November 7, 2019 Board of Forestry Science, Values, and Policy Workshop

In attendance:

Board members:

Joe Justice
Jim Kelly
Nils Christoffersen
Brenda McComb

Cindy Deacon Williams
Tom Imeson
Mike Rose

Salem Staff:

Peter Daugherty
Chad Davis
Mike Shaw
Hilary Olivos-Rood
Sabrina Perez
Jennifer Erdmann
Kristin Dodd
Brian Pew
Josh Barnard
Terry Frueh
Ariel Cowan
Robbie Lefebvre
John Tokarczyk
Adam Meyer

Andrew Yost
Doug Grafe

Facilitators:
Robin Harkless
Kristen Wright

Presenters:
Sherri Johnson
Bob Bilby
John Bailey
Dana Skelly
Matthew Betts
Carlos Gonzalez-Benecke
Chelsea Batavia

Michael Nelson

Public:
Doug Cooper
Mary Scurlock
Dan Brown
Seth Barnes
Mike Cloughesy
Robyn Woods
Diane Travis
Barrett Brown
Scott Harris
Joseph Youren

Meeting called to order at 8:05 am

Chair Imeson announced that no decisions will be made at the Board workshop, even though a quorum is present, and proceeded to take a roll call for the Board to begin the public meeting.

State Forester Daugherty commented on the frameworks presented from the previous day as a backdrop to understand wicked problems, while the Board engages in workshop discussions and exercises. He outlined the workshop's format and explained the workshop's purpose. He shared some ground rules to ensure everyone genuinely and equitably participate throughout the day, and transitioned to the facilitator.

Welcome and Workshop Overview

Robin Harkless from National Policy Consensus Center introduced herself and colleague Kristen Wright to the Board, and provided an overview of the workshop's objectives for the day. She challenged the Board to identify their favored techniques and consider alternative approaches in decision making as they engage throughout the day. She expressed how the workshop has time built in for Board member dialogue and space to explore procedure and relational aspects of the decision making process with each other.

Review Wicked Problems Homework ([Attachment 1](#))

Jennifer Erdmann, Department Stewardship Forester, provided a review of the wicked problems homework, and distributed a [handout](#) to the Board. She highlighted areas of shared commonalities and areas of opportunities among the Board members in how they viewed complex decision making. She asked the Board members to think about how they function as decision makers and whether they can identify with the quadrant framework included with Denise Lach's presentation. Erdmann thanked the Board for their participation and planning feedback for the workshop.

The facilitator asked the Board to think about the previous day and share their observations or take-a-ways from the day. Board members offered feedback.

- Commented on the challenges and limitations of public forums. Discussed the polarized perspectives and formalities associated with many complex issues presented to the Board. Consider opportunities among peers and stakeholders to engage in less rigid discussions.
- Reflected on the limitations of the quadrant framework. Discussed how context, tone, and formality can influence quadrant identification. Commented on how people can shift quadrants to adjust to circumstances, if not engage in all four quadrants concurrently as emotions can influence the decision making process. Members shared life experiences of when they used a specific quadrant in making a decision, how they identify with each quadrant, and what personal limitations they have to navigate in making a decision.
- Described factors that can impede decision making, and expressed the value in hearing other member's perspectives before making a group decision. Discussed how predilections and blind sights are ever present, but are parts of the human experience.
- Linked how optimum decision making can be messy and may not align with the governance structure it is made within, which can lead to series of unforeseen circumstances and other policy or implementation challenges.
- Discussed how complex issues have layers of stakeholder groups with their own perspectives and positions. Proposed seeking solutions that include something for the range of groups involved in the decision making process, and how paths of agreements can craft these solutions when stakeholders are heard.
- Commented on the feasibility of solutions from an informal community setting to a formal governance setting, and how individuals who are impacted by a decision are more likely to think about tradeoffs when policymakers engage with them in the field. Discussed the value of communication from policymakers to stakeholders on the constraints of the governance system when seeking solutions and in meeting public demand.

The facilitator highlighted what was discussed by the Board. She reviewed the aspects that make up policymaking, from structural to social spectrums, and the challenge between balancing values with substance. She asked members to continue sharing their perspectives as discussions and breaks are scheduled throughout the day, and shifted to introducing the science presentations.

Kristin Dodd, Department Unit Forester, commented on the design of the workshop to set the stage for the series of science presentations. She introduced the Trask Paired Watershed Study presenters and provided background information on each presenter's field of study. The facilitator reminded the Board about the purpose of hearing these presentations, as not to inform future decision making but to stimulate thought around the challenges that come up when gaps or areas of uncertainty arise in science.

