

Meeting Notes

T2T Steering Committee Meeting #4

6-27-2018

Present: Mike Cloughesy, Mike Collier, Terry Frueh, Mary Scurlock, Cathy Kellon, Seth Barnes, Jon Souder, Lisa Gaines, Jeff Behan.

Participated via phone: Teresa Kubo, Emily (EJ) Davis, Ashley Coble, Josh Seeds.

Jon: How about a round of introductions...then we'll start with review of notes from meeting 3...any comments? [None submitted.] Also review the progress report to OFRI. **Mike CL:** We thought it was great. **Jon:** I will also be presenting to OFRI board soon, basically the same progress report, with latest update on the water provider survey.

Mary: Has anything changed since June 20 progress report? **Jon:** The main thing is that we've administered the web portion of the survey; also gotten quite a few responses to the survey. Discusses response rate.

Group moves on to discussion of literature search results. **Mike CL:** Doesn't want the "raw" search results of provisionally included literature to be part of project record. Wonders why things like "fact sheets" and other non-peer reviewed literature were included. **Jeff** explains that any reference provided by a steering committee (SC) member was provisionally included. Fact sheet [on pesticide use in forestry] came from Marganne at ODF. The list of potentially relevant literature ranges from top tier, peer-reviewed journal articles, to agency and NGO reports, various gray literature, and even a couple of documents with no clear source.

Jeff goes on to say that some of the most apparently relevant references were things like USFS GTRs. Didn't want to pass judgment; final inclusion and use of such literature is up to SC and reviewers. Fully expect that many, if not most references listed as "potentially relevant" at this point will be excluded later. Took a very generous approach to including literature in "coarse filter" phase, since it was unclear what might prove useful later; and add to discussions of particular topics. Only a small subset of references was directly "on target", so review may involve fitting together pieces of a puzzle from a wide range of sources. Reviewers can (and no doubt will) exclude references later. **Jeff** also notes that INRs work involves a lot of overlap in topics. The spreadsheet tracks what was found here for potential future use in other topic areas, or by steering committee members.

Lisa reiterates that in addition TO documents identified via systematic and traditional lit searches, some SC members responded to solicitations (at prior SC meetings) by submitting

references they were aware of via their work, professional networks or elsewhere. At this “coarse filter” phase, all of these documents were compiled in the spreadsheet, with sources noted. The spreadsheet captures the initial body of evidence that was submitted for review by the science expert reviewers. Whether or not each individual reference listed meets the criteria for inclusion will be determined by the reviewers. As they work, the reviewers may identify additional relevant references not found by the initial searches and solicitations. For the report we can represent this literature “filtering” process using a decision tree. See figure 1 as an example:

