

July 27, 2018

VIA EMAIL

Jeanine Townsend, Clerk of the Board
 State Water Resources Control Board
 1001 "I" Street, 24th Floor
 Sacramento, California 95814
 LSJR-SD-Comments@waterboards.ca.gov

Re: Comment Letter – Revisions to Proposed Bay-Delta Plan Amendments

Dear Ms. Townsend:

The Coalition for a Sustainable Delta ("Coalition") appreciates the opportunity to review and comment on the revised proposed amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary ("Bay-Delta Plan" or "Plan") and supporting proposed final Substitute Environmental Document ("SED"). The Coalition recognizes that the State Water Resources Control Board ("State Board") has made significant changes to the Bay-Delta Plan and SED over the past several years, and appreciates the State Board's efforts to address concerns raised by stakeholders and the public. As requested, the Coalition has attempted to narrowly tailor its comments to the more recent revisions to the Bay-Delta Plan and Final SED. To that end, as described in further detail below, the Coalition is concerned that the State Board's current approach to biological goals is flawed, and that the analysis of the impacts of introduced species on native species is incomplete. In addition, the Coalition is concerned that the issues it has raised in prior comment letters, which are attached hereto as Exhibits A and B, remain unaddressed. For example, as explained in the Coalition's letter dated March 16, 2017, the Coalition remains critical of the State Board's singular focus on unimpaired flows. Currently, the State Board's approach leaves no room for a customized management response to the highly constrained hydrodynamics of the Lower San Joaquin River and south Delta. Instead of focusing solely on unimpaired flows, the Coalition requests that the State Board meaningfully consider non-flow management measures or, at a minimum, other aspects of flow, including pulse flows.

The Coalition encourages the State Board to consider the concerns described herein, as well as in the Coalition's prior comment letters, as it moves forward with finalizing the Bay-Delta Plan and SED.

The Coalition for a Sustainable Delta is an ad hoc group of water users who depend on the delta for a large portion of their water supplies. The Coalition is dedicated to protecting the delta and is committed to promoting a strategy to ensure its sustainability.

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I. The Bay-Delta Plan's Approach to Biological Goals is Flawed.

The revised proposed amendments to the Bay-Delta Plan include the concept of "biological goals," which "will be used to inform the adaptive methods, evaluate the effectiveness of this program of implementation, the [San Joaquin River Monitoring and Evaluation Program], and future changes to the Bay-Delta Plan." Plan at 32. The Plan states that the State Board will seek recommendations from the Stanislaus, Tuolumne and Merced Working Group, State Board staff, and other interested persons, in consultation with the Delta Science Program, regarding the biological goals. *Id.* According to the Plan, the State Board will consider approval of the goals within 180 days from the date of the Office of Administrative Law's approval of the amendments to the Bay-Delta Plan. *Id.* The biological goals will then be modified based on new information developed through the monitoring and evaluation activities or other pertinent sources of scientific information. *Id.* Among other things, biological goals will specifically be developed for Lower San Joaquin River salmonids, as salmonids are among the fish species most sensitive to Lower San Joaquin River flow modifications. The Plan states that biological goals should be "specific, measurable, achievable, result-focused, and include a time frame for when they will be achieved." *Id.* at 33.

The Coalition is concerned that the entire premise underlying the biological goals is flawed. Specifically, the State Board is putting the proverbial cart before the horse. Currently, biological goals are being developed **after** management measures are already in place. This is nonsensical. Rather, the biological goals should be developed **before** the management measures, such that the biological goals can inform and refine the management measures that are ultimately adopted. For example: the Plan currently contemplates maintaining 40% unimpaired flows, with an allowed adaptive range between 30% - 50%, inclusive, from each of the Stanislaus, Tuolumne, and Merced Rivers from February through June. Plan at 18, 29. Under the current approach, the biological goals will be used to inform the adaptive management of flows within the 30%-50% range. This approach is flawed. Instead, biological goals should be used to inform and initially establish the unimpaired flow range itself (not just the management of flows within an already-established range).

As another example, the Plan states: "At all times during February through June, the flow at Vernalis, as provided by the percent of unimpaired flow objective, shall be no lower than the base flow value of 1,000 cfs with an allowed adaptive management range between 800–1,200 cfs, inclusive." Plan at 18. Presumably, the biological goals will inform how flows are adaptively managed within the 800-1,200 cfs range. Again, this approach is flawed. Biological goals should be developed **before** (rather than **after**) the flow range is set. As it is now, the effectiveness of the biological goals is limited because the goals cannot inform management measures beyond the already-set range. The biological goals therefore do not (and cannot) function as intended; they do not (and cannot) accurately reflect the biological health of the species in the Delta because they are constrained by already-adopted management measures.

The Coalition recommends that biological goals be established during development of the Plan amendments, such that they can inform the management measures that will ultimately be contained within the final Plan and SED.

II. The Bay-Delta Plan's Analysis of the Impacts of Introduced Species on Native Species is Incomplete.

The Coalition appreciates that the Bay-Delta Plan currently includes an analysis of the impacts of introduced species on native species in the Delta, and that the Plan acknowledges that non-native species have caused major changes in the composition of aquatic resources in the Delta. Plan at 58. However, the analysis appears incomplete. Specifically, the Plan should take into account relevant reports and literature relating to non-native species, such as striped bass and black bass, and their impact on listed fish, including Central Valley spring-run Chinook salmon, Central Valley steelhead, Delta smelt, and Sacramento River winter-run Chinook salmon. For example, in a 2011 report, the then California Department of Fish and Game concluded "studies of striped bass feeding habits indicate they consume an enormous volume of fish, overlap in their geographic range with the listed species, and have historically consumed listed species, at times in very substantial quantities."¹ More recently, in its 2014 Recovery Plan for Central Valley Salmonids, the National Marine Fisheries Service ranked predation in the highest stressor category in its threat assessments for Central Valley spring-run Chinook salmon, Central Valley steelhead, and Sacramento River winter-run Chinook salmon.²

These reports from the state and federal agencies entrusted to manage fish populations within California are reinforced by outside experts. For example, in a 2008 report on the Central Valley Project Improvement Act fisheries program, a blue-ribbon panel of scientists characterized predation as a "key limiting factor" on Central Valley salmonids and concluded that predation reduction efforts are among those actions that have the "greatest ability to improve anadromous fish populations in the near term."³

The Coalition therefore encourages the State Board to take into account the reports and literature from agencies and experts alike when developing its amendments to the Plan. Specifically, the Coalition requests that the State Board consider the following:

1. Bonneville Power Administration, Predator Control Helps Salmon (available at <http://www.salmonrecovery.gov/Files/Fact%20sheets/Predator%20control%20-%20Sept%202010.pdf>).

