Lower Boise Watershed Council

Phosphorus TMDL Technical Advisory Committee Meeting
Meridian City Hall, Meridian
May 29, 2014, 9:00 am

Meeting called to order, introductions made.

Attendees: See sign-in sheet attached; plus Julia Bond and Carrie Leonard, Freshwater Trust by phone

LBR Total Phosphorus TMDL – Update/Discuss on the Model-Techno-Policy Workgroup's progress and next steps - Troy Smith and Michael Kasch

DEQ is now looking at model results on a segment-by-segment and month-by-month basis. One reason is that Segment 9 of the model doesn't line up exactly with assessment units AUs), and the segment at 20/26 bridge extends into second assessment unit (AU). EPA's concern is that if we're using AU basis, when looking at model output, segments 9 and 10 are segments with the most trouble meeting the target, while segments 11-13 have much easier time meeting targets, therefore if averaging over AUs then may be overlooking "hot spots" for a single segment.

Hawk – Why focus on AUs, we have done a better job breaking out river with the model segments?
Troy – Segments were matched to USGS synoptic sampling or major tributaries coming in.
Henry – Why is segment 10 a hot spot?
Troy – Indian Creek and Caldwell come into the segment; could also be flow, temperature and other factors.
Lee – That is where Riverside and other diversions come out, very low flow, wide segment. Indian Creek now is all getting diverted during irrigation season, supposedly leaving more flow in the river at Riverside diversion, but seems like there is low flow going over Black Dam anyway.
Paul – "Hot spot" is a RCRA and Superfund term, concerned we're using that term here in this context. Also, using monthly by segment is not appropriate. We're using a recreation aesthetic target from Montana, so what are we protecting in other months?
Troy – Montana was mostly recreation, but looking at also at biological literature from 100-200 mg/m2 is range for protecting biology, and 150 fits in that range.
Henry – 150 target approval by the WAG was for growing season only (May through September), there is no decision yet by WAG on other seasons.
Troy – Using only July – Sept will be non-starter with EPA, we do have problems outside that season.
Tom – The monthly and segment concept is DEQ's current approach, which has changed over last 2 Techno-Policy meetings based on input from EPA.

Lee – WWTP effluent quality is not changing radically from year to year, so that doesn't explain variability in periphyton levels.
Liz – Flows are likely to be the difference.
Troy – There are other conditions that influence this, as Michael will show in his presentation.
Liz – She agrees with some sort of averaging, if we micro-manage things would not move along, we want to see overall improvement over time in the river. IRU is very adamant that we need a year-round TMDL for the Boise River, because we have problems year round and TP has effects that extend temporally and geographically.
Paul – Trading is an important part of meeting overall goals, if we have limits year round that will be a problem. The spirit of his comment is that we need to look at impact of limits in other months, and applying a recreational standard in January for a few anglers.
Jack – We have a tool that provides a lot of information, a very complicated tool, so we have a hard time understanding what limits conditions in each reach. We need to understand detail of why there are differences, how to average is worthy of discussion, but also need to see detail of how things change segment by segment, what are linkages and controlling factors, then that will provide realistic basis for averaging.
Paul – DEQ will write the TMDL based on input from EPA and the WAG. Is there a potential that DEQ would write a TMDL that EPA does not support?
Troy – We don't want to get there, we'll be back to square one, with no trading, etc.
Matt – EPA has said their approval will be based on the whole package, not just any one element.
Liz – Others will be interested in the watershed, and even nationally.
Paul – We learned from the letter from EPA in 2010 disapproving the delisting of the Boise River, that one reason was there was not enough consideration given to periphyton, and now we're remedying that by including periphyton and other factors, so we would legally meet the EPA test.
Troy – Who knows what would happen in litigation.
Jack – EPA had more than that one issue with the previous TMDL that became the implementation plan.