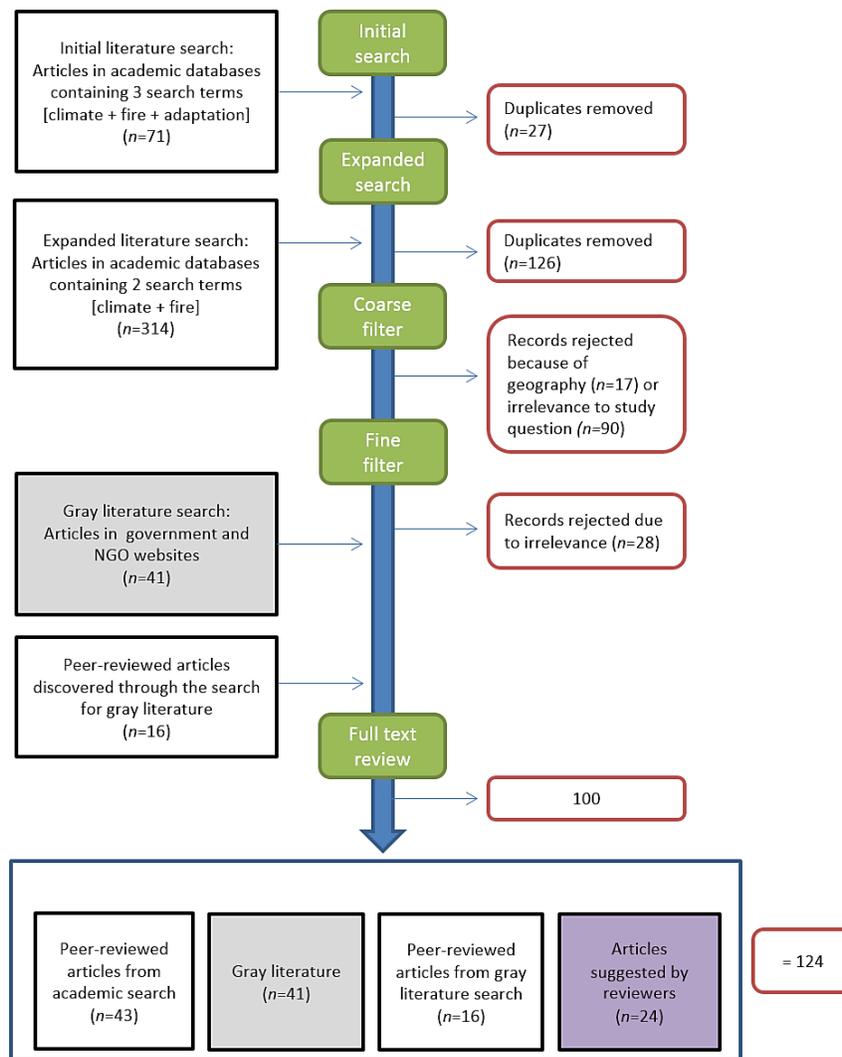


Figure 1: Example of literature decision tree

Group engages in some back and forth about literature inclusion criteria, how to decide what is “in” and what is “out”. **Jon:** We earlier identified criteria for inclusion, e.g., peer-reviewed journals, peer-reviewed agency reports, pertinent to PNW, etc. These are criteria that will be

used by the reviewers. **Cathy:** Scope of inference, criteria measured would be good to keep track of.

Josh: Do we have criteria for how much research from PNW is “enough”? **Seth:** Think that is kind of arbitrary. Think we need to leave that to the reviewers to decide. **Ashley** thinks we’ve had this same discussion at last three meetings. At this point we need to put it into hands of reviewers and let them decide. **Theresa:** Agrees with Ashley, time to let the reviewers do their work. Impressive collection of literature; will be a good resource going forward, beyond just the purposes of this review.

Jon: Let’s move onto EJ’s discussion of the survey. **EJ:** Purpose of her discussion will be to review how the survey is going, where we are. Survey went out to 157 providers. Jon sent 5 follow-up email reminders, also had some follow-up conversations to urge them to take survey, or complete it. We currently have 34 completed surveys, from 22% of the 157 targeted CWSs. This is actually pretty normal response rate for web surveys. **Mike CL:** Wonder if problems and issues in, e.g., Salem watershed might be influencing response rate. **EJ:** Probably having some effect. **Jon:** We did get a pretty decent response rate from smaller providers. **EJ:** Different approach than 2001. In that one, targeted 30 largest providers; didn’t target smaller providers. We took different approach this time, so as to represent smaller providers.

Jon: We are missing providers from “dry” side. Baker City started the survey, needs to finish. **EJ:** Don’t have one from La Grande either. **Mike Collier:** Could you contact them and administer the survey via phone? **Jon:** That is a potential next step. **Josh:** So the list you sent out shows respondents who completed the entire survey? **Jon:** Yes. A couple skipped one or two questions, but went through the whole survey. **EJ:** We’d like to try and get 20 more responses; might take awhile. Options [for increasing response rate] include focusing on: (1) larger watersheds, or (2) forested watersheds, or (3) watersheds with obvious potential for effects from forest management. We could try to check for these characteristics and how well represented they are. Or, (4) we could take a random sample of non-respondents and focus on getting them to complete the survey.

