

Meeting Summary: Columbia River Temperature WQMP Local Advisory Group Meeting #2

March 31, 2026, | Virtual Meeting

A summary of the second meeting of the Local Advisory Group convened by DEQ to share information on the Columbia and Lower Snake Rivers Temperature Total Maximum Daily Load. The purpose of the local advisory group is to solicit input and recommendations on DEQ's development of a Water Quality Management Plan to implement the required reductions to excess temperature to the mainstem Columbia River.

The video recording of this meeting is available from DEQ upon request.

Email TemperatureWQMP.Columbia@deq.oregon.gov with your request for the video.

List of attendees

Table 1. List of Local Advisory Group Members present at Meeting #2.

Name	Organization
Paula Calvert	Bonneville Power Administration
Sherrie Duncan	Confederated Tribes and Bands of the Yakama Nation
Keri Handaly	Confederated Tribes of Grand Ronde
Miles Johnson	Columbia Riverkeeper
Ray Walton	WEST Consultants on behalf of Northwest RiverPartners
Liz Hamilton	Northwest Sportfishing Industry Association
Erick Van Dyke	Oregon Department of Fish and Wildlife
Neil Maunu	Pacific Northwest Waterways Association
Dan Turner	U.S. Army Corps of Engineers
Todd Maguire	U.S. Environmental Protection Agency [Agency Advisory Role]
Robbie O'Donnell	Washington State Department of Ecology

Local Advisory Group Members absent: Charles Morrill, Washington State Department of Fish and Wildlife

DEQ staff

Steve Mrazik, David Gruen, Mia Pan, and Daniel Schick

Agenda

Time	Meeting Action
11:00 a.m.	Welcome
11:05 a.m.	Agenda review; Zoom logistics and ground rules
11:10 a.m.	Summary of Local Advisory Group Meeting #1
11:25 a.m.	DEQ presentation
12:15 p.m.	Local Advisory Group comments & discussion
1:00 p.m.	Adjourn

Meeting summary

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Mia Pan (DEQ): Mia opened the meeting with a review of the Zoom logistics and agenda. She conducted a rollcall of the Local Advisory Group members present at the virtual meeting (Table 1). Mia reiterated the focus of the Local Advisor Group, reviewed DEQ's anticipated timeline for its development of the Water Quality Management Plan, and briefly summarized the first LAG Meeting in Feb. 2026. She allowed AG members to ask questions regarding the information presented. No questions were asked. She introduced David Gruen from DEQ to present.

David Gruen (DEQ): David presented DEQ's presentation. First, he provided a high-level summary of water quality standards under the federal Clean Water Act, emphasizing the role of designated beneficial uses which form the basis for developing applicable water quality criteria to protect those uses. Oregon Administrative Rules 340-041-0101 Table 101A provides the beneficial uses on the mainstem Columbia River; OAR 340-041-0101 Table 101B identifies the fish uses. These designations were used by EPA in its development of the temperature TMDL. David highlighted the November 2023 action by the Environmental Quality Commission to adopt amended fish and aquatic life use designations for the mainstem Columbia River. The amended fish uses would alter the geographic extent and timing of salmon and steelhead spawning temperature criteria. The revised beneficial uses are not in effect for Clean Water Act purposes until approved by EPA. If the amended fish uses were to be approved by EPA, it would delay the start of the 13 °C 7-day average daily maximum temperature criterion from Oct. 15 to Nov. 1 each year.

Erick Van Dyke (Oregon Department of Fish and Wildlife): What beneficial use designation is being prioritized when establishing these changes?

David Gruen (DEQ): Thanks, Erick. I'm not sure I fully understand your question – can you share more?

Erick Van Dyke (ODFW): Sure. You provided a list of beneficial uses earlier. Which of those is being used to identify the amended fish use designations?

David Gruen (DEQ): This gets at some of my question that I might not be able to fully answer today and that might be better suited for staff from DEQ's water quality standards and assessment team, who were the ones

of were the lead staff on this work effort. This pertains to their core competence and subject matter expertise. But the amended tables are specific to fish and aquatic life use designations. Is that getting at your question, or are you talking about whether the distinction between fish and other aquatic life uses and other major categories of designated uses, from boating to hydropower?

