Appendix D

Responses to Comments

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Responses to Comments

Part I: Staff responses to written comments submitted in response to May 2009 Staff Report and proposed Basin Plan amendment

Part II: Staff responses to written comments submitted in response to September 2008 Staff Report and proposed Basin Plan amendment

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RESPONSES TO COMMENTS

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INTRODUCTION

In May 2008, when the State Board was considering approval of Resolution R2-2007-0011, Basin Plan amendment to establish a Total Maximum Daily Load (TMDL) for sediment in the Napa River and an Implementation Plan to Achieve the TMDL and related habitat enhancement goals, it received written comments on the Basin Plan amendment that challenged the adequacy of the environmental analysis.

In June 2008, the Water Board withdrew the Basin Plan amendment from further State Board consideration to further evaluate and address the written comments received by the State Board.

Water Board staff initiated revisions to the January 23, 2007 Basin Plan amendment, Staff Report, and Environmental Checklist, and publicly noticed and distributed for public review and comment these revisions on September 5, 2008, in accordance with applicable State and federal laws and regulations.

Following the September 5, 2008, comment period, Water Board staff initiated revisions to the September 2008 draft Basin Plan amendment, Staff Report, and Environmental Checklist. The Water Board received four comment letters during the September 5, 2008, comment period: 1) Caltrans; 2) County of Napa; 3) Living Rivers Council; and 4) Napa County Farm Bureau. Part II of this document contains Staff responses to written comments submitted in response to the September 5, 2008, Staff Report and proposed Basin Plan amendment.

On May 19, 2009, Water Board staff publicly noticed and distributed for public review and comment a second set of revisions to the draft Basin Plan amendment, Staff Report, and Environmental Checklist, in accordance with applicable State and federal laws and regulations. Part I of this document contains Staff responses to written comments submitted in response to the May 19, 2009, Staff Report and proposed Basin Plan amendment.

The Water Board received eight comment letters in response to the May 19, 2009, revised Basin Plan amendment, Staff Report, and Environmental Checklist: 1) Caltrans; 2) County of Napa; 3) Friends of the Napa River; 4) Living Rivers Council; 5) Napa Group of the Sierra Club; 6) NOAA Fisheries; 7) US Environmental Protection Agency; and 8) Winegrowers of Napa County. Our responses to these comments follow immediately below.

PART I: STAFF RESPONSES TO WRITTEN COMMENTS SUBMITTED IN RESPONSE TO MAY 19, 2009 STAFF REPORT AND PROPOSED BASIN PLAN AMENDMENT

Comment letter no. 1: California Department of Transportation

Comment 1.1: Caltrans appreciates the opportunity to comment. We strongly support efforts to protect human health and achieve the best possible water quality. In addition, we have been proactive in meeting TMDL goals within the San Francisco Bay Region. We are currently implementing many of the compliance measures discussed in the Staff Report.

The Water Board looks forward to continuing collaboration with CalTrans.

Comment 1.2: In response to clarification by the Water Board (Response To Comments Part II, response 1.2) that Caltrans would be required to "determine opportunities for retrofit and/or reconstruction of road crossings, as needed to convey runoff from the 100-year 24-hour duration storm event …as needed to achieve performance standards and support TMDL attainment by 2027," Caltrans commented that: a) retrofitting is occurring on an going basis, as need arises, and in compliance with NPDES Permit 99-06-DWQ; and b) "by directing Caltrans to retrofit or reconstruct road crossings to convey runoff from the 100-year 24-hour storm event", and "implement certain other prescribed measures", "liability of inverse condemnation arising from conveyance of the runoff from such a design storm may be imputed to the SFBRWQCB [Water Board] in future litigation."

We disagree regarding our potential legal liabilities based on implementation of the Clean Water Act, and find the comment speculative. To the extent the commenter is referring to possible tort claims, we note that the California Tort Claims Act provides relatively broad immunity to public entities for injuries caused by the acts or omissions of the public entity.

Comment letter no. 2: County of Napa

Comment 2.1: "Thank you for reaching out to stakeholders … and … our staff during the month of June to explain the extent and purpose of the newly proposed revisions to the … TMDL."

Stakeholder participation is key to every successful TMDL.

Comment 2.2: "While we understand the proposed changes are intended to address CEQA issues, we are concerned that the … environmental findings appear to overstate potential impacts of Basin Plan implementation actions on biological resources. This may place unintended burdens on implementing parties … . As a

result, we would like … further explanation as to why the proposed revisions are necessary."

Staff's purpose was to provide further clarification, in response to comments received on prior draft documents, regarding assessment of potential environmental impacts of actions that may be undertaken to comply with the Basin Plan amendment.

For agency plans, policies, and regulatory programs, a programmatic analysis of impacts is called for, as was prepared in this case. Such analyses by their nature are broad and conservative - erring on the side of overstating potential impacts – in order to insure that: a) all potential impacts are identified; and b) alternatives or mitigation measures are developed to avoid impacts or, where full avoidance is not possible, to reduce potential impacts to the maximum extent feasible. In the interest of full CEQA compliance, we believe the potential environmental impacts noted in the current CEQA analysis, while unlikely, should be considered.

Comment 2.3: "We understand … development of … (WDR) waiver programs is the next step … , but we feel there is an immediate … need for more specific information about acceptable implementation measures, as well as recognition of the capacity of Napa County's rural landowners, vineyard owners/operators, and local municipalities. We urge you to address ambiguities in the … implementation plan … to facilitate community understanding and compliance, and set the table for a WDR waiver program that … ensures successful implementation, and avoids overly burdensome requirements and costly individual Reports of Waste Discharge."

We have provided as much clarity as we can at this juncture. Note that the Basin Plan amendment by its nature is a policy document, which sets a general course to be followed and achieved, through subsequent specific regulatory measures: i.e., the WDR waiver programs. Staff's expectations regarding actions on the ground needed to achieve the TMDL, its performance standards, and numeric targets remain unchanged. Evidence of this has been in our commitment to the Fish Friendly Farming Program throughout this process, beginning in 2005. Over the past five years, we have certified eighty-four properties including approximately 10,000 acres of vineyards as having effective management practices in place to protect water quality and habitat for anadromous salmonids. To-date, State and federal pollution control grants have covered all costs of farm plan development and certification. Although the State fiscal crisis has severely restricted our capability at present, we are working hard to identify opportunities for funding through federal programs, including the American Recovery and Reinvestment Act, the San Francisco Bay Water Quality Fund, and the federal Clean Water Act 319(h) program. We also are working with the Fish Friendly Farming Program to explore options for streamlining the inventory, and farm plan development and certification process, for sites that have a low potential for discharge of pollutants to the waters of the State.

Comment 2.4: "The County appreciates … responses … provided to .. prior comments … . Although we … found most … responses helpful, others left us concerned … proposed Performance Standards are subject to future interpretation – again, possibly holding responsible parties, … to unattainable … requirements and infeasible timeframes. Although some clarity has been offered through … responses … , we believe the … Basin Plan amendment remains vague, that it inappropriately references future development of unidentified requirements, and that it neglects to account for … costs associated with … proposed implementation measures."

Please see our response to comment 2.3 immediately above. Based on experience, our expectation is that waivers adopted to implement TMDLs are attainable, and cost-effective, with feasible schedules – because they are developed in an open public stakeholder process.

Comment 2.5: "As we have stated in our prior comments, the County supports the … overall … goals "to conserve the steelhead population, establish a self-sustaining Chinook salmon population, enhance the health of the native fish community, and enhance the aesthetic and recreational values of the Napa River and its tributaries." Your staff report also acknowledges … the County, along with many … stakeholders …, has been … taking steps to … steward the … watershed. However, the current … recession and the State's ongoing fiscal problems have severely challenged the County's ability to allocate … funds in support of … watershed and habitat enhancement goals. We would appreciate … acknowledgement of the new economic realities … , as well as … assistance … to help us … secure funding to address our mutual goals … ."

Considering these issues, we extended the deadlines by two years for implementation of the sediment control and habitat enhancement actions specified in the Basin Plan amendment. Also, we have been actively engaged in efforts to assist watershed stakeholders to obtain funding for actions identified in the implementation plan (Basin Plan amendment, Tables 4.1 through 4.4 and 5.1 through 5.4) from the American Recovery and Reinvestment Act, and more recently, the San Francisco Bay Water Quality Fund request for proposals that is being solicited by the US Environmental Protection Agency to provide funding for water quality restoration, primarily via TMDL implementation.

Comment 2.6: "We understand that the … implementation measures and performance standards in the proposed Basin Plan amendment would apply to all parts of the Napa River watershed except those areas upstream from municipal reservoirs … . Can you please confirm this … ."

This is correct. Also, please see Response to Comments Part II, response 2.5, where we provide a detailed response to this question.

Comment 2.7: The … implementation plan provides road-related sediment delivery … performance measures for the operation of all public and private roads … . These roadways constitute a large area of the watershed. How will the Water Board assist implementing parties to identify, prioritize, repair, and monitor these facilities for effectiveness and compliance? When can we expect a WDR waiver program for these activities?

We have funded a pilot project that is now underway and being managed by the Napa County Resource Conservation District (RCD) to implement BMPs to identify, prioritize, and repair problem roads in the Carneros Creek and Sulphur Creek tributary watersheds to the Napa River. Recently, we also solicited a road-erosion control project from the RCD, for consideration under the San Francisco Bay Water Quality Fund, that would: a) continue the above described demonstration project in these same tributary watersheds or other tributaries where there are active stewardship groups; b) provide funding to train private contractors and agency staff engaged in road maintenance and repair activities on how to make sure that their efforts also are effective in control and prevention of excessive sediment delivery to channels; and c) employ innovative approaches to engage rural residential landowners in these programs, including reserving funds to pay for part or all of the cost of inventory and repair of roads that landowners are having a difficult time maintaining or repairing. Essentially, the project will send the message to rural residential landowners: Do you have a problem road? If so, the RCD may have money to help you to fix it.

With regard to timeline/schedule for WDR waivers pertaining to roads, please note that Water Board staff are working on public review drafts of the vineyard and grazing WDR waivers that would apply to the Napa River watershed (and also the Sonoma Creek watershed). Both of these waiver programs will require implementation actions to address road-related sediment delivery to channels. The above described road-erosion control project that we have solicited for consideration under the San Francisco Bay Water Quality Fund, could provide a strong foundation for future efforts to engage rural residential landowners in advance of development of that WDR waiver.

We will do our best to find funding for road projects and to provide guidance. However, landowners with roads that cause erosion problems will ultimately need to correct those problems.

Comment 2.8: "As mentioned in supporting documents and responses to comments, it is possible that not all source category implementation actions … are governed under local regulations. Therefore, it is imperative that the Water Board have the capacity … to effectively assist the public in those matters/actions outside of … local regulatory prevue to ensure understanding and compliance. How is the Water Board planning to build capacity to meet its role identified in … the implementation plan, particularly in light of the State's fiscal crisis?

In general, we expect WDR waivers to be effective mechanisms for achieving compliance with sediment TMDLs. The vast majority of dischargers who can meet the conditions of the WDR waivers should opt to enroll in these programs, as this option will result in much greater cost and water quality effectiveness for all parties involved.

As we note in responses to comments 2.9 and 2.10 below, Water Board staff plan to develop a technical advisory committee (TAC) to advise us regarding development of the vineyard WDR waiver with the ultimate goal of balancing the effort and resources expended with the water quality benefit.

Furthermore, Water Board staff currently is working to develop public review drafts of a vineyard, and also a grazing, WDR waiver program; two of the four waiver programs called for in the proposed Basin Plan amendment. We anticipate these public review drafts will be completed in 2010. It is our hope that these experiences, coupled with the experience earned during development of the Conditional Waiver of Waste Discharge Requirements for Grazing Lands in the Tomales Bay Watershed, will increase institutional expertise and capacity. As we move forward, this collective experience should put us in a good position to develop the other two waiver programs.

Comment 2.9: In its responses to comments, the Water Board mentions the establishment of minimum parcel sizes or pollutant discharge thresholds that would trigger the requirement to obtain a permit from the RWQCB. Please elaborate on what parcel size or threshold the Water Board is considering in this regard.

Water Board staff plan to develop a technical advisory committee (TAC) to advise us regarding development of the vineyard WDR waiver. This threshold is one area where we will seek input from the TAC. Ultimately our goal is to balance the effort and resources expended with the water quality benefit. For small or diminimus discharges, we plan to create an exemption from requirement to submit a ROWD and/or to comply with all of the conditions of the WDR waiver program, when these are developed. Instead, they may only be required to ensure that effective BMPs are in place to control fine sediment delivery to channels that arises from land use activities.

Also, waivers may be implemented in phases, addressing larger sites, and sites with greater erosion potential, first. Waiver programs may be expanded in the future, as they must be reauthorized every five years.

Comment 2.10: It was mentioned that the WDR waiver programs expected to be developed as part of the Sediment TMDL may be broader in scope and geographic extent than just sediment control; and may cover other nonpoint source pollutant control priorities, including attainment of water quality objectives for pathogens and nutrients, addressing hydromodification (peak-flow) impacts, and protection of other beneficial uses. Please explain the Water Board's authority and reasons for

broadening a waiver program beyond sediment control and extending its geographic extent beyond the watershed areas mentioned in the TMDL.

In this case, our authority rests in the State's Porter-Cologne Water Quality Control Act. Some additional background is provided to further address this comment. First, all substances, including sediment, nutrients, heat, pathogens, increases in runoff, etcetera, that are discharged to waters by humans or human activities are by definition types of waste. The Water Board has the authority and obligation as specified under the Porter-Cologne Water Quality Control Act to address all discharges of waste that could affect the quality of waters of the State. To meet this obligation, the State legislature has provided the Water Board with permitting authority in the form of administrative tools - waste discharge requirements [WDRs], waivers of WDRs, and basin plan prohibitions - to address ongoing and proposed waste discharges.

It is in the interest of all parties for the waiver programs to holistically address all pollutants of concern. For landowners, they gain the assurance that investments in BMPs and other management practices will be recognized as effective in addressing all impairments and pollutant control priorities of the Water Board and the USEPA. For the Water Board, under a holistic pollutant control program, our administrative efforts leverage greater water quality benefits. The public also benefits through consequent improvements of water quality, which occur in more timely and efficient manner. For example, one of the reasons we have partnered with and recognized the Fish Friendly Farming Program, is that it is designed to effectively address both pollutant discharges and habitat protection for anadromous salmonids, and therefore places landowners in a good position to satisfy obligations under both the Clean Water Act and recovery planning efforts for salmonids under the federal Endangered Species Act.

The geographic scope for the proposed WDR waiver programs for vineyards and grazing, development of both of which are now in-progress, will be determined by the Water Board when it considers adoption of these programs. For example, although vineyards located upstream of municipal reservoirs do not effect impairment of the Napa River by sedimentation (because sand is not transported through these very large reservoirs), these same properties still may affect water quality as related to sedimentation in upstream channel reaches and in the municipal reservoirs. Similarly grazing areas located upstream of municipal reservoirs still have the potential to discharge excessive amounts of pathogens and nutrients to channel reaches upstream and downstream of the reservoirs. These are just examples. In determining the geographic scope for the vineyard and grazing WDR waiver programs, the Water Board will likely consider several factors including: current water quality conditions and relationships to pollutant discharges from these source categories; potential benefits and costs of the pollutant control programs; issues of equity between similar dischargers; and our public trust responsibilities. It's also possible that the schedule for enrollment into, and/or conditions of, the waiver programs could be tiered supporting an expansion of the geographic area that is included over time.

Comment 2.11: Although we are pleased to see … the Water Board is planning to release a draft vineyard WDR waiver program in the winter of 2010, the County was hoping for a single WDR waiver program that would address each of the sediment source categories delineated in [the] implementation plan. A single waiver program would alleviate confusion and duplication in Napa County and at the Water Board. Please explain why a unified WDR program cannot be developed and how the Water Board plans to improve its capacity to effectively … approve the large volume of ROWDs and/or WDR waivers that will be required by each of the implementing parties identified, particularly given the large number of vineyard owners and/or operators and rural landowners in the watershed.

Water Board staff considered a unified WDR program approach for all non-point source land use categories (i.e., vineyards, grazing, rural lands, and parks, open space and public works). However the potentially large number of stakeholders associated with each land use category, or combination of land use categories, would exceed our institutional capacity and disrupt the balance between TMDL development and implementation. Although we do not rule out the concept of a unified WDR program in the future, for the near term, we have chosen to build upon existing efforts.

As noted in comment 2.8, Water Board staff is working to develop public review drafts of a vineyard, and also a grazing, WDR waiver program; two of the four waiver programs called for in the proposed Basin Plan amendment. Both of these draft waivers will be developed in consultation with technical advisory committees. We anticipate these public review drafts will be completed in 2010. It is our hope that these experiences, coupled with the experience earned during development of the Conditional Waiver of Waste Discharge Requirements for Grazing Lands in the Tomales Bay Watershed, will increase expertise and capacity. As we move forward, this collective experience should put us in a good position to develop the other two waiver programs.

Comment 2.12: The County recognizes that there has been significant delay in approval of the Sediment TMDL, and that the Water Board has extended the completion dates for required implementation actions to October 2014. Given the fact that the TMDL is still a year away from final 'approval' (barring any litigation delays that may occur) we request that the required completion dates be established as "five years after final approval of the plan amendment by EPA."

To address the delay in approval, we previously extended these completion dates by two years to October 2014. This extension reflects our consideration of the need to balance the current financial challenges with the need to continue to make progress in resolving the impairment. See also our response to comment 2.10.

Comment 2.13: The Water Board states that " additional conditions may be required under a General WDR and/or waiver program consistent with the Water Board's Policy for Implementation and Enforcement of the Non-Point Source Control Program (State Board, 2004), and/or as needed to avoid potentially significant environmental impacts." Please provide some examples of these "additional conditions" to help reduce the ambiguity and misgivings associated with the actions required of implementing parties.

"Additional conditions" relates to the requirement that all WDR waivers must be in the public interest and consistent with the Basin Plan, including satisfaction of all water quality objectives and protection of beneficial uses of water.

Comment 2.14: The Water Board proposes monitoring management practices to evaluate … effectiveness at addressing storm runoff …, and changes in channel structure and sediment delivery rates … . Beyond … monitoring of implementation …, on monitoring … downstream effectiveness and who is responsible for broader watershed scale monitoring? Is the State prepared to develop, administer… a watershed scale monitoring program that identifies the effectiveness of upstream implementation actions intended to meet performance standards under each source category? The County has been working towards developing a comprehensive monitoring program supported by grant funding from the State. However, this effort has been delayed due to the State's ongoing fiscal issues, which resulted in a stop work order issued by the Department of Water Resources.

Monitoring programs should be designed to satisfy specific objectives and ideally to test hypotheses. The proposed effectiveness monitoring the commenter refers to would be the responsibility of technical staff working for or within a program or group, like Fish Friendly Farming for example, that is being recognized under the vineyard waiver. This requirement comes from the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (Key Element 4, State Board, 2004). Additionally, outside of the requirements of the WDR waiver programs, as specified in the Basin Plan amendment (p. 18), the Water Board has made a commitment to update the sediment budget on or before 2017, and as one outcome of this effort, to evaluate the effectiveness of efforts to control excessive discharges of fine sediment and peak runoff.

We support the County's efforts to develop a comprehensive monitoring program, and think that upon restoration of funding it has the potential to fulfill some of the objectives of the monitoring programs to satisfy the TMDL and/or WDR waiver. If there is anything we can do to help restore CALFED funding to this program, please let us know.

Comment 2.15: As stated in the Water Board's responses to comments, a condition of the WDR waiver may require that landowners develop a stream and riparian corridor management plan to passively or actively recover geomorphic and ecological processes in unstable channel reaches. Can you please explain the nexus of these proposed "stream and riparian corridor management plan[s]" to the TMDL and what these plans may demand of streamside property owners? Will the Department of Fish & Game also be required to approve these plans prior to the Water Board's issuance of a WDR waiver? Can broader more holistic basin-level stream and riparian corridor management plan suffice in lieu of an individual landowner basis?