Cathy: How about using treatment type or sensitivity to turbidity? **Josh:** you might be able to bin responses by filtration type, which are identified in the shapefile. **Josh:** I favor option 2, also 3, 4 is next. Since this effort is about effects of forest management, focus on watersheds with some potential for that. Perhaps assess this by looking at % of forested area in watershed. Also want to try to get some east side providers, see what they think about fire risk, related issues. **Group** discusses potential for this and where to get land cover information. **Cathy** refers to a potential source of information on forest cover change- the “High-Resolution Global Maps of 21st-Century Forest Cover Change” (Hansen et al. 2013) web-based data server through https://earthenginepartners.appspot.com/science-2013-global-forest/download_v1.5.html.

This approach would use GIS land use layers to try and identify a watershed's percent area in forestland and other characteristics.

Group discusses options for increasing response rate, how long it will take; potential impediments to completing survey and how to deal with those. **Josh:** Would like to get responses from a range of landownerships. **Seth:** What is timeframe for wrapping the survey up? **Jon:** Hopefully over next month or so. **EJ:** Agrees. **Jon:** Wants to confirm that we shouldn't just focus on larger systems. **Group** seems to agree with focusing on forested watersheds to increase response rate, but also work to get some responses from "dry" side. Specific CWS mentioned to pursue were Forest Grove, Astoria, Coos Bay, Newport, Eugene, Baker City, Sisters and Bend.

Jon: Next item on agenda is report outline. **Terry:** One thing that isn't clear to me is methodology reviewers will use to do their work and present results. Scale? Cumulative effects? **Jon:** Primary focus is effects of forest management, but scale and cumulative effects are on the table. **Cathy:** In Chapter 4, are you going to break out stream crossings? Seasonality? **Jon:** We are going to try and address seasonality.

Mary: Interested in seeing how description of forest practices and policies plays out. Things are really variable in how they play out on the ground. **Jon:** I think reviewers are grappling with relationships between policies and what science says, and how things play out on the ground. **Cathy:** Assume that with regard to forest practices, you are concerned with those which affect water quality providers. **Jon:** Generally agrees. **Seth:** There's much more to "roads" than just construction. E.g. maintenance. **Mary:** Can we list all things that are important to outcomes? And is there literature that addresses these things? **Mary:** Concerned that there has been a lot of improvement, but that is compared to past practices. **Mary:** At some point the "rubber meets the road". **Jon:** This report may not be the place where the rubber meets the road. Needs to say "what the science says". Not how that knowledge is used, or not used. **Mary:** Thought purpose was to say what the strength of science is regarding effects of forest practices. **Jon & Lisa:** I think we are on the same page.

Cathy: Not sure I understand Chapter 10. Is it going to say where there is evidence that BMPs are effective or not in certain situations? **Mary:** Conclusion might be that "we can't say whether they are effective or not." **Cathy:** Are they going to make some educated judgments regarding effectiveness of the BMPs? **Jon:** Not sure at this point. **Lisa:** Think that Chap 10 will be a summary and recap of findings & conclusions in individual chapters, rolled into one place. **Mary:** Also curious about Chapter 9 (case studies). **Jon:** Case studies are EJs area...should illustrate diversity in systems and challenges they are facing. **Lisa:** Outline is intended to be a guide for showing things we need to include. Order; layout may change. Case studies can also be seen as examples.

Terry: Wonders about focus on smaller watersheds where they don't own the watershed. **Jon:** There is a lot of concern in these systems. **Mary:** It's good to recognize that issues are different in smaller systems- isn't really the focus of the report. **Mary:** Also are hydrologic connections between ground and surface water going to be addressed? **Jon:** Language is "under the influence". But I don't think we are going to look at effect of forestry on groundwater. Some systems are starting to look to groundwater; there is somewhat of a shift among water providers to look harder at groundwater. But groundwater is mostly beyond scope of this effort.