Erick Van Dyke (ODFW): Yeah, I am just trying to understand the process to make sure I understand if there's a prioritization that focuses on one of those beneficial use categories?

David Gruen (DEQ): It is a good question. When EPA developed the TMDL, they reviewed all the applicable state [water quality] standards that are in effect for either Oregon and Washington or Tribal Governments that have water quality standards in effect for Clean Water Act purposes. EPA reviewed the applicable standards and selected the most restrictive or most protective temperature criteria to protect the designated use. In this case, the temperature TMDL uses biologically-based numeric criteria typically for the protection of fish and aquatic life uses as the most restrictive standard at different points in the river where there are multiple standards in effect.

Erick Van Dyke (ODFW): That was helpful.

David Gruen (DEQ): Since I referenced EPA, I guess I'd give them a chance to say something. Todd – if you had anything to add or wanted to correct any misrepresentation of the process, I am happy to have you join the conversation. OK, I am not hearing Todd., but if you want to jump on later, please feel free to jump in.

Dan Turner (USACE): I was just wondering if or when EPA approves the change in the timing and the river miles, does that then trigger a redo of the TMDL prior to implementation of the TMDL? I guess I am a little bit confused about the process at that point.

David Gruen (DEQ): Great question. Dan, I don't know that I have a definitive answer for you – I can't speak for EPA. It is not DEQ's TMDL to reopen.

Todd Maguire (EPA): I guess I could speak to that from the EPA perspective. Currently, there is no intention of reopening the TMDL and updating it. That is the clear policy right now that is in place. And there is change to that for the foreseeable future that I have been made aware of.

Mia Pan (DEQ): Great, thanks for that clarification. Keri, before I get to you, I want to raise a question that Ray Walton had posted in that chat earlier asking why is the target different between Washington and Oregon? Is it a state or federal standard?

David Gruen (DEQ): That is a great question, thank you, Ray. The states develop their own water quality standards, and they submit them for approval to USEPA. The state standards are not in effect for Clean Water Act purposes until approved by EPA. I don't know if that answers your question, but there are different standards because each state goes through a process for designating the beneficial uses for the waters of its state and setting criteria to protect those beneficial uses.

Ray Walton (Northwest RiverPartners): It does answer the question. It just seems odd that the standard will be so different in that window of time – particularly the last two weeks of October.

David Gruen (DEQ): Fair point. There is a difference between the state standards at that location in the river, that two-mile stretch, and at that time.

Ray Walton (NWRP): One would think that if EPA is OK with the Washington [water quality] standard, why would they not be OK with the revised Oregon standard? Because it meets both.

David Gruen (DEQ): I just want to acknowledge that I appreciate your question. I understand it, but I cannot answer it.

Ray Walton (NWRP): Ok. Thanks.

Mia Pan (DEQ): Yes. And I posted a link in the chat as well that takes you to [DEQ's web page](#) on the beneficial uses of Oregon's waters. Perhaps that might provide some more information. Keri.

Keri Handaly (Confederated Tribes of Grand Ronde): Yeah, in a similar vein, I was just trying to tease out what I think David is asking the group is. Can you preemptively write language into the WQMP that says if [the amended fish use designations] are approved, then this will adjust the following things in the plan. Or, will it stay as it is now or if it is not approved by "X" date or will it change at "X" future time because it can take a long

time to approve – that has been done in other [National Pollutant Discharge Elimination System, NPDES] permits where there was uncertainty about the [CWA Section 303(d) list of impaired waters] or TMDLs.

David Gruen (DEQ): Yeah, it is a good question. I think what we are looking to raise awareness of this pending action and make sure that folks are tracking the topic of water temperature on the Columbia River and the implementation of this specific TMDL in Oregon's waters. We want to ensure everyone is aware of this action that was taken two years ago and how it might impact this implementation process in the future. And yes, in part we are looking for is if there is specific language, or if there are recommendations from the group on how, if at all, this should be incorporated into the WQMP.

Mia Pan (DEQ): We've got another question or comment from Ray.