The stream-riparian management plan is an existing element in the farm plans that are developed within the Fish Friendly Farming Program. The nexus between the stream-riparian management plan and the Basin Plan amendment is clear. For example, channel incision has been identified as one of the largest sources of fine sediment delivery to the Napa River, and also the primary agent for profound simplification of the physical habitat structure in the channel, and connectivity with its floodplain. The expectation under the Fish Friendly Farming Program is that farm management practices will be compatible with passive or active recovery of a balanced sediment budget (i.e., a balance between sediment supply and transport capacity), and diverse physical habitat structure within the channel and riparian corridor.

In almost all cases, under Fish Friendly Farming, passive recovery is the approach taken to restore functions, and this typically does not involve permits from State or federal agencies. In the case of active recovery/restoration of functions, this typically would involve grading and/or other actions that would require a Streambed Alteration Agreement, and Clean Water Act Section 404 and 401 permits, at a minimum. The large scale projects being conducted in the Rutherford Reach are an example of where such permits are needed.

If a broader stream-riparian restoration plan was developed for a tributary channel or mainstem channel reach that describes how geomorphic and ecological functions will be restored, such a plan may also suffice.

Comment letter no. 3: Friends of the Napa River

Comment 3.1: "We generally agree with the changes to the amendment that reflect the sensitive nature of land use regulations, emphasizing coordination and collaboration….We are, however, concerned with some new restrictions in the implementation plan, e.g.,…to minimize potential impacts to sensitive natural communities that may not be fully protected through County regulations, Basin Plan amendment compliance actions will not be required or approved beyond the development footprint authorized by local land-use authorities in any of the following sensitive natural communities."

The Water Board intends to avoid unintended impacts to these sensitive natural communities that could arise, for example, from the construction of a flow detention

reservoir (to meet the vineyard storm runoff performance standard) or relocation of a problem road, into one of these sensitive natural areas. Staff expects such erosion control infrastructure to be constructed within developed areas, or if in natural areas, outside of sensitive areas. It was not our intent to obviate the responsibility of landowners to repair problem roads or other anthropogenic sources of sediment delivery to channels within these or other areas.

Comment letter no. 4: Living Rivers Council

Comment 4.1 (Project Description and Segmentation): "As [Living Rivers Council] LRC has previously pointed out, the problem here is that the Board has not published the future WDR waiver policy. Without the waiver policy, the public cannot evaluate whether the conditions that project applicants will be required to meet to avoid project specific review through issuance of WDRs will be stringent enough to ensure that only projects not needing additional analysis or mitigation measures are allowed within the WDR waiver. Deferring development of the WDR waiver policy violates CEQA because it segments the environmental assessment of the current TMDL, its performance standards, and the measures necessary to meet these performance standards. All of these components constitute one project. Therefore, at this point, the project description is incomplete."

We disagree that the project description is incomplete and future development of the WDR waiver violates CEQA. CEQA does not compel public agencies to conceive and develop projects before they are ready to do so. Rather, it requires public agencies to consider the whole of an action when evaluating environmental impacts and not defer environmental analysis—not project development. The Water Board is within its regulatory prerogative to first do a rulemaking in the form of a Basin Plan amendment to set forth the rules that will apply to a class of dischargers and then later use all of its regulatory tools, such as permits, waiver of permits, and enforcement orders, to achieve those rules. Nothing in CEQA compels that the Water Board to do all of the preceding at once. For example, when the Water Board adopts a water quality objective through a Basin Plan amendment, it does not and need not simultaneously adopt permits to achieve the new standard.

Comment 4.2 (Increased Peak Flows): "LRC previously noted its concern that … Table 4.1 [in the proposed Basin Plan amendment] and the Staff Report (at page 80) contains disturbing indications that the Board may be prepared to accept, as a criterion for whether peak flow increases are deemed "significant," a 10% to 15% above pre-project rates, a number derived from ongoing discussions within the Fish Friendly Farming Program. The Actions portion of Table 4.1 of the … proposed Basin Plan amendment … continues to include "farm plan[s] certified under Fish Friendly Farming …," and page 80 of the … Staff Report continues to reference … 10% to 15% above pre-project rates. Therefore, LRC's previous comment remains unresolved."

Please see our previous response, and Response to Comments Part II, response 3.5:

> "… we have not reached a decision yet on numeric expression of the vineyard storm runoff performance standard (e.g., effectively attenuate significant increases in storm runoff) listed in Table 4.1 of the Basin Plan amendment."

As part of this same response, we also revised Footnote 4 to Table 4.1 in the Basin Plan amendment to read:

> "Additional conditions may be required under a General WDR and/or waiver program consistent with the *Policy for Implementation and Enforcement of the Non-Point Source Control Program* (State Board, 2004), and/or as needed to avoid potentially significant environmental impacts."

Furthermore, please note that Water Board staff plan to develop a technical advisory committee to advise us regarding development of the vineyard WDR waiver as related to means for achievement of all performance standards specified in the Basin Plan amendment, and development of a related monitoring program to evaluate effectiveness of the control actions that may be employed. Therefore, at this time it is premature to assume that Water Board staff is accepting a 10% to 15% increase as not being significant; however, it is a viable technical option to be discussed as part of the WDR waiver development process. We look forward to alternative technical and scientifically defensible proposals for implementing the Basin Plan amendment standards.

Comment 4.3 (An EIR Equivalent Analysis of Impacts Is Required): "By continuing to use the … checklist approach, the Board continues to use the equivalent of a Negative Declaration for its compliance with CEQA. Therefore, LRC's previous comment that an EIR equivalent analysis … is required, especially of the impact of the TMDL's adoption of Napa County enforcement of its Conservation Regulations as a performance standard for controlling surface erosion, remains unresolved. In its May

2009 Response to Comments [responses to September 2008 documents; see Part II], the Board … responds … stating:

> "To clarify, we are not requiring the County Conservation Regulations, only acknowledging they are in effect. Please also note that the County Conservation Regulations (Chapter 18.108) do not specify means of compliance, only conditions with regard to effectiveness of erosion control and/or other goals (e.g., protection of drinking water supply, water quality, etc.)."

"This response defies the language of the TMDL and the facts on the ground in Napa County. The proposed TMDL most assuredly does require compliance with the County Conservation regulations stating in Table 4.1, "Surface erosion associated with vineyards: Comply with conservation regulations (County Code, Chapter 18.108)."

"Also, the fact that the County Conservation Regulations "do not specify means of compliance" is immaterial. At this point, the "means of compliance" are a matter of readily available historical record. Since the Conservation Regulations took effect in 1991, an entire consulting industry has arisen to enable vineyard owners to comply, and the consultants who populate this industry have standard, indeed routine, methods of trying to achieve compliance. All of this material is public record and available for the Board to review and evaluate. Submitted herewith are four comment letters (Exhibits 11-14) on the Rodgers/Upper Range Vineyard Conversion project as further examples of readily available information the Regional Board should use to evaluate the environmental impacts of adopting compliance with the Napa County Conservation Regulations as a performance standard."

In accordance with Title 14, California Code of Regulations, Chapter 3, Article 17, Sections 15250 and 15251), the Water Board's Basin Planning Program has been "certified by the Secretary of Resources as being exempt from the requirements for preparing EIRs, Negative Declarations, and Initial Studies." Instead, as specified in Section 15252, the Water Board is required to produce a document that is a "substitute for an EIR or Negative Declaration." This substitute environmental document

> …shall include at least the following items: (1) A description of the proposed activity, and (2) Either: (A) Alternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment, or (B) A statement that the agency's review of the project showed the project would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment and therefore no alternatives or mitigation measures are proposed to

> avoid or reduce any significant effects on the environment. This statement shall be supported by a checklist or other documentation to show possible effects that the agency examined in reaching this conclusion.

The Water Board's environmental assessment of the Napa River Sediment TMDL includes all required items specified in Section 15252. Moreover, the substitute environmental document discloses and analyzes what it reasonably can, considering the general programmatic nature of the proposed Basin Plan amendment. CEQA provides that the degree of specificity in an EIR will correspond to the degree of specificity involved in the underlying activity (Cal. Code Regs., tit. 14, Section 15146). It clearly states that EIRs for adoption of programmatic documents such as adoption or amendment of a comprehensive zoning ordinance or local general plan (akin to Basin Plans) should focus on the secondary effects that follow from the adoption or amendment, but the EIR need not be as detailed on the specific construction projects that might follow.

In order to avoid further confusion with regard to the comment that we are requiring compliance with the County Conservation Regulations (Napa County Code, Chapter 18.108), we have edited Table 4.1 to clarify that we only are acknowledging the existence of this local regulatory program and its effectiveness with regard to control of sediment delivery to channels from vineyard surface erosion. Table 4.1 has been revised as follows:

Table 4.1 Required and Trackable TMDL Implementation Measures for Sediment Discharges Associated with Vineyards[1]

Land Use Category	Performance Standards	Actions	Implementing Parties	Completion Dates
Vineyards	**Surface erosion associated with vineyards**: ~~Comply with~~ Control excessive rates of sediment delivery to channels resulting from vineyard surface erosion[5] ~~conservation regulations (County Code, Chapter 18.108)~~; **and** **Roads**: Road-related sediment delivery to channels ≤ 500 cubic yards per mile per 20-year period; **and** **Gullies and/or shallow landslides:** Avoid and control human-caused increases in sediment delivery from unstable areas to a less than significant level; **and** **Effectively attenuate significant increases in storm runoff**. Runoff from vineyards shall not cause or contribute to downstream increases in rates of bank or bed erosion.	Submit a Report of Waste Discharge[2] (RoWD) to the Water Board that provides, at a minimum, the following: a description of the vineyard; identification of site-specific erosion control measures needed to achieve performance standard(s) specified in this table; and a schedule for implementation of identified erosion control measures. Or Implement farm plan certified under Fish Friendly Farming Environmental Certification Program or other farm plan certification program, as approved as part of a WDR waiver policy. All dischargers applying for coverage under a WDRs waiver policy also will be required to file a notice of intent (NOI) for coverage, and to comply with all conditions of the WDR waiver policy[4].	Vineyard owner and/or operator	October 2014
		Comply with applicable waste discharge requirements (WDRs) or waiver of WDRs.	Vineyard owner and/or operator	As specified in applicable WDRs or waiver of WDRs
		Report progress on implementation of site specific erosion control measures.[3]	Vineyard owner and/or operator	As specified in applicable WDRs or waiver of WDRs

[1]As needed to achieve TMDL allocations and consistent with the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (State Board, 2004).
[2] Or compliance with applicable conditional waivers of WDRs that may be adopted by the Water Board.
[3] Reports may be submitted individually or jointly through a recognized third party.
[4] Additional conditions may be required under a General WDR and/or waiver program consistent with the *Policy for Implementation and Enforcement of the Non-Point Source Control Program* (State Board, 2004), and/or as needed to avoid potentially significant environmental impacts.
[5]Napa County Conservation Regulations (County Code, Chapter 18.108) are effective in the control of excessive rates of sediment delivery resulting from vineyard surface erosion.

With regard to submittal of Exhibits 11-14, please see our previous response in Response to Comments Part II, response 3.12.

Comment Letter No. 4 (Dennis Jackson Attachment and addendum)

Comment 4.DJ1 (Natural Hydrograph): "The TMDL and BPA need to provide a mechanism to bring the stormwater discharge regime of the Napa River system into alignment with the discharge regime that would produce 125% of natural sediment load."

The commenter asserts that: a) amplified peak runoff is the primary cause, and secondarily coarse sediment deposition in tributary reservoirs, for ongoing incision of the Napa River and its lower tributary reaches; and b) proposed performance standards and sediment control actions do not adequately address these problems.

First, the commenter states that in addition to reducing sediment supply, we also need to reduce sediment transport capacity in channels, by reducing amplified peak runoff. We have included a performance standard for vineyards to "effectively attenuate significant increases in storm runoff." Two large-scale river habitat enhancement projects, which involve setting back stream banks, creating and/or reconnecting floodplains and historical side channels, are being planned and/or executed over a 14.5-mile long reach of the mainstem of the Napa River. The proposed vineyard storm runoff performance standard and the channel and floodplain habitat enhancement projects will reduce sediment transport capacity in the Napa River and its tributaries. With regard to other potential sources of increases in storm runoff (i.e., developed areas, roads, and grazing), please note:

- Using USGS land cover data for the Napa River watershed, and applying typical values for impervious surface coefficients, we calculate that total impervious area in the watershed is less than 3 percent (Napolitano, 2009). Effective impervious area, or that fraction of the total impervious area, that is directly connected to the drainage network, is lower. Absent other significant land cover changes, this magnitude of impervious cover (< 3 percent) would not be expected to cause channel incision (see Booth et al., 2002). We also note that more than 90 percent of the total impervious surface area within the watershed is located within the municipalities of Napa, American Canyon, and Vallejo, all of which drain into the Napa River estuary, approximately at sea-level. As such, these developed areas do not significantly influence incision documented in the freshwater reaches of the Napa River.

- The 102,000 acre estimate the commenter provides for grazing is much too high. In 2004, we estimated that 14,000 acres (approximately 5 percent of watershed

> area) were grazed, and that stocking rates were very low at almost all sites. Since that time, the number of active commercial livestock operations has declined further, including cessation of grazing on the ranch that was the largest operator in 2004 (the Kirkland Cattle Company). Although storm runoff rates in grazing areas are likely elevated above natural background, the magnitude of such increases, even a decade after intensive grazing ceased, would be modest compared to runoff increases resulting from impervious cover. Furthermore, our performance standards for grazing require that operators "attain or exceed minimal residual dry matter values" so that soils compacted by intensive historical grazing can recover.

Second, the commenter asserts that coarse sediment deposition in tributary reservoirs is a significant contributing factor to ongoing incision. Although we agree on this point, considering the results of the sediment budget analysis we completed, we do not think that this factor must be addressed in order to control and reverse incision. We refer the commenter to a previous response to comment, where we present our rationale (Response to Comment 14.1, January 2007 Response to Comments document):

> "While we agree it is likely that tributary dam construction has contributed to the current episode of bed and bank cutting in the Napa River, other management actions also appear to be significant including:
>
> a) Land cover changes that have increased peak flows in the river (e.g., vineyards, rural residences, commercial buildings, and roads); and
>
> b) A suite of direct alterations to the river channel and/or its floodplain (e.g., levee building, channel straightening, filling of side channels, removal of debris jams, historical gravel mining, and dredging).
>
> We also agree that bed and bank erosion rates in the Napa River will not be substantially decreased until the imbalance between coarse sediment supply (e.g., cobbles and gravel) and transport capacity is rectified. We differ however in our diagnosis of the relative significance of various contributing factors (e.g., dams, direct alterations to the channels, and land cover changes) and in our conclusions regarding feasibility of various management measures to address this issue. Instead of introducing large quantities of coarse sediment to the channel, which would be extremely expensive and present important questions regarding technical feasibility and potential to substantially increase flood risk, we conclude that it is possible to solve this problem by focusing primarily on the other contributing factors: the direct alterations to the channel and increases in peak flow.
>
> The approach to restoration being emphasized in the Rutherford Reach (which we recognize as a key action in the plan to reduce fine sediment supply and enhance habitat conditions) involves setting back the river banks, increasing the sinuosity of the river (and hence reducing its slope), adding wood and large rock to force additional gravel

bars to be deposited, and enhancing riparian vegetation to increase bank stability. We also call for design and management practices for new and replanted hillside vineyards to attenuate increases in peak runoff (see response to Comments 9.3 and 9.4). We think these approaches will prove effective in the reduction of bed and bank erosion rates along the Napa River.

Finally, we should point out that channel responses to dam construction may vary substantially depending upon significance of the sediment supply from upstream areas relative to areas downstream of the dam, how the dam influences the frequency and duration of high flows that shape the channel, and/or in response to other significant changes (increases/decreases) in sediment supply from downstream areas following dam construction (Ligon, Dietrich, and Trush, 1995; Grant, Schmidt, and Lewis, 2003).

In the case of the Napa River, we have developed sediment budget data (RWQCB, 2006) that provides an opportunity to examine the combined effects of the dams and other human actions on coarse sediment supply to the Napa River. During 1994-2004, average annual coarse sediment supply to the Napa River at Soda Creek was approximately 51,000 metric tons per year. Absent dams and human-caused erosion, the supply during this period would have been approximately 45,000 metric tons per year. If the reductions in sediment supply recommended under the proposed TMDL are achieved, during a similar future period, we estimate that the average annual coarse sediment supply would be approximately 39,000 metric tons per year. This supply is approximately equivalent to the natural supply. Therefore, we do not conclude that the proposed reductions in human-caused erosion (where we primarily target sand and finer sediment) will further exacerbate bed and bank cutting.

Based on theory, we would expect instead that the river bed would be further coarsened, creating more favorable conditions for spawning and rearing (Dietrich et al., 2005).

Finally, we would point out that several Napa River tributaries were naturally disconnected from the river, and hence, much of their coarse sediment did not naturally reach the mainstem, and instead was deposited in large alluvial fans. Many of these channels were ditched soon after California's statehood to support agricultural and urban development of the Napa Valley."

Third, the commenter asserts that storm runoff quantity from vineyards and other sources of increased runoff located upstream of municipal reservoirs must also be regulated under the Basin Plan amendment because the municipal reservoirs "have no flood control capacity" and "once they are full act as an impervious surface and actually increase stormwater discharge downstream."

We respond by drawing attention to Attachment 4 of the submittal by Living Rivers Council (Napa County Unincorporated Area Water Supply, West Yost & Associates, 2005). In this report, West Yost & Associates provides data (in Table 2) regarding average annual inflow and storage capacity for each of the municipal reservoirs. We note that the two largest reservoirs, Lake Hennessey and Rector Reservoir, which drain 80 percent of the total land area located upstream of municipal reservoirs, have capacity to store 157 percent and 119 percent respectively of average annual inflow. Typically, at

the beginning of the wet season, these and other municipal reservoirs are approximately two-thirds full (Napa County, unpublished hydrological data). Therefore, available storage capacity (runoff attenuation) is typically equal to approximately 40-to-50 percent of the total average annual runoff to these reservoirs. To claim that large municipal reservoirs do not significantly attenuate downstream runoff peak in Conn Creek and Rector Creek downstream of the reservoirs in most storm events appears to be incorrect. The volume of available reservoir storage in all years is very large in comparison to possible amplification of runoff resulting from land uses, and the dampening effect of reservoir hydraulics further attenuates flood routing (e.g., the reservoir has much deeper water, and a more gentle gradient than the natural channel underneath it). Two of the other three municipal reservoirs, Bell Canyon and Milliken, also are long and deep enough to effectively attenuate runoff based on hydraulics. The only municipal reservoir that arguably may be too small to attenuate increases in runoff is Kimball Canyon (which has a 335 acre-ft storage capacity), however we are not aware of any evidence of active incision on Kimball Canyon Creek and/or in the upper Napa River upstream of the Town of Calistoga.

Comment 4.DJ2 (Reservoirs): The TMDL specifically exempts land uses upstream of municipal reservoirs from the performance standards of the Basin Plan amendment even though increases in runoff from these upstream sites could contribute to downstream amplification in runoff peak, and hence channel erosion in downstream reaches,

Please see our response to Comment 4.DJ1.

Comment 4.DJ3 (Vineyard discharge performance standard): This should also apply to other features and land uses that increase runoff.

Please see our response to Comment 4.DJ1.

Comment 4.DJ4 (Low flows): Water Board staff responses do not adequately address my previous comments; I asked the Water Board to actively engage the Watermaster in all discussions regarding low flows.