Jon: Starts discussion of water provider atlas; template. Covers around 150 water utilities who are primarily dependent on surface water. **Cathy:** Will you parse out ownership of source watershed? **Jon** asks **Josh** if they have info on landownership in source watershed? **Josh:** We can generally tell if the provider owns their watershed or not. **Seth:** Questions utility and practicality of fields [in atlas template] for acres treated with herbicide, ROW, etc. Info is not available for many areas. **Cathy:** There is info available for forest cover change. **Mary:** Hard enough to get accurate info for roads. **Seth:** Knows of instance where forest landowner obtains permits for entire land base to receive herbicide treatment each year, but does at most ¼ of it. This approach makes sense from landowner perspective, efficiency. But could lead to inaccurate conclusions from looking at permits for acres treated. **Seth:** Could probably make some assumptions about acres harvested & treated. **Mary:** People want to know stand age, they want to know what is going on in the watershed.

Mike Collier: For watershed restoration, what info is available, where is it coming from? **Jon:** Oregon Watershed Restoration Inventory (OWRI) mainly. **Terry:** A big asterisk is needed here too- there is lots of restoration going on that isn't well documented. **Jon:** Rationale is to know whether or not restoration is going on in the watershed. Thinks watershed councils are pretty good about reporting. **Casey Lyons** has info on water quality alerts & violations.

Cathy: Is it possible to include a little more info? E.g. potential contaminant sources? **Jon:** Hesitant to go down that path. Info to inform this is inconsistent. Would also open debate on methods used to derive such info. **Mike Collier:** Are we going to have info on water demand? Peak & average? **Josh:** Way to get that is to call providers and ask. **Mike Collier:** WRD has this info, it is required to report it. **Jon:** Will call WRD. **Lisa:** Is there any downside to having the Atlas being part of the report? Because questions or concerns come to INR. **Seth:** I've mentioned my concerns that acres treated are different from permits & documentation, you always permit for the max of what you could treat, always higher than what actually gets treated. "Maximum potential acres treated."

Cathy: Would be good to know if there are agreements in place that go above and beyond the law regarding protection of drinking water. **Group** discusses; seems to conclude that his info is hard to find and there aren't many instances of it anyway.

Josh discusses situations where providers sell water to other providers. We are also gathering data on landslides from aerial photos or LIDAR. We don't have much data on this, but working on getting assessment methods peer-reviewed as we go forward. Presence/absence of landslides is best we can probably do. **Josh:** Doesn't think there is statewide data on landslides, but ODF has some info on landslide potential, High Landslide hazard Locations (HLHL). See ODF Forest Practices Technical Note Number 2:

<https://www.oregon.gov/ODF/Documents/WorkingForests/HighLandslideHazardLocationsTechNote2.pdf>

Seth has some questions about the accuracy and utility of this. **Cathy** cautions that this is not a decision making tool. (**Jon:** Actually, HLHL triggers a review by a geotechnical engineer). **Josh:** It shows where you don't want to put an intake; also shows potential toes of landslides. Thinks it is useful in showing potential terrain instability. **Mary:** Part of the picture on landslide susceptibility.

Terry: I don't have a good feel for the audience for the water provider atlas. **Jon:** Could be useful to show potential sensitivity to forest management.

Cathy: Asks **Josh**...Isn't there usually an assessment of sensitivity level? **Josh:** Yes but it is very general. **Jon:** Will do some more looking at this, reach out to some of you on it.

Jon: Summarizes current directions...working with science reviewers to get them moving. Will continue to do that. Continuing to filter literature. Set up criteria for deciding/tracking rationale for whether paper is included or excluded. Outline will continue to evolve.

Seth asks what more involvement SC will have. **Jon:** One more meeting, after we've received comments on draft report. Discusses timing of this, and giving SC some lead time to review draft report. Next meeting set for **November 9th**.

Meeting wraps with discussion of potential for meeting in Albany or Salem(?) so group doesn't have to deal with parking challenges at OSU.