STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Mike Napolitano)
MEETING DATE: July 12, 2017

ITEM: **8B**

SUBJECT: **Vineyard Properties in the Napa River and Sonoma Creek Watersheds –** Adoption of General Waste Discharge Requirements

CHRONOLOGY: April 2017 – Informational Workshop to Receive Testimony

DISCUSSION: The Revised Tentative Order (Order) (Appendix A) that would adopt General Waste Discharge Requirements (General WDRs) to implement the vineyard sediment discharge category identified in the Water Board's sediment TMDLs for the Napa River and Sonoma Creek watersheds.

The General WDRs would require owners of properties containing a five acre-or-larger vineyard to seek coverage under the General WDRs and to meet the General WDRs' performance standards for the control of surface erosion, road-related erosion, and concentrated stormwater runoff (e.g., bed and bank erosion and channel incision), by implementing best management practices identified through a farm planning process.

This past April, the Water Board held an informational workshop to receive testimony on the draft General WDRs circulated for public comment last July and to present initial proposed revisions to the draft General WDRs. A Staff Report was prepared for the April workshop to provide background on the General WDRs, summarize the written public comments, and recommend changes. The Order reflects the changes made in response to public comments submitted in writing and the testimony received at the April workshop. On June 15, 2017, to allow ample time for public review, a revised underline/strike-through Order was circulated and posted to the Water Board's website.

As we reported in April, there were 49 comment letters received on the General WDRs (Appendix B). Appendix C contains a complete Response to Comments document, which addresses all comments received, including comments made at the April workshop that warranted additional clarification, and also includes the Staff Report prepared for the workshop. The Order reflects all the changes made in response to public comments and Board input at the workshop. We have clarified language in the Order regarding the enrollment tiers and schedules for third-party approvals and compliance milestones. We have also modified the Sampling and Monitoring Report in response to concerns raised by the vineyard community.

In general, revisions to the Order consisted of providing more information or clarifying language in the Order, correcting typographical errors, and making minor editorial and formatting changes.

RECOMEN-DATION: Adoption of Revised Tentative Order

APPENDICES:
A - Revised Tentative Order
B - Comments Received - available online at:
http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/vineyard/index.shtml

C – Responses to Comments

Appendix A:

Tentative Order

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER NO. R2-2017-XXXX

GENERAL WASTE DISCHARGE REQUIREMENTS FOR VINEYARD PROPERTIES IN THE NAPA RIVER AND SONOMA CREEK WATERSHEDS

The California Regional Water Quality Control Board, San Francisco Bay Region, (Water Board), finds that:

Scope of Coverage

1. Order No. R2-2017-00XX (hereafter, Order) specifies general waste discharge requirements (WDRs) for existing and potential discharges of waste from Vineyard Properties located in the Napa River and/or Sonoma Creek watersheds that meet the terms and conditions of this Order.

2. For purposes of this Order, a "Vineyard Property" is defined by a parcel ~~as the entire parcel~~ or contiguous parcels under the same ownership, each of which is developed to include a vineyard ~~where grapevines are planted on part of the property~~. Landowners and operators of Vineyard Properties discharging, or proposing to discharge waste from a Vineyard Property are hereinafter referred to as "Dischargers".

3. Existing and potential discharges of waste from Vineyard Properties include storm runoff from vineyards and unpaved roads that contain elevated levels of sediment, pesticides or nutrients or excess runoff that may cause a condition of pollution or nuisance due to erosion or flooding. This Order also regulates Vineyard Properties with on-channel reservoirs that receive treated wastewater. Only a few such reservoirs are known to occur within the Sonoma Creek and/or Napa River watersheds. Discharges from these reservoirs also are defined as "waste discharges."

4. This Order regulates discharges from Vineyard Properties that meet the following criteria:
   a. ~~Any~~ Each parcel within an *existing* Vineyard Property (including a replant) where ≥ 5 acres are planted in grapevines;

   b. ~~Any~~ Each parcel within a *new* Vineyard Property where ≥ 5 acres are planted in grapevines on a slope ≤ 30 percent; or

   c. Any parcel within an existing or new Vineyard Property where < 5 acres are planted in grapevines that is deemed by Water Board staff to discharge waste that could affect water quality and could be adequately regulated through this Order.

5. This Order does not apply to any parcels within a new Vineyard Property where: a) vineyard development involves a timber conversion plan or permit; b) any part of a vineyard is located

on a slope > 30 percent; or c) the proposed vineyard would be constructed on a Ridgetop[1]. Any parcels within a new Vineyard Property that meets any of these criteria must submit a report of waste discharge (ROWD) in accordance with Water Code section 13260 to be regulated through individual WDRs.

6. This Order contains three tiers that are based on the administrative costs to regulate Vineyard Properties and considers relative risk to water quality, as needed to achieve all water quality standards. Movement between tiers may occur subject to meeting the qualifications for enrollment in Tiers 1 through Tier 3, which are defined as follows:

   Tier 1 (Stewardship Tier): A Discharger qualifies may qualify for enrollment under Tier 1 (Stewardship Tier), if the Farm Plan for the Vineyard Property, as described in Section F.1 and Attachment A, has been completed and Certified Verified[2], and is the Farm Plan is fully implemented to achieve all applicable performance standards for discharge, and where the Vineyard Property is located adjacent to an unconfined alluvial channel, as applicable the Vineyard Property also establishes stream setbacks and/or participates in a tributary or reach-based stewardship meets the performance standard for Stream and Riparian Habitats (as specified in Attachment A).