Ray Walton (NWRP): If [the amended fish use designations] were proposed [NOTE: adopted by the EQC] in late 2023, when is EPA expected to rule on it? It seems like two years is a long time – I'm not trying to put anyone on the spot here, so let me leave it at that.

Mia Pan (DEQ): Thank you, Ray. Keri?

Keri Handaly (CTGR): So just to clarify to make sure I'm understanding. The fish science was such that they thought the [water quality criterion] didn't need to be as protective in October [to protect Salmon and Steelhead Spawning], therefore it could be adjusted to [start in] November. Is that the conclusion that we're taking away from these proposed shifts.

David Gruen (DEQ): Yes, at a high level that is my understanding of the process. I encourage folks to review the information on the specific methodology and process by which the amended tables were developed – there is information that gets at some of the particulars of how they base their decisions.

Mia Pan (DEQ): Go ahead, Miles.

Miles Johnson (Columbia Riverkeeper): Thanks for this update. David, I think this may point to a bigger question about how a TMDL is kind of a snapshot in time, and then you know, water quality standards can change afterwards. I think that is a good thing for us to think about and understand. I am not proposing a one-size-fits-all solution to that. It seems that because of the need to think about the system as a whole and the way it gets operated as a whole. To me, it makes sense to be thinking about solutions and where those solutions are targeted to meet a 13 °C [7DADM] temperature standard in the second half of October or a 20 °C temperature standard. That is a big difference. Because it seems like we have a big enough challenge in front of us to reduce temperatures. Maybe we can let "go" of that two weeks if that is what the fish science is point to. I think there is a bit of a disconnect between writing a TMDL implementation plan that may not be focused exactly on the TMDL but is more focused on the fish science as we currently understand it. But between the two, I'd rather do the thing that is right for fish. If the fish science suggests we don't need to meet 13 °C in the second half of October and the water quality standards are headed in that direction, then writing an implementation plan with that kind of future in mind makes sense to me.

David Gruen (DEQ): Thank you, Miles. I'm going to give one last change for questions or discussion related to the fish life use amended tables. There will of course be time to circle back if folks want to discuss something or ask a question later, too.

David continued the DEQ presentation, which focused on DEQ's planned system-wide approach and a high-level summary of its proposed water quality modeling approach. DEQ plans to work in collaboration with Washington State Department of Ecology to run the River Basin Model 10, RBM10, which was the water quality model applied by EPA to develop the TMDL. David shared information on the one-dimensional model, highlighted other water quality models that might be potentially used to inform implementation or analysis of water temperatures, and summarized advantages and disadvantages of the RBM10 model. To elicit comments, questions, or thoughts that might be useful, DEQ provided 3 discussion questions.

Dan Turner, (USACE): I think this is related to the discussion question. There are a lot of different definitions of what the system is. I would appreciate you defining it better because I think I have a different definition than what you are using.

David Gruen (DEQ): It is a good point, Dan. I recognize there are multiple layers to this system. To be specific, when I say "system-wide," I'm thinking about modeling water temperature throughout the TMDL extent because this is the WQMP that will implement the Columbia and Lower Snake Rivers Temperature TMDL.

That TMDL document drives the focus of our work, both geographic extent and the specific water quality parameters (temperature).

Dan Turner, (USACE): OK. Thanks.

Liz Hamilton (Northwest Sportfishing Industry Association): I'm going to apologize for a completely naïve question about the model with flow as an input. Is it safe to assume that it would capture the relationship between water travel time and temperature?

David Gruen (DEQ): Good question, Liz. I don't believe water transit time is a model output in RMB10, but it's a good question. I want to hold off on answering because I can't tell you definitively how to evaluate the relationship between water transit time and temperature.

Mia Pan (DEQ): Thanks. Keri?

Keri Handaly (CTGR): I'm confused by that. It should have a flow rate, right? Because the faster the cold water flows, the colder it will stay longer than if the flow rate is slow and it gets exposed to a lot of [solar] radiation. Maybe you could elaborate on that?