It would be more appropriate for the Watermaster to participate in review and comment on the *North Coast Instream Flow Policy,* as the authority and responsibility of both the State Board Division of Water Rights and the Watermaster is regulation of surface water diversions within the watershed.

Regulation of surface water diversions in the Napa River watershed is not the impetus of the proposed inter-agency cooperative for joint resolution of water supply reliability and fisheries conservation concerns (Action 2.1 in Table 5.2 of the Basin Plan amendment); which would include both Fish and Game and NOAA Fisheries. The Watermaster, Kevin Taylor, of the California Department of Water Resources, can be

reached at 888-226-8268 or by email at ktaylor@water.ca.gov . It has been our experience in communicating with the Watermaster, that he is actively engaged in regulation of surface water diversions for frost protection period (i.e., the period covered under the Water Rights order), and quite open to consideration of new information relevant to definition of "available water supply" and/or "ample streamflow" as may be needed to protect beneficial uses. We encourage Living Rivers Council to directly engage the Watermaster, Napa County Superior Court, and/or the State Water Resources Control Board in these matters, for which these entities have regulatory jurisdiction.

Comment 4.DJ5 (Evidence of groundwater level declines): The analysis, included herein, suggests groundwater pumping is diminishing dry season baseflow magnitude and persistence. The actions identified in the Basin Plan amendment are not adequate to counter the adverse impacts of groundwater pumping on baseflow.

Considering the information provided, we agree it is reasonable to hypothesize that groundwater pumping (or a decline in recharge[38]) may contribute to widespread decline in baseflow persistence and magnitude in the Napa River and the lower reaches of its tributaries. Given the potential significance of groundwater pumping with regard to fisheries conservation, we strongly support review of all available information and follow-up studies to provide a basis for confirming or rejecting this hypothesis. The information provided also reinforces our interest in review and comment on the comprehensive groundwater resources study that Napa County has commissioned to guide its future data gathering, monitoring, and policy for groundwater management. The first report in this effort is expected in January of 2010.

Note that the State and Regional Water Boards have limited authority to regulate groundwater pumping. Local government has the primary regulatory authority in California. Although the State Board has authority to regulate two categories of groundwater pumping – under flow of a surface stream, and defined underground streams – and a Water Board may propose a baseflow objective when required to achieve a water quality objective, these are the limits of our authorities. Based on the results of our sediment budget study (Water Board, 2009), we conclude that water quality objectives for sediment can be achieved solely by regulating sediment discharges. Therefore, we do not have a basis for proposing a baseflow objective to achieve water quality objectives for sediment.

Considering local government's primary authority over groundwater pumping, and the provided information, we believe that data gathering, monitoring, and policy related to groundwater resources should be incorporated into the *plan for joint resolution of water supply reliability and fisheries conservation concerns* that we call for in Table 5.2 of the Basin

[38] For example, increases in volume of surface water diversion upstream of this site, combined with associated evaporation in reservoirs, might also be a primary or secondary control on the observed downward trend in groundwater levels through time)

Plan amendment (Action 2.1), as management of groundwater resources certainly is relevant to protection of municipal water supply, fish, and wildlife.

Comment 4.DJ6: Water diversions are likely reducing the growth and survival of juvenile steelhead. The Watermaster needs to be engaged in the proposed cooperative agency partnership specified in Table 5.2 of the Basin Plan amendment.

Please see our responses above to Comments 4.DJ4 and 4.DJ5.

Comment Letter No. 4 (Patrick Higgins Attachment)

Comment 4.PH1: Overall, the responses to my previous comments were inadequate. None of the fish related goals of the Basin Plan amendment likely will be met, unless watershed processes are restored, especially restoration of the natural hydrograph. There also is a need to protect remaining viable habitat. The proposed monitoring is still deficient and will not support adaptive management.

With regard to restoration of the natural hydrograph, please see our responses above to Comments 4.DJ1, 4.DJ4, and 4.DJ5. With regard to protection of remaining viable habitat, we propose a broad suite of regulatory actions (required actions in Tables 4.1 through 4.4, and Action 1.2 in Table 5.1, and Action 2.4 in Table 5.2 of the Basin Plan amendment) to achieve suitable substrate conditions, complex physical habitat structure, adequate fish passage, and to provide adequate baseflow for fish and aquatic wildlife. With regard to the monitoring program, please see our response to Comments 5.3, 5.4, and 5.7 below.

Comment 4.PH2 : As established by my previous comments (Higgins 2006a, 2006b, 2007, 2008b), Pacific salmon species are extirpated or at high risk of extinction in the Napa River basin. The Napa River watershed is now disturbed in a large percentage of its watershed area by a number of factors including urbanization, timber harvest, vineyard operation, dams for municipal water supply and ditching and diking of stream channels. There are no intact patches of watershed or stream to serve as habitat islands or refugia for Pacific salmon species (Bradbury et al. 1995) and unless some are established salmonid recovery will prove elusive. The following is a recap of species status and summary of factors that caused their decline or demise and that are not sufficiently addressed in the Napa TMDL to allow recovery. (Summary of factors that may be contributing to the decline of coho salmon, steelhead, and Chinook salmon, follow).

Coho salmon appear to have been extirpated from the watershed sometime prior to 1900 as a result of the complete blockage of migration caused by the original water supply dam for the City of Napa. That dam was constructed in the late nineteenth century on the mainstem of the Napa River near Trancas Avenue and remained in-place until the 1930s when it was demolished to address legal actions brought by steelhead fisherman

(Emig, personal communication, 2002). Please also note that the Napa River is not included within the Central California Coast Coho Salmon ESU. Finally, we do not agree with the commenter that the only or primary historical habitat for coho salmon was in the lower reaches of the tributaries, instead we hypothesize that coho salmon would have occupied tributary channel reaches with Coast redwood-Douglas fir forest cover including canyon reaches of Redwood and Dry Creeks in the Mount Veeder area, Sulphur, Mill, and Ritchie Creeks, and similar habitat along upper Conn Creek (several tens of miles of pool-riffle habitat with perennial flow and closed canopy). These channel reaches still maintain perennial flow and cool summer temperatures.

With regard to Chinook salmon, the native population also likely was extirpated by the Trancas Dam sometime prior to 1900. In addition to sediment control actions, in the Basin Plan amendment we call for a program of channel, floodplain, and fish passage restoration throughout the mainstem of the Napa River that is focused on the goal of establishing a self-maintaining population of Chinook salmon. The redd scour numeric target was developed specifically to address both impacts of excess sedimentation and habitat simplification, both of which need to be addressed to achieve this target.

With regard to steelhead trout, actions to reduce fine sedimentation, restore passage and protect baseflow in ten key tributaries for steelhead, together with the requirement for local public works agencies and the State Department of Parks and Recreation to develop and implement performance standards to protect ecologically significant woody debris, will protect and enhance habitat quantity and quality for steelhead within the watershed. Actions to restore floodplains along the mainstem of the Napa River may also enhance wet season survival and growth of steelhead.

Although most fisheries biologists familiar with the watershed believe that the remaining steelhead run likely is small and threatened, all agree that available information is insufficient to accurately estimate the current population status of Napa River watershed steelhead. To this end, a smolt trap was established this spring to begin to estimate steelhead smolt production and fitness. We propose actions to protect and restore habitat conditions at the watershed scale.

Comment 4.PH3 (Maacama Creek as an example of the problems of low flow with regard to steelhead growth and survival). The commenter asserts that poor baseflow persistence as a result of water extraction result in a significant reduction in the density of juvenile steelhead at the end of the dry season.

Although we agree that this probably also is a problem in many Napa River tributary reaches, it's not clear to us whether summer or winter carrying capacity is the bottleneck that controls smolt production in most years at the watershed scale. A recent study by Stillwater Sciences that tracked growth and survival of juvenile steelhead between the summer of 2005 and the spring of 2006 suggests that winter rearing habitat may instead be the bottleneck in many years (Stillwater Sciences, 2007). Nevertheless, we agree that additional actions are needed to protect and enhance baseflow and temperature, and to

restore passage for steelhead to and form high quality spawning and rearing habitats that remain within the watershed. That is why we call for these within the habitat enhancement plan.

Comment 4.PH4 (Sediment problems are unlikely to be solved by the TMDL): Current density of roads likely causes adverse turbidity levels that impair juvenile salmonid growth and survival. Mainstem channel restoration projects are insufficient and won't be successful without hydrograph restoration. Cumulative effects related to interaction of extended low flows in the fall (which may limit upstream passage for salmon) and sedimentation in these same locations has not been remedied. Particles finer than 1 mm are transported through municipal reservoirs and contribute to sedimentation problems, and this problem is not addressed. Increases in peak flows upstream of the municipal reservoirs are not attenuated by the reservoirs. Landlocked steelhead, located above municipal reservoirs, deserve protection too because they may provide "gene resources" that are needed to restore the population below the dams (that has fallen to levels known to potentially compromise genetic diversity and long-term population viability)."

Previously, we have addressed these same comments pertaining to turbidity. Please see our responses to Comments Part II Comment 3.DJ1, Comment 3.DJ2, and Comment 3.May2008.PH1.

The commenter does not provide any new information to support the hypothesis that current road density results in adverse turbidity levels for fish. We also would note that the study performed by Klein (2003) compared the relationship between turbidity levels and the density of dirt roads in Mendocino and Humboldt Counties, where average annual rainfall is much higher, and that only approximately 85 percent of the roads in the Napa River watershed are unpaved, or approximately 1200 miles. Using this value, we estimate that the density of dirt roads in the Napa River watershed is approximately 2.8 mi/mi^2. Applying the relationship developed by Klein (2003), as presented in Figure 13 of that report, the predicted 10% exceedence value for turbidity is approximately 20 NTU, a value that is protective of fish. Please also note that the Water Board has collected extensive data to characterize ambient conditions with regard to turbidity (see Stillwater Sciences and Dietrich, 2004). Based on review of this and other available information, we did not document turbidity conditions harmful to fish. Please also see our previous responses to comments dated January 2007 (response to Comment 9.15), where we discuss our data collection program, and conclusions.

With regard to the commenter's opinion that the proposed channel restoration projects will not be successful without hydrograph restoration, please see our response above to Comment 4.DJ1, where we address this same comment.

With regard to potential cumulative effects of extended low flows in the late fall and adverse levels of sedimentation at these same locations, please note that the numeric

target for permeability was set a conservative (protective value) to address this concern, as is described in pp. 66-67 of the Staff Report (Water Board, 2009).

The assertion that a significant proportion of the sand discharged to municipal reservoirs is transported through (note: almost all of the fine sediment impairing the Napa River streambed is in the sand size class) to downstream reaches is not supported by hydraulic theory, settling velocity calculations, and/or observations.

With regard to the opinion that municipal reservoirs do not attenuate peak flows from upstream land uses, please also see our response above to Comment 4.DJ1.

Finally, with regard to the opinion that landlocked steelhead located above municipal reservoirs deserve protection too, please see our previous response in Response to Comments Part II, response 3.DJ1), where we address this issue.

Comment 4.PH5: Chinook salmon and steelhead recovery will only occur through restoration of watershed processes and more active protection. There is no nearby source of steelhead colonists to re-start the watershed population in the even that the local population is lost. The only summer habitat that remains for steelhead, is in the canyon/headwater reaches, which become disconnected and isolated as a result of water extraction. Widespread development has altered the timing and amounts of sediment and wood delivered to channels leading to cumulative effects. All illegal impoundments must be removed. Water Board staff did not respond to my previous comment to consider the cumulative effects of multiple illegal dams, and therefore, the TMDL violates CEQA. Groundwater extraction needs to be controlled. Unfortunately the TMDL invokes the authority/responsibility of other agencies. These other agencies have not followed through in the past, and that is why the TMDL is needed now.

We disagree with the commenter. Proposed actions to protect and restore the hydrograph will be applied to approximately 50,000 acres (e.g., vineyards plus grazing areas) within the watershed, and channel restoration projects will be constructed over a 14.5-mile long reach of the Napa River, the largest such planning efforts that we are aware of within the Coast Range.

In terms of sources of nearby colonists to restart the Napa River steelhead population, in the event of a population collapse, we would point out that NOAA Fisheries has identified both the Napa River steelhead population and the population in the adjacent Sonoma Creek watershed, both as functionally independent populations (Spence et al., 2008); similarly, the nearby Petaluma River and Suisun/Green Valley creeks are identified as potentially independent populations. Considering these findings, and the fact that there is a large steelhead population in the Sacramento River watershed, we disagree that sources of nearby colonists are not available now, and/or will not be in the future as a result of recovery planning efforts being undertaken for the Central California Coast Steelhead ESU.

With regard to summer habitat availability, we agree that additional actions are needed to protect and enhance baseflow. That is why we call on the State Board to perform a survey of illegal storage, and we also call for several other actions to protect and enhance baseflow (Table 5.2 of the Basin Plan amendment). Please also see our responses to Comment 4.DJ5 above, where we address potential impacts of groundwater pumping on baseflow.

Comment 4.PH6: The TMDL needs to require designation and protection of key refugia. Best candidates for steelhead are the Redwood Creek, Dry Creek, and Soda Creek tributaries. Mainstem floodplains also need to be reconnected and restored.

The Water Board does not have the authority to regulate land use, only to condition discharges from those land uses as needed to achieve water quality standards. Although an argument could be made for setting higher numeric target values for refugia (and lower values elsewhere), we instead elected to establish protective numeric targets for sediment in all channel reaches that support anadromous salmonids.

With regard to restoration and reconnection of floodplains on the mainstem of the Napa River, this is a primary thrust of planning efforts in the 9-mile long Oakville reach.

Comment 4.PH7: The monitoring program is inadequate.

The US Environmental Protection Agency and independent peer reviewers have found the proposed sedimentation parameters (streambed permeability and redd scour) and the associated monitoring program acceptable. In response to previous comments by Living Rivers Council on this topic, we also have indicated our intent to monitor turbidity, and residual pool volume.

Comment letter no. 5: Napa Group of the Sierra Club

Comment 5.1 (Introductory comments): The TMDL report is an impressive scientific document. We appreciate your attention to voluntary programs, which lessen but do not eliminate the need for regulatory actions.

We agree with the comment regarding regulation. Therefore, in almost all cases where we have regulatory authority, with the exception of addressing the impacts of channel incision on habitat complexity, we have asserted our authority to resolve the water quality problem. In this one case, we rely instead on voluntary actions for the reasons stated on p. 87 of the Staff Report:

- "Channel incision problems along Napa River and its lower tributary reaches reflect and integrate multiple historical and ongoing disturbances some of which are local and/or direct, and others that are indirect and distal. In this sense, with the exception of an individual who owns property on both sides

of the river over a very long distance, it is not possible for an individual to effectively control or be responsible for the channel incision that may be taking place on his or her property.

- An effective program to control channel incision in a way that enhances habitat for fish and aquatic species (as outlined above) will require cooperative and coordinated actions by multiple landowners over significant distances along the river.
- Considering the state of the science for river restoration and ecological modeling, and the physical and biological information for the Napa River that is available to guide river restoration design and modeling, any design that may be developed and implemented in the near future needs to be considered an experiment for which we cannot predict with a high degree of certainty in advance that the project ultimately will be successful."

Our decision in this case has been validated thus far by the establishment of reach-based stewardships in the Rutherford and Oakville regions that are engaged in planning and/or construction of riparian and channel habitat enhancement projects within a 14.5-mile long reach of the mainstem of the Napa River.
In nearly all cases the habitat enhancement actions we call for in the Basin Plan amendment are voluntary, except for Action 1.2 in Table 5.1 (performance standards for large woody debris in channels) and Action 2.4 in Table 5.2 (water rights compliance survey), where instead we assert our regulatory authority or call for action by the State Board. However, by also listing these voluntary habitat enhancement actions in the Basin Plan amendment, the Water Board formally establishes these actions as priorities for funding, permit review, and technical support.

Comment 5.2 (Waste discharge requirement standards): We request that the Water Board promptly develops these standards, as well as the waiver specifications [conditions]. It is unfortunate that development of the WDR standards has been left to a later date. Sierra Club plans to pay close attention to the development of the WDR waiver programs "to assure that they will provide effective remediation of sediment discharges."

We expect to complete public review drafts of the WDR waivers for vineyards and grazing areas in 2010, and for the Water Board to consider adoption by June 2011. We welcome all stakeholders' involvement in the development of WDR waivers.

Comment 5.3: The numeric targets for habitat enhancement are inadequate, and it is not clear when the target values that have been specified need to be achieved, in contrast to the Garcia River where the suite of targets is broad and the schedule for achievement is clear. Is 2025, or another date, the deadline for achievement of the targets and the TMDL? The date for achievement of the TMDL and numeric targets needs to be included in the BPA.

Please note that the Clean Water Act only provides authority to develop a TMDL, and related numeric targets, for a pollutant: something that is added to water by human activities. The proposed Basin Plan amendment has been developed to address impairment of the Napa River by too much fine sediment, which is a pollutant.

We defined two parameters - streambed permeability and redd scour - and numeric target values for these, to define attainment of the narrative water quality objectives for sediment and settleable material that are contained in the Basin Plan. The US Environmental Protection Agency, and independent peer reviewers, both support the numeric targets we propose.

Other human-caused changes to the physical, chemical, and/or biological integrity of waters are defined alternatively as forms of pollution. Of the habitat enhancement categories addressed in the Basin Plan amendment, only stream temperature is a pollutant. However, the Napa River is not listed as impaired by temperature, so we did not develop a TMDL or numeric targets for this pollutant.

With regard to the deadline for attainment of the TMDL, and related numeric targets, please note that the deadline is twenty years from present, or in October of 2029.

Comment 5.4 (Action to restore Large Woody Debris functions): Table 5.1 only specified a schedule for development, and not implementation of performance standards for the protection of large woody debris. No schedule to assess progress in implementing standards and/or monitoring to assess their effectiveness. Also, no numeric target for wood is specified.

Development of performance standards for large woody debris in channels will include a schedule for implementation, a schedule for reporting of progress, and parameters that will be measured to evaluate effectiveness. One such parameter to evaluate effectiveness of the performance standards that we will consider, that also was included in the Garcia Action Plan, would be an improving trend in large woody debris loading in channels. In response to this comment, Table 5.1 has been changed as follows:

Table 5.1 Recommended Actions to Reduce Sediment Load and Enhance Habitat Complexity in Napa River and its Tributaries

Stressor	Management Objective(s)	Actions	Implementing Parties	Completion Dates and Notes
Habitat degradation as a result of mainstem Napa River and lower reaches of its larger tributaries incising.	Reduce rates of sediment delivery (associated with incision and accelerated bank erosion) to channels, by 50 percent Enhance channel habitat as needed to support self-sustaining run of Chinook salmon and enhance the overall health of the native fish community.	1.1 Develop and implement plans to enhance stream-riparian habitat conditions, and reduce fine sediment supply in mainstem Napa River and lower tributary reaches	Landowners and/or designated agents, and reach-based stewardships	Comply with conditions of Clean Water Act Section 401 certifications (implementation of Rutherford Project completed by fall 2017, other projects by 2027)
Habitat degradation as a result of reduction in large woody debris in stream channels.	Enhance quality of rearing habitat for juvenile salmonids	1.2 Develop and implement performance standards for protection of ecologically significant large woody debris in stream channels.	Napa County Stormwater Management Program and State Department of Parks and Recreation	Performance standards will be developed by Fall 2010, and implemented by Fall 2011.

Comment 5.5 (BMPs for roads): No example was provided of acceptable technical approaches or manuals for road erosion control and prevention. Also, there is no indication of how frequently progress reports would be submitted.

These details will be specified as part of the WDR waiver programs. Please note that Water Board staff finds the following publications useful with regard to guidance for rural road erosion control and prevention:

Handbook for Forest and Ranch Roads (Weaver and Hagans, 1994)

Rural Roads: a Construction and Maintenance Guide for California Landowners (Kocher, Gerstein, and Harris, 2007)

Upslope Erosion Inventory and Sediment Control Guidance (Weaver, Hagans, and Weppner, 2006)

Water Board staff will recommend as a condition of the WDR waiver programs that annual reports be submitted to describe progress in implementing control actions and monitoring to evaluate effectiveness.

