

Trees to Tap Project
Steering Committee Meeting #3
Monday 2 April, 2018, 1:00pm-4:00pm

AGENDA:

1:00 – 1:15PM	Introductions and Review of Meeting #2 Notes – Jon & Lisa
1:15 – 2:00PM	Update on the Science Literature Search – Jeff
2:00 – 2:30PM	Discussion on latest version of the provider survey – Emily Jane & Jon
2:30 – 3:00PM	Break
3:00 – 4:00PM	Review and discussion of the Draft Report Outline – Jon & Jeff
4:00PM	Adjourn

Present in person: Mike Collier, Mike Cloughesy, Seth Barnes, Marganne Allen, Ashley Coble, Jon Souder, Jeff Behan.

Calling in: Josh Seeds, Casey Lyons, Cathy Kellon, Peter Leinenbach (EPA), Mary Scurlock.

Jeff clarifies that T2T report will not be a systematic review, since the Steering Committee has elected to cover a range of topics. Not possible to be exhaustive on all of them, so we will strive to do a representative and objective literature review that is as thorough as possible given the scope and time constraints. **Mike CL** says that OFRI would be fine with the “Systematic Methods” approach. **Ashley** suggests going deep in the interval between upper watershed activities and raw water intakes: downstream responses and data gaps are more important.

Jeff also mentions that we are trying to limit the scope to which we review literature on wildfire/climate change issues. Says he is starting to look at journals, asks for input. **Mike CL & Mary** note the tradeoffs with and without active forest management and wildfire, specifically highlighting fuels treatments.

Josh asks for clarification of Jeff comment on scope. Are we looking at water quality parameters that affect “treatability”, e.g. turbidity? [Jon & group seem to say that yes, we are.] Linkages:

Forestry → Water Quality → Treatability

Forest Management → Treatability

Casey focus on treatment technologies, especially turbidity and DOC.

Josh may have some keywords, and also has some info on treatment technologies. **Jon**: would be relevant to context, what do providers have to deal with, their challenges. **Casey**: TOC total organic carbon, we have data. **Jon**: What is DOC TOC crosswalk? **Casey**: DOC is not something that EPA or CWA require to be measured.

Josh and **Casey** discuss info/data available on DOC, TOC. **Marganne** suggests that “Jeff can’t deal with a bunch of raw carbon data”; what’s he going to do with it? **Jon**-some background on water treatment tech is needed, i.e., explanation of how providers deal with raw water. **Mike CO** EPA has research on this, pubs. DBP rule (EPA) probably has some refs on that. Keywords: DBP ruling. “Stage 1” 1st DBP rule.

Group moves on to discussion of draft report outline. **Seth** asks about who is putting together 4A [Summary of forest practices that could potentially affect water]. Suggests that OFRI and ODF have the best handle on this. Contemporary management & legacy effects, if pertinent, are important piece of the context. **Mary**: Don’t we need to discuss variation in location on this? Don’t want to have “tail wag the dog”. Reminds us of purpose of project. Describing all these changes [in forest practices over time] is a whole separate project. **Group** goes back and forth a bit on this. **Seth** clarifies his aim- just wanted to suggest that there is a role for OFRI & ODF in providing background info, not that this “take over the document”. **Mike CL** and group discuss the importance of locale, differences in topography, geology, etc. **Ashley**- which parameters affect water quality.

Mike CL: Chap 3- how much of Oregon’s water supplies and systems are we talking about in this study? Surface water vs groundwater? Important to clarify this. **Jon**: I figured 144 providers of predominantly surface water. Josh’s # of 157 includes systems that are pulling groundwater that is directly affected by surface water and treated same as surface water. **Mike CL** For systems pulling groundwater, wants to clarify linkage with forestry. **Josh** indicates there probably aren’t turbidity linkages, but these sources could have herbicides or DOCs. Group decides to use the 157 for the purposes of the survey and atlas.

Jon we’re seeing a direct link between geology and potential effects of forest management on flows, sediment, and water temperatures. So, we’ll need to be clear in the report about these differences. **Mike CL**: Notes linkages between flows and turbidity.

Ashley- would like to see discussion of how the parameter affects water quality and TX, and also linkage back to forestry at front end of each chap. (Apply the way 6a starts to all chapters.)

Group discussed Chapter 7 Forest Chemicals. **Marganne:** Notes that from a policy standpoint, H₂O parameters that aren't regulated can be challenging. Group discusses "social" limits, social acceptability, for water quality issues, even in the absence of regulatory standards. This raises questions about whether water utilities are being notified as required under the FPA when there are spray operations in their source watersheds (only under 100 square miles). Is the process working: are utilities aware of spray operations; are source water dependent utilities subscribers to FERNS (**F**orest **A**ctivity **E**lectronic **R**eporting and **N**otification **S**ystem; the ODF e-notification system); and are they being notified?