¹ Department of Fish and Game, Report and Recommendation to the Fish and Game Commission in Support of a Proposal to Revise Sportfishing Regulations for Striped Bass, dated Dec. 2011.

² National Marine Fisheries Service, Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead, dated July 2014.

³ Cummins, Ken et al., Listen to the River: An Independent Review of the CVPIA Fisheries Program, December 2008.

2. California Department of Fish and Wildlife, Delta Science Program, National Marine Fisheries Service, Annotated Bibliography, Predation Workshop July 22-23, 2013.
3. Cummins, Ken et al., Listen to the River: An Independent Review of the CVPIA Fisheries Program, December 2008.
4. Department of Fish and Game, Striped Bass Sport Fishing Regulation Amendment Proposal, dated Dec. 5, 2011.
5. Department of Fish and Game, Report and Recommendation to the Fish and Game Commission in Support of a Proposal to Revise Sportfishing Regulations for Striped Bass, dated Dec. 2011.
6. Grossman, Gary et al., Effects of Fish Predation on Salmonids in the Sacramento River – San Joaquin Delta and Associated Ecosystems, dated Sept. 25, 2013.
7. National Marine Fisheries Service, Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead, dated July 2014

Furthermore, at the direction of the California Fish and Game Commission (“Commission”), the California Department of Fish and Wildlife and Commission staff co-hosted a Delta Fisheries Forum to identify potential Commission actions to support and enhance the State’s current fisheries management goals for the Delta. Held on May 24, 2017, the forum focused on the State’s vision for managing fisheries in the Delta for the benefit of native fish species and sport fisheries, the implementation of the State’s vision, and soliciting stakeholder input on potential actions the Commission could consider related to this topic. More specifically, forum attendees discussed how changes to sport-fishing regulations (such as increasing the bag limit and reducing the minimum size limit for striped bass and black bass in the Delta) could reduce predation by non-native bass on listed fish. See Exhibit C (Delta Fisheries Forum Staff Report). Following the forum, Commission staff developed the following recommendations regarding Delta fisheries: (1) Develop and adopt a Delta Fisheries Management policy that: (a) aligns with the State’s goals for the Delta; (b) supports more holistic management of the Delta; (c) encourages interagency coordination and collaboration; (d) requires integration of the best available science into decision-making; and (e) clarifies the Commission’s management goals for both listed species and sport fisheries in the Delta; (2) Increase Commission awareness of and participation in interagency coordination efforts in the Delta; (3) Explore opportunities for targeted predation-related research; (4) Continue stakeholder engagement on key uncertainties related to fisheries management in the Delta. The Commission thereafter approved the recommendations at its October 2017 meeting.

Since that time, progress implementing the recommendations adopted by the Commission has been slow, including with respect to developing a Delta Fisheries Management policy, or

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July 27, 2018
Page 5

developing new sport-fishing regulations. The Coalition therefore recommends that the State Board coordinate with the Commission to develop the Delta Fisheries Management policy, such that the policy can inform the State Board's decisions with respect to non-native species. Furthermore, the Bay-Delta Plan currently does not include any discussion of the ongoing efforts of the Commission relating to non-native species, and, at a minimum, should be revised to do so.

III. Other Concerns regarding the Bay-Delta Plan have been Unaddressed.

The Coalition has previously submitted two comment letters relating to the State Board's revisions to the Bay-Delta Plan, which are attached hereto as Exhibits A and B. To date, many of the issues identified in the comment letters have not been addressed, including the Coalition's concerns that the State Board has predetermined the need for and intention to implement targeted management actions before undertaking environmental review pursuant to the California Environmental Quality Act. In addition, the Coalition remains concerned that the SED fails to include a meaningful cost-benefit analysis, that the SED's conclusions regarding unimpaired flows are unsupported, and that the best available science does not support the SED's conclusions that conditions that benefit fall-run Chinook salmon necessarily benefit steelhead. Furthermore, the Coalition continues to find the SED's alternatives inadequate, primarily because of their singular focus on unimpaired flows. Currently, the only variation between the alternatives relates to the percentage of unimpaired flows. The State Board can meaningfully consider other non-flow management measures, as well as flow objectives for different time periods or pulse flows. Yet no alternative includes such options. The Coalition therefore requests that the State Board revisit and address the comments set forth in these prior letters.

In sum, the Coalition urges the State Board to give due consideration to the foregoing comments, as well as the comments previously submitted, as it proceeds with the Bay-Delta Plan amendment process.

Sincerely,

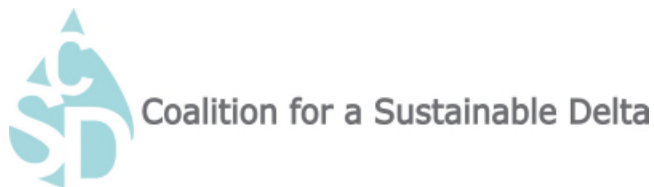


William D. Phillimore

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EXHIBIT “A”



March 16, 2017

VIA E-MAIL

Jeanine Townsend, Clerk of the Board
State Water Resources Control Board
1001 "I" Street, 24th Floor
Sacramento, California 95814
commentletters@waterboards.ca.gov

Re: Comment Letter – 2016 Bay Delta Plan Amendment & SED

Dear Ms. Townsend,

The Coalition for a Sustainable Delta ("Coalition") is a California nonprofit corporation comprised of agricultural, municipal, and industrial water users, as well as individuals in the San Joaquin Valley. The Coalition and its members depend on water from the Sacramento-San Joaquin Delta ("Delta") for their continued livelihood. Individual Coalition members frequently use the Delta for environmental, aesthetic, and recreational purposes; thus, the economic and non-economic interests of the Coalition and its members are dependent on a healthy and sustainable Delta ecosystem.

The Coalition appreciates the opportunity to review and comment on the 2016 draft revised Substitute Environmental Document ("SED") that supports potential changes to the Water Quality Control Plan for the Bay-Delta. The Coalition recognizes that the State Water Resources Control Board ("State Board") has made significant changes to the SED, as compared to the draft previously issued in 2012, and appreciates the State Board's efforts to address concerns raised by stakeholders and the public. However, the Coalition is concerned that the State Board has not adequately weighed the adverse impacts of the proposed flow objectives, including potentially significant economic harm, against the perceived benefits to the species. Furthermore, the SED's conclusions regarding unimpaired flows—namely that unimpaired flows will provide environmental benefits and improve salmonid viability—are not supported by the scientific literature. Without these analyses and support, the SED is inadequate.