Trask Paired Watershed Study (Attachment 2)

Bob Bilby from Weyerhaeuser Company provided background on the Trask Watershed Research Cooperative including who was involved in the original set of studies, the collaborative nature of the studies, and how the studies were funded. He reviewed the study design, scope, and objectives. Explained the treatment types conducted on private lands, state lands, and BLM lands during the study duration. He outlined the study's timeline and the linkages of the treatments to the riparian vegetation areas. He commented on how suspended sediment yields was measured in the study, relevant to roadways and culverts, as well as the sediment deposited on stream beds at harvested sites.

Sherri Johnson from U.S. Forest Service, commented on water quality metrics relevance, the linkage to water quality regulations and the thresholds used to quantify effects of land use. She explained how scientists can provide findings with a level of certainty, but policymakers deem how results are used to determine policy scale and applicability. Outlined some thresholds included in the studies and the implications associated, from change in light and temperatures in streams. Reviewed how invertebrates, wildlife, and fish can provide additional data when assessing riparian areas. She listed some riparian area components, and explained the headwater differences between treatment areas with and without buffers. Bilby reviewed fish response, biomass, and growth at downstream sites, as well as the patterns observed.

Bilby listed different mechanisms that can be utilized to help determine if a study's results are applicable for other research studies and policy determinations. He reviewed watershed classification and how modeling can provide some form of certainty, but has to be accepted as the base model with underlying assumptions in order to be applicable for policymaking. Stated as data becomes more sophisticated to consider incorporating site variability by developing a set of management prescriptions. He explained how scientific communities do a poor job in communicating study results in a way that policymakers can apply information for policy analysis and determination. Johnson highlighted the limitations of scientific studies, commenting on how temporal studies with short windows may not be accurate in assessing long-term recovery.

Board members commented on presentation:
- Inquired on study's sample size and statistical applicability. Johnson commented on how homogeneous the areas were and that the study will be peer-reviewed. Reviewed policymakers' role in extrapolating results, determining applicability to the broader landscape, and risk appetite.
- Discussed the value of stewardship foresters in helping landowners make site specific decisions pre and post-harvest under the Forest Practices Act (FPA). Stated common forest practices to deploy additional protection measures to achieve conservation and financial goals. Listed the value behind non-prescriptive management to allow space for decision makers to talk with landowners and stakeholders about potential tradeoffs or address site-specific conditions.
- Reviewed the implications and data from the Trask study as it may link to other climate change models on watersheds impacts into the future. Bilby stated this linkage was made as it related to fish bearing responses and the findings were published through the US Forest Service.
- Explored the thinking behind using distribution of data versus mean in the Trask study, and the implications for future studies.

The facilitator challenged the Board to step back and review the questions posed to the presenters or the comments made by other members, and consider where they land on the risk spectrum as they assess how science informs their decision making process, and consider how they reconcile differences expressed.

Board members commented on Facilitator's proposition.

- Considered what aspects of the information provided influence to their interpretation of the results, and understanding that influence can help reconcile uncertainty around a decision.
- Inquired about whether Trask study findings would be similar if fish bearing stream systems were assessed versus headwater stream systems. Bilby stated he does not have the answer to this question, and mentioned an ODF current study may provide an answer when it concludes.
- Described how policymakers attempt to distill the information received from scientific findings into generalized outcomes and apply it to decision-making across the landscape, but through application uncover limitations to the science and reconciles these information gaps by gathering other data or inquiring further on data results. Expressed value in knowing the origin and purpose for the data collected to help validate the information used in the decision making process.
- Uncovered how the decision-making process can be bogged down by emotive or complex topics and can overwhelm the policymaker to maintain their lens on the specific topic at hand.

The facilitator encouraged the Board to continue their morning conversation before moving onto the next science presentation. Board members provided additional insights.

- Recommended infield opportunities to be integrated into the Board work, and give Board members an opportunity to converse with one another while they learn how the FPA is implemented on the ground.
- Offered suggestion to improve process on presenting scientific findings to policymakers, by outlining the scope and limitations of the study by the scientists who conducted the study.
- Observed how each Board member brings their own values, life experiences, and expertise into the decision making arena. Discussed how complex of a process this is for each Board member, all while trying to interface with new information and learning to understand each members' perspective on the issue. Commented on how important it is to touch base with one another as they work through a decision and process the information heard from a presentation.

Terry Frueh, Department Monitoring Unit Coordinator, reminded the audience to sign in for public record and introduced the presenters for the fire topic presentation.