Troy – I have a number of scenarios to show in a spreadsheet, but still sausage-making at this point. First is when we reduce point sources, tributaries and GW all to 0.1 mg/L TP, shows some reductions some months but still some exceedences in some months and segments, even some increases in some months. Then with everything to 0.07 mg/L, still some exceedences in segments 9 and 10, lower than at 0.1. These scenarios have TSS reduced by 37% also, for future runs will not include TSS reduction. With TSS reduction alone, there is slight, limited increase in periphyton compared to current. Another run with everything at 0.02 mg/L (everything at background), were still slight exceedences in a couple of months. Looked at different algal groups, under current conditions, segments 9-13 show variety of algal groups, blue-greens, cladophora, high and low nutrient diatoms, but with low P in segments 1 and 2 we have only low nutrient diatoms. As you go downstream start getting more and more of the other algal groups. At 0.1 still see some other algal groups in lower segments. When at 0.02, all is low nutrient diatoms. If all low nutrient diatoms, then P reductions have done job, is one interpretation.

Hawk – We quite a bit of have BURP data on algal density and species in a variety of streams in Idaho, so we have some background information. What keeps low nutrient diatoms in check?

Bob – do we know if we have low nutrient diatoms actually in the Boise River?

Troy – Yes, species selected were based on sampling data by Boise City.
Paul – We have low nutrient diatoms upstream of Parkcenter Bridge, and it is slippery there, even at 0.02 mg/L, but is that really an issue? Conditions that manifest in winter do not carry over to summer months, it is not an aggregation of a problem over time.
Jack – As we move to primary graphs, include a light trace of current conditions on the same chart so we can see differences with scenarios.
Kate – City sampling was in 2005, 2006 and 2007; we used DEQ diatom database, and did quantitative analysis of diatoms, and species like high and low nutrient, some species specific to disturbance. Analysis of different algal groups was more qualitative (greens, bluegreens, and diatoms as relative abundance, such as common, rare, etc.).

EPA also wanted us to look at low flows. Michael K has been looking at that. Presented at last Techno-Policy meeting.

Michael Kasch – Modeled 26 years of data. Very conceptual and preliminary so far, looking for feedback on this approach as a priority or not. Powerpoint presentation was given. One conclusion is that periphyton concentrations are not predicted to be highest at the lowest river flows, so the low flow situation may not be the critical condition for us.
Jack – How do you deal with flow variability in tributaries for this run?
MK - Used actual USGS and DWR data for this 26 year period, worked up water balance in a separate spreadsheet, same method as used for 2012 run. GW is a correction, un-accounted for water.
Jack – We have a heavily managed river flow condition in July-Sept, higher flows typically before that when high precipitation year. Another parameter to look at is depth of water, plot depth in different segments along with periphyton to better understand factors controlling.
Liz – Why use 26 years?
MK - 26 shows more variability, greater range of conditions can be considered.
Jack – Why does this result happen? If we don't know why, we're playing with a tool we don't understand. We need to have linkage between what we see and what are the driving factors and influences.
Erica – USGS data is for 2012, whereas data for types and relative abundance of periphyton is for 2005-2007. How does this related to 26 years of simulation?
MK - When you run 26 years are the biology is linked for all years, on a continuous basis.

Tributary TMDLs for Sediment and Bacteria

Liz – What is status of draft TMDLs for sediment and bacteria, we have been allowing irrigators time to evaluate.
Hawk – As explained at the last meeting, DEQ had Tom's report and the hydrology report, but were still waiting on historic report. Dan said last week he's trying to get it polished.
Liz - Based on what you have seen so far, do you anticipate any changes to the TMDL?
Hawk - Yes, probably some changes, but need to wait to see all 3 reports before deciding. Hard to say without seeing the full scope of the information, which mostly will set context for these tributaries being highly altered systems.
Liz - Lee, Bob and Henry, should we send letter from LBWC to Dan to urge progress?

Henry - At this point I would agree.
Bob – The LBWC board would have to decide on letter at the next meeting.
Liz – We could have draft letter ready in pre-meeting materials.

Lee and Henry will provide a draft letter to Dan saying there is concern about the delay, the TMDL needs to move along, request if there is anything the WAG can do to help, etc.

Meeting adjourned.