The Yamhill Pesticide Stewardship Partnership (PSP) has produced some publications that might be useful. DEQ has a toxics monitoring program for surface waters with sampling done at raw water intakes. There have been some case studies from this work.

Group moves to discussion of water provider survey, revised draft, based on last meeting and input from **Cathy Kellon**. **Jon** suggests we are getting close to version for which we'd seek approval of IRB. Might add 1-2 questions that would help with publishing results in a peer-reviewed journal.

EJ: Tried to modify for brevity, hone in on what we really need to learn. Down to 18-19 q's. Clarified language RE community drinking water, source watersheds.

Seth OFIC: Asks for clarification of "other" effects, current verbiage/location is confusing. Also asks about the nature of potential additional questions. **EJ** suggests that she isn't sure; wanted to check into this to see what might add to scientific literature on subject.

Group discusses Q8. Differentiate "Drinking Water Protection Plan" created by the water utility from the "Source Water Protection Plans" prepared by DEQ/OHA and provided to the utilities. Also, we should be interested in Coordinated Management Plans with Federal Managers, and any Assessments and Action Plans created by watershed councils. **Cathy** suggests a "pick list" that includes Formal Agreements, Legal Authorities, Covenants and Easements, MOA/MOU, and regularly scheduled calls/meetings. **Seth** is interested in where collaboration is occurring and where not. **Ike CL** suggests Q8 as "Do you work together with the landowners in your watershed."

Mike CL suggests that Q13 is the "meat" of the survey. Important stuff, but a little bit daunting at first. **Jon** and **EJ** suggest ways to maybe make it more palatable and clear.

Seth- interested to see cannabis cultivation as a "management activity". **Jon, Josh & others** respond that it is a rapidly rising area of concern. Cites Applegate Valley. Pesticides getting eaten by mice, raptors eating mice and dying, etc.

Mike CO: wonders if survey responses are “all or nothing?” Can respondents skip some of the questions? Some people may not want to answer certain questions. **Mary-** some people might be more comfortable with “yes/no” questions than more open ended ones. **EJ:** There is a “skip” option, explains that format should be a little more clear when we enter it into Qualtrix. Will try to explore best way to lay questions out. **Seth:** Don’t provide a “skip” option for Q13! Concern over lost opportunities if respondents fail to answer Q13.

Mike CL: When/how long does IRB take to approve? **EJ:** Likely/hopefully won’t require a full board review. But staff will have to review it.

Group discusses whether or not the survey constitutes “research”. **Marganne & Mike CL:** Nicely tightened up; good work. **Marganne:** Keep coming back to Q8 [*“Do you have a coordinated management plan with other owners in the watershed, or other mechanisms to work together?”*] What is purpose, what are we getting from this, will anyone say “yes”?

Josh tries to clarify that a “coordinated management plan” isn’t really the same as a Source Water Protection Plan. **Mike CO:** SWPP SHOULD be coordinated, but not sure if they always are. **Marganne** (looking at Seth) I’m not aware of any such [coordinated management] plans, are you? **Seth,** yes I’m aware of a few. Hancock, Stimson, have something like this. **Mary & others, EJ, Seth** indicate that changing terminology in the question might help clarify the issue for respondents. Current verbiage seems to indicate a formal [collaboration/coordination] document, but Q isn’t limited to this. **Mike CL:** The less formal it sounds, the more useful info we’ll get. **Group** seems to generally agree.

EJ: I’ll play devil’s advocate. They all work together, so we don’t want to be too general. **Cathy:** Depends on what exactly we’re trying to get out of this. Could be a range of different formal and informal agreements, OR an understanding of level of coordination going on. **EJ:** We had a more detailed Q and removed it. **Jon & Seth** clarify that we can circle back and revisit what we want to get out of this. **Marganne:** It would be valuable to know most common forms of collaboration. Collaborating on easements or larger buffers, or gathering more science info. Collaboration is highly variable; would be valuable to understand more about this. **Seth:** To me, would be interesting to know where collaboration is occurring and where is it not. I’m less interested in the exact nature of collaboration, as long as it’s working.

Jon: Do we have consensus on whether or not to have a “pick list” in Q8? **Marganne:** Thinks Q9 can get at this. **EJ:** I can wordsmith this to address concerns. Looking forward to seeing what we get from this question.