   Tier 2: A Discharger may qualify qualifies for enrollment under Tier 2 if it has: a) it has developed a Verified Farm Plan, or the Water Board has approved the Farm Plan; or b) it is working with an approved Third-Party Program[3] or Qualified Professional[4] to develop a Certified Verified Farm Plan for the Vineyard Property.

   Tier 3: Tier 3 Dischargers are those Dischargers who elect to develop a Farm Plan for a Vineyard Property independently – without the Farm Plan being certified Verified by an approved Third-Party Program – are required to enroll in Tier 3 or a Qualified Professional. These Dischargers must submit their Farm Plan (as specified in Attachment A) to the Water Board for review and approval. Following Water Board approval of the Farm Plan, the Discharger, as applicable, could move into Tier 2 or Tier 1.

[1] A Ridgetop is as defined per Sonoma County Code (Chapter 11): "A relatively flat topographic divide above divergent and descending slopes where one (1) or more of the descending slopes has a natural slope steeper than fifty (50) percent for more than fifty (50) feet in slope length."

[2] "Verified" means that an approved Third-Party Program has coordinated a technical review of the Farm Plan by a Qualified Professional who has signed - the Farm Plan, a verification form, or a letter - to indicate that she/he concludes that upon full implementation the Farm Plan would achieve all applicable performance standards for sediment and storm runoff control. Although a Verified Farm Plan receives technical review, it remains the Discharger's responsibility to ensure the Farm Plan is implemented to achieve all applicable performance standards for discharge. Third-Party Program verification does not constitute an approval of the Farm Plan. "Certified" the Farm Plan being complete, and upon its full implementation the Vineyard Property would achieve all applicable performance standards for discharge.

[3] Third-Party Programs provide technical assistance/expertise to help the Dischargers comply with requirements of this Order. -See Attachment C for description of Third-Party Programs.

[4] A "Qualified Professional" is defined to include a California registered professional in a discipline associated with erosion and sediment control including for example a professional engineer, licensed geologist, or certified professional in erosion and sediment control.

Attachment A (Farm Plan Requirements) and Attachment E (Monitoring and Reporting requirements) provide additional information and specific details regarding conditions for compliance for Dischargers enrolled under Tiers 1, 2, and 3.

7. The Water Board recognizes that certain limited resource farmers (as defined by the U.S. Department of Agriculture, Natural Resources Conservation Service, 2014[5]) may have difficulty achieving compliance with this Order. The Water Board will prioritize assistance ~~for~~to these farmers, including but not limited to technical assistance, grant opportunities, and necessary flexibility to achieve compliance with this Order (e.g., adjusted farm plan, monitoring, reporting, or time schedules).

Water Quality Concerns

8. The Napa River, Sonoma Creek, and their tributaries provide habitat for federally-listed steelhead populations, locally rare Chinook salmon populations, and exceptionally diverse native fish assemblages. Elevated concentrations of fine sediment (primarily sand) in streambeds and channel incision, defined by the progressive lowering of the streambed as a result of net erosion over the long-term, are significant threats to watershed fish populations and other special-status aquatic species including California freshwater shrimp, foothill yellow-legged frog, and western pond turtle.

9. Channel incision is a significant fine sediment source, and is the primary mechanism for habitat simplification in the Napa River, Sonoma Creek, and alluvial reaches of their tributaries. As channels have incised, spawning and rearing habitats have been substantially reduced. Channel incision has separated the channels from floodplains, and reduced baseflow persistence and the extent and diversity of riparian vegetation.

10. Vineyard Properties, including farming areas and extensive unpaved roads, have been identified as significant sources of fine sediment discharges to the Napa River, Sonoma Creek, and their tributaries. Storm runoff increases resulting from infiltration losses in vineyards and roads are two of several causes for channel incision. Also, where hard engineering approaches (rip-rap, gabions, etc.) are used to stabilize streambanks, these structures can compromise channel stability and habitat complexity in adjacent channel reaches. Such unintended impacts are magnified in incised channel reaches, where the force per unit area exerted on the channel bed and banks is substantially increased.

11. Vineyard Property development and management practices, including but not limited to: 1) deep ripping of soils to develop and/or replant a vineyard, 2) conversion of natural vegetation cover, 3) soil compaction as a result of the use of tractors to conduct agricultural activities, 4) establishment of engineered surface and subsurface drainage, and 5) the development and maintenance of property access roads, may cause or contribute to significant increases in erosion and/or storm runoff, which are direct or indirect sources of elevated rates of fine

[5] The USDA Natural Resources Conservation Service definition of a limited resources farmer can be found at https://lrftool.sc.egov.usda.gov/LRP_Definition.aspx (URL as indexed on June 3. 2017).

sediment delivery to channels, and/or in some cases a contributing factor to downstream channel incision.

12. Unpaved roads are a water quality concern because of their hydrologic connectivity to streams or other water bodies. Any road segment that has a continuous surface flow path to a natural stream channel during a storm runoff event is termed a "hydrologically connected" road or road reach. Connectivity usually occurs through road ditches, road surfaces, gullies, or other drainage structures or disturbed surfaces. Road-related erosion has been identified as a significant sediment source in both the Napa River and Sonoma Creek watersheds.