In addition, the Coalition is concerned that the State Board's analysis fails to take into account the best available science, both with respect to Central Valley steelhead and Chinook salmon. The State Board relies principally on purported benefits to these two species to justify the proposed flow objectives, but the scientific evidence supporting such benefits is lacking, in large part because benefits to steelhead are assumed and benefits to Chinook salmon are primarily

March 16, 2017
Page 2

based on gray literature that is misinterpreted by State Board staff and that yields highly uncertain results.

The Coalition encourages the State Board to consider these concerns, which are discussed in further detail below, before it moves forward in finalizing the SED.

I. The SED lacks a meaningful cost-benefit analysis.

The Coalition acknowledges that the SED contains various economic analyses addressing the direct and regional economic impacts associated with the proposed flow alternatives. *See, e.g.,* SED Chapter 20, *Economic Analyses*; SED Appendix G, *Agricultural Economic Effects of Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results*. While useful, these analyses stop short of accomplishing what is necessary to support the State Board's proposed flow objectives. Specifically, the analyses assess the potential economic effects of the proposed alternatives based on how the use of certain resources may change. *See, e.g.,* SED at 20-3. But the SED does not weigh the adverse economic impacts of the flow objectives against the perceived benefit to the species. That is, while certain costs and beneficial effects are identified, there is no comprehensive comparison of these impacts, whereby the costs are balanced against the perceived benefits. As a result, the net impacts associated with the proposed flow objectives are currently unknown, and therefore not addressed. The Coalition requests that the SED be revised to include a meaningful cost-benefit analysis, whereby the adverse impacts of the flow objectives are weighed against the perceived benefit to the species.

II. The SED's conclusions regarding unimpaired flows are unsupported.

The SED states that the proposed flow objectives are intended to provide flows that "more closely mimic the natural hydrographic conditions (including frequency, timing, magnitude, and duration of natural flows)" in the Lower San Joaquin River and three eastside tributaries. SED at ES-9. The proposed flow objectives are based on the premise that unimpaired flows will provide environmental benefits and increase salmonid viability. *E.g.,* SED Appendix 3, 3-29, 3-41. The scientific literature, however, does not support this conclusion. Rather, the results of several studies are mixed, particularly in highly altered systems such as the Delta. *E.g.,* Poff et al. (1997); Hart and Finelli (1999); Bunn and Arthington (2002); Poff and Zimmerman (2010). In fact, the literature indicates that targeted unimpaired flows may be a useful management tool, but only when attempting to attain a particular ecological benefit. *Id.* Here, however, the SED does not explain how the specific flow regime being proposed (as opposed to flows in general) will provide fishery benefits through restored flow functions. Without an analysis that shows expected improvements in specific ecological functions, the SED lacks the information to support its conclusion that the proposed flow objectives are necessary to benefit salmonids.

Likewise, the SED cites Brandes and McLain (2001), among others, to assert that the "primary limiting factor for tributary abundances are reduced spring flow, and that salmonid populations on the tributaries are highly correlated with tributary, Vernalis, and Delta flows." SED at 3-29.

In Brandes and McLain (2001), however, the authors offer no support for that assertion. In fact, no evidence of such a relationship exists, and no ecological mechanism has been identified that explains how managed river flows could influence juvenile salmonid survival during passage through the Delta.

In sum, the SED assumes, without support, that natural flow regimes are best and that water project operations that alter natural flow conditions should be minimized to the extent possible. That paradigmatic assertion is not justified and the analyses supporting it are flawed, and certainly cannot be applied in a severely altered and conflicted management environment such as the Delta. Providing a reliable water supply, while also protecting, restoring, and enhancing the Delta ecosystem, requires an approach that can account for the conditionally unique and nuanced circumstances that attend a complex and highly disturbed system. Because the proposed flow objectives singularly focus on unimpaired flows, the approach leaves no room for a necessarily customized management response to the highly constrained hydrodynamics of the contemporary San Joaquin River and south Delta.

III. The best available science does not support the SED's conclusion that conditions that benefit fall-run Chinook salmon also benefit steelhead.

In several instances, the SED concludes that certain flow objectives intended to benefit salmon will equally benefit steelhead. For example, the SED states: "Central Valley steelhead co-occurs with fall-run Chinook salmon in the [San Joaquin River] basin and both species have somewhat similar environmental needs for river flows, cool water, and migratory corridors. As a result, conditions that favor fall-run Chinook salmon *are assumed to provide benefits to co-occurring steelhead populations*, and other native fishes." SED Appendix C at 3-13 (emphasis added). The best available science does not support this assumption—namely, that steelhead respond to flows in the same manner as salmon. Indeed, there is significant scientific support for the proposition that hatchery fall-run Chinook salmon is an improper surrogate species or proxy for wild Central Valley steelhead.

A. The SED fails to take into account relevant scientific information.

As an initial matter, it appears that the SED does not take into account all readily available, relevant, and high quality scientific information relating to the use of surrogates. Specifically, the SED ignores the numerous publications discussing how and when the use of surrogates is appropriate, including the publications set forth in the attached Exhibit A. The Coalition requests that these publications be taken into account, to ensure that the analyses in the SED reflect the best available science.

B. Any use of surrogates must be rigorously analyzed.

The use of surrogate (or substitute) species in conservation planning has been debated vigorously by scientists. *E.g.*, Landres (1992); Andelman & Fagan (2000); Wenger (2008). 25 years ago, Peter Landres concluded that the use of surrogates is "financially not practical,

March 16, 2017
Page 4

conceptually inappropriate, and empirically unsupported potentially leading to inaccurate long-term management and assessment decisions.” Landres (1992). Tim Caro (who is among the foremost experts on the use of surrogate species) and his colleagues have drawn the following conclusion: “the assumptions required to use substitute species in conservation biology are too onerous when applied to trying to predict population responses to anthropogenic disturbance. Where at all possible, we advocate making every possible effort to examine the target species directly before resorting to substitute species.” Caro et al. (2005). In other words, use of surrogate species should be a tool of last resort.

