From:	Judy Meyer
To:	Rains, Mark
Cc:	Kenneth Kolm; Latif Kalin; Amanda Rodewald (adr79@cornell.edu); Armitage, Thomas; Goodman, Iris
Subject:	Re: Next Draft
Date:	Sunday, May 18, 2014 2:53:01 AM
Attachments:	SAB Connectivity Panel Draft Report_4_23_14 (markup)_MCRjlm.docx

Hi Mark,

You did a great job making changes. I have only a few suggestions, which are summarized below and incorporated into the version of the ms that is attached. Hopefully I'll see you at JASM in Portland.

Judy

Letter

p. 2, line 6: change to "recognizes variation in the frequency, duration, magnitude, and consequences of those connections."

2, bullet on 19-25: I don't think we should add groundwater systems at that point in this bullet. I agree that they are often the connecting agent, but recognizing that is different from requiring their inclusion when assessing cumulative effects. That addition represents a major change in what we have been discussing and not warranted at this point in our review. I moved the mention of groundwater systems to later in that bullet: "expand coverage of several important issues including the role of biological connectivity, biogeochemical transformation processes, connections through groundwater systems, and the effects of human alteration of connectivity." I think that better captures what we have been discussing.

2, 37: I agree with the comment that we are using the connected vs not connected dichotomy that we criticize. I recommend changing the sentence to "The EPA should verify and explicitly state that the Report summarizes studies encompassing the whole gradient of connectivity."

Executive Summary

2, 2-5: same change as made on 2,6 in letter

2, 11-12: same change as made in 2, 37 in letter

Body of Report

7, 11: I disagree with the suggested change. To say that the report is generally thorough and technically accurate greatly weakens the statement. I think the statement should stay as "review of the literature that is both thorough and technically accurate". A review can always be more complete and that additional thoroughness is what we are asking for in our recommendations. I do not see that the statement as originally written is inconsistent with what we write later.

8, last bullet: change to "There should be more analysis of the scientific literature to provide a better quantification of the degree, magnitude, and frequency of various hydrologic, chemical, and biological connections for each of the wetland types and "waters" that are discussed in the report to better understand the consequences that they have on the physical, chemical, and biological integrity of downstream waters."

I stopped editing that section at this point, realizing that many of the changes suggested during the call had not yet been made on this draft of the document. I then focused the rest of this review on the response to question 2, which is what I should have been doing all along!

14, second bullet: I don't see where this recommendation as written comes from in the above discussion. If we mean "The Report should consider the functional role of floodplains and riparian areas irrespective of their classification as waters and wetlands under the Clean Water Act" then we should state that more clearly. But that is what is said in the next bullet. So I don't see that this second bullet is needed. If kept, it definitely needs to be clearer.

14, 37: I inserted biology in this list because when one talks about biological connections, the types of animals found there really matters, e.g. the presence of anadromous salmon greatly impacts connectivity. And the type of animal present is not encompassed by "climate, geology, and relief." So I changed the sentence to: "The flux and transformation of water, materials, and organisms – which fundamentally control the integrity of downgradient freshwater ecosystems – occur at varying rates primarily determined by climate, geology, biology and relief and are expressed in terms of surface-water and groundwater storage and flow through the landscape"

16, paragraph starting on line 29: I share the concerns raised by others that there is too much detail here that is somewhat outside the purview of EPA's report. The report is not about groundwater connectivity per se. What is critical is how groundwater might serve to connect surface waters to downstream systems or wetlands across watershed boundaries. This paragraph talks about groundwater connectivity in general and seems somewhat out of place.

At the very least, the last sentence includes an unnecessary level of detail that could be left out.

17, 23-24: same comment as above for 14, 37

19, 3-4: I'm not clear what is meant by this sentence as written. I changed it to "Connectivity across such interrupting reaches can radically shift, with concomitant alteration in habitat or downstream impact when connection is reestablished." If that is not what was meant, then the sentence needs to be clarified.

21, 7: I changed it to "even though their frequency and duration may be negligible" – it's not clear in comparison to what, so leave "in comparison" out. It isn't needed.

22, 20-22: "i.e., the expressions of chemical, physical, and biological phenomena depend on environmental setting (e.g., climatic, geologic, topographic, and the species present)." Once again, if one is talking about biological connectivity, the species present really matters.

On Fri, May 16, 2014 at 4:32 PM, Rains, Mark <mrains@usf.edu> wrote:

Attached, you'll find the following:

1. The revised SAB report. I only made revisions to our section, delineating where I started and stopped with notes in the margin that say "Rains started/stopped review and revision here." I made all changes permanent, because decisions needed to be made about the suggested revisions and it was all getting too difficult to read anyway.
2. New references added during this revision.
3. Our action items. I've made revisions based upon all of these, except one. The one I haven't made revisions based upon is the one on metrics. (I've highlighted it with a marginal note.) Amanda graciously offered to collect contributions from other panel members, to make first pass at that section, and then to pass the revised section to us for review. (Ken, I forwarded your contributions to her.)

Tomorrow, I'm in the field near Sacramento and then driving to Portland. After that, I'll be at JASM, where I have a ton of responsibilities. Still, I'll be checking email and will do my best to make all of your suggested revisions before the deadline COB Monday.

From: Rains, Mark
Sent: Tuesday, May 13, 2014 2:53 PM
To: Kenneth Kolm; Latif Kalin; Judy Meyer (judymeye@gmail.com)
Cc: Amanda Rodewald (adr79@cornell.edu); Armitage, Thomas (Armitage.Thomas@epa.gov); Iris Goodman

Subject: Next Draft

Ken, Latif, Judy,

I received action items from Tom, Iris, and Amanda. There is quite a bit there. Amanda has offered to help us hit our deadline, especially in getting promised contributions from others on the panel. I also had a really productive conversation with Mark Murphy, who had already provided some written material following our recent conference calls. I think I can make quite a lot of progress toward our action items, especially with Amanda's and Mark's help. However, I'm likely to be very close to our deadline, which is May 19. I'm writing to see if you can hold some time around that deadline so you can receive and comment quickly on that draft before Tom, Iris, and Amanda have to incorporate it into the revised draft in advance of our next conference call.

Thanks.

Mark

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