13. Vineyard Properties are a potential source of toxicity or bio-stimulatory substances where the application rate and/or discharge of agrichemicals and/or fertilizers are not properly controlled to limit discharges to the surface and/or groundwater. Wine grapes are planted over almost the entire land area devoted to farming in the Napa River and Sonoma Creek watersheds, making viticulture in this region susceptible to pest infestations, and therefore subject at times to potentially high rates of pesticide application. At present, several pesticides are applied in large amounts (> 1000 pounds of active ingredient) and/or over extensive land areas (> 1000 acres) within the permit area that are xenoestrogens which present the potential to contribute to feminization of Chinook salmon, and/or which have moderate to very high potential to contribute to aquatic toxicity. Pesticides of highest concern that currently are applied in large amounts over extensive areas within the permit include pedimethalin, pryaclostrobin, trifloxystrobin, oxyfluorfen, cyprodinil, triflumizole, and imidacloprid. These compounds may pose a potential threat to water quality; however, at present there is limited information on their occurrence in waters.

14. Vineyards developed on slopes > 30 percent present a much higher potential for significant landslide, fluvial, and surface erosion as a consequence of vineyard construction and management actions including removal of natural vegetation cover, grading, deep ripping of soils, engineered drainage, additional road development on steep slopes. Therefore, new Vineyard Properties developed on slopes > 30 percent, as described earlier, must submit a ROWD in accordance with Water Code section 13260 to be regulated through individual WDRs.

15. When a forest is converted to a vineyard, rainfall interception, soil infiltration capacity, evapotranspiration, and root strength all can be substantially reduced with the potential for consequent significant increases in storm runoff and erosion. Also, tree root strength, in most circumstances, also greatly increases mechanical resistance to shear stress, and therefore, conversion from forest cover to vineyard also can significantly increase landslide activity. Therefore, new Vineyard Properties that involve a timber conversion plan or permit, as described earlier, must submit a ROWD in accordance with Water Code section 13260 to be regulated through individual WDRs.

16. New vineyard constructed on a Ridgetop (as defined earlier) also pose high risk of significant sediment delivery to channels as a result of their discharge into colluvial swales and headwater channels that are especially sensitive to development-related changes in storm runoff. Therefore, new Vineyard Properties that are constructed on a Ridgetop, as described

earlier, must submit a ROWD in accordance with Water Code section 13260 to be regulated through individual WDRs.

Background

17. This Order implements the sediment Total Maximum Daily Loads (TMDLs) for the Napa River and Sonoma Creek watersheds that are included in Chapter 7 of the Water Quality Control Plan for the San Francisco Bay Basin Plan (Basin Plan). These TMDLs include load allocations to sediment sources and implementation plans that call for the adoption of pollutant control programs to control sediment discharges from Vineyard Properties, and discharges from other significant land-use related sediment sources. The implementation plans also recommend developing and implementing plans to enhance stream-riparian habitat conditions and reduce sediment supply.

18. Vineyard Properties constitute about 162,000 acres, or 40 percent of the total land area in the Napa River and Sonoma Creek watersheds. Vineyard Properties include: planted grapevines, which cover approximately 59,000 acres; farm buildings; adjacent open-spaces under natural vegetation cover; and property-wide road networks - most of which are unpaved. The 59,000 acres of planted grapevines correspond to about 16 percent of the total land area in these two watersheds.

19. In order to achieve load allocations for soil erosion in farmed areas, as specified in the Basin Plan, effective erosion and/or sediment control measures need to be in place at almost all Vineyard Properties in these watersheds. Based on GIS analysis, establishing a five-acre vineyard size threshold as the primary criteria for enrollment under the Order will result in approximately 90 percent of the vineyard acreage and two-thirds of total property acreage (i.e., a Vineyard Property includes the Farm Area, property-wide access roads, reservoirs, and undeveloped areas) having effective Best Management Practices (BMPs) in place for the control pollutant discharges.

20. Monitoring and reporting under Tier 1 is reduced as compared to Tier 2 and 3 because Dischargers enrolled under Tier 1 have: a) fully implemented a Verified ~~certified~~ Farm Plan to meet all applicable performance standards for discharge, in some cases in advance of the deadlines for compliance; and b) also as applicable, have achieved the performance standards for ~~Fully Protected Stream-Riparian Corridors~~ Stream and Riparian Habitats (as specified in Attachment A). Actions taken to protect and/or restore stream-riparian corridors significantly enhance habitat complexity and connectivity, contributing to resolution of impacts as related to channel incision.

Regulatory Framework

21. The State Water Resources Control Board (State Water Board) and the Regional Water Boards are the primary agencies with responsibility for the protection of water quality pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act, codified in Water Code Division 7). The Legislature declared that the activities and factors that may affect the quality of the waters of the State shall be regulated to attain the highest water quality that is reasonable, considering all demands being made on it (Water Code § 13000).

22. Water Code (CWC) section 13260 (a) requires that any person discharging waste or proposing to discharge waste that could affect the quality of the waters of the State, other than into a community sewer system, file with the Water Board a ROWD containing such information and data as may be required by the Water Board, unless the Water Board waives such requirement pursuant to CWC section 13269.

23. CWC section 13263 (i) authorizes the Water Board to prescribe general WDRs for a category of discharges if the discharges are produced by the same or similar operations; involve the same or similar types of waste; require the same or similar treatment standards; and are more appropriately regulated under general WDRs. The WDRs must implement relevant water quality control plans and take into consideration, among other things, the beneficial uses of water to be protected, the water quality objectives reasonably required for that purpose, and the need to prevent nuisance.