[Back to outline] **Jon,** seems we’re OK, discussed up through chap 6. What are we missing from Chap 7? What are we finding? What are people reporting in water? Raw water? **Seth:** Yamhill partnership/study is specific to forestry. **Josh:** We have a toxics monitoring program (statewide)

and more local ones. Statewide toxics monitoring program is not specific to forestry but can give us an idea of what is going on in different areas. What is showing up in intakes. **Jon:** Has list of chemicals from ODF/ODA. Way of narrowing down what we are looking at. **Jon:** We do want to note, what is being used? What is showing up in streams? What is showing up in intakes?

Mike CL: Refers to “FERNs”, some kind of notification system that people can subscribe to. Group decides to ask question in survey. Discusses how to ask question. [Get more details on this.]

Group moves to discuss Chap 8. DOC- DBP. **Mike CO:** Notes that we need to explain linkages here- forest practices don’t cause DBPs, but may affect how much or if plant needs to treat the raw water, which then affects DBPs. Does/how does forestry affect water parameters that require TX that then result in DBPs. **Jon** explains white paper that Kevin Bladon mentioned. [Note to Jeff: Get this.]

Jon- let’s move on to Chapter 9. **Ashley** wonders why this is here at the end. Thought we agreed earlier to have this material as “front matter”. **Marganne** seems to have similar concerns, are you going to conjecture about how, e.g. climate change is going to affect DOCs? **Mary-** thinks an important conclusion is that past won’t be as useful of a guide as it has been. Acknowledge the uncertainties in future effects. Someone mentioned a UC-Berkeley presentation on increased forest fires as related to policy changes, not necessarily climate change. **Marganne** distinguished between wildfires and general forest health.

Mike CL: Thinks we should break out wildfire as a separate chapter because we’d have a wildfire problem even in the absence of climate change. **Marganne** is worried that we are losing focus, started with a systematic review, now going down path that is less productive and focused. **Jon/Jeff** express concerns with scope creep. Trying to balance leaving these important issues out, with how we acknowledge them. **Ashley** doesn’t think we should have a whole chapter on this.

Jon: Do we have any consensus on how to handle material listed in Chap 9? **Seth:** Sees Ashley’s concern, but kind of agrees with **Kevin [Bladon’s]** support for idea of having it at the end. If we discuss these issues up front, does it color everything that follows? Kind of thinks it does. **Ashley** thinks framing it as information gaps is useful.

Jon: Do I hear consensus that we move chap 9 material into chap 11? **Group** seems to agree with this.

Jon: Case studies, chap 10. **EJ** would do these. We’re likely to focus by region, which are fairly distinct. Could also “slice” it by size of [water] provider, but we only have resources to do three. **Mike CL:** Can we do both? Coast provider is likely to be small. Willamette Valley provider is

likely to be larger. Qs in case studies could expand on, deeper dive into similar questions in survey. Especially with regard to collaboration.

Group discusses what all goes in appendices.

Mike CL: Asks Jon to clarify what is in Appendix D. A chance for dissenting opinions to be included. **Jon** clarifies how dissenting opinions could be included. **Jeff** clarifies that appendices would include material on how the literature search was conducted (e.g. search strings used) to allow efficient and informed updates in the future.

Jon explains format for shifting literature summaries from Excel into MS Word format for inclusion in the report as an appendix, including the abstract and study details. **Mary** asks about the “Notes” field, what is that for? **Jon and Jeff** explain that right now, it is used to keep track of details noted by Jeff as he scans each document, to point the science reviewers to potentially relevant content, and other details. In the final document, this field would be re-titled as “comments” or similar, and would be used to add context to help readers understand how the study or document fits into the larger report. The “notes to self” used by Jeff and reviewers during the review process would be removed. Also, this field would be optional; not all references would have an annotation here.

Jeff re-opens discussion of managing to mitigate wildfire, how far to go down this path, where to include this material. Fuels management involves forest practices, so could be part of Chapter 4. **Marganne:** Try to avoid causality issue (why the fire happened, whether climate change was a factor) just discuss effects of wildfire regardless of cause. **Josh:** [Seems to agree] cause doesn't matter; the issues are the impacts or effects on water quality. From water provider perspective, what is effect on water quality of management action? **Seth:** Doing nothing to reduce wildfire is also a management action. **Mary** seems to have concern that if we discuss this in context of wildfire and fuels treatment, we also need to discuss “no action” alternatives in other contexts.

Jon: I think we need to continue to think about how to handle these issues. Asks SC to continue doing that.