From: Don.Essig@deq.idaho.gov
To: Nickel, Brian; Lauri.Monnot@deq.idaho.gov
Cc: June.Bergquist@deq.idaho.gov; Stephen.Berry@deq.idaho.gov; Miranda.Adams@deq.idaho.gov
Subject: RE: Fish tissue mercury sampling question
Date: Wednesday, September 24, 2014 11:14:10 AM

I think what most maps, and unfortunately the Idaho WQS, reflect is that the Pend Oreille River used to begin at where the outlet of Lake Pend Oreille occurred prior to inundation by Albeni Falls dam. Whether the impounded reach of river behaves more like the lake above or river below can certainly be debated. Quite likely the water quality is little if any different than the lake. Ecologically it probably is something in between, a Rake? Whatever you call it, it is enough different than the lake above that I doubt you'd find lake trout there. So then what do you compare or conclude? However you slice it, it is a situation our water quality standards do not handle well.

From: Nickel, Brian [mailto:Nickel.Brian@epa.gov]
Sent: Wednesday, September 24, 2014 11:13 AM
To: Lauri Monnot; Don Essig
Cc: June Bergquist; Stephen Berry; Miranda Adams
Subject: RE: Fish tissue mercury sampling question

Lauri, all:

The question of whether Sandpoint discharges to a "lake" or a "river" is actually a matter of some debate.

While the Idaho WQS (and most maps) consider the Pend Oreille River to begin at the "Long Bridge" that carries US Highway 95 south out of Sandpoint, others would argue that the Pend Oreille is really a "lake" until it gets to the Albeni Falls Dam at the Washington-Idaho state line. Sandpoint discharges to the Pend Oreille River, assessment unit ID17010214PN002_08. Thus, we've been referring to the receiving water as the "Pend Oreille River" and applying the corresponding criteria and mixing zone policies. In any event, the bridge is a convenient but arbitrary demarcation point between "river" and "lake," but it's the one used in the Idaho WQS.

That said, an "upstream" sample for Sandpoint would have to be in Lake Pend Oreille, and, since we know Lake Pend Oreille is impaired by mercury in fish tissue, I'm not sure you'd learn a lot from continued sampling there. It seems to me it would make more sense to focus future sampling on the river (i.e., downstream from the facility) to determine if there's any difference in mercury concentrations in fish tissue in the river relative to the lake.

Do you agree with that assessment?

As for RPTE, Sandpoint discharges quantifiable concentrations of mercury (even though they were not using sensitive methods), and, unless fish tissue concentrations in the Pend Oreille River are very different from those in Lake Pend Oreille (about a mile to the East) the receiving water has fish tissue mercury concentrations that exceed 0.3 mg/kg. So, I consider Sandpoint to have RPTE for the fish tissue mercury criterion.

Thanks,

Brian Nickel, E.I.T.
Environmental Engineer
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From: Lauri.Monnot@deq.idaho.gov [mailto:Lauri.Monnot@deq.idaho.gov]
Sent: Wednesday, September 24, 2014 7:36 AM
To: Don.Essig@deq.idaho.gov
Cc: June.Bergquist@deq.idaho.gov; Stephen.Berry@deq.idaho.gov; Miranda.Adams@deq.idaho.gov; Nickel, Brian
Subject: RE: Fish tissue mercury sampling question

Sorry for the confusion!
I should have checked in with June and/or thought a bit more about where Sandpoint discharges. A lake **is** very different, and the upstream/downstream monitoring doesn't make any sense.
I am assuming there is RPTE, but have no more information that what is in the email.

