Timber, Fish, & Wildlife Policy Committee
September 21, 2016 Meeting Summary

Action Items

Action	Assignment
1. Revise Type F recommendations based on this meeting's discussion.	Ray Entz, Adrian Miller, & Claire Chase
2. Prepare to discuss and come to agreement on the Type F recommendations at the October 6 meeting	All caucuses

Opening – Ray Entz and Adrian Miller, Co-Chairs of the Timber, Fish, & Wildlife Policy Committee ("Policy"), welcomed participants and led introductions (*please see end for a list of participants*). The goal of this meeting was to supplement regularly-scheduled meetings on September 8 and October 6, and to use the time as a workshop to make more progress on some of the topics in the water typing discussion that do not yet have agreement.

LiDAR Pilot Project – Luke Rogers from the University of Washington Precision Forestry Cooperative presented to Policy about the pilot project to update the water typing model with LiDAR data.

Presentation Highlights and Discussion
- The UW team reviewed the GIS methodology, peer-reviewed publications, and the final report from the original modeling effort. Then they identified two pilot watersheds.
- The eastside watershed (Darland Mountain) had more gaps in the data so they had to "stitch" in contour data from USGS surveys. They also had only two field-verified F/N points and 10 points identified by the physicals criteria. That meant they had a small sample size that makes firm conclusions about the model predictions more difficult. However, they found in that watershed that the success of the updated model was pretty high.
- The westside watershed (Mashel) had more data, both in LiDAR data for the whole watershed and more points. Despite a richer dataset, the success rate of the updated model was under 95%.
- Challenges:
    - How to model flow over, under, and along roads. Their team identified how to build "digital culverts" which they are still refining, but they suggested that re-building the model to anticipate LiDAR data may be more effective in the long term.
    - Adjusting slope input for smaller/finer contour intervals because the model was originally built for 10-meter, lower-resolution data.
- Conclusions:
    - LiDAR data helps the model be more accurate, both by addressing the original model's westside under-prediction and eastside over-prediction of the end of fish habitat.
    - Large datasets make the model computations slow, which may present a challenge in the future.
    - Comparing stream networks based on LiDAR data with those based on previously mapped streams often causes the stream networks to look differently, both in location and geometry.

- - o Not all water type modification forms (WTMFs) are created equally, so it takes time for the modeling team to ensure they are referencing the correct ones.
    - o The pilot project ended up coding the whole system in modern programming code so in the future it will be quicker to evaluate different resolutions.
  - Opportunities:
    - o Investigate independent variable creation to determine if altered methodology is more appropriate for higher-resolution digital elevation models (DEMs).
    - o Refine the "digital culverts" idea from the pilot project.
    - o Leverage existing investment in the updated coded process to investigate additional resolutions and alternative flow accumulation models.
    - o Expand the pilot project to include additional watersheds and if needed, collect additionally field-verified end-of-fish data with protocol surveys to support a more robust model validation.
    - o Consider a pilot project to re-formulate the model using high-resolution DEMs with field-verified end-of-fish data.
- Luke recommended that Policy consider re-building the model, which he estimated would take $1.5-2 million over 3-4 years and would require field work. This would not include getting the LiDAR data.
- The UW team realized that though the law was written to achieve 95% accuracy both in under- and over-predicting, it does not clarify what a correct prediction is, leaving it open for interpretation. The original modeling group did not have complete consensus on what 95% accuracy meant, either.
- One potential issue is that now there are two models, one for the eastside and one for the westside. Ideally, the modeling effort would identify smaller regions around the state to get more specific model outputs based on the region's unique geomorphology.
- Refining the "digital culverts" would increase the accuracy on the westside, but that work is not currently scoped or contracted.
- The modeling effort only used WTMFs where the end-of-fish point was biologically or physically verified.
- If the team re-built the model, they would also design a field sampling protocol that would determine where the end of fish is and whether the LiDAR-derived stream is on the ground.
- Currently, the pilot models are based on and verified by last detected fish points. If and when Policy approves moving forward with further model development, a few caucuses will need to discuss how the model will shift towards being a habitat-based model, including methods for validation.

Policy will consider these recommendations and outcomes from the UW team as they move forward on the Type F recommendations.

Type F Recommendations – Policy worked through the rest of the meeting to review proposed language in the Type F recommendations for mapping and drawings detailing off-channel habitat (OCH). Policy moved in between small groups and the large group, and much of the discussions will be captured in a revised version of the recommendations. General comments are captured below.