In general, when the response of one species to an environmental disturbance is being used to predict the response of another species to a similar disturbance, it is critical that a rigorous analysis be used to select an appropriate surrogate. Murphy et al. (2011); Landres et al. (1988). One approach to such an analysis involves the following: (1) establish the relationship between levels of environmental disturbance and demographic vital rates for the surrogate species; (2) identify the key traits that affect demographic viability in both the surrogate and target species with regard to the environmental disturbance; and (3) establish the relationship between the key trait and the disturbance threshold. Caro et al. (2005). Put simply, stating that “both species have somewhat similar environmental needs for river flows, cool water, and migratory corridors” is insufficient to support the use of salmon as surrogates for steelhead for purposes of conservation planning for the latter species. *E.g.*, Summary Report, Peer Review of Technical Guidance on Selecting Species for Landscape Scale Conservation, U.S. Fish and Wildlife Service, June 20, 2014, available at <https://www.fws.gov/science/pdf/Final-Summary-Report-Complete-Technical-Guidance-on-Selecting-Species-for-Landscape-Scale-Conservation.pdf> (explaining that, in the context of landscape scale conservation, environmental documents must progress “beyond generalities” to provide detailed support for the use of surrogates in making management decisions). Without a rigorous analysis showing that steelhead respond ecologically and behaviorally to unimpaired flows in the same manner as fall-run Chinook salmon, the SED’s assumption is improper.

Furthermore, the SED appears to rely solely on the National Marine Fisheries Service’s 2009 salmonid biological opinion (“NMFS BiOp”) to assert that fall-run Chinook salmon is an appropriate surrogate for steelhead. SED Appendix C at 3-13. This reliance is misplaced. The NMFS BiOp does not provide evidence that steelhead and salmon behave similarly in certain conditions. Rather, the NMFS BiOp makes the same flawed assumption as the SED. BiOp App. at 5 at 12; *see also* BiOp at 62. As important, the SED fails to reference articles and peer review reports that contradict the assumption made in the NMFS BiOp. Murphy et al. (2011); Hankin et al. (2010). Hankin and his colleagues note that “[l]ife history differences between Chinook salmon and steelhead are striking,” and go on to state that the performance (i.e., survival) of juvenile Chinook salmon does not provide a reliable basis for inference concerning performance of steelhead. Without a robust analysis of whether steelhead respond to environmental disturbances in the same manner as salmon in the San Joaquin River and south Delta, assuming that they do so is improper, especially given that available data and analyses support the contrary conclusion.

In sum, NMFS has failed to undertake a rigorous analysis, or any analysis whatsoever, to ensure that steelhead respond similarly to fall-run Chinook in similar conditions. Indeed, as described below, there is evidence suggesting that salmon is not a valid surrogate for steelhead due to differences in life history, size, and overall strength. Accordingly, the Coalition requests that the SED be revised to provide supporting information for its assumption that the use of fall-run Chinook as a surrogate for steelhead is appropriate, including specific evidence regarding behavior, movement, size, feeding habits, predation data, and other life history characteristics, particularly as those characteristics relate to unimpaired flows.

C. The SED fails to consider data from the six-year acoustic tag experiment.

The NMFS BiOp's reasonable and prudent alternative (action IV.2.2) requires a six-year acoustic tag experiment that is intended to assess the behavior and movement of outmigrating steelhead and salmon. Specifically, the study was intended to evaluate the survival of emigrating smolts from tributaries into the mainstem of the San Joaquin River, from the mainstem San Joaquin River downstream into the Delta, and from the Delta to Chipps Island. Despite difficulties implementing the study in certain years, the study was conducted from 2011 through 2016. As we understand it, at least two years of data (2011 and 2012) are currently available, while the additional data are being analyzed. Accordingly, the Coalition requests that, at a minimum, the available data be included and assessed as part of the SED.

D. The conclusions in the Collaborative Adaptive Management Team's Salmon Scoping Team Gap Analysis Report are contrary to the SED's assumptions.

The Collaborative Adaptive Management Team's ("CAMT") Salmon Scoping Team ("SST") recently finalized its report entitled: "Effects of Water Project Operations on Juvenile Salmonid Migration and Survival in the South Delta" ("SST Report"). The report is comprised of two volumes, with the first describing findings and recommendations, and the second describing the SST's response to eight management questions posed by CAMT.

The SST Report presents the results of a collaborative scientific assessment of (1) juvenile salmonid migration behavior primarily based on tracking acoustically tagged juvenile Chinook salmon and steelhead released into the lower San Joaquin River, and (2) the survival of juvenile Chinook salmon and steelhead as they migrate downstream through the lower San Joaquin River and central and south regions of the Delta. Information on salmonid migration was primarily derived from acoustic tag studies conducted in 2011 and 2012 (as part of the six-year acoustic study described above). Among other things, the report describes the following:

- Smaller fish (e.g., fall-run Chinook) respond to conditions differently and usually experience lower survival than larger fish (steelhead). *See, e.g.,* SST Report at 3-35, 3-86, 3-87. Larger fish have higher survival in the Delta. *Id.*
- Survival data preliminarily suggests that steelhead have a higher survival rate in the Delta than fall-run Chinook. For example, based on data from 2011 and 2012, the SST

concluded that survival of acoustic-tagged juvenile steelhead migrating from the San Joaquin River (0.32 to 0.54) has been greater than that of fall-run Chinook salmon from the same years (0.02 to 0.03). SST Report, Appendix E, Section E.2.1, Table E.2-3; see *also id.*, Appendix E, Section E.2.1, Table E.2-2.

- The use of surrogates should be accompanied by a description of the evidence that supports their use (citing Murphy and Weiland (2014)). SST Report at 3-73, 3-74.
- The biological differences between species, including habitat preferences, ability to avoid prey, size, strength, etc. likely impact through-Delta survival. See *generally*, SST Report at 3-77.

The Coalition therefore requests that the SED be revised to take into account the conclusions and analyses set forth in the recently issued SST Report. As a participant in the Collaborative Science and Adaptive Management Program and CAMT, the State Board has access to the SST Report.