David Gruen (DEQ): Sure. I was being a bit conservative in my answer. I don't have a lot of experience running the model myself. It was a TMDL developed by EPA with the help of consultants. I didn't want to make a definitive statement one way or the other without being confident in the answer. I see Thomas Starkey-Owens from Washington Department of Ecology, who has run the model directly and has subject matter expertise on this. He entered in the chat that water temperature, velocity, and discharge are model outputs in RBM10. Using water temperature and velocity, you could start to do that. Although that is not something that is really at the heart of the TMDL itself. Water transit time is an important variable and consideration that would affect water temperature. My only ambiguity relates to inability to specifically answer how you might conduct that analysis in RBM10 to consider the relationship between water transit time and temperature.

Mia Pan (DEQ): Thank you.

Ray Walton (NWRP): I'm sorry. Just to wade in, it should be very straightforward because as you say, once you've got velocity the model itself is calculating temperature. So, if you model a range of velocities, which implies a range of depths, you'll get temperature. You can plot that relationship. I've not run RMB10, so I don't know directly, but it should be quite simple.

Robbie O'Donnell (Washington State Department of Ecology): This is Robbie O'Donnell with Ecology. Just to echo Thomas' comments in the chat, it is possible that the outputs give you temperature, flow, all those things at the individual river miles. You can calculate water transit time as a calculated variable essentially based off those outputs from RBM10. And EPA does that, I believe in one of the appendices somewhere in the TMDL [Note: Appendix C] as a kind of screening level assessment, I think. But long story short, yes, it is possible to calculate that.

David Gruen (DEQ): Thank you, both. I appreciate the extra context there. I hope that answers your question, Liz.

Mia Pan (DEQ): Thank you. Miles?

Miles Johnson (CRK): Another way to think about this that is directly related to this question that you've posed is how do we know that what we are doing or proposing to do is working? I think you're on the right track of using RBM10, using the DART data. To go back to Liz's point, there is data and a memo from the Fish Passage Center that really links water transit time and flow and shows the effect of water transit time and flow on temperature. So, to the text that the implementation of this TMDL changes water transit time or maybe even the flow, one way to monitor the effect of those things is to look at the established relationship between water transit time and flow and temperature increases. That is not the entire way to monitor the implementation of this TMDL but is another point of reference in addition to RBM10 or other direct temperature modeling.

Mia Pan (DEQ): Thank you, Miles. Erick, go ahead.

Erick Van Dyke (ODFW): If water transit time is just moving incipient water temperatures around, the kind of benefits we might expect to get from that are going to be something we talk a lot about. What stands out for me, and I don't recall if RBM10 contains some component that models baseflow and how that interacts across the time steps we're talking about. And if it doesn't, if there has been any consideration about trying to model baseflow to help with some of these details as we track what happens after we implement something.

David Gruen (DEQ): It is a great question, Erick. I'd invite my counterparts across the river in Washington to jump on given their work with RBM10 model. My understanding is that it does not model baseflow, but I'd love confirmation from someone who might know more.

Robbie O'Donnell (WA Ecology): That's correct, David. Baseflow is not a direct input into the model the same way that [river] geometry or initial boundary condition temperature or flow. From my understanding – again, I did not produce the model.

Mia Pan (DEQ): Thank you. Dan?

Dan Turner, (USACE): I was wondering if DEQ has conducted a review or evaluation of RBM10 either as part of this effort or in other places? And then to follow up on that, if you are going to use it in the TMDL implementation, do you have plans to develop like a quality assurance plan on the use of that model?

David Gruen (DEQ): Great question, Dan. It is something we definitely want to consider. I think we would be looking to provide documentation on whatever water quality models we might use or apply. I don't have specifics for you, but I hear your comment about how DEQ will report out and share information about the calibration and appropriate technical underpinnings of the water quality model(s) used to assist and inform the implementation of the TMDL.

Mia Pan (DEQ): Go ahead, Keri.

Keri Handaly (CTGR): I was thinking about the use of system-wide modeling as you talked about, David, and the fact that some of USACE's dams are in Washington and some are in Oregon and some in different regions. Would DEQ and Washington be sitting down with [US]ACE as a whole system to look at the dams [impact]? We're saying it is a system, does that mean we need one USACE plan? I'm trying to get at – is it a problem considering the geographic boundaries in USACE's regions? Maybe USACE or you could talk more about that.

