chuck asked what would be a preferable methodology? Megan thinks that at a minimum the HUC-12 units should be broken up if they are not hydrologically connected. Lake Branch has 88 stream miles with only one data point to determine impairment – this needs to be addressed somehow.

Cindy will follow up with DEQ about whether restoration projects are included.

Chuck noted that the letters should perhaps be sent to representatives as well for legislative purposes.

The group provided first consensus to write a draft comment letter to DEQ on the 2022 Integrated Report Methodology for Watershed Assessment Units.

Reports and Announcements

Coordinator Report:

Cindy reported that we received five proposals for the West Fork at Red Hill Instream Restoration construction project. The proposals have been reviewed and the chosen contractor will be announced after the December SWCD board meeting. The project is a partnership between the USFS, the CTWS, and HRWG. This is an exciting project with aggressive restoration to reconnect historic floodplain using large boulders and wood.

The \$2 million OWRD grant submitted for the EFID Eastside Lateral Pipeline Project was awarded, which brings the total funds for the project to approximately \$6.5 million. EFID will apply for additional NRCS funds in 2021, which would likely be the final amount needed to fully fund the project.

Project Manager Report:

Alix provided an update on the Neal Creak Instream Restoration projects. The Phase 1 design and design report are near completion and the design has been reviewed by all landowners. Permitting coordination with BPA, DSL, and the Corps is underway. Contractors have been chosen and contracts signed for the Phase 1 cultural resources survey (AINW) and Phase 2 design (Parr Excellence). Alix noted that the OWEB Phase 2 Design TA grant that was submitted this past summer has been ranked 1st. Funding awards will not be confirmed until next spring.

Member Announcements:

Kate Conley noted that 500 native shrub seedlings were planted at the River Mile 1 site as part of the OWEB small grant work party. There was a good showing of volunteers from HRWG, the Great Old Broads for Wilderness, and CLT staff. Kate encouraged everyone to check out the site to see how much it has changed. There will be a lot of maintenance in the future, which Chuck has already gotten started on!

Brian Nakamura provided an update on EFID. The Watershed Plan EA was finally approved by NRCS, which frees up PL566 funding. Now the contractor can begin working on Phase 1. Property easement boundaries along the canal will be surveyed soon.

Summary of Consensus Items and Establishment of Next Meeting

Items that Received First Consensus:

Approval to write a draft comment letter to DEQ on the 2022 Integrated Report Methodology for Watershed Assessment Units.

The next meeting will be held virtually on January 26th from 6-8pm. There is no meeting in December.

Adjournment

Chuck thanked the group for attending and adjourned the meeting at 8:20 pm.

Reported by Alix Danielsen.