*** MEMORANDUM ***

Date: July 21, 2011

To: Jerry Meral, California Resources Agency

David Nawi, U.S. Department of the Interior

From: John Cain, American Rivers

Gary Bobker, The Bay Institute

Kim Delfino, Defenders of Wildlife

Spreck Rosekrans, Environmental Defense Fund

Leo Winternitz, The Nature Conservancy

Re: NECESSARY ANALYTICAL STEPS FOR COMPLETING A SUCCESSFUL BDCP ENVIRONMENTAL EFFECTS ANALYSIS (EA) AND NEPA/CEQA DOCUMENT

Over the last six months, the Brown and Obama Administrations have been engaged in the long overdue process of improving the analytical approach to the EA and the EIS/EIR that is the underpinning of any future BDCP permit. Our organizations support that effort – indeed, we have been working diligently and constructively to overhaul the analytical process for several years. Yet, more than four years into the BDCP process, serious analytical problems persist, and there is still no project description that is sufficient for reasonable analysis. We simply cannot afford to waste yet another opportunity to construct a solid foundation for the plan and permit.

In order to correct these deficiencies, the new analytical process must be technically sound, efficient, iterative, and inclusive. In this memorandum, based on our work with scientists and stakeholders over the last few years to provide guidance for the analytical process, we identify what we consider the minimum necessary components that will produce a sufficiently described, technically credible project description, support an adequate EA and full consideration of alternatives in an EIS/EIR, and increase the likelihood of a successful permit application.

This memorandum addresses only the methodological shortcomings of the analytical process. In a letter dated June 11, 2010, several of our organizations identified major issues regarding the project purpose and need, selection of alternatives for analysis, and other issues associated with the EIS/EIR. These substantive concerns remain largely unresolved as well.

In our view, the following components are fundamental to the scientific integrity and legal adequacy of the analytical process:

Iteration: The analytical process must be an iterative one, in which the results of an analysis are used to revise and/or amend the Conservation Strategy. Initial analysis of a proposed Conservation Strategy will indicate changes to potential conservation measures and/or gaps that need to be addressed in order to better achieve plan objectives. This initial analysis will lead to a revised Conservation Strategy that will then be subjected to further analysis. We are deeply concerned that to date the BDCP has not moved very much beyond the initial analyses. For instance, the process has not yet responded to and incorporated necessary changes reflecting the previous DRERIP review (2009) findings. Similarly, following major negative feedback on the 2010 Effects Analysis, widely viewed as inadequate, little progress has been made to comprehensively address the major unresolved issues with the Conservation Strategy and iteratively evaluate different approaches. All members of the BDCP Steering Committee agreed to an iterative process at the January 29, 2010 meeting (see posted meeting notes). This commitment was memorialized again in the November 18, 2011 draft BDCP report.

Consistent description and application of pre-identified biological outcome objectives, stressors, and stressor reduction objectives: The Conservation Strategy must adequately describe the set of stressors that the BDCP is concerned with (both as contributions to recovery and areas where an incidental outcome of the project may be to increase stressors, e.g. temperatures upstream), the BDCP objectives for reducing stressor impacts on covered species and communities, and/or biological objectives (e.g. vital rates, distribution, diversity, etc.) for the covered species. As the NGO participants in the BDCP have repeatedly emphasized, the biological objectives for this Plan should be specific, measureable, achievable, relevant to a goal, and time-bound (SMART). Description of the BDCP's target stressors (including those that arise as incidental outcomes) and biological objectives should include an estimate (to the degree of precision feasible) of the amount of change necessary in order to produce a detectable impact relevant to conservation/restoration of the covered species or community. The recent draft report from the BDCP's Goals and Objectives Science Advisors reveal that such objectives can be developed and provides valuable advice on how to develop them.

The EA must then measure the contribution of the Conservation Strategy against these Plan objectives. Without clear objectives and an analytical process that measures progress toward (or away from) those objectives, it will not be possible to credibly estimate the expected contribution of the BDCP toward recovery. The BDCP Steering Committee acknowledged the need for revised objectives in November 2010. In addition, several independent scientific reviewers, including most recently both the National Research Council and the BDCP Science Advisors,

have emphasized the need for clear objectives. Nevertheless, the BDCP has not yet completed the process of specifying objectives.