From: Don Essig
Sent: Wednesday, September 24, 2014 8:22 AM
To: Lauri Monnot
Cc: June Bergquist; Stephen Berry; Miranda Adams; Nickel.Brian@epa.gov
Subject: RE: Fish tissue mercury sampling question

Lauri,
I don't think the impaired / not impaired distinction between Lower Boise and Lake Pend Oreille matters all that much, especially as I understand it there is RPTE in both settings (right?). The difference is the number of dischargers. i.e. only one up there so really no opportunity for cost share, pool fish tissue monitoring efforts, and redeploy them more strategically. So no real value to a cooperative monitoring effort until it spreads to be more regional or statewide. Also a lake / reservoir will have a distinctly different food web / fish community and process mercury differently than a river.
While Pend Oreille Lake is listed for mercury I believe that is due to high levels of Hg in the tissue of lake trout, a long-lived top predator. I suspect if lake trout lived in the Boise River we'd have a listing down here as well. Which is to say I doubt the mercury level in water is much different, it's the fish community and lentic environment that likely makes the difference. Would not be surprised if Hg in water is even lower in Lake Pend Oreille than in the Boise River, but I don't know that.
To answer Brian Nickel's question, the frequency of monitoring set up in the Boise River seems appropriate to me wherever monitoring for mercury in fish tissue is conducted on an ongoing basis. Not sure if there is any meaning to sampling upstream and downstream of a discharge to a lake. What is upstream or downstream? And if you go downstream (or upstream) far enough, into a riverine section, then you could be comparing "apples to oranges" so far as fish tissue mercury (and water column mercury processing) goes. Be very difficult to draw any conclusions as to the effect of a source.

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From: Lauri Monnot
Sent: Wednesday, September 24, 2014 7:25 AM
To: Don Essig
Cc: June Bergquist; Stephen Berry; Miranda Adams
Subject: RE: Fish tissue mercury sampling question

Don,

Could you please read the email below regarding mercury fish tissue sampling for Sandpoint (and other Idaho discharges)?

June,

I am curious about your thoughts and whether you have discussed this with the permit writer.

My initial thoughts are:

- Boise is a little different from Sandpoint in that the Lower Boise River is not impaired, the monitoring is to determine the impact on Brownlee Reservoir.
- From conversations with Don Essig, DEQ intended to use the Lower Boise MeHg monitoring as a test to see whether this is the best way to approach MeHg monitoring for point sources.
- If Sandpoint has RPTE for mercury and limits need to be developed, now seems like the time to create a consistent monitoring method for NPDES discharges to mercury impaired waters.
- It seems sampling for Sandpoint could be modeled after the Lower Boise sampling plan and the MeHg Implementation Guidance.
- Maybe have sites upstream and downstream of the facility with the same sampling frequency would be appropriate?
- That should be approximately 1/3 of the cost of the Lower Boise effort, which is still a large expense for one facility. Since facilities would likely be limited to using USGS for sampling, I believe that USGS would model the sampling plan after Boise's so the cost for plan development should be much less.

From: Nickel, Brian [mailto:Nickel.Brian@epa.gov]
Sent: Tuesday, September 23, 2014 6:01 PM
To: Lauri Monnot
Subject: Fish tissue mercury sampling question

Lauri:

I was talking to Jill Nogi about sampling requirements for mercury in fish tissue, specifically the required sampling frequency.

I'm also working on the City of Sandpoint permit in northern Idaho, and mercury in fish tissue is a problem in that watershed as well (Lake Pend Oreille, upstream from Sandpoint's discharge to the Pend Oreille River, is 303(d) listed due to high concentrations of mercury in fish tissue). Unfortunately, a cooperative sampling effort isn't a realistic option for Sandpoint, because they are the only major NPDES discharge in the area.

Jill mentioned that some staff from the DEQ state office had been involved in the revisions to the mercury fish tissue sampling language that will be going into the final permit for Star and the draft permits for Nampa, Caldwell, and Meridian. My question for you is: Does DEQ consider the sampling frequency for the current batch of Lower Boise watershed permits, for individual sampling plans (i.e., once every 2 years for three sampling cycles, then once every 5 years thereafter) to be a sampling frequency that should be generalized to other discharges in Idaho that discharge quantifiable concentrations of mercury in watersheds impaired by high concentrations of mercury in fish tissue, or was this intended to be specific to the Lower Boise watershed?

Thanks,

Brian Nickel, E.I.T.
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