David Gruen (DEQ): [US]ACE stands for the U.S. Army Corps of Engineers, for folks who may not be familiar with that acronym. USACE is one of several entities that owns and operates dams in the TMDL extent. So, it's not the single entity whose dams are involved in the TMDL. I'll give USACE folks a chance if they want to respond directly. I would say, Keri, I think we are interested in understanding and considering the cumulative impacts of the existence and operation of the dams that are in the TMDL and allocated as part of the sector allocation to the nonpoint source dam impacts. My point is the TMDL modeling and the load allocation itself is assigned on a cumulative basis. It is not individualized. The TMDL does not model impacts of individual dams – they modeled all the dams in, all the [mainstem] dams in the TMDL extent out. So, we are interested in trying to understand the range of actions that might be taken across the entire TMDL extent to achieve that cumulative load allocation at any point on the mainstem Columbia in Oregon's waters. I see that Dan Turner's got his hand up.

Dan Turner, (USACE): Washington Ecology, the Oregon DEQ equivalent [state agency], is undergoing a TMDL implementation effort also. And we've been developing Water Quality Attainment Plans for Washington Ecology through the NPDES permits – so it's a similar process. The dams in Idaho are not undergoing a similar process, so it's a little bit different. And then, as David mentioned, there are other owners and operators of hydroelectric projects and dams upstream.

Keri Handaly (CTGR): Hi Dan. This is to introduce myself – Keri Handaly with the CTGR. We meet with USACE staff frequently over the Willamette Valley [USACE dam] systems in our ceded lands area. Bonneville Dam would be in our ceded lands area. I don't know how Bonneville runs its separate units – and I wasn't trying to imply that USACE was the only TMDL entity, but just that you have a number of dams that cross your [internal] regions and probably your budget and staffing structure. Would that be unusual for USACE to look at the dams as a system to try to reduce the temperature impacts?

Dan Turner, (USACE): I think it's a good question. I'm not quite prepared to answer that. USACE recognizes we have an impact on temperature in the system. We're participating in these processes with the hope that we can make improvements for water temperature. That is the goal I think everyone has here. It's probably a bit of a dodge on the question specifically, but that is our intent.

Keri Handaly (CTGR): Thank you.

David Gruen (DEQ): All right. Well, I don't see any more hands raised on this discussion question. Let's move on. The second discussion question relates to the requirements within the implementation plans that would be submitted by DMAs. The Oregon Administrative Rules require implementation plans contain certain elements

including a description of management strategies, a timeline for strategy implementation and schedule for completing milestones, performance monitoring. In addition, it allows DEQ to require other information or analyses to implement the TMDL. In the draft WQMP, DEQ proposes requiring reporting on the coordination with upstream dams in the TMDL extent on actions to attain the cumulative load allocation. In the pre-public [comment] draft WQMP released ahead of the Feb. 2026 LAG Meeting, DEQ proposes naming just USACE for its operations of the lower four Columbia River dams in Oregon's waters. We wanted to call particular attention to this and solicit feedback from LAG members. Is there other information that you feel DEQ should require DMAs include in their implementation plans?

Mia Pan (DEQ): Go ahead, Keri.

Keri Handaly (CTGR): I assumed that as a whole or regional offices [of DMAs] must look at what is their fiscal ability [to pay for implementation] within their typical budgets. A sort of fiscal analysis – how much budget do we have today for basic operating needs and how much of those things, if we needed to change them, require different types of budgeting requests. I used to work in local government and everything that we had to do to improve water quality we planned out in a capital project plan. You rank projects and base them on impact and funding sources and various metrics. I propose making it clear to the DMAs that they need to report to DEQ on their fiscal position and what their plan is for allocating funding towards these actions depending on the proposed cost(s).

David Gruen (DEQ): Great, thanks, Keri. I'll note that the required elements of the implementation plans do touch on some of those fiscal impacts or considerations. And so that is something we would be looking to better understand, based on information provided by the DMAs on the fiscal considerations of [TMDL] implementation. Following these prompted questions, we will open the floor to all topics.

Mia Pan (DEQ): David, Miles has his hand up.