Comment 5.6 (Fish passage): There is no schedule for actions to remove fish passage barriers.

In Table 5.3 of the Basin Plan amendment, we include a schedule for action at Zinfandel Lane: fish passage should be restored by the fall of 2012. We did not include a schedule for action to restore fish passage at Upper York Dam because NOAA Fisheries and the California Department of Fish and Game are the lead regulatory agencies on this project.

With regard to achieving the Basin Plan objective of "no significant structural impediments to salmonid migration in mainstem or in 10 key tributaries for steelhead," it is premature to propose a schedule for action prior to completing a watershed-scale survey to identify, assess, and prioritize fish passage projects. The Napa County RCD will begin such a survey this year. Once completed, we and other agencies should be in better position to estimate costs, identify potential sources of funding, and then to consider a schedule for action.

Also, we are encouraged by the voluntary actions to restore fish passage that have occurred in recent years including removal of barriers on lower Dry Creek and Bear Canyon Creek. Both projects have the potential to substantially increase the steelhead run. Through the combined efforts of California Department of Fish and Game and NOAA Fisheries, and local government agencies, we also expect fish passage to be restored at Zinfandel Lane on the Napa River, and Upper Dam on York Creek within the next two years. These projects, once completed, will open up several miles of high quality spawning and rearing habitat for steelhead and Chinook salmon.

Comment 5.7 (Temperature): There is no plan for temperature monitoring, or for measurable goals for reduction in temperature.

We agree that the details of all monitoring programs need to be clearly stated including goals and objectives, hypotheses that will be tested, the parameters that will be measured, and the plan for sampling and analysis. For several reasons, we did not include such a monitoring plan within the Staff Report or Basin Plan amendment.

Our rationale and intent, with regard to monitoring, is as described in our response to peer review comment N-4 (Staff Responses to Peer Review, January 2007):

> "We agree that it is essential to understand population status of steelhead and Chinook salmon in the Napa River watershed, and population dynamics in response to proposed management actions and natural disturbances. We indicate our support for such a monitoring and research program in the discussion of Adaptive Implementation contained in the Basin Plan amendment. We also understand however, as you point out above, that such a monitoring and research plan needs to be carefully considered, and developed in partnership with other key public agencies whose policies and actions will be affected by the results (e.g., at a minimum, the County of Napa, the California Department of Fish and Game, and the National Marine Fisheries Service).
>
> Considering the need to achieve consensus among these agencies, and the fact that our Basin Plan amendment relates primarily to the sediment impairment listing, we propose instead that fisheries monitoring and research be developed as part of the collaborative process that we call for to jointly resolve water supply reliability and fisheries conservation concerns (Basin Plan Amendment, Table 5.2, Recommended Actions to Protect or Enhance Baseflow). A stronger plan will emerge as a result of such collaboration and agreement."

Please also see our response to Comment 2.14 above, where some of these same issues are discussed. Ideally, we hope to support the County of Napa's efforts to take a lead role in developing a comprehensive monitoring program to evaluate watershed health.

Comment 5.8: "The delay inherent in development of such complex policies [i.e., the Basin Plan amendment] has left landowners uncertain as how to proceed to meet regulatory requirements. Many are looking for ways to effectively manage their lands both for economic productivity, and to meet broader environmental concerns. We encourage the Board to engage in vigorous outreach to landowners to help them understand means of compliance with regulations."

We agree that vigorous stakeholder outreach program is essential to the success of the proposed WDR waiver programs. This certainly has been the case in seeking adoption of the TMDL. We will continue to make this a priority.

Comment 5.9: "We recognize that voluntary efforts can be effective in addressing stream restoration and … other beneficial activities in a … more effective and efficient manner, than having each … landowner work in isolation. … [T]he Board is aware … Fish Friendly Farming has been extremely successful in terms of acreage covered. Two stewardship groups along the mainstem are expected to make substantial contributions to erosion control and riparian enhancement. The Garcia River sediment Action Plan "encourages groups of dischargers with similar land management activities to develop collective watershed based Erosion Control Plans …" that should be considered as an option …"

We certainly are open to this option, which we will explore as part of the development of the WDR waiver programs. Please see pp. 76-77, 82, and 85-87 of the Staff Report where we try to make it clear that we would welcome group plans that are geographically and/or source category based (e.g., tributary stewardships, road-erosion control cooperatives, Fish Friendly Farming for vineyards, etc.).

Comment 5.10 (Annual Report Card): Sierra Club would like to see an annual report card showing progress toward achieving goals of the habitat enhancement plan.

This proposal could be helpful in keeping all parties' "feet to the fire" and demonstrating regular progress in sediment reduction and habitat enhancement. We would appreciate additional input from all interested parties regarding the objectives and content of such a report card. Also, note that as part of the watershed monitoring program that Napa County is developing, County staff are working on a report card to track watershed health.

Comment 5.11 (actions to protect baseflow): "The TMDL cites low streamflow as the primary limiting factor in establishing sustainable steelhead populations. We strongly support the Board's determination that waivers … not be granted unless applicants have cleared water rights. We would like … to emphasize the importance of achieving TMDL goals of investigating … illegal water diversions/impoundments … and to identify and correct the problem.

We appreciate the … Board's submission of a comment letter … regarding the Draft North Coast Instream Flow Policy (Wolfe, May 1, 2008). In the letter the … Board calls for increased …compliance and enforcement of water diversion law. They further call for … [an illegal] diversion survey and enforcement. … These would all be helpful actions in improving baseflow.

Ongoing monitoring will be essential to judging the success of this BPA. We strongly support addition of at least 10 low-flow tributary stream gauges to create a long-term water supply data base, and to assist in managing stream flow."

We will continue to engage the Division of Water Rights to promptly make a commitment to schedule for a survey of illegal storage in the Napa River watershed.

Also, note that we recently solicited a proposal from the Napa County RCD to the SF Bay Water Quality Fund, to install and maintain such a network of gages beginning in 2010.

Comment 5.12: How will the Water Board evaluate accuracy of landowner performed implementation monitoring?

The implementation monitoring that we call for will document implementation of the control actions specified in water quality protection plans for farms, grazing areas, rural lands, and/or parks and open space and municipal public works has occurred. Typically, this involves revisiting photo points that document BMPs, at an annual or greater frequency. As part of the approval of water quality protection plans, staff will recommend that the Water Board condition the WDR waiver to include the requirement that the plan be available for review, and that the site be available for inspection. Additionally, farm plans approved under the Fish Friendly Farming Program must be recertified once every five years to confirm that management actions have been implemented as specified and/or scheduled in the plan.

Comment 5.13 (monitoring program specificity): The Water Board is to monitor upslope effectiveness of sediment control actions. The monitoring plan needs greater specificity in … protocols, definitions of effectiveness of control actions, and frequency and extent of monitoring. We note that the in-channel effectiveness monitoring plan is much more specific, for example calling for at least 150 spawning sites and defining optimal frequency [of monitoring]. A letter previously submitted by Dr. Curry spells out some of the components of an effective storm runoff monitoring program as follows: "There must be a provision for monitoring on the scale of small watersheds of 1-5 square miles area …. Monitoring must include both the effectiveness of on-site cover-crop implementation and downstream offsite channel stability."

For information regarding upslope effectiveness monitoring that will be conducted by the Water Board (e.g., update to the sediment budget study), please see the Source Analysis contained in the Staff Report, where we describe in general our data collection methods. Additional detail is provided in an unpublished memo "Methods for Estimating Rates and Sizes of Sediment Input to Channels and Spawning Gravel Permeability" (Napolitano, 2006), that is available upon request.

Comment 5.14 (Adaptive updates of the Implementation Plan): "The adaptive implementation concept calls for "regular" updating of the plan, without specifying intervals. The year 2017 is too late for the first review of the implementation plan. The Garcia River TMDL calls for plan evaluation and update at three-year intervals and requires that … evaluations include … a review of … implementation measures

… accomplished, and … progress toward achieving … numeric targets. These updates are to be open to public input. We would like to see … similar timely, thorough, and open … review. We second the Water Board in their calls for on-going study of the health of the salmonid population. It [i.e., this call for study] recognizes that the final outcome we all are striving for is not sediment or scour or incision targets, but rather a healthy ecology as measured by its living inhabitants."

To clarify, the first comprehensive update to the sediment budget for the watershed will occur by 2017, or eight years into the proposed twenty year program for achieving the TMDL by 2029. In addition to this update to the sediment budget study (that will be the responsibility of the Water Board), we will require annual reporting of progress and effectiveness monitoring from the Fish Friendly Farming Environmental Certification Program, and/or from other farm plan certification programs that may be accepted as part of the WDR waiver program. Also, we should point out that the WDR waiver program must be considered for re-adoption by the Water Board at least once every five years, providing a structure and schedule for regular adaptive updates to the pollutant control programs we propose in Tables 4.1 through 4.4 of the Basin Plan amendment.

Similar to the Garcia River Action Plan, we also call for regular monitoring, at a minimum of once every five years, by the Water Board (or our agents) to evaluate attainment of numeric targets for streambed permeability and redd scour.

All of the above described reporting and monitoring data will be available for public review, as is the opportunity for input regarding the conditions for re-adoption and adaptive updates to the WDR waiver programs.

Finally, with regard to the studies that we call for to enhance understanding of population status of steelhead and Chinook salmon, and the factors controlling population dynamics, we remain committed to supporting these studies however we are able. We are encouraged by the efforts of Napa County to provide initial funding for a trap that was installed this spring to quantitatively describe the timing, number, and fitness of ocean migrating juvenile steelhead and salmon from the watershed. Such data collection is essential to evaluation of the population status of these species.

Comment 5.15: "Watershed rehabilitation is a developing science. Fish Friendly Farming and … other programs … accepted for regulatory compliance should regularly assess … success [i.e., effectiveness] of their protocols [i.e., control actions] … in order to continuously refine landowner practices."

We agree, and furthermore, such effectiveness monitoring will be required as a condition of the WDR waiver, as is consistent with the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (State Board, 2004). Please also see our response to comment 4.2 above, where we provide additional details regarding our thinking on this matter.

Comment 5.16: "Groundwater depletion may be contributing to lower flows in the river, as well as to channel incision. Dennis Jackson's most recent comments address this issue. Napa County has recently contracted with … Luhdorff and Scalmanini to produce a "Comprehensive Groundwater Monitoring Program, Data Review, and Policy Recommendations for Napa County's Groundwater Resources." The first report due in January of 2010, will include a comprehensive survey of … current knowledge …, as well as recommendations for new studies to remedy data gaps. We recommend … as part of adaptive implementation … , the Water Board review and incorporate .. results of these studies, and also that the Board participate actively with the County in designing studies which will examine the contributions of groundwater extraction to channel incision and low flows. As the data base is improved, the implementation plan should be amended as indicated to remedy any effects of groundwater extraction on the salmonid habitat."

Considering the information provided by Dennis Jackson, we agree it is reasonable to hypothesize that groundwater pumping (or a decline in recharge) may be contributing to a widespread decline in baseflow persistence and magnitude in the Napa River and in the lower alluvial reaches of its tributaries. However, we are not aware of any evidence to support the opinion that groundwater pumping also is contributing to channel incision.

The information provided by Dennis Jackson in his comments on behalf of the Living Rivers Council does show that groundwater levels have been declining since the 1970s at the location he chronicles. Decline in groundwater levels in this vicinity may in fact be decreasing baseflow magnitude and persistence in Bale Slough and the Napa River during the dry season therefore, also extending the period where the channels are dry and/or too low to facilitate fish migration to upstream or downstream reaches. It is also clear however that adjacent reaches of Bale Slough still are gaining reaches in most years throughout the spring, and therefore whatever the causes for decline, recharge remains great enough to maintain baseflow throughout the spring in most years, and the magnitude of decline is not great enough to cause or contribute to subsidence, and consequently channel incision.

We do plan to review and comment on the referenced report and any consequent recommendations for monitoring, study, and/or policy to support conservation of groundwater resources and the related resources that are dependent upon it, including all beneficial uses of water.

Instead of calling for re-adoption of the Basin Plan amendment, which is a very time consuming administrative process, we would suggest alternatively that any new information and policies that result from the study and/or follow-up actions can be incorporated into the *plan for joint resolution of water supply reliability and fisheries conservation concerns* that we call for in Table 5.2 of the Basin Plan amendment (Action 2.1).

Comment letter no. 6: NOAA Fisheries

Comment 6.1: NOAA fisheries continue to strongly support the TMDL.

Water Board staff look forward to continuing collaboration with NOAA fisheries in this watershed.

Comment letter no. 7: US Environmental Protection Agency

Comment 7.1: The analyses supporting the TMDL are robust and thorough. In particular, we find the numeric target and source analyses to be very clear, solid technical analyses. We strongly support adoption.

Staff appreciate EPA's support.

Comment 7.2: Please clarify in the Basin Plan amendment or supporting documents, whether the TMDL analysis is intended to also apply new impairment findings for tributaries or other water bodies.

We are not saying that tributaries are /aren't impaired. Instead, we are saying that actions in the tributaries contribute to impairment of the Napa River, and therefore are addressed in implementation plan. Questions about impairment of the tributaries is best left to future updates of the 303d list, using the criteria in the State Board's listing policy (which were not included in this TMDL development).

Comment 7.3 (Implementation): We appreciate efforts to establish an implementation plan to achieve the specified load reductions within twenty years. We are supportive of the plan. We are confident that the plan establishes a foundation on which to build effective restoration efforts to meet the goals of the TMDL.

The specified load reductions must be accomplished within twenty years, i.e., by 2029.

Comment letter no. 8: Winegrowers of Napa County

Comment 8.1: Winegrowers agrees with the conclusion that Fish Friendly Farming is an effective mechanism to address sediment discharges from vineyards. We also concur that County Conservation Regulations are effective. We appreciate the Water Board's recognition of the effectiveness of these programs.

We have identified the Napa County Conservation Regulations as an effective means of controlling sheetwash (surface) erosion from vineyards. To clarify however, we also concluded that hillside vineyard development at some sites, permitted under the County regulatory program, has inadvertently caused off-site channel enlargement (gullying) (see Source Analysis and Implementation Plan, Staff Report, Water Board,

2009). Rural roads and channel incision also were identified as significant sources of sediment delivery to channels. Most existing rural roads and sediment delivery from channel incision are not regulated under the Napa County Conservation Regulations.

Farm plans developed and certified under the Fish Friendly Farming Program address all significant sources of sediment delivery to channels that are associated with human actions not just within the vineyard area, but also throughout the remainder of the larger property under the same ownership/management. Therefore, we have concluded that implementation of a farm plan certified under the Fish Friendly Farming Program, when considered together with the Napa County Conservation Regulations, and attainment of the performance standards specified in Table 4.1, do comprise an effective means of achieving the TMDL and its numeric targets for sediment.

Comment 8.2: We encourage the Water Board to remember its conclusion that these local programs are effective in addressing sedimentation from vineyards. We concur with past comments from the USDA Natural Resources Conservation Service asserting that Napa County's existing regulatory framework and industry-sponsored initiatives could constitute a waiver program in and of itself.

Please see our response above to Comment 8.1 above. Also recall our earlier response to the Natural Resources Conservation Service: that we do intend to work with grape grower organizations and local government agencies to avoid unnecessary paperwork.

PART II: STAFF RESPONSES TO WRITTEN COMMENTS SUBMITTED IN RESPONSE TO SEPTEMBER 5, 2008 STAFF REPORT AND PROPOSED BASIN PLAN AMENDMENT

Comment letter no. 1: California Department of Transportation

Comment 1.1: Caltrans appreciates the opportunity to comment. We strongly support efforts to protect human health and achieve the best possible water quality. In addition, we have been proactive in meeting TMDL goals within the San Francisco Bay Region. We are currently implementing many of the compliance measures discussed in the Staff Report.

Comment acknowledged.

Comment 1.2: Table 2 of the Basin Plan amendment (BPA) lists the major sediment sources including road-related sediment delivery. "It is our understanding that this [category] pertains mostly to unpaved rural roads, and thus Caltrans is not a contributor. A separate category [in Table 2] is urban stormwater runoff and wastewater discharges, which Caltrans falls under, based on values presented in Table 3b [wasteload allocations for urban runoff and wastewater discharges]." Later, Caltrans is identified as a responsible party in Table 4.4 [required implementation measures for sediment discharges associated with parks and open space, and/or public works]. In summary, the BPA leads us to believe that road-related sediment delivery listed in Table 2 is mostly contributed from unpaved rural roads; however, this should be clarified in the document.

Required implementation measures for Caltrans are listed in both Table 4.0 and Table 4.4. This is an artifact of how we defined and subdivided the sediment source categories listed in Table 2. The urban stormwater runoff and wastewater discharge category, with regard to calculation of discharges from Caltrans facilities, only considers discharges associated with construction and/or maintenance activities. The road-related sediment delivery source category considers discharges from operation of all public and private roads, paved and unpaved, within the watershed. Caltrans is one of several individual dischargers who share an allocation within this source category. Results of recent road erosion inventories conducted within the watershed along paved public roadways document that road drainage systems including road crossings over natural channels can be a significant source of sediment delivery (PWA, 2003a).

To clarify, the Water Board directs Caltrans to achieve the performance standards and actions specified in Table 4.4, consistent with requirements of the Statewide Stormwater NPDES Permit and Waste Discharge Requirements for Caltrans. Since all Caltrans roads in the watershed are paved, the primary focus of the inventory and actions to achieve the specified sediment delivery performance standard should be on opportunities for "stormwater drainage system retrofitting" (e.g., Provision F4, Order 99-06-DWQ),

including the following: a) determine opportunities for retrofit and/or reconstruction of road crossings, as needed to convey runoff from the 100-year 24-hour duration storm event, effectively treat road crossings prone to plugging, correct road crossings prone to diversion, and stabilize gully erosion and/or landslides at road crossing outlets; and b) submit a schedule for implementation of sediment reduction actions by the completion date specified in Table 4.4 of the Basin Plan amendment, as needed to achieve performance standards and support TMDL attainment by 2027.

Comment 1.3: We encourage the Board to coordinate the compliance schedule for this TMDL with other in the region. This would help with effective planning of resources and implementation controls to meet requirements.

That is our intention.

Please Also Note: Caltrans comments to the State Board in May 2008, match the comments we received on the September 2008 draft of the Basin Plan amendment and staff report that are summarized above. Therefore, the above responses also address these earlier comments.

Comment letter no. 2: County of Napa

Comment 2.1: Outreach and presentations by Water Board staff to explain the extent and purpose of recently proposed revisions was instructive and appreciated. We look forward to working with staff throughout the reminder of the process. It's our understanding that Water Board is proposing revisions based on comments received by the State Water Resources Control Board, questioning the adequacy of the environmental analysis, and specifically requirements pertaining to compliance.

Revisions presented in the September 2008 draft of the Basin Plan amendment and Staff Report respond to comments received by the State Board. Those revisions focus on the environmental analysis, and related additional specification of performance standards for nonpoint sediment discharge categories.

Comment 2.2: As noted in previous comments, we support the overall goals of the TMDL, and the County together with other stakeholders is taking many steps to conserve fishery resources, and appreciates the Water Board's support and assistance.

Comment acknowledged.

Comment 2.3: Although well intentioned, the proposed revisions are again a cause for concern due to additional uncertainties that proposed revisions raise, while not having fully addressed the County's earlier comments (see letter dated August 15, 2006).

Management actions that may be required on the ground to achieve the TMDL remain unchanged. Revisions to the Basin Plan amendment and Staff Report were made to clarify the environmental analysis, and to further specify performance standards.