24. It is appropriate to issue general WDRs that apply to Vineyard Properties in the Napa River and the Sonoma Creek watersheds because:

    a. Vineyard Properties in these two watersheds have similar development and management practices, and consequently they have similar pollutant discharges;

    b. Vineyard Properties in these two watersheds pose similar threats to water quality, requiring the same or similar treatment standards, pollutant control, and monitoring programs; and

    c. Given the time and resources needed for regulatory oversight, most Vineyard Properties in these two watersheds are more appropriately regulated under general WDRs rather than individual WDRs.

25. Pursuant to this Order and CWC section 13267, Dischargers must implement a Monitoring and Reporting Program as specified in Attachment E. The burden, including costs, of the Monitoring and Reporting Program bears a reasonable relationship to the need for the Program and the benefits to be obtained from it. Specifically, the Monitoring and Reporting Program is necessary to ensure compliance with this Order's terms and provisions in order to protect water quality. The Program requires regular BMP implementation monitoring, BMP effectiveness monitoring, Streambed monitoring, and reporting regarding Farm Plan completion and progress per implementation and achievement of performance standards, and record-keeping.

26. This Order is consistent with the State Water Board's 2004 Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Policy) because it regulates nonpoint source discharges that may adversely affect water quality.

Water Quality Control Plan for the San Francisco Bay Basin

27. The Basin Plan is the Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives (WQOs) for waters of the State, including surface waters and groundwater. The Region's TMDLs and associated

implementation plans to achieve WQOs are also part of the Basin Plan. The Basin Plan was duly adopted by the Water Board and approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. The latest version can be found on the Water Board's website at http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml.

28. Pursuant to the Basin Plan, the existing and potential beneficial uses of waters in the San Francisco Bay Region that could be impacted by the discharge of wastes include:

Beneficial Use	Napa River	Sonoma Creek
Agricultural Supply (AGR)	X	
Cold Freshwater Habitat (COLD)	X	X
Ocean, Commercial, and Sport Fishing (COMM)		
Estuarine Habitat (EST)		
Industrial Service Supply (IND)		
Fish Migration (MIGR)	X	X
Municipal and Domestic Supply (MUN)	X	
Navigation (NAV)	X	
Preservation of Rare and Endangered Species (RARE)	X	X
Water Contact Recreation (REC-1)	X	X
Non-contact Recreation (REC-2)	X	X
Shellfish Harvesting (SHELL)		
Fish Spawning (SPWN)	X	X
Warm Freshwater Habitat (WARM)	X	X
Wildlife Habitat (WILD)	X	X

29. The Basin Plan provides a framework for actions needed to achieve water quality objectives for sediment, settleable material and population and community ecology to address elevated concentrations of fine sediment (primarily sand) in the bed of the Napa River, Sonoma Creek and their tributaries and pervasive channel incision. These actions translate into 50 percent-or-greater reduction in human-caused sediment inputs as identified in the TMDLs.

30. In order to protect beneficial uses, this Order includes requirements to implement the Basin Plan. Consistent with U.S. EPA's Section 404(b)(1) Guidelines for Dredge and Fill, in determining the circumstances under which stream or wetland filling may be permitted, in general, it is preferable to avoid disturbance. When this is not possible, disturbance should be minimized. -Mitigation for lost stream or wetland acreage and habitat values through restoration or creation should only be considered after disturbance has been minimized.

Anti-Degradation

31. State Water Board Resolution 68-16 ("*Statement of Policy with Respect to Maintaining High Quality of Waters in California*") requires whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality must be maintained. Resolution 68-16 only allows change in the existing high quality if it has been demonstrated to the Water Board that the change is consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses of such water, and will not result in water quality less than that prescribed in the policies. Resolution 68-16 further requires that discharges meet WDRs which will result in the best practicable treatment or control of the discharge necessary to assure that (a) pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained. Resolution 68-16 incorporates the federal "antidegradation" policy (Cal. Code Regs., tit. 40, § 131.12). This Order is consistent with these policies because its implementation will result in improved water quality and achievement of TMDL sediment load allocations.

32. This Order will result in the best practicable treatment or control (BPT) of discharges to prevent pollution or nuisance and the maintenance of the highest water quality consistent with the maximum benefit to the people of the State. The management practices required under the Order are BPT because they reflect the state-of-the-art methods for Vineyard Property controls that integrate soil and site management practices for pest management and weed control, nutrient management, pesticide storage, handling and modern spray techniques, vineyard and road erosion, and road runoff control. The methods have proven to be effective where implemented in vineyards and associated roads.

California Environmental Quality Act (CEQA)

33. The Water Board is the lead agency pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 *et seq*.).

34. The Water Board has satisfied its obligation to address tribal cultural resources under AB 52. The notification and consultation provisions of that statute were not applicable, because no tribes in the project area had requested notification at the time of the decision to undertake the general WDRs.

35. On July 7, 2014, the Water Board filed a Notice of Preparation (NOP) with the State Clearinghouse, which included an Initial Study to public agencies and persons with interest in the Order. Copies of the NOP and Initial Study were available for review at the Water Board's Oakland office. Additionally, the NOP and Initial Study were posted at the Water Board's webpage and an announcement of its availability was forwarded to individuals that subscribed to the electronic mailing lists relevant to information on the Order. Filing of the NOP started a 30-day comment period that closed on August 6, 2014.