IV. Benefits to fall-run Chinook salmon from the proposed flow objectives are uncertain.

A. The SED relies on unpublished data and comment letters.

Appendix C to the SED sets forth the scientific basis for the State Board's proposed flow and salinity objectives. See SED, Appendix C, *Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives*. The analysis in Appendix C, however, is largely based on unpublished data, draft papers, and comment letters that are neither peer-reviewed nor published. For example, Appendix C relies on, among others:

- Mesick, C.F. 2001b. **Unpublished**. Factors that Potentially Limit the Populations of Fall-Run Chinook Salmon in the San Joaquin River Tributaries;
- San Joaquin River Technical Committee (SJRTC). 2008. **Draft** Summary Report of the Vernalis Adaptive Management Plan (VAMP) for 2000-2008. Prepared for the Advisory Panel Review Conducted by the Delta Science Program;
- Mesick, C.F., J.S. McLain, D. Marston, and T. Heyne. 2007. Limiting Factor Analyses & Recommended Studies for Fall-Run Chinook Salmon and Rainbow Trout in the Tuolumne River California Department of Fish and Game. Prepared for the U. S. Fish and Wildlife Service. **Draft Report**;
- Mesick, C.F. and D. Marston. 2007. **Provisional Draft**: Relationships Between Fall-Run Chinook Salmon Recruitment to the Major San Joaquin River Tributaries and Stream Flow, Delta Exports, the Head of the Old River Barrier, and Tributary Restoration Projects from the Early 1980s to 2003;

March 16, 2017
Page 7

- California Department of Fish and Game (DFG). 2005a. California Department of Fish and Game Supplemental **Comments and Recommendations** on the Vernalis Flow and Salmon Doubling Objectives in the 1995 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin River Delta Estuary; and
- California Department of Water Resources (DWR). 2007b. **Comments** on SWRCB Southern Delta Salinity Standards Modeling Requests (Tara Smith, Parviz Nader-Tehrani, Erik Reyes, Mark Holderman) May 2007.

SED Appendix C (emphasis added). The analyses in the SED, including the discussions relating to the anticipated benefits to fall-run Chinook, do not take into account the uncertainty associated with, among others, the above-referenced sources. Thus, the Coalition requests that, at a minimum, the analysis in Appendix C be revised to take into account the fact that these sources are not peer-reviewed and not published, in order to ensure that the SED appropriately addresses the uncertainty surrounding the conclusions derived therefrom.

B. The SED's alternatives analysis is inadequate.

The Lower San Joaquin River Alternatives include the following: Alternative 1 (no action alternative); Alternative 2 (range of unimpaired flows between 20 and 30 percent, with 20 percent as the starting point, from February-June); Alternative 3 (range of unimpaired flows between 30 and 50 percent, with 40 percent as the starting point, from February-June); and Alternative 4 (range of unimpaired flows between 50 and 60 percent, with 50 percent as the starting point, from February-June). These alternatives are inadequate because the only variation between the alternatives relates to the percentage of unimpaired flows. The State Board can meaningfully consider other aspects of flow, including pulse flows. Indeed, the SED admits that pulse flows are an important factor for juvenile salmonid migration. SED Appendix C, 3-29. The State Board can also establish flow objectives for different time periods, rather than the full February through June period for each alternative. Yet no alternative includes such options. The Coalition therefore requests that the alternatives be expanded to include variables other than just changes in percentages of unimpaired flows.

V. Conclusion.

In sum, the Coalition urges the State Board to address the foregoing items prior to issuance of the final SED. We would be happy to discuss these issues further at your convenience.

Sincerely,



William D. Phillimore
Board Member

Exhibit A

Relevant Publications

Andelman, S.J., Fagan, W.F. 2000. Umbrellas and flagships: Efficient conservation surrogates or expensive mistakes? *PNAS* 97:5954-5959

Banks, J.R., Ackleh, A.S., Stark, J. 2010. The Use of surrogate species in risk assessment: Using life history data to safeguard against false negatives. *Society for Risk Analysis* 30:175-182

California Department of Fish and Wildlife. January 2002. Escapement and Life History Patterns of Adult Steelhead in freshwater Creek California, 2000-2001 Annual Report

California Department of Fish and Wildlife. September 2008. Escapement and Spawning Distribution of Adult Salmonids in freshwater Creek, 2007-08

California Department of Fish and Wildlife. September 2008. Results of Juvenile Salmonid Downstream Migrant Trapping conducted on Freshwater Creek, 2007

Carignan, V., Villard, M. 2002. Selecting Indicator Species to Monitor Ecological Integrity: A Review. *Environmental Monitoring and Assessment* 78:45-61

Caro, T., Eadie, J., & Sih, A. 2005. Use of substitute species in conservation Biology. *Conservation Biology* 19:1821-1826

Favreau, J.M., Drew, C.A., Hess, G.R., Rubino, M.J., Koch, F.H., Eschelbach, K.A. 2006. Recommendations for assessing the effectiveness of surrogate species approaches. *Biodiversity and Conservation* 15:3949-3969

Hankin, D., Dauble, D., Pizzimenti, J.J., Smith, P. 2010. The Vernalis adaptive management program (VAMP): report of the 2010 review panel

Hitt, N.P., Frissell, C.A. 2004. A case study of surrogate species in aquatic conservation planning. *Aquatic Conservation: Marine and Freshwater Ecosystems* 14:625-633

Kostow, K.E. 2004. Differences in juvenile phenotypes and survival between hatchery stocks and a natural population provide evidence for modified selection due to captive breeding. *Canadian Journal of Fisheries and Aquatic Sciences* 61:577-589

Landres, P.B. 1992. Ecological Indicators: Panacea or Liability? Chap. 74 in *Ecological Indicators*, Vol. 2. London: Elsevier Applied Science

March 16, 2017

Page 9

Landres, P.B., Verner, J., Thomas, J.W. 1988. Ecological Uses of Vertebrate Indicator Species: A Critique. *Conservation Biology* 2:316-328

McEwan, D., Jackson T.A. 1996. Steelhead restoration and management plan for California. California Department of Fish and Game, Inland Fisheries Division, Sacramento, California 234 pp.