Comment 2.4: Thanks for the opportunity to comment. More specific comments follow. We look forward to the opportunity to discuss our comments in more detail.

Comments acknowledged.

Comment 2.5: The geographic scope of the TMDL remains vague. It is unclear where proposed Basin Plan amendment performance standards and regulatory actions apply, particularly with regard to required implementation actions.

The Napa River Sediment TMDL and the habitat enhancement goals specified in the Basin Plan amendment, for the land types and roadways listed in Tables 4.1 through 4.4, apply to all parts of the Napa River watershed except areas upstream of municipal reservoirs ; all of these dischargers need to be included in the proposed sediment control programs (WDR Waiver Programs). Minimum parcel size and/or pollutant discharge thresholds that would trigger the requirement to obtain a permit or waiver will be determined as part of the process of developing the WDR waiver programs.

It is also important to note that determining the scope and geographic extent for the WDR waiver programs is separate from adoption of the Basin Plan amendment, and the objectives for the WDR waiver programs are broader. Other nonpoint source pollutant control priorities in the Napa River and Sonoma Creek watersheds, including attainment of water quality objectives for pathogens and nutrients, addressing hydromodification impacts, and protection of all beneficial uses, will also be considered in determining the scope and geographic extent of the WDR waiver programs.

Comment 2.6: Absent waiver approval, explain how the Water Board would handle review/approval of the large volume of vineyard RoWDs [reports of waste discharge] that would be generated.

We expect to release a draft of the vineyard waiver in the winter of 2010. We are committed to developing all of the waivers listed in Tables 4.1 to 4.4 because we see these as the most efficient vehicles for achieving the TMDL. Please also see our responses below to Comment 2.7 and Comment 2.8.

Comment 2.7: No detail is provided regarding conditions of the waiver or how/when they will be approved. It likely will take a great deal of Water Board staff time to develop waiver requirements. Therefore, we request that you consider developing a unified waiver program [e.g., that all of the sediment source categories identified in tables 4.1 through 4.4 of the BPA be enrolled in one consolidated WDR and/or conditional waiver].

Initially, we plan to develop a waiver program for vineyards in the Napa River and Sonoma Creek watersheds, and then to expand the geographic extent of the existing waiver program for grazing in the Tomales Bay watershed to the Napa River and Sonoma Creek watersheds. Once these waiver programs are established, we will be open to amending one or both of these WDR waivers to include the land use categories and/or public roadways specified in Tables 4.3 and 4.4 of the Basin Plan amendment.

Comment 2.8: The compliance deadlines presented in the BPA implementation tables are not sufficient to successfully develop an effective yet flexible WDR waiver. Please explain how the Water Board envisions the waiver development process, and detail what the waiver requirements will be.

Acknowledging the significant delay in approval of the Sediment TMDL, and need to build local and Water Board institutional capacity, we have revised Tables 4.1 through 4.4 to extend the completion dates by two years from October of 2012 to October of 2014.

Comment 2.9: TMDL development has been unusually long and burdened with data and legal challenges. Please consider extending proposed completion dates [for required implementation measures for sediment discharges] by two years or more to allow ample time for developing and complying with applicable WDR waiver requirements.

See our response to Comment 2.8.

Comment 2.10: Suggested action items in Tables 5.1-5.4 are presumably part of the Water Boards recommended habitat enhancement plan. Although the action items appear to be voluntary (i.e., recommended), they have specified completion dates. Please confirm the actions are voluntary. We believe most of the dates listed cannot be met and should be eliminated or qualified based on funding and staff resources, and stakeholder derived priorities for the watershed. Furthermore, please explain how the Water Board intends to require the suggested deadlines be met.

Except for the State Board survey of illegal water storage (Table 5.2, Action 2.4), all recommended habitat enhancement actions are voluntary. Please also note that all actions, except for Actions 2.1 and 2.4 to protect or enhance baseflow (Table 5.2), are already underway, and recommended based on broad local support and participation. By listing habitat enhancement actions in the Basin Plan amendment, the Water Board

formally establishes these actions as priorities for funding, permit review, and technical support. Finally, with regard to concerns about suggested completion dates, considering the significant delay in TMDL adoption, and that the State has recently enacted a freeze on all bond funded grants, all suggested completion dates in Tables 5.1 through 5.3 have been extended by two years from the dates listed in the January 2007 draft of the Basin Plan amendment previously adopted by the Water Board.

Comment 2.11: The County along with many stakeholders recognizes value of management objectives listed in Tables 5.1 - 5.4, and appreciates the Board's efforts in identifying possible actions to obtain them. We and others are presently working towards completion of many of the recommended action items, including stream restoration, fisheries monitoring, and watershed planning. One of highest priorities noted in TMDL staff report is monitoring the [number and] relative fitness of juvenile steelhead and timing of their outmigration. Napa County Wildlife Conservation Commission and Napa County RCD recently allocated funds for purchase of a trap to meet this identified need. County would appreciate any assistance the Water Board could provide in helping fund and maintain trap operation, as a key component of long-term fisheries monitoring program.

Please note that we have been working with the Napa County RCD to explore potential opportunities to obtain grant funding from the State Board and other organizations to maintain monitoring of salmonid smolts including outmigration timing, fitness, population level, and trends. Achieving these objectives for the monitoring remain very high priorities for the Water Board (see Basin Plan amendment, pp. 18-19).

Comment Letter no. 3: Living Rivers Council

Note: Because comments 3.1 through 3.5, each relate to parts of a larger argument regarding a performance standard for vineyard stormwater runoff, our responses to all five comments are provided immediately after Comment 3.5. Similarly, the attached comments from Dr. Robert Curry, comments 3.RC1 through 3.RC5, each provide part of a larger logical argument regarding the vineyard stormwater runoff performance standard. For the same reason, our responses to all of these comments are provided immediately after Comment 3.RC5.

Living Rivers Council also incorporates by reference, the comments it provided to the State Board in May 2008 on the version of Basin Plan amendment and Staff Report that was adopted by the Water Board in January 2007. We also provide responses to these comments below.

Comment 3.1: LRC appreciates that the BPA now includes a performance standard for the quantity of storm runoff from vineyards. Based on the information contained

with Table 4.1 of the Basin Plan amendment and page 80 of the Staff Report, we are concerned however, that the Water "Board may be prepared to accept" the peak runoff performance standard specified within the Fish Friendly farming Environmental Certification Program (e.g., vineyards should not increase peak stormwater discharge above pre-project conditions by more than 10-15% for the 2-, 5-, and 10-year events). LRC objects to this criterion for several reasons.

See our response below to Comment 3.5

Comment 3.2: First, the criterion does not account for the cumulative effects of other past closely related projects. For example, the criterion does not account for the effects of past projects developed before this criterion was required. Peak flows resulting from storm events may be significantly damaging already. In fact, evidence shows this is true in the Napa River watershed. Therefore, by allowing an increase of 10-15% above pre-project peak runoff for any new development will exacerbate a significant existing impact.

See our response below to comment 3.5.

Comment 3.3: Also, the criterion does not account for the effects of past land-use related impacts on peak flow that make the bed and banks of the Napa River much more susceptible to further damage. Paving and urbanization, stream incision due to past storm-flow changes and dams on tributaries, loss of riparian protection are all cumulative. Even a zero percent change from pre-project conditions may be too much to protect the exposed unvegetated channel banks from failure.

See our response below to comment 3.5.

Comment 3.4: To the extent you may wish to justify the 10% to 15% increase over pre-project rates based on idea that this level of variation is within the natural range of variability in watershed peak runoff in response to natural variability in climatic conditions, such an explanation would not account for the fact that you are replacing a potential hypothetical change with a fair certainty that whatever peak runoff rate is allowed will be reached by the watershed in a developed condition.

See our response below to comment 3.5.

Comment 3.5: The revised Staff Report also references the *Napa River Watershed Task Force Phase II Final Report*. Page 32 of that document recommends a standard of no-net increase in post-project peak runoff rates on sites with high vulnerability.

Our responses to Comments 3.1 through 3.5 are as follows. Please note that we have not reached a decision yet on numeric expression of the vineyard storm runoff performance

standard (e.g., effectively attenuate significant increases in storm runoff) listed in Table 4.1 of the Basin Plan amendment. To avoid confusion, we have revised footnote 4 and the description of actions contained in Table 4.1 of the Basin Plan amendment as follows:

> **Actions**
> Submit a Report of Waste Discharge[2] (RoWD) to the Water Board that provides, at a minimum, the following: a description of the vineyard; identification of site-specific erosion control measures needed to achieve performance standard(s) specified in this table; and a schedule for implementation of identified erosion control measures.
>
> Or
>
> Implement farm plan certified under Fish Friendly Farming Environmental Certification Program or other farm plan certification program, as approved as part of a WDR waiver policy. All dischargers applying for coverage under a WDRs waiver policy also will be required to file a notice of intent (NOI) for coverage, and to comply with all conditions of the WDR waiver policy4.
>
> [4]~~This Basin Plan amendment recognizes farm plans certified under the Fish Friendly Farming Environmental Certification Program as effective with regard to control of pollutant discharges associated with vineyards.~~ Additional conditions ~~will~~ may be required under a General WDR and/or waiver program consistent with the *Policy for Implementation and Enforcement of the Non-Point Source Control Program* (State Board, ~~(~~2004), and/or as needed to avoid potentially significant environmental impacts., and/or as needed to avoid potentially significant environmental impacts.

In developing the waiver, we welcome further input regarding numeric expression of this performance standard. Please also note that the performance standards for vineyards specified within the Basin Plan amendment apply to all vineyards including existing, replanted, and new vineyards.

Comment 3.6: It appears that the Water Board intends to further refine performance standards [contained in Tables 4.1 through 4.4, which describe required implementation measures for sediment discharges]. This approach violates CEQA because it segments the environmental assessment. All of the components constitute one project. Therefore, at this point, the project description is incomplete.

Please note that programmatic analyses of impacts are sufficient for agency plans, policies, and/or regulatory programs. Such documents evaluate broad environmental effects of a project, while acknowledging that site-specific environmental review may be needed for specific elements and/or actions that would be implemented to comply with the regulatory plan.

Comment 3.7: The updated environmental checklist does not sufficiently respond to comments in the May 7, 2008 letter to the State Board that an EIR equivalent analysis is required.

For Biological Resources, the resource category, where the Water Board has concluded impacts of reasonably foreseeable compliance actions may be potentially significant, the checklist explanation has been revised as follows:

IV. BIOLOGICAL RESOURCES

Introduction

The Basin Plan amendment was developed specifically to benefit biological resources, including fish, wildlife, and rare and endangered species. Nonetheless it is possible that in order to comply with the proposed Basin Plan amendment, specific projects involving construction and earthmoving activities could be proposed that could potentially affect biological resources either directly or through habitat modifications. While the minor construction and earthmoving operations would occur in already disturbed areas and mostly involve reconstruction, re-contouring or replacement of existing roads and structures, it is possible (although not likely) that these and other activities to reduce erosion and enhance habitat conditions in stream channels and riparian corridors could occur in and impact biological resources.

a) Table 11a provides a summary of: a) the types of reasonably foreseeable projects that may be implemented to comply with the Basin Plan amendment; b) related regulatory permitting; and c) resultant protections afforded to special-status species and sensitive natural communities. In general compliance projects fall into five source categories: 1) unstable channel reaches; 2) roads; 3) peak flow attenuation; 4) gullies and shallow landslides; and 5) vineyard erosion (Table 11a). For reasonably foreseeable projects that may adversely effect special-status species, all are subject to discretionary approval by Napa County (Table 11a). In their review, county staff examines and queries a GIS-based biological database (Jones & Stokes, 2005, Chapter 4 Appendices), which includes three layers: a) land-cover; b) special-status species occurrence; and c) special-status species habitat. The land-cover layer identifies potential locations of sensitive natural communities. The land-cover layer, special-status species occurrence layer, and expert input were used to develop the special-status species habitat layer.

Using the above described database, county staff examines the location of a proposed project, and if it overlaps with potential habitat for one-or-more special-status species, then the county requires a biological resources evaluation and avoidance of impacts to the extent feasible (Policy Con-13, Napa County General Plan, 2008; County Code, Chapter 18.108.100). In cases

where full avoidance is not feasible, effective mitigation measures are required to address impacts (Policies CON-16 and CON-17, Napa County General Plan, 2008).

In addition to county review, we also note that it is the Water Board's statutory responsibility to protect water quality and its beneficial uses. In the course of exercising its duties, the Water Board would either: a) not approve compliance actions that could cause significant adverse impacts to any water-dependent special status species either directly or through habitat modification; or b) require avoidance and mitigation measures to reduce impacts to less than significant levels.

Considering the above, we conclude that project-specific impacts to all special-status species are less than significant with mitigation incorporated.

b) Table 11b provides a list of the twenty-seven types of sensitive natural communities that occur within the Napa River watershed. Sensitive natural communities are designated by the Department of Fish and Game based on high degree of biological diversity, rare occurrence, and/or sensitivity to disturbance. Considering the protections described above, where a sensitive natural community provides potential habitat for a special-status species, the entire sensitive natural community is also fully protected from significant impacts.

All of the native grassland communities[39] (six) and old-growth Douglas fir-ponderosa pine forest listed in Table 11b provide potential habitat for special-status species, and therefore, are fully protected from significant impacts. Similarly, considering the types of reasonably foreseeable compliance actions to reduce sediment delivery and enhance habitat in unstable channel reaches, and regulatory oversight by the Water Board and other agencies (as listed in Table 11a), potential effects on all riparian habitat types[40] (eight natural communities) would be less than significant in all cases, and in almost all cases effects on riparian habitat quantity and quality would be positive. The same finding holds for riverine habitats.

With regard to other sensitive natural communities that are also wetland types, first potential impacts to Northern vernal pools are less than significant because the mapping of potential occurrence of vernal pool areas within Napa County is complete (Holland, 1996; Napa County, 2004), and this community also is protected from significant impacts under Section 404 of the Clean Water Act. We also note that no compliance projects are

[39] Please also note that if a potential project is proposed with an area mapped as California Annual Grasslands Alliance, and/or Upland Annual Grasses and Forbs Formation, Napa County requires a biological survey to determine whether native grasses are present.

[40] Please also note that Napa County and the Water Board collaborated to prepare a complete mapping of the entire channel network within the Napa River watershed (Dietrich et al., 2004) that provides a basis for determining all potential locations of channels and riparian habitat within the watershed.

expected in any marsh community type (three natural communities), and hence these also would not be impacted.

Finally, considering the broad distribution and extensive acreage of California bay forests and woodlands within the watershed (several thousand acres), in comparison to the magnitude of land cover disturbances (tens of acres or less) that may result from reasonably foreseeable compliance actions, potential impacts to this community are less than significant.

Based on the above, twenty-one of the twenty-seven sensitive natural communities are fully protected from potentially significant impacts. To further reduce potential impacts to the other six sensitive natural communities that may not be fully protected through County regulations, Basin Plan amendment compliance actions will not be required or approved beyond the development footprint authorized by local land- use authorities in any of the following sensitive natural communities within the Napa River watershed:

- Redwood forest
- Ponderosa Pine alliance
- Tanbark Oak alliance
- Oregon white oak woodland
- Mixed serpentine chaparral
- Wet meadow grasses NFD super alliance.

However, some of these six communities may occur in local patches that are smaller than the minimum mapping units included in the County GIS land-cover layer, and hence may not be completely mapped by the county. Considering the limited distribution of these communities (mapped areas within the watershed of these communities, range from a few-to-several hundred acres) and the fact that mapping is incomplete, the potential still exists for significant impacts. This is because losing even 10 acres of one of these communities, the maximum acreage of any community listed above that we estimate could be disturbed, would constitute a significant reduction in their total area and distribution within the watershed.

Table 11a: Summary of Compliance Actions and Permitting Requirements, as Related to Protected Special-Status Species and Sensitive Natural Communities[+]

Sediment Source Category	Reasonably Foreseeable Compliance Action(s)	Federal Permits	State Permits	Local Permits	Impacts to Special Status Species and/or Sensitive Natural Communities
Unstable Channel Reaches:	Passive recovery	Not regulated/no impact	Not regulated/no impact	Not regulated/no impact	All biological resources protected
	Biotechnical engineering	CWA 404 and ESA Section 7 consultation(s)	CWA 401, WDR or conditional waiver; Streambed alteration agreement/CESA protections	In cases where there is the potential for impact, use permit, biological survey, and CEQA determination.	All biological resource protected per County discretionary approval and General Plan policies (Policy Con-13, Con-16, and Con-17)
	Channel reconstruction	CWA 404 and ESA Section 7 consultation(s)	CWA 401, WDR or conditional waiver; Streambed alteration agreement/CESA protections	County floodplain management regulations, use permit/biological surveys/CEQA determination	As above
	Hard engineering locally (e.g., existing dwelling threatened)	CWA 404 and ESA Section 7 consultation(s)	CWA 401, WDR or conditional waiver; Streambed alteration agreement/CESA protections	At a minimum, use permit, biological survey, and CEQA determination.	As above
Road-related sediment delivery:	Re-vegetate cut and fill slopes	Not regulated/no impact	Not regulated/no impact	Not regulated/no impact	All biological resources protected
	Road reconstruction	If it effects jurisdictional waters, then CWA 404 and ESA Section 7 consultation(s).	At a minimum, WDR or conditional waiver.	Grading permit/biological surveys/CEQA determination; If slopes ≥ 5%, Conservation Regulations apply.	All biological resources protected, because focus in existing footprint, biological survey requirement, and County discretionary approval.

Sediment Source Category	Reasonably Foreseeable Compliance Action(s)	Federal Permits	State Permits	Local Permits	Impacts to Special Status Species and/or Sensitive Natural Communities
	Road removal	As above	As above	As above	As above
	Road segment relocation	As above	As above	As above	Potential for significant impact to some sensitive natural communities of limited distribution*.
	Road surfacing	Unlikely to require federal permits	As above	As above	All biological resources protected, because focus in existing footprint
	Road crossing and/or drainage reconstruction and/or retrofit	CWA 404 and ESA Section 7 consultation(s)	CWA 401, WDR or conditional waiver; Streambed alteration agreement/CESA protections	At a minimum, use permit, biological survey, and CEQA determination.	All biological resource protected per County discretionary approval and General Plan policies (Policy Con-13, Con-16, and Con-17)
Peak flow attenuation:	Detention basins	If in jurisdictional waters, then CWA 404 (Various NWP or IP)	At a minimum, WDR or conditional waiver.	At a minimum, grading permit, biological survey, and CEQA determination.	Potential for significant impact to some sensitive natural communities of limited distribution*.
	Dispersal of surface runoff	Unlikely to require federal permits	As above	Not regulated in all cases/depends on project scope and scale	All biological resources protected because WDR or waiver must achieve BPA performance standard for peak flow attenuation**
	Cover crops and/or composted mulch	Not regulated/no impact	Not regulated/no impact	Not regulated/no impact	All biological resources protected

Sediment Source Category	Reasonably Foreseeable Compliance Action(s)	Federal Permits	State Permits	Local Permits	Impacts to Special Status Species and/or Sensitive Natural Communities
	Reduce/disconnect engineered drainage	Unlikely to require federal permits	At a minimum, WDR or conditional waiver.	Unlikely to require permits	As above
	Terracing	As above	As above	Grading permit, biological surveys, CEQA determination, and County Conservation Regulations all apply.	All biological resources protected because terraced vineyard would remain within existing developed area
	Re-establish forest cover	Not regulated/no impact	Not regulated/no impact	Not regulated/no impact	All biological resources protected
Gullies and shallow landslides:	Passive recovery	Not regulated/no impact	Not regulated/no impact	Not regulated/no impact	All biological resources protected
	Re-vegetation	As above	As above	As above	As above
	Biotechnical engineering	If in jurisdictional waters, then CWA 404 (Various NWP or IP)	At a minimum, WDR or conditional waiver.	May not require a use permit in some cases	All biological resource protected per County discretionary approval and General Plan policies (Policy Con-13, Con-16, and Con-17)
	Dispersal of runoff (to areas where runoff can be discharged without causing erosion)	Unlikely to require permits	At a minimum, WDR or conditional waiver.	Not regulated in all cases/depends on project scope and scale	All biological resources protected because WDR or waiver must achieve BPA performance standard for peak flow attenuation**
	Hard engineering	If in jurisdictional waters, then CWA 404 (Various NWP or IP)	At a minimum, WDR or conditional waiver.	At a minimum, grading permit, biological survey, and CEQA determination.	All biological resources protected

Sediment Source Category	Reasonably Foreseeable Compliance Action(s)	Federal Permits	State Permits	Local Permits	Impacts to Special Status Species and/or Sensitive Natural Communities
Surface erosion in vineyard areas:	Cover crops and/or composted mulch	Not regulated/no impact	Not regulated/no impact	Not regulated/no impact	As above
	Conservation tillage	Not regulated	WDR or conditional waiver	Not regulated	As above
	Terracing (of an existing or replanted hillside vineyard)	As above	As above	Grading permit, biological surveys, CEQA determination, and County Conservation Regulations all apply.	All biological resources protected because terraced vineyard would remain in existing developed area
	Engineered drainage within vineyard footprint	Unlikely to require permits	WDR or conditional waiver	Not regulated in all cases	All biological resources protected because WDR or waiver must achieve BPA performance standard for peak flow attenuation

Notes on Table 11a:

+ Table focuses on evaluation of potential impacts to biological resources because we did not identify potentially significant impacts to other resource categories.