36. On July 23, 2014, the Water Board conducted a CEQA scoping meeting in the Napa County Agricultural Commissioner's Office, for the Environmental Impact Report (EIR) to solicit input from agencies and interested parties on issues to be addressed in the EIR.

On July 15, 2016, the Water Board issued a draft Environmental Impact Report (DEIR) for public review and filed a Notice of Completion with the State Clearinghouse (SCH). (Cal. Code Regs., tit. 14, § 15085.) The public comment period for the DEIR (SCH No. 2014072013) was from July 15, 2016 to August 29, 2016, which was extended to September 14, 2016, at the request of stakeholders.~~.~~ The Water Board received and evaluated comments on the DEIR from public agencies and the other interested parties. The Water Board has considered, certified, and approved the final EIR (FEIR) pursuant to California Code of Regulations (CCR), title 14, sections 15090 - 15092.

37. Impacts and mitigation measures identified in the EIR are included in Attachment F. Mitigation measures identified in the EIR for this Order, and required to be implemented as described in Attachment F, will substantially reduce environmental effects of the project. The mitigation measures included in this Order have~~as~~ eliminated or substantially lessened all significant effects on the environment, where feasible. Where noted, some of the mitigation measures are within the responsibility and jurisdiction of other public agencies. The mitigation measures discussed herein can and should be adopted, as applicable, by those other agencies. Pursuant to CCR, title 14, sections 15091 and 15093, the Water Board makes the following Statement of Overriding Considerations in conjunction with the approval of this Order.

38. **Statement of Overriding Considerations Supporting Approval of the Order.** The Water Board has duly considered the EIR, which conservatively identifies significant and unavoidable impacts resulting from adoption and implementation of the Order. Consistent with CEQA Guidelines section 15093, subsection (a), the Water Board has considered and balanced the economic, legal, social, technological, and other benefits of this Order, including region-wide environmental benefits, against the unavoidable environmental risks. The benefits outweigh the potentially unavoidable adverse environmental effects, and that the unavoidable adverse environmental effects are acceptable because:

    - Adoption of this Order will greatly improve water quality through compliance actions to reduce sediment and storm runoff discharges from vineyards and roads, to restore properly functioning substrate conditions in freshwater channel reaches that provide critical habitat for listed populations of steelhead, locally rare Chinook salmon populations, and exceptionally diverse assemblages of native fish species.

    - Compliance with this Order will result in effective pollutant discharge control measures for pesticides and nutrients being implemented and maintained at vineyard properties throughout the Napa River and Sonoma Creek watersheds, reducing potential impacts to beneficial uses including all native aquatic and riparian species.

- Compliance with the Order, including performance standards for storm runoff from Hillslope Vineyards[6] and roads, will significantly reduce storm runoff, and therefore, also contribute to a significant enhancement of groundwater recharge.

- Compliance with the Order would significantly reduce operational GHG emissions through decreases in tillage and increases in cover crops at vineyards, substantial reductions in soil erosion throughout vineyard properties (including extensive networks of property access roads), and increases in riparian vegetation resulting from the implementation of soil biotechnical projects.

- Implementation of BMPs would enhance agricultural productivity through increases in soil organic matter, enhanced soil infiltration capacity, and a reduction in soil erosion both within and adjacent to farm areas.

After balancing the above benefits of the Order against its unavoidable environmental risks, the benefits of the Order outweigh the unavoidable adverse environmental effects, and these adverse environmental effects are considered "acceptable."

39. In accordance with CCR Title 14, section 15094, the Water Board will file a Notice of Determination with the State Clearinghouse, along with payment of applicable fees as required by the Department of Fish and Wildlife (https://www.wildlife.ca.gov/Conservation/CEQA/Fees) within five working days from the issuance of the Order.

Annual Fees

40. Water Code section 13260 authorizes the Water Board to include as a condition of general WDRs the payment of an annual fee. The Discharger shall pay an annual fee to the State Water Board in accordance with the fee schedule for each fiscal year. (Cal. Code Regs., tit. 23, § 2200).

Third-Party Programs

41. The NPS Policy encourages the Water Boards to "be as creative and efficient as possible in devising approaches to prevent or control nonpoint source pollution." This includes development of third-party programs, including coalitions of dischargers in cooperation with a third-party representative, organization, or government agency to assist the dischargers in complying with the requirements and assure the Water Board and the public that actions have been taken to reduce nonpoint source pollution.

42. The Water Board supports the use of third-party programs that have been approved by the Executive Officer to assist Dischargers in filing required forms, and to provide technical assistance to Dischargers in preparing Farm Plans, implementing non-point source pollutant control projects, and/or to assist Dischargers with the monitoring and reporting requirements

[6] A "Hillslope Vineyard" is defined by grapes planted on an average slope > 5 percent. The method for determining slope is as specified by Napa County: www.countyofnapa.org/WorkArea/DownloadAsset.aspx?id=4294967662. -An "existing" Hillslope Vineyard is one that was planted prior to adoption of this Order.

described in Attachment E. Third-party programs may also opt to collect fees on behalf of its members.

43. Attachment C explains the roles, responsibilities, and prerequisite qualifications of third-party programs, and provides guidance on the types of information needed for Third-Party Program approval.

44. The Water Board will review a third-party program's performance to ensure that adequate Farm Plans are being consistently prepared by the Dischargers subject to this Order and that all monitoring and reporting requirements are being met.