Mapping – The state caucuses proposed language for how to address the mapping component of the Type F recommendations. They noted that their language is contingent upon the outcome of the Protocol Survey Method Technical Group, which has not yet finalized their recommendations for Policy. The state caucuses emphasized that their recommendations are based on the assumption that the new system will be based on fish habitat, not fish absence or presence. All the Type F/N points from approved WTMFs and protocol surveys would remain as the regulatory point as well as documented fish observations. Modeled map points and the historical tribal data points would serve as the starting point for applying the revised protocol survey for fish habitat. Their proposal also assumes that the default physical criteria would still exist.

After three small groups broke out to discuss the language, the full Committee came together again to discuss potential paths forward. Edits were shared that will be included in a revised version of the recommendations. Overall, caucuses tended to agree with what the state caucuses proposed, with the addition of including a link to more research that might refine the model(s) in the future. The Co-Chairs asked all caucuses to read the revised recommendations in advance of the October 6 meeting and come prepared to agree or specify what the caucus needs in order to fully agree.

Off-Channel Habitat – DNR had provided Policy with two drawings of off-channel habitat, to help illustrate how revised rules would apply on the ground. Policy broke again into small groups and then came together to discuss potential changes to the drawings and recommendations.
- Policy agreed to a few changes to the drawings to correct the information. They also asked to clarify that the drawings do not include a channel migration zone.
- A potential direction for writing the Board Manual could include using standard field technology and measures, such as a clinometer.
- Policy discussed how to capture the periodically inundated direction in the rule and guidance, and whether or not to extend the wetlands protection all the way out to the extent of the wetland, in the cases where a wetland and OCH overlap. Through more discussions, a Co-Chair suggested that Policy include direction for a slope break, meaning that if the wetland's slope gradient is less than 5%, it is covered by the wetlands protection (WMZ).
- Similar to the changes in the mapping recommendations, Policy caucuses were asked to read the revised recommendations before the October 6 meeting and come prepared to agree or specify what their caucus needs in order to fully agree.

Protocol Survey Method Technical Group – The AMPA updated Policy that this technical group has identified major recommendations that Policy can use. They have two more issues to discuss, so scheduled a final meeting on October 3 with the goal to send the final recommendations to Policy late that day.

Next Steps – The Co-Chairs thanked the caucuses for their participation so far in crafting the recommendations. Now that all pieces have been developed to some degree, the hope is to use the October 6 meeting to weave together all the pieces into one comprehensive set of recommendations. The Co-Chairs asked that if a caucus representative needs others in their caucus to make final decisions, ensure that person(s) are at the October 6 meeting.

The October 6 meeting will focus in the morning on the outcome from the Protocol Survey Method Technical Group, and then the afternoon will be a workshop to weave together all the recommendations.

The Co-Chairs adjourned the meeting at 3:00pm.

Attendance by Caucus at 9/21/16 Meeting

Conservation Caucus
Jamie Glasgow, Wild Fish Conservancy
Peter Goldman, Washington Forest Law Center
*Mary Scurlock, M. Scurlock & Associates

County Caucus
Kendra Smith, Skagit County

Federal Caucus
*Marty Acker, USFWS
Russ MacRae, USFWS
Eric Rickerson, USFWS
Tim Romanski, USFWS

Industrial Timber Landowners Caucus
Brian Fransen, Weyerhaeuser
Doug Hooks, Washington Forest Protection Association
Kevin Godbout, Weyerhaeuser
Doug Martin, Martin Environmental (phone)
Adrian Miller, Olympic Resource Management, Co-Chair
*Karen Terwilleger, Washington Forest Protection Association

Non-Industrial Timber Landowners Caucus
*Dick Miller, Washington Farm Forestry Association
Ken Miller, Washington Farm Forestry Association

State Caucus – DNR
*Marc Engel, DNR
Heather Gibbs, DNR
Howard Haemmerle, DNR
Joe Shramek, DNR
Marc RFatcliff, DNR

State Caucus – WDFW/Ecology
*Rich Doenges, Ecology
Mark Hicks, Ecology
*Terry Jackson, WDFW

Tribal Caucus – Eastside
*Ray Entz, Kalispel/UCUT, Co-Chair

Tribal Caucus – Westside
*Joseph Pavel, Skokomish Tribe
*Jim Peters, NWIFC
Ash Roorbach, NWIFC

*Caucus representative

Others
Hans Berge, AMPA
Luke Rogers, UW Precision Forestry Cooperative
Claire Chase, Triangle Associates