*Some sensitive natural communities of limited distribution are not fully mapped, and therefore, may not be identified and fully protected from significant impacts. Detention basins (to attenuate increase in storm runoff), typically would be located within the footprint of the developed vineyard area. Potential for impact to some sensitive natural communities of limited distribution arise only in cases where basins would be constructed outside the developed vineyard area, in areas with natural cover where some sensitive natural communities of limited distribution are not fully mapped and identified. Also, in a few special cases, where an existing road segment is located on a large active landslide, it may be necessary to relocate the road segment. Although these projects would be large enough to require a grading permit, and biological surveys (were special-status species may be present), because some sensitive natural communities of limited distribution are not fully mapped, the potential remains for significant impacts.

**The Basin Plan amendment requires that vineyard owners and/or operators "effectively attenuate significant increases in storm runoff. Runoff from vineyards shall not cause or contribute to downstream increases in rates of bank and bed erosion." As a result of achieving this requirement, disturbance to natural vegetation cover would be insignificant, and hence all sensitive natural communities are protected.

Note: the Water Board will not require or permit compliance actions in the following sensitive natural communities: Redwood forest, Ponderosa Pine alliance, Tanbark Oak alliance, Oregon white oak woodland, Mixed serpentine chaparral, and Wet meadow grasses NFD super alliance. This mitigation measure is proposed to reduce potential impacts of compliance actions on biological resources.

CWA 404 = Section 404 of the Clean Water Act

CWA 401= Section 401 of the Clean Water Act (State water quality certification)

NWP, IP, RGP = Nationwide Permit, Individual Permit, and Regional General Permit, US Army Corps, Section 404 of the Clean Water Act, wetland fill regulatory permit programs.

BPA = Basin Plan amendment

WDR = waste discharge requirements

Napa County Conservation Regulations (Chapter 18.108) include requirement to "not adversely affect sensitive, rare, threatened, or endangered plants or animals or their habitats as designated by state or federal agencies with jurisdiction, and as mapped on the county's environmental sensitivity maps."

Napa County floodplain management regulations (Chapter 16.04.050): objectives for riparian protection are to "preserve fish and game habitats; prevent or reduce erosion; maintain cool water temperature; prevent or reduce siltation; promote wise uses and conservation of woodland and wildlife resources of the county."

ESA: Federal Endangered Species Act

Section 7 Consultation: biological opinions prepared under Section 7 of the federal Endangered Species Act

Streambed alteration agreement: California Department of Fish and Game, Section 1603 streambed alteration agreement

CESA: California Endangered Species Act

CEQA: California Environmental Quality Act

Other permits including streambed alteration agreements with the California Department of Fish and Game would also be required for any compliance project that may occur within a stream channel, riparian corridor, and/or floodplain.

Table 11b. List of Sensitive Natural Communities within the Napa River Watershed

Upland Communities:	Aquatic or Riparian Communities:
Serpentine bunchgrass grassland	Fremont cottonwood riparian forest
Wildflower field (located within native grassland)	Arroyo willow riparian forest
Creeping ryegrass grassland	Black willow riparian forest
Purple needlegrass grassland	Pacific willow riparian forest
One-sided bluegrass grassland	Red willow riparian forest
Native grassland (limited distribution)	Narrowleaf willow riparian forest
Mixed serpentine chaparral	Mixed willow riparian forest
Oregon white oak woodland	Brewer willow alliance (limited distribution)
California bay forests and woodlands (also occurs in riparian areas; wide distribution, > 10,000 acres, within watershed)	Coastal and valley freshwater marsh
Tanbark oak alliance (limited distribution)	Coastal brackish marsh
Redwood forest (also occurs in riparian areas)	Northern coastal salt marsh
Douglas-fir ponderosa pine forest (old-growth) (also occurs in riparian areas)	Northern vernal pool (limited distribution)
Ponderosa pine alliance (also occurs in riparian areas; limited distribution)	Riverine, lacustrine, and tidal mudflats (limited distribution)
	Wet meadow grasses NFD super alliance (limited distribution)

Note: we did not include California bay forest and woodlands on the list of sensitive natural communities where we would not require or approve compliance actions. This is because this community has a very broad distribution and area within the watershed. Maximum estimate of the acreage of native vegetation cover (all natural cover types and communities) within the watershed that could be disturbed as a result of compliance actions is tens of acres or less.

~~a-b) The Basin Plan amendment was developed specifically to benefit, enhance, restore and protect biological resources, including fish, wildlife, and rare and endangered species. Nonetheless it is possible that in order to comply with the proposed Basin Plan amendment, specific projects involving construction and earthmoving activities could be proposed that could potentially affect candidate, sensitive or special status species (collectively, special-status species), either directly or through habitat modifications; riparian habitats; or other sensitive natural communities. While the minor construction and earthmoving operations would occur in already disturbed areas and mostly involve reconstruction, re-contouring or replacement of existing roads and structures, it is possible (although not likely) that these and other activities to reduce erosion and enhance stream habitats could occur in and impact areas where there are special-status species and habitats.~~

~~Specifically, the following types of projects may have the potential to cause significant adverse effects to some special-status species:~~

~~a) Large detention basins (≥ 1 acre) that may be constructed to attenuate increases in peak flow and/or reduce sediment delivery, and built on flat lying or gently sloping terrain;~~

~~b) Relocated road segments (e.g., replacing road segments that were located in unstable areas); and/or~~

~~c) Large scale grading and re-vegetation projects implemented to enhance stream, riparian, and/or floodplain habitat functions (e.g., the Rutherford, and Oakville-to-Oak Knoll Napa River habitat enhancement projects).~~

~~These and other reasonably foreseeable compliance projects would be subject to review and approval by the Water Board, which will, in the course of discharging its statutory duties to protect water quality and their beneficial uses (including preservation of rare and endangered species and wildlife habitat as set forth in the Basin Plan), either not approve compliance projects with significant adverse impacts on special-status species and habitats or require avoidance or mitigation measures to reduce impacts to less-than-significant levels. It is not reasonably foreseeable that the Water Board would approve earthmoving work that would disrupt or destroy habitat of a known special status species. Furthermore, it is the Water Board's standard practice to work with the proponents of compliance projects to come up with actions that not only meet and further the proposed Basin Plan amendment's requirements and goals, but also all other components of the Basin Plan, such as the protection of rare and endangered species and habitat. For example, where avoidance of impacts is not possible, the Water Board requires mitigation measures for work it approves that may impact special status species, riparian habitats, or other sensitive natural communities. These include but are not limited to requiring pre-construction surveys; construction buffers and setbacks; restrictions on construction during sensitive periods of time; employment of on-site biologists to oversee work; and avoidance of construction in known sensitive habitat areas or relocation and restoration of~~

~~sensitive habitats. In sum, through the course of the Water Board discharging its required mandate to protect beneficial uses such as rare and endangered species and wildlife habitat, impacts to special-status species and their habitats would be avoided or reduced to less than significant levels.~~

~~If, however, impacts to the special status species and their habitats occur outside the Water Board's jurisdiction (e.g., in areas with no proximity or relation to waters of the state), then impacts must be addressed through other local, state, and federal regulatory programs. State and federal laws prohibit the take of special status species and their habitats except where incidental take permits have been issued. When issuing incidental take permits, state and federal agencies must ensure that the impacts of the take are minimized and mitigated to the maximum extent possible and ensure that the take will not appreciably reduce the likelihood of the survival and recovery of the species. If proposed compliance projects affect special status species outside the Water Board's jurisdiction, then these agencies have the responsibility and jurisdiction to mitigate significant impacts. These agencies can and should mitigate their impacts. Unless and until that happens, the impacts remain significant and unavoidable.~~

c) Basin Plan amendment-related implementation actions may contribute to an increase in the acreage of land where habitat enhancement and/or erosion control projects are undertaken, a fraction of which could be within wetlands. The adverse impacts on wetlands would not be substantial, however because under the Nationwide or individual permit programs administered by the US Army Corps of Engineers, there are general conditions that require that for projects that may adversely affect all wetlands, as defined under Section 404 of the Clean Water Act, responsible parties must demonstrate that avoidance, minimization, and mitigation has occurred to the maximum extent practicable to ensure that adverse impacts to the aquatic environment are minimal. Furthermore for all potential projects where wetland losses would exceed 0.1 acres, applicants are required to provide compensatory mitigation at a ratio that is greater than or equal to 1:1. For projects where wetland losses are less than 0.1 acre, on a case by case basis the District Engineer may require compensatory mitigation. If TMDL implementation projects are proposed that could have the potential to disturb wetlands, they also would be subject to the Water Board's review and approval under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, and the Water Board must, consistent with its Basin Plan, require mitigation measures to avoid, minimize, and mitigate impacts to less-than-significant levels. As specified in the Basin Plan, the San Francisco Bay Regional Board uses the USEPA Section 404(b)(1) Guidelines for dredge and fill material in determining the circumstances under which the filling of wetlands may be permitted. This policy requires that avoidance and minimization be emphasized and demonstrated prior to consideration of mitigation. Furthermore, the California Wetland Protection Policy also is incorporated into the Basin Plan. The goals of this policy include ensuring that "no overall net loss" and "long-term net gains in the quantity, quality, and permanence of wetland acreage and values …" (Governor's Executive Order W-59-93). <u>Wetlands not subject to protection under Sections 404 and 401 of the Clean Water Act are still subject to regulation and protection under the California Water Code. Please also see discussion in Section IV, (b) above relating to sensitive natural communities, some of which are wetland types.</u>

d) The Basin Plan amendment would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The main goal of the Basin Plan amendment is to improve and enhance fish passage. Thus, compliance projects would entail improving migratory fish corridors, not adversely affecting them. It is possible, however, that projects could be proposed to comply with the Basin Plan amendment that involve construction or earthmoving activities that could interfere with wildlife movement, migratory corridors, or nurseries (e.g., channel habitat enhancement projects, fish passage enhancement projects, riparian corridor planting, etc.). If that occurs, the projects would be subject to and have the same process and impacts described in response a-b above. Furthermore, none of the reasonably foreseeable compliance actions (Table 11a) have the potential to substantially interfere with wildlife movement, therefore we conclude that the impact is less than significant.

e-f) The Basin Plan amendment itself does not conflict with any local policies or ordinances protecting biological resources such as trees, or with any adopted Habitat Conservation Plan, Natural Community Plan, or other approved local, regional or state habitat conservation plan. There is no evidence to suggest that projects proposed to comply with Basin Plan amendment requirements would conflict with these plans."

Comment 3.8: The revised Staff Report, in Chapter 7, concedes that the Water Board must perform an analysis of reasonably foreseeable means of compliance with any TMDL performance standards. The first performance standard for vineyards is compliance with the County Conservation Regulations (Table 4.1 of the Basin Plan amendment).

To clarify, we are not requiring the County Conservation Regulations, only acknowledging they are in effect. Please also note that the County Conservation Regulations (Chapter 18.108) do not specify means of compliance, only conditions with regard to effectiveness of erosion control and/or other goals (e.g., protection of drinking water supply, water quality, etc.).

Comment 3.9: The Water Board also concedes that implementation actions to comply with the TMDL may cause significant effects on biological resources (Staff Report pp. 98 and 107). As I argued in my May 7, 2008 letter to the State Board, the Court of Appeal decision in *City of Arcadia vs. State Board* requires an EIR level analysis where TMDL implementation may cause significant impacts.

See our response to comment 3.7 above.

Comment 3.10: The Water Board apparently disclaims any obligation to evaluate the effects of the County Conservation Regulations/Erosion Control Permit Program as suggested by the following excerpt from the Staff Report (p. 124):

> **Although the probability is low, it is possible that some compliance projects could impact rare and endangered biological resources and their habitats. Without the details of specific compliance projects, it is impossible to determine the scope and extent of such impacts. If such impacts exist, however, when reviewing and acting on compliance projects, the Water Board is required to and will protect and minimize impacts to special status species which are beneficial uses of water…For impacts to species not within the Water Board's jurisdiction, other responsible state and federal agencies can and should mitigate the impacts, but until such time…, such impacts remain significant and unavoidable.**

This is an existing county regulatory program, for which the county will undertake environmental review where required. The Water Board is not adopting these programs as its own, such that we have to evaluate projects that come under this program.

Comment 3.11: The key sentence in that quote [included above in comment 3.10] is "Without the details of specific compliance projects, it is impossible to determine the scope and extent of such impacts." With this finding the Water Board apparently invokes the phrase in Section 21159 that states: "the agency shall not engage in speculation or conjecture."

See our response to Comment 3.8 above, where we clarify that we are not adopting or relying on county regulations, only acknowledging that they are in effect. Please also see our response to Comment 3.14 below, where we present revisions to the cumulative effects analysis including consideration of project effects together with effects of existing and projected future vineyard development.

Comment 3.12: "I previously submitted Dr. Curry's and Dennis Jackson's comments on numerous erosion control plans (ECPs) on which EDEN has commented (see exhibits 1-8 attached hereto). These ECPs provide great detail regarding the nature and extent of engineered drainage facilities that are typically used to comply with the ECP Program…" The Board could also review hundreds of ECPs approved for vineyards by the County since the program was begun in 1991, could access County enforcement records, and/or "do its own effectiveness monitoring on past ECPs as part of its EIR level analysis of the environmental effects of the ECP Program performance standard."

It is always useful to review such plans and to visit the sites where they are implemented. Please note that through field surveys conducted to develop the Napa River watershed sediment budget, review of ECPs for other vineyard development projects, and in our role as a certifying agency for the Fish Friendly Farming Program, we have gained a good working knowledge of the types of erosion control practices employed in vineyards in the Napa River watershed.

For example, for the Fish Friendly Farming Program, we review (farm plan) documents similar in content, and/or more comprehensive than ECPs. These documents include (but are not limited to): a) specification of all natural and engineered drainage features; b) locations of all significant/active human-caused sediment sources; and c) the erosion control structures and management practices that are employed throughout the property (including for all roads, channel erosion sites, upland legacy erosion sites, and within the vineyard footprint). During the past five years, Water Board staff have reviewed farm plans and conducted site reviews for eighty-six vineyards covering more than 7,000 acres in the Napa River watershed. These reviews, field work for the sediment budget, and previous reviews of other ECPs, have helped us to become familiar with site development and management practices for vineyards.

Comment 3.13: "In short, there is a wealth of factual evidence which the Board can use to perform an environmental evaluation of using compliance with the ECP Program as a performance standard for this TMDL."

See our response to Comments 3.8 and 3.14.

Comment 3.14: "Indeed, there are ECP projects in the pipeline at this moment that the Environmental Checklist's cumulative impacts analysis ignores. These include the Rodgers/Upper range, Stagecoach, Abbot, and Abreu ECPs."

The cumulative impacts analysis contained in the September 2008 draft of the Staff Report has been revised to consider the effects of development and management of existing vineyards, and projected future vineyard development; as described in the DEIR for the Napa County General Plan Update (Napa County, 2007). Revisions to the cumulative impacts analysis contained in the environmental analysis within the Staff Report are as follows:

> *Discussion of Cumulatively Considerable Impacts.* We have concluded that project-specific impacts to a subset of sensitive natural communities of limited distribution that are not completely mapped within Napa County are potentially significant and unavoidable (see explanation above for Biological Resources). In examining the potential for cumulatively considerable effects, we consider impacts to these sensitive natural communities together with the effects of other projects in the watershed

that also involve significant earth moving, habitat reconstruction, and/or large-scale changes in vegetation cover. We also examine less than significant project-impacts to hydrology and water quality in response to comments received. Based on these considerations, in evaluating the potential for contributing to cumulatively considerable effects, we also consider the following projects:

- The Napa River Flood Control Project;
- The Saint Helena Flood Control Project;
- The Napa Salt Marsh Restoration Project;
- The Upper York Creek Dam fish passage restoration project; and
- Existing and projected future vineyard development within the watershed.

Of the above listed projects, only vineyard development may have a significant impact on sensitive natural communities that may experience significant impacts from Basin Plan compliance actions. Because the total acreage of each of these communities within the watershed is typically very small and the distribution is limited, incremental effects of Basin Plan amendment compliance to this subset of biological resources may be cumulatively considerable.

- Hydrology and Water Quality: The Basin Plan amendment includes a performance standard for sediment discharges from vineyards requiring that erosion control actions "effectively attenuate significant increases in storm runoff." Basin Plan amendment-related activities are, by design, intended to decrease peak runoff rates from upland land uses, as needed to reduce fine sediment input to channels and channel erosion. Therefore, the Basin Plan amendment would not increase the rate or amount of runoff, exceed the capacity of storm water drainage systems, or degrade water quality, and the impact is less than significant with mitigation incorporation. Of the projects considered in the cumulative effects analysis, only existing and projected future vineyard development has the potential to cause significant long-term impacts to water quality as a result of increases in storm runoff quantity. The performance standard for vineyard storm runoff would apply to all existing, replanted, and new vineyards. Therefore by definition, incremental effects of the Basin Plan amendment on peak runoff increases associated with vineyards would be beneficial, and as such, not contribute to any cumulatively considerable effects.