Safe Drinking Water Act

45. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring the Dischargers to meet water quality objectives, as applicable, designed to protect human health and ensure that water is safe for domestic uses.

California Endangered Species Act

46. This Order does not allow for the take, or incidental take, of any special status species. The applicant shall use the appropriate protocols, as approved by the California Department of Fish and Wildlife and/or the U.S. Fish and Wildlife Service, to ensure that activities do not impact the beneficial use of the Preservation of Rare and Endangered Species.

Public Notice

47. The Water Board has notified the Dischargers, interested agencies, and the public of its intent to adopt this Order and has provided them the opportunity to attend a public meeting and to submit their written comments.

48. The Water Board, in two ~~a~~ public meetings (April 12, 2017 and July 12, 2017), heard and considered all comments pertaining to this matter.

IT IS HEREBY ORDERED that in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, all Dischargers of Vineyard Properties that meet the criteria described in the above findings shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of waste to waters of the State other than as defined in this Order is prohibited.

2. The discharge of hazardous waste, as defined in CWC section 13173 and CCR Title 23 section 2521(a), respectively, is prohibited.

3. The discharge of wastes (e.g., fertilizers, fumigants, pesticides) into groundwater via backflow through a water supply well is prohibited.

4. The discharge of any wastes (e.g., fertilizers, fumigants, pesticides) down a groundwater well casing is prohibited.

B. **PERFORMANCE STANDARDS:** The Discharger shall install, maintain, and evaluate effectiveness of BMPs as needed throughout the Vineyard Property to attain the following discharge performance standards:

1. Soil erosion in the farm area: soil loss rate ≤ tolerable soil loss rate. The tolerable soil loss rate is as defined by the USDA Soil Conservation Service (1994).

2. Sediment delivery from existing unpaved roads (Hillslope Vineyards only): a) culvert inlets have a low plug potential[7]; b) critical dips shall be installed at culverted crossings that have a diversion potential; and c) ≤ 25 percent of the total length of unpaved roads are hydrologically connected[8].

3. Sediment delivery from new roads (Hillslope Vineyards only): all new roads (unpaved and/or paved) shall be storm-proofed roads (as specified in Attachment A).

4. Storm runoff from an existing Hillslope Vineyard[9]: shall not cause or contribute to downstream increases in bed and/or bank erosion (as specified in Attachment A).

5. Storm runoff from a new Hillslope Vineyard[10]: a) peak storm runoff in 2-, 10-, 50-, and 100-year (24-hour duration) rainfall events following vineyard development shall not be

[7]Trash barriers or deflectors are installed where needed. For additional guidance, please see Weaver et al. (2014), "Culvert Inlet and Outlet Treatments", pp. 137-143.

[8] Hydrologic connectivity refers to the length or proportion of a road that drains runoff directly to streams or other water bodies. Any road segment that has a continuous surface flow path to a natural stream channel during a storm runoff event is termed a hydrologically connected road or road reach. Connectivity usually occurs through road ditches, road surfaces, gullies, or other drainage structures or disturbed surfaces.

[9] A "Hillslope Vineyard" is defined by an area where grapes are planted on an average slope > 5 percent.

[10] A "new vineyard" is any vineyard that is 5 acres or more in size that is established subsequent to adoption of this Order.

greater than pre-development peak storm runoff[11]; and b) shall not cause or contribute to downstream increases in bed and/or bank erosion (as specified in Attachment A).

6. Pesticide management: an integrated pest management program shall be developed and implemented for the vineyard (UC Statewide IPM Program, 2016), and effective practices implemented to avoid mixing, storage, or application of pesticides near wells and surface waters, or in ways that could contribute to receiving water toxicity.

7. Nutrient management: BMPs to guide nutrient applications (e.g., fertigation, cover crops, soil amendments, plant and/or soil testing) shall be implemented such that discharges do not contribute to violation of water quality standards.

C. PROVISIONS

1. Time Schedule for Achievement of Performance Standards

a. Existing Vineyard Property: Performance standards for soil erosion in the Farm Area, pesticide management and nutrient management must be achieved within three years of adoption of the Order. The Performance standard for storm runoff from Hillslope Vineyards – as related to bed and bank erosion - must be attained within six years of adoption of this Order. The performance standards for sediment and storm runoff discharges from existing unpaved roads must be achieved within ten years of adoption of this Order.

b. New Vineyard Property: Performance standards for soil erosion in the Farm Area, pesticide management and nutrient management must be achieved by the date of vineyard construction. The performance standard for storm runoff from new Hillslope Vineyards –as related to peak storm runoff change - must be achieved by the date of vineyard construction. The performance standard for storm runoff – as related to bed and bank erosion – must be achieved within six years of vineyard construction. The performance standards for sediment discharge and storm runoff from existing unpaved roads must be achieved within ten years of construction of the new vineyard.

c. ~~All~~ Hillslope Vineyard Properties: where a new road – paved or unpaved - is constructed following adoption of this Order, at the time of construction, the new road must achieve all applicable performance standards for storm-proofed roads (as specified in Attachment A).

2. Monitoring and Reporting

a. Dischargers shall conduct monitoring and site inspections of the entire Vineyard Property to document that discharge control actions implemented consistent with the Farm Plan are in-place and functioning properly such that the performance standards in B.1 through B.7 are being met.