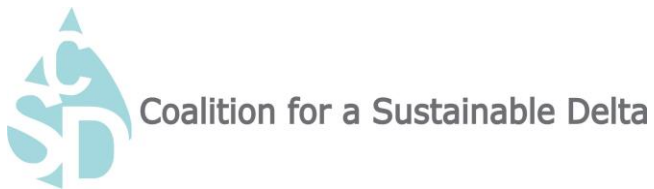
Murphy, D.D., Weiland, P.S. 2014. The use of surrogates in implementation of the federal Endangered Species Act—proposed fixes to a proposed rule. *Journal of Environmental Studies and Sciences* 4:156-162

Murphy, D.D., Weiland, P.S., Cummins, K.W. 2011. A critical assessment of the use of surrogate species in conservation planning in the Sacramento-San Joaquin Delta. *Conservation Biology* 5:873-878

Roper, B, and Scarnecchia, DL. 1996. A comparison of trap efficiencies for wild and hatchery age-0 Chinook salmon. *North American Journal of Fisheries Management* 16:214-217

Wenger, S.J. 2008. Use of surrogates to predict the stressor response of imperiled species. *Conservation Biology* 22:1564-1571

EXHIBIT “B”



November 9, 2017

VIA EMAIL

Eileen Sobeck
 State Water Resources Control Board
 P.O. Box 100
 Sacramento, Ca 95812-0100
 Bay-Delta@waterboards.ca.gov

Re: Phase II Bay-Delta Plan Input

Dear Ms. Sobeck:

The Coalition for a Sustainable Delta (“Coalition”) is writing to provide its input with respect to the Development of the Program of Implementation for the Phase II Update to the Bay-Delta Plan. The Coalition is a California nonprofit corporation comprised of agricultural, municipal, and industrial water users, as well as individuals in the San Joaquin Valley. The Coalition and its members depend on water from the Sacramento-San Joaquin Delta (“Delta”) for their continued livelihood. Individual Coalition members frequently use the Delta for environmental, aesthetic, and recreational purposes; thus, the economic and non-economic interests of the Coalition and its members are dependent on a healthy and sustainable Delta ecosystem.

The Coalition observes that it is premature to be contemplating a program of implementation prior to the development of project alternatives and associated environmental and economic analyses. It appears that the move toward implementation is a consequence of a blindered view of the singular challenge posed to at-risk, native species and the Bay-Delta ecosystem as one that can be remedied only by increasing outflow, irrespective of the fact that the best available scientific information countermands this paradigm. We are concerned that the Board has proceeded past the point in its decision-making process where the requirements of the California Environmental Quality Act (CEQA) can play an integral role in the process.

Among the questions posed by the Board is “how should the ... Board structure adaptive management for the new objectives?” This pre-supposes that there will be new outflow objectives, which clearly implies that the Board has predetermined the need for and intention to implement targeted management actions before undertaking environmental review pursuant to CEQA.

More to the point, for adaptive management to be meaningful – that is, effective, efficient, and accountable – it must inform the process of identifying management actions as well as

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Eileen Sobeck
November 9, 2017
Page 2

implementing them, monitoring the consequences of implementing those actions, and incorporating the results of monitoring into future decision-making. “Almost without exception, adaptive-management plans and programs have given relatively little attention to the structured process that is necessary to identify programmatic management actions and select from among them an action or actions for implementation” (Murphy and Weiland 2014). The process of getting from planning a management action to implementing the action involves a series of steps that are frequently absent from models of adaptive management in the literature (for example, Williams et al. 2009). Those steps are laid out in a manner that can be drawn upon by this Board in the Phase II process in Murphy and Weiland (2014, Fig. 4) and Delta Science Program (2016, Fig. 3-1).

The reason it is essential to implement adaptive management as a step-wise, structured approach incorporating scientific information into decision making from the outset, is that, when an improper management action is selected for implementation, it is often impossible to manage adaptively in a manner that can address the short-comings of the underlying action. “For example, if a management action is premised on an assumed relationship between a target species and some substitute species or surrogate measure (see Caro 2010), and the proxy relationship is not actually valid, then both the action and subsequent efforts to monitor its effectiveness will be compromised” (Murphy and Weiland 2014). Here, action taken to increase outflow to benefit Delta smelt, for example, may be based on the asserted surrogate relationship between Delta smelt habitat and the monthly average location of X2 (State Water Resources Control Board 2017, Fish and Wildlife Service 2008). But numerous lines of evidence indicate that this relationship is not founded on the best available science. For example, there is strong evidence of Delta smelt year-round in the Cache Slough area substantially upstream from the month average location of X2 (Sommer et al. 2011, Merz et al. 2011, Sommer and Mejia 2013, Murphy and Hamilton 2014). Likewise, there is a growing body of evidence that Delta smelt are distributed in areas with substantially higher salinity than X2, up to and beyond X10. In fact, in the recently initiated Enhanced Delta Smelt Monitoring surveys August and September 2017 consistently sampled Delta smelt from western portions of Suisun Bay, the Carquinez Strait, and San Pablo Bay under more highly saline conditions than at the Sacramento-San Joaquin rivers confluence and the central Delta, where Delta smelt were frequently absent. See https://www.fws.gov/lodi/juvenile_fish_monitoring_program/ifmp_index.htm. Those survey data indicate that the asserted relationship between X2 and the location and extent of Delta smelt habitat is not legitimate, and surely efforts to adjust the monthly average location of X2 in the fall upstream or downstream a few kilometers will not provide hoped for benefits to Delta smelt.

A conceptual ecological model that provides the basis for one or more proposed management actions includes elements that both to allow for hypothesis testing exercises to assess those actions and to subsequently develop performance measures that will be used to evaluate the actions (Murphy and Weiland 2011, 2014, 2016, Delta Science Program 2016). The conceptual

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Eileen Sobeck
November 9, 2017
Page 3

model that illustrates the posited relationships and quantitative predictive models based on it provides the bridge from the selection of a management action to the design of monitoring protocols, allowing for the performance of the action to be assessed. So, for example, using the prior example of X2 and Delta smelt habitat, the asserted surrogate relationship not only serves as the basis for development of the management action, it also may result in the use of location of X2 as the performance measure, since X2 is assumed to be a proxy for Delta smelt habitat.

An obstacle to adaptive management of the State Board's proposed outflow action stems from the fact that the response variables identified by the State Board include numerous native fish with differing life histories *and* the greater Bay-Delta ecosystem. This set of wide-ranging response variables, un-tethered to a specific proposed management action, effectively precludes assessment of a management action in an adaptive framework. The fact that the State Board intends to prescribe a management action accompanied by that broad array of response variables belies the reliance of the Board on the dominant paradigm in the Delta, namely to select management actions on bases other than support from the prevailing best available science, which would lead to the selection of more highly refined flow- and non-flow-related management actions (Murphy and Weiland 2016).

Finally, we would note that whereas rigorous adherence to a structured adaptive management decision-making process could be expected to reduce pernicious uncertainties regarding Delta fishes and their habitats and identify the ecological factors that presently limit population growth in listed and other target species, the broad brush assessment of species and the ecosystem conducted by the Board precludes identification of limiting factors. Among the consequences of this approach is the potential for the Board to impose increasingly aggressive outflow requirements in order to trigger a response that will never be manifest because a factor other than outflow -- such as competition or lack of spawning grounds -- is the functional limiting factor on the target species.

