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Date: November 5, 2024

To: Delta Stewardship Council

From: Delta Independent Science Board

Subject: Review of “Tribal and Environmental Justice Issues in the Sacramento-San Joaquin Delta: History and Current Perspectives: Public Review Draft”

The Delta Independent Science Board (Delta ISB) has reviewed the Delta Stewardship Council’s Public Review Draft of its Tribal and Environmental Justice Issues report (or issue paper). This memo summarizes the Delta ISB’s comments and recommendations, guided by three overarching goals. First, we assessed whether the report clearly communicates key concepts, methods, and findings (e.g., by defining key terms, explaining technical jargon, providing precise interpretation using straightforward language). Second, we considered whether the information reported on the social science methods that guide the review appear robust and reliable. Third, we considered the completeness of the review scope or whether any major tribal and environmental justice topics were missing. The Delta ISB draws on its collective expertise on tribal and environmental justice issues from other regions and related research to help inform our comments. However, the Delta ISB did not systematically review other current scientific literature related to tribal and environmental justice in the Delta in the process of assessing this issue paper.

Overall, the issue paper offers comprehensive coverage of a wide range of tribal and environmental justice issues currently affecting the Delta. The issue paper also provides a holistic and broad-scale perspective on changes that have occurred in the Delta. In doing so, the report illuminates how current Delta issues have been shaped by historic patterns of injustice and why those historic patterns remain pertinent to modern policy and management questions. It further provides contextual information for differentiating tribal justice from general environmental justice concepts and approaches, including subtle and poorly understood aspects.

The findings are supported by multiple data sources including examples from field surveys, interviews, and secondary literature. These insights can be important for guiding how decision-makers manage and protect “the Delta as an evolving place.” They may also provide useful evidence and knowledge for tribes and environmental justice communities who are affected by past or current tribal or environmental

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injustices. Finally, the findings will be informative for related social science efforts aimed at understanding tribal and environmental justice issues in the context of the Sacramento-San Joaquin Delta region.

Given the importance of this issue paper for the Delta Stewardship Council and other interested parties, the Delta ISB offers the following comments and recommendations in the spirit of helping improve the quality and clarity of its evidence and findings. We summarize our feedback below, organized by the main sections of the report.

Executive Summary (page 4-11)

The Executive Summary offers a nice summary and synthesis of key findings and recommendations. The importance of Traditional Knowledge as part of tribal justice issues is explained well on page 6 and an important takeaway from the report. A few areas to bolster in the Executive Summary are listed below.

1. Define the difference between environmental justice communities and tribes earlier (e.g., potentially around the middle of page 4).
2. The role of Figure 1 (page 5) outlining environmental justice concepts could be interpreted in a couple different ways. On the one hand, it could be seen as encompassing tribal issues, given its placement following a discussion of both environmental and tribal justice issues. However, based on Figure 1's title "Environmental Justice," one might have the impression that tribal issues are not central to the "framework" guiding the report, leaving the tribal issues relegated to an after-thought. We recommend either creating an "integrative framework" for both environmental justice and tribal concepts, or to create a second framework with the tribal concepts laid out and defined (as they are in Section 5 of the report).
3. Also, with Figure 1, "representation" is defined around impacted communities being represented in decision-making, but another critical aspect of representation is which groups are granted legitimacy and authority to even be considered for representation. Could that be captured in the figure? For a reference see:
 - a. Blue, G., Bronson, K., & Lajoie-O'Malley, A. (2021)). Beyond distribution and participation: A scoping review to advance a comprehensive environmental justice framework for impact assessment. *Environmental Impact Assessment Review*, 90, 106607.

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4. Page 4 and 14, last sentence in second to last paragraph on page 4 – say “is” rather than “was” beyond the scope of this issues paper.
5. Page 6, the first paragraph on tribal justice issues would benefit from some references in case readers want to track down some of the source material.
6. At the top of page 8, it could be clearer where the findings related to the first sentence are coming from (e.g., Limited resources, limited funding, and public agencies often seeing...”).
7. The recommendations on page 9 also are very important and we would suggest some minor edits to the wording for clarity:
 - It seems the 4th recommendation should be “make it easy to participate early **and often**.” This point is made on pages 18 and 23, but not in the summary.
 - It might be better for the 6th recommendation to say “enhanced coordination within state agencies and with local governments” – reflecting the comments on page 66.
 - Also, shouldn’t there be a recommendation saying something like “Make key information available to all in a timely manner.” This point is made on page 24. This point could be part of the last recommendation.

Section 1: Introduction (page 12-15)

The introduction is nicely written. The rationale for the paper and the scope and organization are clearly laid out. A couple minor suggestions include:

1. On page 15 where the methods are discussed, it would be helpful to refer to the appendices briefly for more detailed information on the methods.
2. Space permitting, it might help to cue the reader to the content that comes in Section 3 and Section 4 for understanding the importance of the recommendations in Section 2, and the value of these sections for background reading.

Section 2: Recommendations (page 16-25)

The recommendations are comprehensive and reflect key insights from the findings in the issue paper. To sharpen the findings, we recommend the following modifications.

1. One of the Findings in Section 5 (page 59) relates to “the use of Traditional Knowledge by non-tribal people who use the information without proper

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context, consent, and guidance.” Should this be drawn out more explicitly in the recommendations in Chapter 2 related to Goal 2?

