

METHYLMERCURY TMDL FOR THE DELTA

Nonpoint Source Workgroup Workplan

Mercury on a Landscape Scale: Managed Wetlands and Irrigated Agriculture in the Delta and Yolo Bypass

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OVERVIEW

- This draft workplan addresses a very challenging aspect of the Delta TMDL program, and the authors of this plan have done a good job outlining the apparent conflicts that appear to exist between some of the current land uses, restoration goals (e.g., wetland restoration), and achieving the prescribed TMDL MeHg reductions. While this workplan was somewhat challenging to assess as it does not represent a specific individual project workplan and did not follow our suggested five-point format, it was quite complete and had voluminous appended materials for us to consider. After clearly stating the challenge that is apparent in the Delta and Yolo Bypass to reduce MeHg export yet maintain quality habitat and hopefully not yield “MeHg hot spots or hot moments” the authors settle on a strategy of deriving a series of best management practices (MPs) for MeHg abatement, identification of a suite of most favorable MPs, and an assessment of efficacy of this suite of MPs. The specific activities are embedded within each of these MP assessments. While we appreciate the significant effort that went into the construction of this workplan, the amount of information provided makes it extraordinarily difficult to assess in a preliminary review form, however the merit of a mechanism to synthesize the outcomes of the testing of a range of prioritized MPs cannot be overstated. Last, other than listing Dr. McCord as the contact for this work plan, we cannot ascertain who the proponents are for this document. Not knowing this adds some confusion for the TAC’s review process.

** It is unclear if Project 03 Contributes Risk in fact, Review Comments – September 19–20, 2012

the specific MP evaluations identified in this draft workplan?

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PROBLEM STATEMENT

- The problem statement is clear and conveys the general problem of the disproportionate role of wetlands in MeHg production in the Delta.
- The authors also clearly point to current work that is pointing to possible effect reduction of MeHg production on irrigated lands (and possibly seasonal wetlands) through the MPs of removing crop residues and a more consistent hydrologic regimes (more consistently wet)
- Additional salient points about the complex nature of the Hg problem are included, such as the longer-term issue of sea level rise affecting the Delta, and the potential catch-22 of some MeHg export reduction strategies negatively affecting biota WITHIN the systems that are being managed for export and yet might result in unintentional consequences of exacerbated MeHg exposure in MeHg “holding” areas.

OBJECTIVES

- Objective is to identify, prioritize and test management practices for MeHg export control in wetland and irrigated agricultural lands. This workplan is intended to guide site specific proponents and their workplans.
- The workplan does layout in table fashion (Table 2) the precise MPs that will be applied and tested for each managed land type, it would have been helpful if there had been a concise description of the mechanisms that drive the reduced MeHg condition resulting from the MPs – we realized that it was buried in Appendix B, but that was A LOT to plow through.

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MECHANISMS UNDERLYING THE STUDY

- The NPS workgroup clearly is drawing on the latest science, and include significant content on this (beyond the scope of review here)

PROPOSED CONTROL MEASURES

- A significant process has already been undertaken to evaluate existing Management Plans in light of cost-benefit and practicality of implementation. This information, and the outcomes of that evaluation (the selected MPs) are presented here as the Control Measures in the context of this Workplan. Conceptually this is fine, but technically it does not permit the scientific or technical appraisal of the actual work being undertaken.

MONITORING AND DATA COLLECTION PLAN

- There are blanket statements about the use of mass-balance approaches and biosentinels to evaluate the efficacy of the suite of MPs. These non-specific statements are hard to review and ascertain their efficacy to achieve the prescribed TMDL reduction. It is also not clear if there is going to be some sort of centrally orchestrated standardized monitoring program or if these monitoring programs are to be implemented (in their own way) by each MP 'proponent'. More clarity (detail) is required here.

Post Meeting Comments

Problem Statement—To define the problem better, and to comply with what was asked in the Study Guidelines, the authors should add a table excerpting the data from Table 8.5 of the TMDL report, for wetlands only. Include only the wetland TMDL allocations and current load estimates for each of the 7 subareas. This would show where the large wetland inputs are now, and where improvement is required by the TMDL. As written now, the Problem Statement only points out that wetlands are often an important source of MeHg, and that the area of wetlands is expected to increase.

If this table also included the current area of wetlands in each subarea, that would also be really helpful in defining the problem.

Objectives—The review panel agreed that the objective as written—prioritization and strategic guidance—was sufficiently valuable. Therefore the topics of “proposed control measures” and monitoring and data collection should also be written as guidance, i.e., recommendations of MP’s based on prioritization, and recommendations of how to measure effectiveness. Currently these sections are written as though this group will actually do the testing. It’s not clear that this group is going to be actually doing any control testing; rather recommending to other groups what specific MP’s would be best to test first.

Mechanisms—on reading the TMDL report some more, it seems that inorganic Hg load reduction is also part of the plan to decrease MeHg loads from open water and wetland areas. Consider inclusion of this as a possible MP.

Proposed Control Measures. Geographic area should also be included in the prioritization scheme, so that the highest priority is the types of wetlands that are located in the areas of largest MeHg contribution (Yolo Bypass, Mokelumne R, and Sacramento R). Wetlands in other areas might not be the same in overall ecosystem characteristics.

Monitoring—The use of biosentinels needs to be appropriate to what is being measured.