Fire (Attachment 3 and Attachment 4)

John Bailey from Oregon State University began his presentation by outlining what is known and not known about Fire in Oregon. He reviewed the top fire topics in current science, and provided examples to illustrate each topic's relevance with Board policy work. He explained how fire is a wicked problem and consider how to implement change when the fire landscape is losing ground in protection and suppression efforts. Reviewed the fire conceptual framework that is widely accepted when assessing fire behavior, from a low to high range of severity. He offered an alternative framework that incorporates planning practices to better prepare for high gradient fires, like managed large prescribed burns and defined containment lines. Bailey explained that large wildland fires will occur into the future. He urged to learn from fire ecology and to understand the range of fire behavior, and explained how this will be a social lift and potentially a human paradigm shift in adapting to fire on the landscape.

Dana Skelly from U.S. Forest Service commented that fire is a comprehensive conservation tool available, and outlined in her presentation how an adaptive fire management is the most effective approach. She explained wicked problems as making hard decisions with limited resources under limited time scales by policy or decision makers. Reviewed fuel accomplishments in the Pacific Northwest

(PNW) region for the past 16 years, from prescribed fire, mechanical treatments to wildfires and stated treatments alone is not enough without considering wildfire as a treatment. Highlighted the Quantitative Wildfire Risk Assessment (QWRA) interagency effort to assess the probability and risk of fire across the landscape and linked it to National Environmental Policy Act (NEPA) project readiness across the state. She described how treatment effectiveness is evaluated after fires to improve future treatments and listed the types of treatments assessed per acre. Explained how treated areas can help define decision space for management to better plan and prepare for high risk areas, which provides opportunity to explore the highest probability of success with the lowest risk exposure to firefighters.

Board members commented on presentation:
- Inquired how acres are counted for thinning versus pile burns treatments and clarified that mechanical treatments are not considered a fuel reduction, unless active fuels are treated (i.e., burned).
- Discussed how more wildfire on the landscape may impact the habitats of protected and endangered species. Noted how proactive fire treatments, with thoughtful planning and moderate weather conditions, can create mosaics that supports wildlife endurance and evolution over time.
- Reviewed ODF mandate to resolve and suppress unplanned fires as quickly as possible with best practices to guide management decisions. Skelly commented that U.S Forest Service has a bit more decision space than what ODF has, and adaptive management is a more strategic approach to engage with fires more effectively with the limited resources available.
- Discussed the inevitability of larger fires with continuous fuels on the landscape, and the strategies available. Reviewed how mechanical treatments may not be enough to minimize fuels and how wildland fire does the majority of the large landscape restoration.

Robin paraphrased what was discussed among the Board members and presenters.
- Mentioned broadening the decision space for fire response and advancing management planning.
- Discussed the needs for public education around fire issues, expand learning opportunities beyond fire communities and better gauge the social license around acceptable response to fire. Noted how awareness can grow from severe fire events, and how social or industries respond.
- Discussed the challenge for small rural community buy-in to use wildfire as a fuel treatment tool. Reviewed a step-by-step approach to engage the community and firefighters, be transparent with the process and establish space for people to speak up throughout the process.
- Commented on the challenges with neighboring lands on fire, defining source of ignition versus who bears the cost of the fire, and tensions flare up if these risks are disproportionately addressed.

Robbie Lefebvre, Department Seedling and Reforestation Coordinator, introduced and provided background for the Young Stand Management presenters.

Young Stand Management (Attachment 5 and Attachment 6)

Carlos Gonzalez-Benecke from Oregon State University opened his presentation by describing the Vegetation Management Research Cooperative (VMRC) program and how his team assesses how herbicides are used in the PNW Forestry. He explained how alternative treatments can be used on the landscape to reduce fire severity and post-fire, how herbicides are necessary in reforestation efforts. Described the Competition x Site Interactions Experiment (CoSInE), to evaluate vegetation management treatments on conifer seedlings survive, grow and respond across the PNW. He explained the CoSInE study scope, methods, and results. Outlined the study's results related to soil moisture, seedling water

stress, seedling height, seedling mortality, and drought resistance. Noted that abundance of treated plots can be tracked by years of rainfall and species classification. He noted that vegetation management results can be used to predict how tree species may evolve over time on the landscape.