Miles Johnson (CRK): The three required elements of the implementation plan you have [included on the slide] cast a wide net – so I don't have more. With respect to the management strategies, I think it would be helpful if there were potential management strategies spelled out in the documentation you've already put out. I refer to the requests Oregon made to EPA [under Section 401(a)(2) of the Clean Water Act]. Oregon had some good and helpful requests for studies of what different reservoir elevations could do at John Day and other places for water transit time and temperature. Oregon's already done a lot of good thinking about what's helpful here. We'd love to see that carried forward into this plan.

David Gruen (DEQ): Understood. Thank you, Miles. Let's move on to the final discussion question and then we'll open the floor. The third question we have is a large question – less specific to the language in the WQMP. We are interested in understanding what successful TMDL implementation will look like to you in five years. 10 years? 20 years? I was hoping to unshackle us from the confines of the WQMP structure and content and rather think about objectives. It's sometimes helpful to start at an end goal and work backwards.

Miles Johnson (CRK): Twenty years from now I hope we can go through a summer without having or really having to worry about big fish kills like we saw last year at John Day or we've seen repeatedly in the lower Snake River. That's what success looks like more than a specific temperature or water quality criteria. In five years, I hope that we will have done the work to understand how the system could be operated differently as a collective whole to achieve meaningful reductions in temperature from the hydro system. I don't want to prejudge the outcome of that. We've known about [elevated water temperatures] for a long time. We've had RBM10 for a long time. I hope in the next five years Washington and Oregon can really dig in deep and say – if you did these like 10 or 15 things different all at the same time, what would be the outcome? And then use RBM10 or other water quality modeling to say we could do this, and it would have X effect. Then we can have a conversation about are those actions worthwhile? How close is that going to get us to meeting the water quality standard? I think the next few years is going to be sophisticated research into what we could do and what it would achieve if we did it.

David Gruen (DEQ): Thank you, Miles.

Keri Handaly (CTGR): I second what Miles said.

David Gruen (DEQ): Thank you, Keri. I encourage folks to feel free to come off mute and ask questions or make a comment. It doesn't have to be related to this discussion question.

Mia Pan (DEQ): David, why don't I just wrap up with the next steps and then folks can hop into a larger discussion.

Mia wrapped up the DEQ presentation with a focus on the timeline and expected next steps in the process. DEQ plans to release a draft WQMP for a formal public comment period this Summer and anticipate presenting the final WQMP to the Director for issuance by DEQ Order in Fall. Mia reminded LAG members that when providing comments, it is helpful to identify the specific section/page/title, explain why it is a concern or what your comment is, and then suggest a potential fix or alternative. She then invited more discussions from the group.

Dan Turner, (USACE): I put my hand up with a very well-formed thought, but I'm going to start talking anyways, which is dangerous. We are talking a lot about system-wide temperature analysis and the federal government. BPA, Bureau of Reclamation, and USACE went through an enormous effort already looking at how we could influence temperature through our EIS analysis. I'll voice a little frustration that that doesn't seem to be a starting point. I know EPA has also done a temperature analysis and we worked together with EPA when they were developing the TMDL at the same time as the EIS. We did collaborate on each other's products to some extent, or we at least were aware of them. [Efforts to address temperature] aren't starting from nowhere. There is ESA work going on, the EIS developed. My hope is that we can use analyses that have already been done, and we can do it in an efficient way and we're not just creating another process for process-sake.

David Gruen (DEQ): Thank you, Dan.

Ray Walton (NWRP): Earlier, you talked about other water quality models, and you mentioned CE-QUAL-W2, but you also mentioned HEC-RAS. I was puzzled why that model was mentioned.

David Gruen (DEQ): My understanding is that BPA, BOR, and USACE have used HEC-RAS to analyze riverine segments of the river as well as using CE-QUAL-W2 to simulate more reservoir-dominated sections. It is just a reflection that it is a water quality model that has been heavily documented and reviewed. I talked about RBM10, but I recognize there are other water quality models that are either in existence now or maybe developed in the future that could be used or potentially used to help us inform implementation.

Ray Walton (NWRP): Dan's on the line – isn't HEC-RAS a hydraulic model, not a temperature model?

Dan Turner, (USACE): You are correct. It is a hydraulic model but there are water quality components that have been added to it. You can run temperature simulations.

Mia Pan (DEQ): Thanks, Ray and Dan. Keri?