~~In summary, we conclude that reasonably foreseeable projects to comply with the Basin Plan amendment considered in connection with other projects will not result in any cumulatively considerable impacts.~~

~~As discussed above, although improbable, it is possible that projects that may be implemented to comply with the Basin Plan amendment may cause project-specific impacts that could be potentially significant to biological resources (specifically as described in Section IV a, IV b, and~~

~~IV d of the checklist) resulting from earthmoving and/or construction operations. In evaluating cumulatively considerable impacts, we have considered the potential for connection and/or interaction with the following projects that also involve geographically extensive earth moving, biotechnical engineering, re-vegetation, and minor construction along the Napa River and/or its tributaries:~~

~~a) The Napa River Flood Control Project;~~

~~b) The Saint Helena Flood Control Project;~~

~~c) The Napa Salt Marsh Restoration Project; and~~

~~d) The Upper York Creek Dam fish passage restoration project.~~

~~Based on review of the DEIR for the Napa County General Plan Update (Napa County, 2007), we have identified the following special-status species that theoretically could be impacted by compliance with the Basin Plan amendment, and/or cumulatively in connection with the above listed projects[42]:~~

~~a) Northwestern pond turtle;~~

~~b) Foothill yellow-legged frog;~~

~~c) Hardhead (a native resident fish species);~~

~~d) Cooper's hawk;~~

~~e) Yellow warbler;~~

~~f) Yellow-breasted chat;~~

~~g) Northern California black walnut.~~

~~Similarly, riparian habitat (a sensitive biotic community) also could experience potentially significant project-specific or cumulative impacts.~~

~~For riparian plant and animal species and/or riparian plant communities, although there may be local and short term impacts that are substantial during the construction of one or more of the projects listed above, these impacts would not cause the loss of important biological resources at the watershed- and/or population-level. This is because:~~

~~None of the above listed species has a distribution that is limited only to the areas of the projects being considered;~~

~~Basin Plan implementation, and the other projects being considered in the cumulative impacts analysis, are or will occur in phases over several years (e.g., only a sub-area of each project would be constructed at any one time, and therefore, disturbances to vegetation cover at each site should not persist for more than a period of months at any one site);~~

~~The pre-conditioned protections that are afforded to listed species within the project envelopes also should be effective in protecting other special-status species.We also note that the net long-term effect of projects implemented to comply with the Basin Plan amendment on riparian habitats and/or dependent species will be positive on both the quality and quantity of riparian habitats, and the distribution and status of the species we have identified. These projects include the Rutherford and Oakville-to-Oak Knoll Napa River Habitat Enhancement Projects, and stream-~~

~~riparian habitat enhancement projects implemented under the Fish Friendly Farming Environmental Certification Program)[43]. Considering all of the above information, we conclude that the potential cumulative impacts to yellow warbler, yellow-breasted chat, northern California black walnut, and/or Cooper's hawk, and/or their habitats are less than significant.~~

~~Because foothill yellow-legged frog are not found in the Napa Salt Marsh and/or the Napa River within the reaches included in the Napa and/or St. Helena flood control projects, and because project-specific impacts to foothill yellow-legged frog associated with the Upper York Creek Dam Fish Passage Restoration Project were determined to be less than significant (City of St. Helena, 2007, pp. 87-88), we conclude by definition that impacts to foothill yellow-legged frog is not cumulatively considerable.~~

~~[42]As described earlier, in the explanations for the boxes checked with regard to Biological Resources Issues, almost all species that are listed or candidates under the state and/or federal Endangered Species Act are afforded pre-conditioned protection from significant~~

~~[43]See Section 6.5 Approaches to Achieve Allocations – Channel Incision for details regarding these implementation actions.~~

~~For hardhead, as described in Section 4.4 of this report (Potential Responses of Other Fish and Aquatic Wildlife Species), we conclude that reasonably foreseeable actions to comply with the Basin Plan amendment would not cause potential significant impacts to hardhead, and as such, cumulatively considerable impacts would not occur.~~

~~Northwestern pond turtle should benefit from reasonably foreseeable actions to comply with the Basin Plan amendment including enhancement of habitat complexity and connectivity in the Rutherford and Oakville-to-Oak Knoll reaches of the Napa River. Therefore, we have not considered the potential for cumulatively considerable impacts to this species."~~

Comment 3.15: The Environmental Checklist's cumulative impacts analysis includes only four other projects … (Staff Report, p. 124). The omission of the ECP Program, which consists of numerous past, present, and future projects (including open projects at this time such as Stagecoach, Rodgers, Abbot and Abreu) from the cumulative impacts section is an unfortunate example of trying to ignore the elephant in the room."

See our response to Comment 3.14 above. We have revised the cumulative effects analysis to include consideration of project effects together with effects of existing and projected future vineyard development.

Comment 3.16: "Moreover, even for the four identified projects, the Environmental Checklist provides no useful information regarding how their effects will combine with the effects of the TMDL implementation. All we are told is that "we have

considered" the four projects. What information that consideration brought to light is not disclosed. CEQA requires more."

We have provided a basis for our evaluation of potential cumulative effects. See our response above to Comment 3.14.

Comment Letter no.3 (Dennis Jackson Attachment)

Comment 3.DJ1 (Apply the TMDL to the entire watershed): TMDL should apply to the whole watershed. For example, municipal water supply needs to be protected against turbidity and sedimentation impacts. Rainbow trout spawn and rear upstream of the reservoirs. They are landlocked steelhead, and hence, a valuable genetic reservoir for the downstream population. Also, it is important to acknowledge and address the fact that reservoir construction has resulted in significant steelhead habitat loss.

The mainstem of the Napa River is the only water body in the watershed listed as impaired by sedimentation, and no water bodies in the watershed are listed for turbidity (State Board, 2006). The TMDL addresses the Napa River sedimentation problem, which is expressed by a high concentration of sand in the streambed at potential spawning and rearing sites for steelhead and salmon in the Napa River watershed. We developed the Basin Plan amendment to resolve the sedimentation impairment, and to promote a broader program supporting conservation of steelhead and Chinook salmon populations in the watershed.

Because all five municipal dams are complete barriers to steelhead and salmon migration, absent dam removal, there is no potential habitat for anadromous salmonids upstream of these dams. Also, because all municipal reservoirs are very large, essentially all sand discharged into them is deposited therein. Therefore, sand delivery to channels from land areas located upstream of the municipal reservoirs does not exert a measurable effect on the sand concentration in channel reaches downstream of these dams, and hence does not influence sand concentration in the Napa River or tributary reaches that provide potential habitat for anadromous salmonids.

While we agree that all water bodies and beneficial uses in the watershed must be protected, including municipal water supply and cold freshwater habitat upstream of municipal dams, this is not the focus of this TMDL and Basin Plan amendment. We will consider these and other resource protection issues in determining the geographic scope and requirements for the WDR waiver programs, as discussed further in our response above to Comment 2.5.

Comment 3.DJ2 (Turbidity monitoring): Continuous turbidity monitoring is needed, especially in Subareas of the watershed that are underlain by bedrock units that are particularly susceptible to increased turbidity. Such monitoring is needed to evaluate

the occurrence/significance of chronic turbidity and potential significance with regard to fish growth. Numeric targets for chronic turbidity could be set per Trush (2002).

As indicted in our previous responses to comments, dated 16 January 2007 (response to Comment 9.15), and in the Basin Plan amendment (Evaluation and Monitoring, p. 19), we have indicated our intent to conduct and/or support a turbidity monitoring program to further evaluate occurrence and/or significance of chronic sub-lethal turbidity.

Comment 3.DJ.3 (Dams): Dams play a significant role in channel incision. To address this issue, Jackson recommends that the Water Board: 1) investigate winter release operations of municipal reservoirs (for dams that can control releases) because sustained releases near bankfull discharge (a common reservoir operation procedure during large storm runoff events), saturate stream banks, and lead to bank failures after releases are reduced; 2) initiate a program to identify and map the locations of on-channel dams that do not have necessary water rights permits, require owners to obtain water rights that include conditions to pass fish and coarse sediment through the dams; and 3) identify on-channel dams where it would make sense to restore fish passage, and then require this.

With regard to the first recommendation, to investigate winter release operations, please note that none of the five municipal reservoirs is operated for flood control purposes. All are operated to provide water supply. Therefore, high flow releases are not controlled or planned. Instead, once these reservoirs reach capacity, they flow over their spillways.

With regard to the second recommendation, please note we previously conducted an analysis to identify on-channel dams (Dietrich et al., 2004), and requested that the Division of Water Rights conduct a survey of illegal storage (Wolfe, 2008). We agree that where water is being stored illegally, landowners should be required to obtain water rights permits, and those permits should be conditioned to require passage of coarse sediment, large woody debris, and fish, and flow bypasses as needed to conserve aquatic life in downstream reaches.

With regard to the third recommendation, identifying on-channel dams where it would make sense to restore fish passage, much progress has been made in recent years including full restoration of fish passage through a seasonal flashboard dam that was formerly located on lower Dry Creek, and retrofit of an on-channel dam on Bear Canyon Creek, to allow steelhead migration through the dam. Both projects have the potential to substantially increase steelhead smolt production from the watershed. A third major fish passage project, removal of the City of St. Helena's Upper Dam on York Creek, will be implemented in the dry season of 2009 and/or 2010. Once completed, this project will restore steelhead access to/from two-miles of very high quality spawning and rearing habitat. Also, please note that the State Coastal Conservancy is considering funding to develop "barrier removal plans" for the twenty highest ranked and known barriers to anadromous fish passage within the Napa River watershed. Planning and assessment

efforts for other significant, non-dam related barriers also are underway on lower Ritchie Creek, and on the mainstem of the Napa River at the Zinfandel Lane Crossing.

Comment 3.DJ4 (Low flows): The revised Basin Plan amendment does not adequately address low flow problems that occur in dry years with a cold spring season. Minimum bypass flows for the frost protection period (March 15 through May 15) in the Napa River are too low. The Department of Fish and Game has demonstrated that diversions and on-stream reservoirs have played a significant role in the decline of salmonids in the watershed. Because diversions during the spring for frost protect impact baseflow, the Department of Water Resources Watermaster should be brought into the coordinated interagency process that you have proposed (Basin Plan amendment, Table 5.2, Action 2.1). What actions will the Water Board take, if the inter-agency plan is not implemented by the fall of 2010? Finally, the revised Basin Plan amendment and Staff Report do not address my earlier recommendation (attached as part of the comment letter submitted to the State Board in May of 2008) that near-stream wells should be examined to determine if they are impacting streamflow discharge.

All diversions during the March 15 through May 15 frost protection period are controlled by a court appointed Watermaster, who has enrolled all mainstem and tributary diverters, who withdraw between March 15 and May 15, in the frost protection program. With regard to increasing minimum bypass flows, it is our understanding that the Watermaster retains authority to modify the definition of "ample streamflow" and/or based on experience gained in administering the program, to suggest to the Superior Court that the definition of "available water supply" be refined or revised (Napa County Superior Court, 1976). By modifying one or both of these definitions, instream flows to protect fish could be increased. Key information needs to guide policy in this area may include: a) analyses of current relationships between fish passage and streamflow at critical riffles and man-made structures in the Napa River and key tributary reaches; b) streamflow monitoring in key tributaries to protect critical baseflows for steelhead; and c) steelhead and Chinook salmon smolt trapping to determine the timing of outmigration, smolt fitness, and smolt population levels and trends. We actively support these data collection efforts, and their application to water rights policy and regulation.

With regard to the proposed inter-agency plan, please note that participation is voluntary and the plan would focus solely upon municipal water supply facilities in relation to opportunities to jointly enhance water supply reliability and native fish populations. The City of Napa previously has indicated its support for, and willingness to participate in development of the proposed plan (Brun, 2007). Perhaps the most significant obstacle to development of the proposed plan is the availability of staff and contract resources to conduct necessary studies, direct the process, and prepare the plan.

The Water Board remains committed to helping to obtain necessary resources and to working cooperatively with other partners on the plan.

Finally with regard to the concern that near-stream wells need to be examined to determine if they are affecting streamflow, please note that as a condition of the WDR waivers, staff will propose that the Water Board require compliance with all water rights laws in order to obtain coverage. We also are open to receiving additional input regarding analytical approaches that could be used to determine whether well pumping affects streamflow.

Comment 3.DJ5 (Napa County Conservation Regulations): Reliance on the Napa County Conservation regulations to prevent sediment related impacts of new projects is unsatisfactory. For projects that I have reviewed, the hydrologic analyses prepared to examine potential impacts of new projects are inadequate. County planners do not appear to have necessary expertise to evaluate the reliability of the models that are prepared to evaluate these projects. The hydrological analysis prepared for the Rodgers EIR [vineyard development] provides an example of this problem; a long-term record of streamflow at a similar nearby location was not examined to validate the model used in the EIR. In doing so, it's clear that the model greatly overestimates pre-development runoff, making predicted changes following development highly suspect.

Based on inspections conducted over the past five years of eighty-six vineyards, covering more than 7,000 acres within the Napa River watershed, Water Board staff has concluded that on-site erosion and sediment control practices in vineyards typically are effective in controlling sediment delivery to channels from vineyard surface erosion (Napolitano, memo to file, 2008). As indicted in our previous responses to comments and in the Staff Report, at some hillside vineyards, excessive reliance on engineered drainage to control surface erosion on-site has inadvertently caused or contributed to off-site gully erosion at or near the points of discharge from the vineyards. To address this problem, and other land-use related causes for significant increases in storm runoff, the Basin Plan amendment requires avoidance and control of human-caused increases in sediment delivery from unstable areas, and effective attenuation of significant increases in storm runoff from vineyards (Basin Plan Amendment, Table 4.1, p. 10). In some cases, retrofit of existing vineyard drainage and/or management practices may be required to achieve the performance standards.

We also concur it is likely that vineyard development, urban development, and roads have increased storm runoff and peak flow in the Napa River and its tributaries. The real question is by how much, and what is the significance of such changes? To address these questions, more field data collection and analysis is needed to determine how much runoff may be increasing and under what circumstances, and to evaluate potential consequences with regard to location(s) and effects on channel physical habitat structure.

TR-55, HEC-1 and HEC-HMS models are commonly used in Napa County to evaluate effects of vineyard development on storm runoff. Changes predicted by these models are strongly influenced by professional judgment regarding the selection of key parameter values, and therefore it is not surprising that conclusions derived from these models are sometimes controversial.

Consistent with *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (State Board, 2004), as a condition of the WDR waiver program for vineyards, we will propose BMP effectiveness monitoring to evaluate effects of vineyard development and management on storm runoff peak and volume, and potential significance with regard to changes in channel structure and sediment delivery rates to channels. Information gained from this monitoring would then be applied to empirical model development and to technical guidance for development and redevelopment, and management of "low impact vineyards" (Booth, 2008).

Comment 3.DJ6 (Impacts of TMDL implementation): "Many aspects of the TMDL rely on Napa County being able to apply their Conservation Regulations to proposed development projects." However, the Conservation Regulations have not been subject to an evaluation of potential environmental impacts under CEQA. Also, as discussed earlier, there are problems with regard to County technical expertise that call into question whether the development projects will be conditioned as needed to achieve TMDL performance standards.

We do not rely on the County Conservation Regulations. We only acknowledge that they are in effect. With regard to this issue, please also see our responses above to Comment 3.8 and Comment 3.DJ5. With regard to in-house technical expertise, it is our understanding that the Napa County contracts with technical staff of the Napa County Resource Conservation District to provide review of the adequacy of erosion control plans, including analyses of predicted changes in runoff as a result of vineyard development.

Comment 3.DJ7 (Conclusions): The TMDL should regulate turbidity. The Water Board should require municipalities "to determine if the operation of individual reservoirs can be changed in a way to decrease the erosive power of their winter storm releases or whether their collective winter releases can be beneficially coordinated." Illegally constructed dams should be removed or modified to allow passage of fish and coarse sediment. "The apparent need to modify existing water rights" to protect fish should be addressed. The approach to protect baseflows outlined in Table 5.2 of the Basin Plan amendment is incomplete because it does not address the issue of diversion for frost protection, and does not name the watermaster as one of the implementing parties. "I have demonstrated that Napa County does not [have] the necessary in-house expertise to evaluate the validity of mathematical model output used to evaluate whether a project has the potential to increase peak storm discharge

and sediment loads. It is crucial that mathematical models be carefully calibrated to real-world conditions."

See our detailed responses above to Comments 3.DJ1 through 3.DJ6.

Comment Letter no.3 (Dr. Robert Curry, Attachment)

Dr. Curry was asked by the Living Rivers Council to consider if requiring vineyards to keep peak runoff within 10-to-15 percent of pre-project level would avoid significant impacts. Because each of Dr. Curry's comments provide part of a larger logical argument regarding the vineyard stormwater runoff performance standard, our responses to all of these comments are provided immediately below Comment 3.RC5.

Comment 3.RC1: Such approaches are often justified based on the premise that this level of change is statistically within the natural range of variation for climatic conditions within the past few centuries.

See our response below to Comment 3.RC5.

Comment 3.RC2: However, other variables [e.g., other watershed and channel attributes] also have been changed. These include lowering of groundwater tables, paving and urbanization, channel incision due to past [land-use related] runoff increases, tributary dams reducing coarse sediment supply, and the loss of riparian vegetation.

See our response below to Comment 3.RC5.

Comment 3.RC3: By focusing on vineyard development sites, all of the other adverse changes [described immediately above] are not addressed.

See our response below to Comment 3.RC5.

Comment 3.RC4: "Vineyards are a source of new [fine] sediment and runoff [increases], but is control of 85 to 90% of the new vineyard contributions adequate to meet the requirements of the TMDL?" I conclude that it is a headwater target only, which cannot protect against adverse downstream channel changes, when considered together with other persistent adverse changes in watershed and channel conditions.

See our response below to Comment 3.RC5.

Comment 3.RC5 (Conclusion): "Control of 85-90% of the contributions [of] storm runoff from new hillside vineyards cannot prevent exacerbation of pre-existing storm-flow runoff damage to receiving water channels, nor can it prevent future new

damage where multiple conversions, development, or increased vineyard acreages are contemplated in a single watershed."

See our response to Comment 3.5 above, where these same issues are raised. Also note that the performance standard for vineyard storm runoff quantity would apply to all vineyards including new, existing, and replanted vineyards, and that as a condition of the waiver, staff will propose that landowners develop a stream and riparian corridor management plan to passively or actively recover geomorphic and ecological processes in unstable channel reaches.

Comment Letter no.3 (continued): Living Rivers Council (May 2008 comments to State Board incorporated by reference)

Comment 3.May 2008.1: "An EIR equivalent analysis is required because TMDL implementation may cause significant impacts." The Basin Plan amendment cites the County Conservation Regulations as a performance standard. County approval of erosion control plans (ECPs) under the Conservation Regulations often relies on engineered drainage facilities that concentrate runoff and increase peak flows. However, the County review process often does not accurately evaluate or adequately mitigate significant impacts associated with increases in runoff (see exhibits 7-16 and 30-32 attached to the August of 2006 comment letter). "The Staff Report entirely fails to assess impacts of increases in peak flow as a result of installation of these engineered drainage facilities."

See our response to Comment 3.7 above.

Comment 3.May 2008.2: "The TMDL also incorporates the Division of Water Rights' appropriative permit program and it's *Policy for Maintaining Instream Flows in Northern California Coastal Streams* (see Table 5.2 of the Basin Plan amendment as adopted by the Regional Board)."

To avoid this confusion, in the September 5, 2008 draft of the Basin Plan amendment, we removed reference to *North Coast Instream Flow Policy*. Project scope does not include regulation of appropriative water rights.

Comment 3.May 2008.3: "The Staff Report fails to identify mitigation measures to reduce significant impacts and fails to discuss a reasonable range of alternatives required by CEQA, and fails to consider all relevant factors [related to impairment]. Comment letters by Curry, Jackson, and Higgins provide detailed analyses of a number of mechanisms by which human activity adversely effect the beneficial uses of water in the Napa River watershed. Many of these mechanisms are directly related to sediment-caused impacts. These include without limitation, increases in peak flow that increase downstream erosion and sedimentation by causing channel incision and bank failures, trapping of coarse sediment behind and passing of fine sediment

through dams, reductions in streamflow by impoundments and diversions, groundwater withdrawals from stream channel underflow, which exacerbates low flow effects of sediment deposition in channels and many others. Yet, the Staff Report does not include any discussion of alternative approaches that would address these mechanisms of impact."

To avoid and minimize potential adverse impacts of compliance actions, we have added mitigation measures including performance standards for vineyard stormwater runoff quantity, and we have excluded TMDL compliance actions from a suite of sensitive natural communities of limited geographic extent (Basin Plan amendment: Implementation Plan, pp. 7-8; Table 4.1, p. 10). The environmental analysis contained in the Staff Report considers a reasonable range of alternatives including: Alternative 3, Upland sediment control and passive recovery of incised channels (that reduces some short-term and less than significant impacts to riparian habitat), and Alternative 5, Management of coarse sediment and flow releases from municipal reservoirs. Alternative 3 was not preferred because it would delay attainment of water quality objectives for sediment and population and community ecology by several decades or more. Alternative 5 was not preferred because: a) it is not clear that gravel augmentation downstream of municipal reservoirs is needed to achieve the objectives of the Basin Plan amendment; b) it does not appear that reservoir flow releases significantly exacerbate channel incision; and c) this alternative has significant additional costs and potential impacts (e.g., downstream flood risk, reservoir water quality, etc.). Please also see our responses to Comments 3.DJ3, 3.DJ4, 3.May 2008.DJ1, and 3.May 2008.PH2.