We urge the Board to give due consideration to this input as it decides upon next steps. In our view, there is good reason for the Board to take a pause both to assure compliance with CEQA and other applicable laws and in order to carry out its mandate by protecting the resources of the Bay-Delta and authorizing reasonable beneficial uses of water going forward.

Sincerely,



William D. Phillimore

56267054

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References

Delta Science Program. 2016. Delta Science Plan.

Merz, J., et al. 2011. Spatial perspective for delta smelt: a summary of contemporary survey data. California Fish and Game 97:164–189.

Murphy, D.D. and S. Hamilton. 2013. Eastward migration or marsh-ward dispersal: exercising survey data to elicit an understanding of seasonal movement of delta smelt. San Francisco Estuary and Watershed Science 11(3).

Murphy, D.D. and P.S. Weiland. 2011. The route to best science in implementation of the Endangered Species Act's consultation mandate: the benefits of structured effects analysis. Environmental Management 47:161-172.

Murphy D.D. and P.S. Weiland. 2014. Science and structured decision making: fulfilling the promise of adaptive management for imperiled species. Journal of Environmental Studies and Science 4:200-207.

Murphy, D.D. and P.S. Weiland. 2016. Guidance on the use of best available science under the U.S. Endangered Species Act. Environmental Management 58:1-14.

Sommer, T., et al. 2011. The spawning migration of delta smelt in the upper San Francisco estuary. San Francisco Estuary and Watershed Science 9(2).

Sommer T. and F. Mejia. 2013. A place to call home: a synthesis of delta smelt habitat in the upper San Francisco estuary. San Francisco Estuary and Watershed Science 11(2).

State Water Resources Control Board. 2017. Scientific Basis Report in Support of New and Modified Requirements for Inflows from the Sacramento River and its Tributaries and Eastside Tributaries to the Delta, Delta Outflows, Cold Water Habitat, and Interior Delta Flows.

U.S. Fish and Wildlife Service. 2008. Biological Opinion on the Proposed Coordinated Operations of the Central Valley Project (CVP) and State Water Project (SWP).

Williams BK et al. 2009. Adaptive management: the U.S. Department of the Interior technical guide.

EXHIBIT “C”

California Fish and Game Commission
Wildlife Resources Committee
Staff Report on the Delta Fisheries Forum
August 2017

At the direction of the California Fish and Game Commission (Commission), the California Department of Fish and Wildlife (Department) and Commission staff co-hosted a Delta Fisheries Forum to identify potential Commission actions to support and enhance the State's current fisheries management goals for the Sacramento-San Joaquin Delta (Delta). This report provides an overview of the forum, summarizes key findings, and includes four staff recommendations on potential next steps for Commission consideration.

Background

In June 2016, the Commission received a petition from the Coalition for a Sustainable Delta and others requesting regulation changes to increase the bag limit and reduce the minimum size limit for striped bass and black bass in the Delta. The expressed intent of the petition was to reduce predation by non-native bass on fish that are native to the Delta and are listed as threatened or endangered under the federal or California endangered species acts, including winter-run and spring-run Chinook salmon, Central Valley steelhead, and Delta smelt. While the petition was formally withdrawn prior to Commission action, the Commission requested that the Wildlife Resources Committee (WRC) schedule a discussion to explore the issue more comprehensively. WRC directed staff to hold a half-day forum focused on the State's vision for managing fisheries in the Delta for the benefit of native fish species and sport fisheries, the implementation of the State's vision, and soliciting stakeholder input on potential actions the Commission could consider related to this topic.

Held on May 24, 2017 in Sacramento, the forum was publicized and open to the public. Approximately 50 people attended, including WRC co-chairs Commissioner Williams and Commissioner Burns. The forum was structured to include a state agency panel discussion, an overview of the Commission's policies and regulations for sport fisheries in the Delta, and a full group discussion. The full group discussion included two presentations by representatives for the original petition, consistent with direction provided by the Commission in August 2016.

Forum Highlights

State Agency Panel

The state agency panel members included:

- Carl Wilcox, Policy Advisor to the Director, California Department of Fish and Wildlife
- Cindy Messer, Chief Deputy Director, California Department of Water Resources
- Eric Oppenheimer, Chief Deputy Director, State Water Resources Control Board
- Rainer Hoenicke, Deputy Executive Officer, Science Program, Delta Stewardship Council

Panel members gave an overview of their agency's role in implementing the State's vision for managing the Delta and answered questions from the audience.

Key Findings

Existing Conditions – the Delta has undergone significant changes, especially in terms of habitat for native fish. Changes in habitat, hydrodynamics, and aquatic vegetation has resulted in a new ecosystem that favors and supports non-native centrarchids, such as largemouth bass, over native fish species, including Chinook salmon and Delta smelt.

Planning for the Future – the Delta Stewardship Council’s Delta Plan, California Natural Resources Agency’s California EcoRestore, and the multi-agency Ecosystem Restoration Program’s Conservation Strategy for Restoration are large-scale planning efforts that provide the long-term vision, management goals, and implementation strategies for the Delta. Other State plans, such as the Delta Smelt Resiliency Strategy, Chinook Salmon Resiliency Strategy, and California Water Action Plan, guide more specific, near-term strategies and actions for management in the Delta.

Management Priorities – there has been a shift in management priorities over the last 30-40 years from managing the Delta for sport fisheries to managing for native species to prioritizing management for threatened and endangered species. During this time, there has also been a growing awareness and understanding of the value of managing the ecosystem as a whole rather than managing for individual species, and a greater emphasis has been placed on addressing stressors more holistically. Restoration objectives have also changed with increased focus on restoring key attributes, such as specific habitat types, habitat diversity, and functional flow regimes, to support native species in the Delta. There is also more emphasis on integrating the adaptive management process into management plans and actions.