[11] Attainment of this performance standard shall be evaluated through site-specific hydrologic modeling and subsequent to development, group or site-specific BMP effectiveness monitoring (see Attachment E). In modeling runoff change, deep ripping of soils cannot be credited for a reduction in peak runoff.

b. Representative photo-points shall be established and monitored to document winter readiness, demonstrate annual maintenance practices and BMP implementation, and to document habitat and water quality conditions in receiving waters at and/or near points of discharge from the vineyard, as specified in Attachment E.

c. Site readiness inspections shall be completed annually, prior to the beginning of the rainy season and shall encompass the farm area and property access roads to ensure the facility's readiness for the rainy season. Vineyard Property inspections shall be conducted periodically throughout the rainy season and after storm events to confirm that management practices have functioned as designed, and to determine if additional management measures are required.

d. Required reporting is as specified in Attachment E. Tier 2 and Tier 3 Dischargers also must conduct Stream monitoring and BMP effectiveness monitoring as specified in Attachment E. The Executive Officer may modify Attachment E, as necessary or appropriate. Public Notice of the modification of Attachment E would be provided, and revised requirements would be posted on the Water Board website.

e. This Order does not require a Discharger to perform inspections or take other implementation actions during dangerous weather conditions or when a storm begins after scheduled facility operating hours or when there is heavy flooding.

f. The Discharger shall maintain records of inspections, monitoring observations, and any responses taken to reduce potential sources of pollutants from the Vineyard Property. These records shall be maintained at the same location as the Farm Plan. If excessive rates of erosion are observed during the inspection, the Discharger shall record the source and cause of erosion (based on available information), note the management practices taken to correct it, and report it in the Annual Reporting Form.

3. CEQA Required Mitigation
Mitigation measures identified in the EIR for this Order shall be implemented as described in Attachment F (CEQA Mitigation Measures).

D. ENFORCEMENT

1. The Discharger shall comply with all of the conditions of this Order. Any noncompliance with this Order constitutes grounds for an enforcement actions, and/or termination of enrollment.

2. CWC section 13387(e) provides that any person who knowingly makes any false statement, representation, or certification in any record, report, plan, notice to comply, or other document filed with a regional water board or the State Water Board, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method

required under this division shall be punished by a fine of not more than $25,000, or by imprisonment in state prison for not more than two years, or by both.

E. PERMIT REOPENING, REVISIONS, REVOCATION, TERMINATION AND REISSUANCE

1. The Water Board may modify or revoke and reissue this Order at any time.

2. An authorization to discharge wastes under this Order is not transferable to any person. In the event of any change in operation, control or ownership of land or waste discharge facilities, the Discharger shall notify any succeeding owner/operator of its responsibility to enroll under this Order by letter at least 30 days in advance of such change of ownership. A copy of such letter shall be submitted to the Water Board, along with a Notice of Termination (NOT), Attachment D, in order for the original Discharger to be relieved of its responsibility to comply with this Order.

3. To enroll under this Order, the succeeding owner/operator must submit a completed Notice of Intent to the Water Board within 15 days of receipt of the letter referenced in E.2, and request approval from the Executive Officer to discharge under this Order. The succeeding owner/operator is not authorized to discharge under the Order and may be subject to enforcement until written approval of the coverage transfer from the Executive Officer.

4. In the event of closure or change in land use of the Discharger's facility, the Discharger shall file ~~a~~an NOT (see Attachment D) that explains the extent of the change in operation, measures taken to close and/or change the operation, and owner/operator contact information.

5. Water Board staff shall review the NOT and determine its appropriateness. The review may include a field staff inspection to verify project completion and water quality protection. The Executive Officer shall notify the Discharger regarding approval or disapproval of the NOT.

6. This Order may be reopened to address any changes in State or federal plans, policies, or regulations that would affect the quality requirements for the discharges and as authorized by federal and State law.

7. The Executive Officer may, at any time, terminate coverage under this Order as to a particular Discharger where the Discharger fails to comply with this Order; such termination is in the public interest; the activities could adversely affect beneficial uses of waters of the State; or the Executive Officer determines, based on changes to the Discharger's facility, that coverage under individual WDRs is more appropriate.

8. If an owner or operator of a Vineyard Property can demonstrate that the Vineyard Property does not discharge to surface waters of the State, and that existing and anticipated uses of waters of the State are fully protected from Vineyard Property operations, the owner or operator may request an exemption from this Order.

The request shall be made in writing and will be subject to Water Board verification and Executive Officer approval. If future conditions or Vineyard Property operations change, or the potential for water quality impacts is found, the owner or operator of the Vineyard Property may need to obtain coverage under this Order, or in certain circumstances, individual WDRs.

F. REQUIRED REPORTS AND NOTICES

The Discharger must complete the following tasks in accordance with the time schedule required to achieve the performance standards:

1. **Farm Water Quality Protection Plan**

   a. The Farm Water Quality Protection Plan (Farm Plan) must include a comprehensive inventory of vineyards, roads, reservoirs, and waterways located throughout the Vineyard Property to document the BMPs already in-place and/or to prescribe additional BMPs that shall be implemented and maintained to comply with all conditions of this order, including but not limited to, attainment of all applicable performance standards for discharge, and also to document the actions implemented to protect and/or enhance stream-riparian habitat complexity and connectivity. The Farm Plan also must include a specific time schedule and corresponding milestones to measure progress toward attainment of the performance standards, and a monitoring plan to document BMP implementation and assess effectiveness.

   b. For all existing Vineyard Properties, the Farm Plan must be completed and ~~certified~~ Verified consistent with the requirements in Attachment A, **within 3 years following adoption of this Order**. At a new Vineyard Property, the Farm Plan shall completed and Verified ~~certified~~ consistent with the requirements in Attachment A, **by the date of completion of vineyard construction or within 3 years following adoption of this Order, whichever date is later**.