Matt Betts from Oregon State University commented on the collaborative efforts and programs that study biodiversity in managed early seral forests. [Presented](#) on the relevance of plantations as wood supply for the timber industry worldwide, reviewing production and conservation implications into the future. He explained the subject of study is to look at different young stand types and the effects of intensifying forest practices on biodiversity populations within these stand types. Reviewed the confidence level of the study. Betts commented on the biodiversity effects detected and measured among plants, trees, and shrubs in areas with different herbicide management intensities. Outlined the 10-year study scope, methodology, and range of inference for each block studied across Oregon. He reviewed the abundance and species richness metrics used to measure biodiversity impacts within the study blocks, and provided an overview of the results. He listed there were more tradeoffs than neutral effects, and explained how many biodiversity impacts had linear results based on the level of intensive treatment.

Betts provided context beyond this study and identified greater need to study biodiversity and temperature in mature versus young seral forests on a landscape scale. He offered recommendations to provoke thought around gaps of science, like what are the intensive management thresholds that tips the scale for biodiversity decline or what are the tradeoffs at a landscape scale. Explored the wicked problem behind effective land management in balancing production goals with wildlife diversity and ecosystem services. He explained land sharing and land sparing concepts, and closed by thanking the contributors to the study.

Board members commented on presentation:
- Stated the program has a suite of hypothesis to respond to different landscape level treatments and wildlife level of sensitivity.
- Discussed the effects of landscape level treatments on ungulates. Commented on how ungulates act as a biological herbicide to manage vegetation increasing tree growth in rich biodiverse areas.
- Inquired how to extend study results applicability to a landscape scale analysis. Noted the better the mechanisms behind these effects are articulated by scientists can increase the likelihood for policymakers to better understand the results extrapolated from the study.

The facilitator reviewed the anticipated group work in the afternoon presentation, and informed the audience that part of these activities will not include microphones. Erdmann clarified the intention behind the workshop's science topic selection, explaining how it was purposed to hit on topics that cross all three primary department programs and to stimulate Board discussion on how they individually and as a group navigate through gaps, assess risk or areas of uncertainty.

Ariel Cowan, Department Monitoring Specialist, introduced the two presenters and provided background on each presenter's career and current field of study.

Integrating Facts and Values to Support Robust Decision Making ([Attachment 7](#))

Chelsea Batavia from Oregon State University introduced social scientist Hannah Gosnell from OSU, as a colleague who may provide additional commentary through the scenario planning portion of the presentation. Batavia provided an overview for the afternoon session and set of objectives for argument

analysis and scenario planning. She explained how these tools and approaches are offerings for policymakers to utilize as a part of a structured decision making process.

Michael Nelson from Oregon State University provided the definition, purpose, and benefits of an argument analysis. He explained the process to analyze an argument, to better understand the claims and assumptions made to support the prescriptive conclusion. Described the framework for practical syllogism and explained how arguments are built with sound premises to produce a valid conclusion. He reviewed and deconstructed complex arguments to illustrate that many claims are value based statements not based on scientific rigor.

Batavia practiced the argument analysis through multiple examples with the Board, growing in the complexity with each example. She outlined an argument table of reasons and reviewed the table implications in uncovering value indicators and underlying intentions. Batavia explored a table of reasons with the Board as a group, after the reasons were listed, separated the Board into small groups to formulate a sound and valid argument in support and opposition of the hypothetical issue.

Board members were asked to report back to the larger group on their positions and offered feedback on the usefulness of the argument analysis as a Board.
- Discussed delegation of issues and use of argument analysis process. Commented on whether it was a good use of Board member time to deeply dive into argument analysis, but highlighted how this exercise could help the members evaluate arguments brought to the Board.
- Commented on the dynamic with others, suggesting that when premises are not necessarily agreed with and are challenged, it can produce a non positive response. Noted the response can negate any common understanding built for seeking an alternative conclusion or solution.
- Reviewed the complex process of decision-making and how it has a range of risk, resource allocation and can be filled with slippery slope arguments.

Batavia explained the integrative nature of scenario planning, purpose, and applicability. She outlined what scenario planning is and is not, and identified how this planning can be utilized for complex issues or strategic planning. She reviewed scenario planning preparation, scoping, and participatory elements with stakeholder goals. Provided examples of scenario planning utilization and the larger scale efforts that can help formulate principal questions for planning. She addressed the use of driver identification in scenario planning and how to elevate areas of high uncertainty or high impact to be flushed out by the stakeholders or policy makers. Explained how to identify drivers, how to assemble scenario logics, and outlined scenario narrative building. She provided examples of how scenarios can be measured through quantitative, qualitative, and modeling products. Proposed scenario planning as an informing management tool for monitoring protocols, identifying indicators of change, and highlighting critical gaps of understanding or consensus. Batavia offered a handout to the Board with additional scenario examples.