Interagency Coordination – a myriad of state and federal agencies have management responsibilities within the Delta, which necessitates a certain level of coordination and collaboration. The Interagency Ecological Program, established in the 1970s, provides a framework for agencies to work together to conduct ecological investigations in the Delta. Two decades later, the CALFED Bay-Delta Program built on that effort, forming a consortium of 25 state and federal agencies working together to improve California’s water supply and the ecological health of San Francisco Bay and the Delta. In 2009, the Delta Reform Act established the Delta Stewardship Council to further advance the State’s goals for a more reliable water supply and a healthy, protected Delta ecosystem through the development of the Delta Plan. The Delta Reform Act also established the Delta Plan Interagency Implementation Committee, made up of the 17 state and federal agencies responsible for implementing the Delta Plan. Key efforts that support continued interagency coordination in the Delta include:

- Interagency Ecological Program (IEP) – focuses on providing and integrating relevant and timely ecological information for managing the Delta ecosystem through collaborative and scientifically-sound monitoring, research, modeling, and data synthesis efforts.
- IEP Pelagic Organism Decline Management Team – formed in 2005, this team is tasked with designing and managing a comprehensive study to evaluate the causes of the decline of pelagic organisms, including stock-recruitment effects, declines in habitat quality, increased mortality rates, and reduced food availability due to invasive species.

- Delta Plan Interagency Implementation Committee – facilitates work on the Delta Plan through increased coordination and integration between 17 agencies and focuses on the intersection of Delta Plan and California Water Action Plan implementation.
- Collaborative Science and Adaptive Management Program – formed in 2013 under a court order to inform management actions incorporated into the biological opinions for operating the state and federal water projects and considering alternative management actions. The court order ended in 2015; however, the participating agencies agreed to continue the program in an effort to promote the collaborative development of scientific information to inform management decisions.

Implementing Under Uncertainty – there was broad acknowledgement that there will never be enough science to fully inform all management decisions and that an emphasis is needed on approaching management and policy decisions in flexible and adaptive ways. The importance of evaluating the effectiveness of decisions once they have been implemented was highlighted. Key efforts to improve our scientific understanding in the Delta include:

- Delta Science Plan (also known as One Delta, One Science) – establishes a shared vision for Delta science and a framework to guide, organize, and integrate science in the Delta.
- Science Action Agenda – prioritizes near-term actions to achieve the objectives of the Delta Science Plan and identifies priorities for research, monitoring, data management, and communication.
- The State of Bay-Delta Science reports – a periodically updated summary that synthesizes the current science knowledge of the Delta.

Full Group Discussion

This portion of the forum started with two presentations highlighting ideas for potential near-term strategies to reduce scientific uncertainty. The first presentation by Brad Cavallo, president and principle scientist for Cramer Fish Sciences, evaluated non-native predator management opportunities in the Delta with a focus on scientific collecting permits and engaging with the angling public to conduct scientific studies. The second presentation by Doug Demko, president of FishBio, covered key uncertainties and identified data needs related to abundance, distribution, and predation impacts of non-native species, and highlighted opportunities for public-private research partnerships with case studies.

Following the presentations, Commission staff facilitated a discussion with the audience centered on three questions. Stakeholders provided a variety of proposals, which are summarized below. Specific input in response to the three questions included:

Question 1: What are your long-term goals/visions for fisheries management in the Delta?

- Holistically manage fisheries in a way that accounts for the unique life history strategies of individual species
- Reduce impacts from water project operations on fish species in the Delta
- Take a holistic approach to addressing stressors

- Take a holistic, collaborative approach to management that accounts for disparities in funding needs
- Manage the estuary and riverine system as a whole

Question 2: What actions can the Commission take in the near-term (5-10 years) to support the State's vision and management objectives?

- Stress the importance of conducting research
- Be willing to take adaptive actions to test management options
- Implement the existing striped bass policy
- Focus efforts on hatchery operations and predation hotspots
- Clarify the scientific collecting permit process
- Support predation-related pilot projects and research

Question 3: What actions can the Commission take in the long term (10-20 years) to support the State's vision and management objectives?

- Pursue opportunities to ensure adequate funding to complete the full adaptive management cycle

Additional Stakeholder Input

Throughout the forum stakeholders raised concerns and provided input on a number of topics related to Delta management, including:

- predation, while a stressor for listed species is not a primary stressor and management actions should be focused on addressing the primary stressors;
- management actions to reduce predation impacts should be targeted at known predation hot spots;
- management actions to reduce striped bass and black bass populations may have unintended consequences, such as increases in other prey populations that would result in increased competition for limited food resources;
- recommendations to improve hatchery practices to reduce predation on hatchery salmon;
- main issues affecting listed species in the Delta are flow, habitat, and water quality;
- more information on striped bass abundance, distribution, and reproduction is needed to inform any proposed regulation changes;
- more information on direct and indirect loss of fish due to operations of the federal water pumping facility is needed; and
- concerns about management decisions negatively affecting sport fisheries and, in particular, potential economic impacts.

Staff Recommendations

1. *Develop and adopt a Delta Fisheries Management policy* – develop a policy that: (1) aligns with the State's goals for the Delta; (2) supports more holistic management of the Delta; (3) encourages interagency coordination and collaboration; (4) requires

integration of the best available science into decision-making; and (5) clarifies the Commission's management goals for both listed species and sport fisheries in the Delta.

2. *Increase Commission awareness of and participation in interagency coordination efforts in the Delta* – improve communication about Delta activities through:
 - Department updates on outcomes from the Delta Plan Interagency Implementation Committee, as appropriate;
 - staff participation in interagency meetings and conferences, as appropriate; and
 - periodic updates from agencies on key initiatives, such as the Science Action Agenda or the State of Bay-Delta Science updates.
3. *Explore opportunities for targeted predation-related research* – encourage staff engagement in efforts to identify possible research options including:
 - coordinate with the Delta Stewardship Council's Science Program and Department to identify key research questions and possible mechanisms to fund that research, and
 - a collaborative effort to model the effects of various regulatory scenarios.
4. *Continue stakeholder engagement on key uncertainties related to fisheries management in the Delta* – as time allows, use WRC as a forum to further explore some of the key uncertainties and identify possible options to address them.

From: Remillard, Ashley J. <aremillard@nossaman.com>
Sent: Friday, July 27, 2018 11:39 AM
To: LSJR-SD-Comments@waterboards.ca.gov; WQCP1Comments
Cc: Taylor, Amy R.; Remillard, Ashley J.; Weiland, Paul S.
Subject: Comment Letter – Revisions to Proposed Bay-Delta Plan Amendments
Attachments: 2018-07-27 Comment Letter - Revisions to Proposed Bay-Delta Plan Amendme....pdf; 2018-07-27 Comment Letter re July 2018 Framework.pdf

Dear Ms. Townsend,

On behalf of the Coalition for a Sustainable Delta, please find attached two comment letters on the revisions to the proposed Bay-Delta Plan amendments. Please let us know if you have any questions.

Best regards,

Ashley Remillard

Ashley J. Remillard

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