Keri Handaly (CTGR): Do you have examples of things that might have come forward that USACE was already trying to do? Or are you saying that some actions were identified in the EIS that you could just point to as ways to try and meet this TMDL implementation plan?

Dan Turner, (USACE): Yah, sure. One of the things I thought was nice about the EIS is it didn't consider water quality in a vacuum. It considered it in relation to things like flood risk management, navigation, things that we must deal with on a day-to-day basis at USACE. It looked at what potential changes in operation might impact temperature. It did look at Snake River Dam removal, which is interesting. I know that's not in the scope of Oregon's implementation plan, but it did look at things that were a little bit outside the box and one that was very outside the box. One of the conclusions that is interesting is that there is limited ability to impact temperature and stay within operations on the federal system. One of the big tools we have is Dworshak just upstream of the Snake River [Dams]. That's a very effective tool. Now there is not much impact by the time you get down to the Columbia River on that system. So, I think it is a good baseline and evaluated things in a numeric fashion about what potential changes in operations could do to temperature.

Mia Pan (DEQ): Thank you, Keri and Dan. Miles?

Miles Johnson (CRK): I'm certainly not in favor of doing more work for the point of doing more work. I will say that I think that was a lot of interesting temperature modeling done as part of the EIS. And I think we can look at that and learn from that. I'll just say [Columbia Riverkeeper] is in court because we don't think the EIS is sufficient as an EIS and the plan that came out of it is not sufficient to protect salmon and steelhead. But regardless, the EIS analyzed several different alternatives, many of which had various impacts – good and bad. And it did model temperature impacts of those various alternatives but, in our view, it was not a comprehensive attempt to see what could be done about temperature so much as these are various ways we

could operate the river and here are the effects on temperature of doing these things. There is some important information there. But what I hope would come out of this process is something different – a coordinated look at what could be done to achieve temperature standards. And I think that is different than these are the various ways for operating the river that could serve a number of different uses, and, incidentally, what is the effect of temperature? I don't mean to belittle the work that went into the TMDL or the EIS, because I know a lot of people spent a lot of time and there is good information there. But I think the mission of a TMDL implementation plan needs to be focused on temperature.

Mia Pan (DEQ): Thank you for that comment, Miles. Erick?

Erick Van Dyke (ODFW): I know we are talking out loud here, like Dan said, that can be dangerous. It can get us into a place where we are sharing ideas that maybe don't translate well, but the frustration components are not something that one entity feels any differently than the rest of us. Success in our world right now has been about tracking laws and meeting objectives. And one thing that stands out is the repetitiveness of the approach at times, losing sight of the effort to innovate. That frustration helps there. I think that is something that stands in our way because we've met a roadblock that at the moment we don't think we can get past. And sometimes that is the answer. We can't get past it doing what we've been doing. So, I think this group is trying to get past that roadblock, recognizing there are a lot of other foundational components that potentially make it hard to do that. Ultimately, I hope that we think outside the box in identifying whether we can or can't do something. And when we remodel things using the same tools we've been using, sometimes the answers are hard to understand or recognize innovation.

Mia Pan (DEQ): Yeah, thank you, Erick. Neil?

Neil Maunu (Pacific Northwest Waterways Association): In the second discussion question, you talked about USACE reporting at the [lower four Columbia River Dams], but also [upstream] within the TMDL. I was trying to do some research on that geographic extent – it goes all the way to Lewiston [on the Snake R.] and up to the Canadian Border [on the Columbia]. Would that encompass all USACE and BOR projects on the mainstem Columbia up to the Canadian Border? But not the tributaries?

David Gruen (DEQ): The simple answer is yes.

Mia Pan (DEQ): Yeah, go ahead, Keri.

Keri Handaly (CTGR): Every time I hear someone it makes me think of another question. If we feel like we're doing a lot of examinations through the EIS and the modeling, we have fish kills at the Snake and John Day Dams as a major alarm indicator, I would say. What do we do? Were there any specific observations related to those systems? Is there a Cinderella story somewhere?