Batavia outlined the process to define drivers and how to matrix information to define parameters of issue scope for the Board afternoon activity. Noted how scenarios can be communicated and used for outreach when working with public, partners, and stakeholders. She asked the Board to select two areas of high uncertainty and high impacts regarding State Forests in 2070. The Board responded with climate change effects, measureable by low to high CO_2 emissions and social license, measureable from polarization to consensus. She challenged the Board to write a narrative and report back. As the Board reported back, they discussed how the social, technology, economic, environmental, political (STEEP) analysis framework provided a uniform lens to work through and create a scenario narrative as a group.

Cindy Deacon Williams left at 3:39 p.m.

Board members were asked to offer feedback on the usefulness of scenario planning and their experience in completing the afternoon activities.

- Considered how the state forests would look in 50 years, how this style of planning can influence State policy formation to meet short to long-term future goals. Discussed how the activity forced them to think outside of the boxes, expanding their purviews to come up with new ideas.
- Discussed how difficult it can be to ensure policy is going the right direction without a shared vision on the future state of the forests. Commented on what a shared vision looks like with a range of social license in play. Reviewed what scenarios can provide a public entity more social license, and how these scenarios can help understand what the future could look like under certain assumptions, but maintaining credibility is difficult when everyone critically assesses the planning outputs. Stated value in incorporating stakeholders with planning process but acknowledged caveats of working with stakeholders as a longer drawn out process.
- Described how this type of planning can lend to a forward thinking process, if durations of time to revisit planning efforts are built in, allowing for current social values and contexts to be integrated into scenarios and can help inform if not adjust planned trajectories. Stated value in scenario planning, as an effective mechanism towards compromise. Considered how mechanisms can be used to measure areas of uncertainty over time, and be in place with the policy process to track unintended consequences or predict threshold events. Discussed how any mechanisms that are considered need to be adaptive with complex issues and have sliding scales of applicability to help create viable options for the future.
- Thought back to the October 9, 2019 Board retreat discussion, where the Board members laid out their values and areas of interest, can utilize an abbreviated version of scenario planning to better understand how flexible their position may be, what influences are in play, and consider what motivates them to make a decision.
- Allowed the Board members opportunity and space to express their thoughts on forward planning and to hear other people's values. Stressed how important it is to involve stakeholders within any initial first steps in planning or project preparations. Addressed how technology solutions may evolve to provide clearer metrics that can be used by natural resources boards and commissions. Listed potential Board issues that scenario planning and other decision support processes could be suited for, especially ideal for longer-time horizon planning.
- State Forester stated a future discussion with the Board on the Forestry Program for Oregon will be coming. He was pleased to see the Board's commitment to lean in and engage with one another throughout the workshop.

Wrap-Up/Next Steps

The facilitator asked the Board to provide feedback on the workshop overall, and offer next steps for the Board as a whole to work on.

- Commented on how the workshop was well-structured to have open conversations and discussion among the Board members to build working relationships by better understanding each members thought process and communication preferences. Resulted hopefully in a positive experience for all Board members. Appreciated the amount of talking opportunities available to the Board.
- Recalled the November 6 conceptual frameworks presented as useful tools for policymakers. Explained the relevance of context when making a decision, and as policymakers the importance of time to step back and revisit context when discussing complex issues.

- Explored the need for in field tours to expand relational understanding and continue to build working relationships as a Board. Considered planning more events with a work group setting to facilitate communication among the Board as new members join. Commented on the value of offline and in-person communication opportunities that can occur at two-day meetings and tours.
- Appreciated ODF staff work in selecting science topics that framed the day's discussion on the complexity that exists in studying, analyzing and understanding these issues in order to make policy decisions. Suggested to revisit these topics to learn how gaps or uncertainty are addressed.
- State Forester appealed to the Board to think about his November 6 opening comments about the October Retreat, and for the Board to offer their thoughts on process or Board work next steps.
- Board Chair suggested to be mindful of time during meetings to ensure there is time at the end of a topic or a meeting day for Board members to dialogue and gain common understanding.

The facilitator summarized the potential next steps in Board work and relational development. Board Chair shared his appreciation for work by staff and presenters on the workshop, as a follow-up to the October Retreat. Acknowledged the project team and leads that planned the workshop for the Board.

Adjourned the workshop at 4:24 p.m.

HR
Workshop Minutes Approved at the January 8, 2020 Board Meeting