Comment letter no. 3: Living Rivers Council (Dennis Jackson comments attached to May 2008 comments to State Board)

Comment 3.May 2008.DJ1: "Dams play a significant role in the channel incision process." … "The TMDL assumes that channel incision can be reversed by encouraging grant agencies to fund projects to reconfigure the geometry of the river." … "This approach does not address the imbalance between the disrupted sediment supply and the transport capacity of the stream downstream of dams."

Dams may significantly alter the discharge of streamflow and/or sediment supply to downstream channel reaches. Potential changes to both streamflow regime and sediment supply need to be examined in evaluating the potential significance of dams in causing and/or contributing to channel incision. Similarly, other direct and indirect disturbances to channels also need to be considered in attempting to determine cause and effect.

In the Napa River watershed, several types of land use activities have contributed to channel incision in the River and the lower reaches of its tributaries. As described in the problem statement in the Basin Plan amendment, these include (but are not necessarily limited to): a) levee building; b) development-related increases in peak runoff during

storms; c) construction of large tributary dams; d) straightening of some mainstem channel reaches; e) filling of historical side channels; f) historical gravel mining; g) dredging to reduce flood risk; and h) intensive removal of large woody debris from channels.

See our response to Comment 3.DJ3, where we address all of the issues raised here, except for examining potential effects of large municipal dams on coarse sediment supply in downstream channel reaches. With regard to that issue, we cite our response to essentially this same comment, raised by another party earlier in the review process (Response to Comments, 16 January 2007, response to Comment 14.1):

> "While we agree it is likely that tributary dam construction has contributed to the current episode of bed and bank cutting in the Napa River, other management actions also appear to be significant including:
>
> a) Land cover changes that have increased peak flows in the river (e.g., vineyards, rural residences, commercial buildings, and roads); and
>
> b) A suite of direct alterations to the river channel and/or its floodplain (e.g., levee building, channel straightening, filling of side channels, removal of debris jams, historical gravel mining, and dredging).
>
> We also agree that bed and bank erosion rates in the Napa River will not be substantially decreased until the imbalance between coarse sediment supply (e.g., cobbles and gravel) and transport capacity is rectified. We differ however in our diagnosis of the relative significance of various contributing factors (e.g., dams, direct alterations to the channels, and land cover changes) and in our conclusions regarding feasibility of various management measures to address this issue. Instead of introducing large quantities of coarse sediment to the channel, which would be extremely expensive and present important questions regarding technical feasibility and potential to substantially increase flood risk, we conclude that it is possible to solve this problem by focusing primarily on the other contributing factors: the direct alterations to the channel and increases in peak flow.
>
> The approach to restoration being emphasized in the Rutherford Reach (which we recognize as a key action in the plan to reduce fine sediment supply and enhance habitat conditions) involves setting back the river banks, increasing the sinuosity of the river (and hence reducing its slope), adding wood and large rock to force additional gravel bars to be deposited, and enhancing riparian vegetation to increase bank stability. We also call for design and management practices for new and replanted hillside vineyards to attenuate increases in peak runoff (see response to Comments 9.3 and 9.4). We think these approaches will prove effective in the reduction of bed and bank erosion rates along the Napa River.
>
> Finally, we should point out that channel responses to dam construction may vary substantially depending upon significance of the sediment supply from upstream areas relative to areas downstream of the dam, how the dam influences the frequency and duration of high flows that shape the channel, and/or in response to other significant

changes (increases/decreases) in sediment supply from downstream areas following dam construction (Ligon, Dietrich, and Trush, 1995; Grant, Schmidt, and Lewis, 2003).

In the case of the Napa River, we have developed sediment budget data (RWQCB, 2006) that provides an opportunity to examine the combined effects of the dams and other human actions on coarse sediment supply to the Napa River. During 1994-2004, average annual coarse sediment supply to the Napa River at Soda Creek was approximately 51,000 metric tons per year. Absent dams and human-caused erosion, the supply during this period would have been approximately 45,000 metric tons per year. If the reductions in sediment supply recommended under the proposed TMDL are achieved, during a similar future period, we estimate that the average annual coarse sediment supply would be approximately 39,000 metric tons per year. This supply is approximately equivalent to the natural supply. Therefore, we do not conclude that the proposed reductions in human-caused erosion (where we primarily target sand and finer sediment) will further exacerbate bed and bank cutting.

Based on theory, we would expect instead that the river bed would be further coarsened, creating more favorable conditions for spawning and rearing (Dietrich et al., 2005).

Finally, we would point out that several Napa River tributaries were naturally disconnected from the river, and hence, much of their coarse sediment did not naturally reach the mainstem, and instead was deposited in large alluvial fans. Many of these channels were ditched soon after California's statehood to support agricultural and urban development of the Napa Valley."

Please also note that as a WDR waiver condition, staff will propose that landowners develop a stream and riparian corridor management plan to passively or actively recover geomorphic and ecological processes in unstable channel reaches.

Comment 3.May 2008.DJ2: "It is a common practice for large reservoirs to capture large flood peaks and then subsequently release the captured water at a rate approximating bankfull for an extended period. Release of stored flood waters at a rate near bankfull for extended time saturates banks and leads to bank failure when the release rate is subsequently reduced. The practice of releasing stored flood water at rates approximating bankfull can also contribute to redd scour, one of the numeric targets specified in the TMDL. Therefore, I propose that the State Board require that a study be conducted to determine if flood control operations of any of the large reservoirs contributes to bank erosion and channel incision."

See our response above to Comment 3.DJ3.

Comment 3.May 2008.DJ3: "Channel incision likely to result in lower flows during the latter part of the dry season than would have occurred without the incision." Lowering of the water table as a result of incision, may threaten survival of riparian plants, and loss of riparian vegetation may increases water temperatures. Channel incision may have the potential to degrade baseflow water quality through

development of a steeper water table gradient that brings in flows from a greater distance, and therefore, the potential for greater inputs of farm chemicals and septage.

Objectives of the WDR waiver programs include resolution of sediment, nutrient, and pathogen impairments. See our response to Comment 2.5 for additional discussion of this topic. Also, note that as a specific condition of the waiver, staff will propose that landowners develop a stream and riparian corridor management plan to passively or actively recover geomorphic and ecological processes in unstable channel reaches. We are confident that such practices also will enhance the extent of the riparian vegetation, and its capacity to filter agricultural chemicals and septage. Please also note that drip irrigation/fertigation, and integrated pest management practices are the norm for grape growers within the Napa River watershed, and that the County Agricultural Commissioner has a strong pesticide safety program in place (for more information, see http://www.co.napa.ca.us/GOV/Departments/DeptPage.asp?DID=26400&LID=37).

Comment 3.May 2008.DJ4: "Another low flow problem occurs in dry years with a cold spring. Department of Fish and Game documents demonstrate that water diversions and on-stream reservoirs have played a significant role in the decline of salmonids in the Napa River watershed. Surface water diversions, groundwater pumping and the process of channel incision can all decrease the flow in the Napa River and its tributaries. The actions of the Division of Water Rights and of the watermaster should be considered under the cumulative impact discussion of the CEQA analysis for the sediment TMDL."

See our responses above to Comment 3.DJ4, and Comment 3.May 2008.2, where we respond to these same comments.

Comment 3.May 2008.DJ5: "Chronic turbidity appears to be a problem on Conn Creek. The photo [Figure 1] was taken six days after the last recorded daily rainfall of 0.32" at the [nearby] Angwin rain gauge. … Trush (2002) has identified "chronic turbidity thresholds" for anadromous salmonid populations for each of the following flow conditions:

- **mean daily average streamflow (23%-24%): NTU < 10**
- **winter base streamflow (10%): NTU < 25**
- **receding winter peak streamflow (5%): NTU < 70**
- **winter peak streamflow (2.5%): NTU < 100.**

The percentages in parentheses are water-discharge exceedence probabilities during the winter which is defined as October 1 through May 31." … According to Trush, the turbidity associated with the winter average discharge should be less than 10 NTU. Assuming that the discharge in Conn Creek was close to the winter average [when photographed] suggests that its turbidity should have been less than 10 NTU [in order

to protect anadromous salmonids]. I did not measure the turbidity of Conn Creek when I photographed it … but water with a turbidity of 10 NTU (or less) is relatively clear and the water I observed and photographed was distinctly cloudy."

The single qualitative observation of turbid conditions on 25 February 2006 in upper Conn Creek and the associated interpretations do not support a finding of turbidity impairment in upper Conn Creek and/or in other water bodies within the Napa River watershed. If repeated sampling and measurement of turbidity had been completed to document chronic turbidity at levels that may reduce growth opportunities then we might concur that upper Conn Creek is impaired by turbidity, although it would be important to first determine whether the turbidity was in response to a local sediment source or reflected ambient sediment supply conditions.

Comment 3.May 2008.DJ6: "Conn Creek drains into Lake Hennessey, one of the five large water supply reservoirs, and is therefore excluded from the sediment TMDL … . Therefore, the TMDL would not protect landlocked steelhead known to inhabit Conn Creek above Lake Hennessey (Leidy et al., 2005) from this chronic turbidity. In addition, this turbid water will degrade the City of Napa's municipal water supply. … In addition, the elevated level of turbidity in Conn Creek near Angwin should be seen as evidence of a chronic turbidity problem in other locations in the watershed because the geologic units upstream of where the photo was taken also occur in areas not controlled by the large water supply reservoirs."

See our responses above to Comment 3.DJ1 and Comment 3.May 2008.DJ4.

Comment letter no. 3: Living Rivers Council (Patrick Higgins comments attached to May 2008 comments to State Board)

Comment 3.May 2008.PH1: "Major problems with the Napa River sediment TMDL and Basin Plan amendment include:

- **Implementation will be largely voluntary**
- **No recommendations or guidelines to limit development or reduce road density that are needed to restore the natural hydrograph**
- **Decreased low flows are negatively impacting salmonids and continued development will exacerbate these impacts**
- **Proposed TMDL monitoring is insufficient to gauge recovery**
- **Site-specific mitigations and BMPs are main tools for achieving the TMDL, but cumulative effects will likely confound success**
- **Areas upstream of dams are exempt under from the TMDL despite passing sediment downstream and the need to protect remnant landlocked steelhead upstream of dams."**

The commenter is not correct in his impression that implementation actions to achieve the sediment TMDL are largely voluntary. All significant upslope categories of sediment delivery to the Napa River (see Chapter 3 of the *Staff Report*, and Tables 4.1 through 4.4 of the Basin Plan amendment) will be regulated by waste discharge requirements and/or conditional waivers. With regard to the second bullet point, no recommendations/guideline to limit development or reduce impacts of roads, please note that sediment allocations by their nature place a cap on total discharge. With regard to the third bullet point, decreased flows are negatively impacting salmonids, note that we have called for a survey of illegal reservoir storage and other measures to protect and enhance baseflow. We previously added turbidity and residual pool volume monitoring to respond to earlier concerns (see Basin Plan amendment, Evaluation and Monitoring, p. 19). With regard to the assertion that land areas upstream of dams must be regulated under the TMDL, see our response above to Comment 3.DJ1, where this issue is addressed.

Comment 3.May 2008.PH2: Table 5.2 of the Basin Plan amendment references the Northcoast Instream Flow Policy (see attached comments on that policy). There are major cumulative effects form diversions that also compound sedimentation (see excerpt from Band, 2008 included in comments). "The interaction of early season diversions … likely combine to deplete flow and cause fine sediment deposition in Chinook salmon redds in the mainstem reaches [of the Napa River]. This is another example of cumulative effects overlooked by the Napa River TMDL and yet another deficiency with regard to compliance with CEQA."

See our response to 3.May 2008.2 above. With regard to the potential for diversion operations to contribute to sedimentation, we note that based on the results of the sediment source analysis (Staff Report, Chapter 3) and the empirical linkage analysis (Staff Report, Chapter 5) that numeric targets can be achieved without considering this factor. Therefore, we do not agree that it is essential to control this potential mechanism of sedimentation.

Comment 3.May 2008.PH3 (Conclusion): "Many points I raised in my initial comments remain unaddressed. The final report demonstrates that the … staff interpret their responsibility narrowly." This "makes it unlikely that actions will prevent sediment pollution and allow restoration of Pacific salmon species in a timely fashion. Monitoring is insufficient in temporal and spatial extent to provide a feed back mechanism for meaningful enforcement … of waste discharge requirements, upon which the Napa River TMDL and Basin Plan extensively rely."

See our earlier responses to comments on the September 2006 draft of the Basin Plan amendment (BPA). We are confident that full implementation of the BPA will support conservation and recovery of steelhead and Chinook salmon populations within the watershed.

Comment letter no. 4: Napa County Farm Bureau

Comment 4.1: "We appreciate the opportunity for input and the outreach efforts of Water Board staff."

Comment noted.

Comment 4.2: For many years we have worked with the Water Board on the sediment problem and implementation of measures to reduce erosion and improve the health of the watershed. Within the framework of balancing beneficial uses, we support efforts to improve habitat for steelhead and Chinook salmon and indeed are already working on such efforts.

Comment acknowledged.

Comment 4.3: "As noted in our comment letter of August 11, 2006, we seek further clarity on the implementation measures and the specifics of the Waste Discharge Requirements (WDR) waiver policy. What will the waivers entail? Coordinating the flow of information to over 1700 grapegrowers and ranchers will be an enormous effort. We encourage the Board to allow enough time to thoughtfully develop a reasonable and comprehensive program which will achieve sediment reductions without creating bureaucratic confusion and undue burdens for landowners."

See our response above to Comment 2.5, where we provide some clarification regarding the potential scope of the WDR waiver programs. Please note that four essential WDR waiver conditions are envisioned: 1) BMPs to effectively control all pollutants of concern; 2) a detailed water quality protection plan documenting site conditions and BMPs; 3) Water Board staff review of plans/sites; and 4) monitoring at program-level to evaluate BMP effectiveness, and at the site-level to document implementation. Key management issues include: control of pollutant discharges from fields and pastures, road-related sediment delivery, stream corridor functions, unstable hillslope areas, storm runoff increases, and unstable channel reaches. Considering the significant delay in approval of the TMDL, and need to build local and Water Board institutional capacity, we have revised Tables 4.1 to 4.4 to extend completion dates by two years to October of 2014.

PART III: STAFF INITIATED CHANGES

Changes Incorporated into the September 2009 versions of the Basin Plan Amendment and Staff Report

Change 1: Basin Plan amendment - performance standard for gullies and/or shallow landslides

In preparing the final draft of the Basin Plan amendment, the performance standard for gullies and shallow landslides listed in Tables 4.1 through 4.4 was edited as follows:

> "Gullies and/or shallow landslides: **Accelerate natural recovery and minimize ~~Avoid and control~~ human-caused increases in sediment delivery from unstable areas ~~to a less than significant level~~."**

The current draft of the performance standard now matches the original version approved by the Water Board in January 2007. Staff reinstated original language because it provides a better description of actions needed to reduce human-caused sediment delivery to channels associated with this source to a less than significant level. These actions include: a) assessment of gullies and shallow landslides through review of existing maps, conduct of field inventories, and/or modeling; and b) implementation of BMPs to control future land-use related sediment delivery from gullies and shallow landslides. Table 11a in the Staff Report (p. 119) provides a list of the reasonably foreseeable actions (BMPs) to address human-caused sediment delivery to channels from actively eroding gullies and shallow landslides.

Change 2: Basin Plan amendment - performance standard for vineyard runoff

In preparing the final draft of the Basin Plan amendment, the performance standard for vineyard runoff listed in Table 4.1 was edited as follows:

> **"Effectively attenuate significant increases in storm runoff**~~. Runoff~~, so that the runoff from vineyards shall not cause or contribute to downstream increases in rates of bank or bed erosion."

Staff initiated this change to make it clear that not causing or contributing to downstream increases in rates of bank or bed erosion is the Basin Plan amendment standard for determining that vineyard storm runoff increases are insignificant.

Change 3: Basin Plan amendment – performance standard for surface erosion associated with vineyards

In preparing the final draft of the Basin Plan amendment, footnote 5 to Table 4.1 was edited as follows:

> "[5]Napa County Conservation Regulations (County Code, Chapter 18.108) are effective in the control of excessive rates of sediment delivery resulting from vineyard surface erosion. Rates of sediment delivery are "excessive" when the predicted soil loss rate exceeds the tolerable soil loss rate (T), calculations as described in "The Universal Soil Loss Equation, Special Applications for Napa County, California" (USDA, 1994)."

Staff initiated this change to provide a straightforward and objective basis for determining achievement of the performance standard.

Change 4: Basin Plan amendment – footnote 1 in Tables 4.1 through 4.4

In preparing the final draft of the Basin Plan amendment, footnote 1 to Tables 4.1 through 4.4 was edited as follows:

[1] ~~As needed to~~ To achieve TMDL allocations and consistent with the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (State Board, 2004).

Staff initiated this change to make it clear that all of the actions listed in Tables 4.1 through 4.4 are required to achieve the TMDL and to be consistent with the State Nonpoint Source pollution Control Policy.

Change 5: Basin Plan amendment – required actions listed in Table 4.1

In preparing the final draft of the Basin Plan amendment, the required actions described in Table 4.1 were edited as follows:

> "Implement farm plan certified under Fish Friendly Farming Environmental Certification Program or other farm plan certification program approved as part of a ~~WDR~~ waiver of WDRs ~~policy~~. All dischargers applying for coverage under a ~~WDRs~~ waiver of WDRs ~~policy~~ also will be required to file a notice of intent (NOI) for coverage, and to comply with all conditions of the WDR waiver policy."

Staff initiated this change because a water quality control "policy" must be adopted by the Regional and State Water Boards with approval by the State Office of Administrative Law, whereas a waiver of waste discharge requirements (WDRs) only requires adoption by the Water Board. Our intent is to bring a waiver of WDRs before the Water Board for consideration of adoption.

Change 6: Basin Plan amendment – measures to minimize potential impacts on sensitive native communities

In preparing the final draft of the Basin Plan amendment, the following text was moved from the beginning to the end of the Basin Plan amendment section describing the implementation plan:

> "**Minimization of Potential Impacts to Sensitive Natural Communities**
> In order to minimize potential impacts to sensitive natural communities that may not be fully protected through County regulations, Basin Plan amendment compliance actions will not be required or approved beyond the development footprint authorized by local land-use authorities in any of the following sensitive natural communities within the Napa River watershed:
>
> - Redwood forest
> - Ponderosa Pine alliance
> - Tanbark Oak alliance
> - Oregon white oak woodland
> - Mixed serpentine chaparral
> - Wet meadow grasses NFD super alliance.
>
> Locations for these sensitive natural communities and/or land-cover types in the Napa River watershed can be determined by review of the *Vegetation Map of Napa County, California* (Thorne et al., 2004; http://cain.ice.ucdavis.edu/regional/napavegmap/), the Baseline Data Report (Chapter 4, Jones & Stokes, 2005) and/or the *California Natural Diversity Database* (http://www.dfg.ca.gov/biogeodata/cnddb/)."

Staff initiated this change to draw the reader's attention first to the actions proposed to control sediment discharge and enhance habitat conditions, since this is the primary focus of this section. The required mitigation measures have been moved to the end of this section.

PART IV: STAFF RESPONSES TO PEER REVIEW

Staff responses to peer review comments are available at:

http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/napariversedimenttmdl.shtml .

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