2. Page 19, a sentence could be added to explain how the “additional research and data needs” were identified.
3. Page 20, it is unclear who or what group is supposed to do the actions identified. If it is “the Council,” then the sentence under 1 saying “identify and present to the council ...” is awkward and needs revision.
4. Page 20, recommendation 4 under Strategy 1a suggests studying “Delta Water Justice Issues.” Defining what “water justice issues” would add clarity here. The term comes up later in the report but should be clearly defined the first time it is introduced.

Section 3: What is Tribal and Environmental Justice (page 26-32)

This section summarizes foundational academic and practical knowledge on tribal and environmental justice for readers who are not familiar with these concepts. To improve this section, we offer the following suggestions.

1. The discussion on the conceptual framework on page 28 faces similar issues as Figure 1 in the Executive Summary. As the framework focuses on environmental justice, how the framework is used in this paper (or not used) to guide analysis of tribal justice issues should be explicit.
2. At the top of page 29, the paper notes that the conceptual framework “builds a more holistic understanding of environmental justice.” What is the comparison for the “more” argument? More than what other environmental justice frameworks provide? Or more than how environmental justice issues are currently discussed in the Delta?
3. On page 30, the report could be clearer that there are concerns about which indicators to use, the scale at which to measure them, and data inaccuracies at different scales. For instance, the language about a mismatch between environmental justice movement principles and environmental justice definitions is also a bit vague. To be clearer, the paper could say specifically that metrics and indices used to identify environmental justice communities may not clearly identify the communities intended to be served by specific programs. Metrics may need to be more closely matched to the program capabilities and goals to be effective.

Section 4: History and Context (page 33-54)

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This section provides an important overview of the history and context. A few points could be clearer, including:

1. Top of page 37 (“Exploitation During the Reclamation Era”), it might be helpful to start this section with an explanation of how this history related to environmental justice issues. In effect, clarify what you mean by exploitation and which groups (or resources) were affected.
2. On page 42, (“Water Infrastructure”) it would be helpful to let the reader know that you are talking about water infrastructure because it has generated inequities that will be described in subsequent sections.
3. On the top of page 45, what is the implication that millions of disadvantaged people are served by the State Water Project? Is it a disproportionate or proportionate amount?
4. Page 46 (“Water infrastructure and associated EJ issues”), should the sentence ending with “including the original Indigenous inhabitants of California” include “and EJ communities?”
5. Page 47, can you clarify the professional position of “strategist Amy Vanderwarker (2012)”. It is unclear what a “strategist” means.
6. Bottom of page 47, does the lack of water quality compliance that is discussed have a disproportionate effect on environmental justice communities, or is it simply a Delta community concern?

Section 5: Current Tribal and Environmental Justice issues (page 55-84)

Section 5 synthesizes the evidence and data on tribal and environmental justice issues in the Delta. The analysis in Section 5 does a nice job of integrating complementary findings from interviews and other literature and secondary data. As is, it is a bit long and a lot to digest. It might be more easily packaged with a separate tribal section and separate Environmental Justice section. A few additional recommendations include:

1. Since Section 5 relies heavily on interview data to elicit key themes, it might be important to clarify to the reader how interview data may not be representative of the full population of interest because the interviews were not based on a statistically representative sample.
2. Clarifying the sampling method (e.g., to achieve diverse representation of different types of environmental justice communities or individuals in the Delta) can help the reader better understand the strengths and weaknesses of interviews. Even if not statistically representative of a full population,

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interviews can provide rich contextual understanding and information on a wide range of challenges facing tribal and environmental justice communities. The strength is in offering perceptions felt by people in the Delta (rather than finding statistically representative trends), which is much harder to ascertain through large-n survey data. Likewise when presenting any data that comes from survey results, explain if the survey used a systematic or representative sampling design of residents.

3. On page 55, “pre-consultation with 4 tribes” is mentioned, but it would be useful to know how many tribes there are in the Delta.
4. Explain on page 56 how the discussion of the three interrelated tribal environmental justice issues (recognition, procedural, and distributive) relates to the environmental justice framework guiding the paper.
5. On page 63, the sentence that says: “some legacy towns have extremely affluent, well-resourced, and environmentally protected residents”, it is unclear what “environmentally protected” means.
6. On page 71, how did the percentage of “high” social vulnerability change so much between current and future conditions?
7. Where the paper states on page 74 that “Black and Latino communities across the Bay-Delta face disproportionately greater risk of surface water contamination across the board,” do you literally mean contamination, or do you mean declining water quality? If the former, perhaps be more specific to clarify what you mean by contaminants.
8. Also on page 74, in referring to “significant domestic and municipal well failures in the Central Valley”, is it known if these are EJ communities?
9. At the bottom of page 74, it is unclear what “can cause toxicity” means in the phrase “can cause toxicity to unhoused community members.”
10. At the bottom of page 75, it is not clear why the general environmental concerns are being discussed without linking them to EJ concerns.

Section 6: Conclusion (page 85)

Section 6 provides a useful summary of key actions the Delta Stewardship Council has taken already on tribal and environmental justice issues, which might more accurately be titled Response Actions and Next Steps. A few more specific summary points on what the next steps are might be of value here to provide a more complete picture of intentions. Also, adding in a separate Conclusion section of the

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main ideas guiding the recommendations would be useful for readers who like to jump to the conclusion for the final takeaways of a report.

Appendices (page 86-131)

The appendices are useful for understanding some of the key limitations, methods, and definitions of key concepts. The Delta ISB's comments on the appendices include:

1. A brief description of how the various data sources were analyzed collectively, and the steps taken to incorporate the multiple data sources into key findings and recommendations would provide more transparency in how the key findings and recommendations were derived.
2. The link to the US EPA (2021) reference on the bottom of page 129 doesn't seem to work.