Dan Turner, (USACE): I would say that if there was something easy and obvious to do, we would have done it. I might ask Erick Van Dyke for some help on this because I know he is a lot more involved in the forums that look at specific solutions. I think they are looking at some things at John Day Dam right now. Erick – are you involved? Do you go to the [Columbia River Fish Passage Operations and Maintenance \[FPOM\]](#) meetings?

Erick Van Dyke (ODFW): Yah – I am part of that discussion. But what I'm hearing in the question is an observation that alerts a triage event. A lot of the actions that are being contemplated in FPOM are not so much eliminate the fact that there may be a triage event, but it's more to address what to do after there is one. I am not ready to answer the question – I would need to think about it more carefully. If the goal is to avoid occurrence, the innovative thinking is the component that stands out for me at this point. And that's the part that I think we're getting a little less able to perform in the work group. So trying to overcome that could be a huge step in developing something like this to plan an approach for those incipient moments we are trying to avoid. But what I think Dan pointed out are some of the mechanical engineered ideas that could address the localized observation points. One is trying to use the fact that we've turned a river into a reservoir to find cooler water that might be available and deliver it to certain places. So those ideas are being thought through and currently active. I'm not sure it gets to the bigger component that we are talking about here.

Mia Pan (DEQ): Thank you, Erick. Thomas?

Thomas Starkey-Owens (Washington Ecology): I know I am not an AG member, but I appreciate the opportunity to comment. I'm going to piggyback off some of Eric's comments as well as Miles'. In regard to the EIS and how it pertains to this process, Ecology is on the record and have always been supportive of using parts of the EIS that make sense of this process for TMDL implementation and specifically our Water Quality

Attainment Plans. On top of that, such as supporting the more localized individualized actions like where cool water pockets exist at John Day Dam or McNary or figuring out where site specific actions can improve temperature. I think where we have the issue in regard to the EIS is when, by supporting the parts of the EIS to be included in the attainment plans, it is not just the action itself that's included in the attainment plans, but it is the predetermination that also comes with it. The EIS evaluated multiple objectives all at the same time, determined some to be feasible and other things to be infeasible. And so when you take some of those actions, plop them into an attainment plan or implementation plan, it comes with that "baggage" of this action isn't feasible because the decision has already been made years ago. And I think that is where we can't support parts of the whole package that comes with the EIS. Rather, if you separate out those multiple objective alternatives like flow out of [Grand] Coulee or other alternatives. We would be supportive of that and trying to identify more nuanced details. Our hydropower team has been supportive of picking out the good pieces of the EIS that should be re-evaluated in this process by prioritizing water quality and then asking questions – how do we make this happen? What is it going to cost? What needs to change to make that happen?

Mia Pan (DEQ): Thanks for that, Thomas. Neil, I see your hand is up as well.

Neil Maunu (PNWA): Someone mentioned a fish kill at John Day, I think they said last summer. I am trying to do more research on that – if anyone could drop a link in the chat where I can learn more. We're familiar with some from 2015 and before, but are trying to get as much information as we can.

Miles Johnson (CRK): Yes, I am happy to follow up. I think the single best resource is maybe reports from the Columbia River Technical Management Team or from the Fish Passage Center. Basically, what happened was the river got very hot and the upper fish passage at John Day got even hotter than the river. There was a huge blockage in fall Chinook migration, which led to about roughly half of the upper migration not completing their migration last year.

A [link to the following report was provided in the chat](#).

Mia Pan (DEQ): Do we have any more questions or comments from folks?

Keri Handaly (CTGR): Given there may be members of the public still on the call or others who are not familiar, I just wanted to say that when we're talking about temperatures and fish kills, it is important to realize a large portion of the fish population is supplemented by hatchery fish. So, the media has often misreported, not intentionally, these [stocks] are doing well with statements like "it's the largest run in 10 years" which makes it sound like the salmon are thriving. So, the wild populations are hard to disentangle from the hatchery populations – not literally, but they can't all be hand counted. There is tagging in various strategies, but those numbers are not widely known or published. I just wanted to say that to the group because it is a source of frustration – with the public not really understanding why these things are necessary when they're saying "oh, look, there is a strong Coho return."

Mia Pan (DEQ): Thanks for sharing that, Keri.

Mia waited for any additional comments or questions before adjourning the meeting.

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