Assessment of magnitude and uncertainty for each action, and of synergies between action outcomes: The analytical process must clearly define both the expected magnitude and the range of potential impacts of each conservation measure and covered activity in terms of its contribution to recovery, including potential negative impacts. The results can be expressed numerically or, if necessary, qualitatively. Where the outcome of one conservation measure (or set of measures) can be expected to affect the outcome of another measure or set of measures, the anticipated direction, magnitude, and level of uncertainty of those synergies should also be described. As we have noted previously, the tools and processes developed for the Delta Regional Ecosystem Restoration Implementation Program (DRERIP) are very well suited for advancing this step of the analysis.

Use of conceptual models: Conceptual models for all covered species and ecological processes must be presented transparently. Numerical and other analyses flow from these conceptual models (i.e., a numerical model is not an alternative to a conceptual model, it is the refined expression of a conceptual model). For a model to provide the appropriate level of support for a legally valid permit it is critical that:

a) the conceptual models and resulting numerical and other evaluations used in the BDCP analytical process be consistent with the overarching conceptual models for that species or process as understood using the best available scientific information;

b) these models and evaluations based on the models be fully described, including their limitations;[1] and

c) the limitations and known error bounds of numerical models and the associated evaluations be incorporated into interpretation of the results (for instance, in order to avoid using model outputs that are valid only for relative comparisons in order to draw conclusions based on the absolute values). To begin, the findings of the previous DRERIP review in 2009 should be incorporated into BDCP models and analyses and further DRERIP reviews should be built into the schedule for completing the analytical process.

Capacity of models to demonstrate harmful/positive or no effect: Analytical techniques employed as part of the BDCP EA must be *capable* of demonstrating positive or negative outcomes (in terms of overall impact to the project) and no effect. If an analytical technique is

[1] The EA should describe the assumptions, hypothesis, and data (extent, type, time period, etc.) that underlie its conceptual and numerical models. In addition, the certainty and magnitude of hypothesized linkages and cause/effect relationships in the model should be revealed. Demonstrations of successful and unsuccessful application of the model (i.e. correct and incorrect prediction of outcomes) and the known model error rates (i.e. the deviation of predictions from actual results) must be described as well.

only capable of justifying the project or is not precise enough to identify significant effects under almost any circumstance, then it is not an appropriate tool for analysis and cannot support the issuance of a permit. For example, in a recent version of the EA, Delta Passage Model (DPM) results were dismissed whenever they indicated a negative effect on salmonid populations, with the suggestion that no significant negative effect could be expected in the limited area under study. This kind of approach undermines the scientific credibility and the legal defensibility of the analysis.

In order to serve as the supporting basis for the issuance of any permit , the analytical process must include these elements. We have previously labored to develop the "logic chain" and "8-fold path" recommendations to provide guidance on how to structure the analytical process to provide the necessary level of scientific rigor, and to lay the foundations for a project description that is sufficiently detailed and scientifically credible to serve as the basis for full-scale evaluation in the EIS/EIR. To date, however, it does not appear that the agencies in charge of the BDCP process are incorporating these detailed recommendations or otherwise addressing deficiencies in the analytic process.

In our view, committing to a legally and scientifically defensible analytical process should be the highest priority for the BDCP at this point. This will be the most efficient and expeditious way to design the BDCP Conservation Strategy and complete the environmental documents with a reasonable likelihood of success. We caution against moving forward with development and analysis of NEPA/CEQA alternatives before these fundamental problems have been resolved and a stable, credible project description has been developed.

Proceeding with development and evaluation of alternatives without a credible analytical approach creates other problems as well. Moving into full NEPA/CEQA alternatives analysis mode will likely consume the technical resources and allocated funds available for the overall analytical process. It also will tend to make the analytical process less inclusive and transparent to non-agency stakeholder interests. Formulation of the NEPA/CEQA alternatives at this point will not only slow down completion of the critically important Effects Analysis, but will also unnecessarily complicate the completion of the EIR/S. Fixing the analytical approach and using it to develop a stable and credible project description will provide far more clarity on how to construct alternatives for the NEPA/CEQA analysis that must ultimately follow articulation of a stable project description.