2. **Annual Report**

   a. The Discharger shall submit an Annual Compliance Form to the Water Board. The Annual Compliance Form shall certify that the facility meets the conditions of this Order and that the Farm Plan is being implemented according to the schedule established in the Farm Plan. A sample Annual Compliance Reporting Form is included in Attachment E (Table E-1).

   b. Annual Reporting Forms shall be submitted electronically each year no later than ~~October~~ December 15.

G. APPLICATION REQUIREMENTS

1. In order to obtain coverage under this Order, the Discharger shall apply for coverage by submitting an electronic Notice of Intent form (NOI) for an existing Vineyard Property within one year of the date of adoption of this Order. An example electronic NOI form is included as Attachment B. For a new Vineyard Property, which is one where a vineyard

≥ 5 acres is developed following adoption of the Order, the Discharger shall apply for coverage by submitting a NOI, as specified above, one year prior to construction of the new vineyard or within one year of adoption of this Order, whichever date is later. ~~A web-based electronic enrollment form shall be developed and activated following adoption of this Order~~. An example NOI form is provided as Attachment B.

2. If the Discharger becomes aware that a relevant fact was omitted in a Notice of Intent, or incorrect information was submitted in a Notice of Intent or in any report to the Water Board, it shall promptly submit the correct facts or information. Completed forms shall be sent to the Water Board at the following address:

   San Francisco Bay Regional Water Board
   ATTN: Vineyard Program
   1515 Clay Street, Suite 1400
   Oakland, CA 94612

3. Coverage under this Order is subject to fees as determined by the State Water Board. The annual fee schedule is developed by the State Water Board. The Discharger shall pay all required annual fees either directly to the State Water Board or through established discharger groups.

~~4. Any fee reduction established by State Water Board for group reporting shall only be applicable to those Dischargers reporting through Executive Officer-approved Third-Party Program.~~

I, BRUCE H. WOLFE Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on ***DATE****, 2017.*

_____
BRUCE H. WOLFE
Executive Officer

Attachment A – Farm Plan Requirements
Attachment B – Notice of Intent Form
Attachment C –Third-Party Program Roles, Responsibilities and Approval Process
Attachment D – Notice of Termination
Attachment E – Monitoring and Reporting
Attachment F – CEQA Mitigation Measures
Attachment G - Glossary

ATTACHMENT A

California Regional Water Quality Control Board
San Francisco Bay Region

General Waste Discharge Requirements
Order No. R2-2017-00XX

Farm Plan Requirements

Introduction

This Order requires Dischargers to prepare and implement a Farm Plan[1] that controls sediment discharges and storm runoff increases from vineyards and roads, and also controls pesticide and nutrient discharges from vineyards, as needed to attain the performance standards described in this attachment. Once the Farm Plan has been ~~Certified~~ Verified[2] ~~by an approved Third-Party Program~~, ~~an approved Qualified Professional~~[3], and/or has been approved by the Water Board ~~staff~~, a copy of the Farm Plan shall be kept at the Vineyard Property and be available for review by Water Board staff upon request. The process for approval of a Third-Party Program ~~and/or a Qualified Professional~~ is as specified in Attachment C to this Order. Except in cases of an unauthorized discharge or emergency circumstances, Water Board staff will typically provide Dischargers a minimum of 72 hours advance notice prior to inspection. Only Water Board staff, or other individuals authorized by the Discharger will inspect the Vineyard Property. Table 1 of this attachment defines the schedule for compliance as related to attainment of performance standards for discharge (specified in Section 3 herein) and also for Farm Plan submittal.

1. Approach and Scope

The Farm Plan shall be based on an inventory of the vineyards, roads, reservoirs, and waterways located throughout the Vineyard Property[4] to document the conservation practices already in-place, and/or to prescribe additional best management practices (BMPs) that will be implemented and maintained to comply with all conditions of this Order. As follows "existing"

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[1] The "Farm Plan" documents natural features, developed areas, and best management practices (BMPs) implemented to achieve applicable performance standards for discharge. Its scope and contents are as defined herein.

[2] "~~Certified~~Verified" means that an approved Third-Party Program has coordinated a technical review of the Farm Plan by a Qualified Professional who has signed - the Farm Plan, a verification form, or a letter - to indicate that she/he concludes that upon full implementation the Farm Plan would achieve all applicable performance standards for sediment and storm runoff control. Although a Verified Farm Plan receives technical review, it remains the Discharger's responsibility to ensure the Farm Plan is implemented to achieve all applicable performance standards for discharge. Third-Party Program verification does not constitute an approval of the Farm Plan.
~~Certified" 'is defined as the Farm Plan being complete, and upon its full implementation that the Vineyard Property would achieve all applicable performance standards for discharge~~.

[3] ~~A "Qualified Professional" is defined to include a California registered professional in a discipline associated with erosion and sediment control (e.g., professional engineer, licensed geologist, or certified professional in erosion and sediment control).~~

[4] A "Vineyard Property" is defined by a parcel or contiguous parcels under the same ownership, where grapevines are planted on part of the property.

(e.g., Vineyard Property, vineyard, road) means the feature is in-place prior to adoption of this Order, and "new" refers to the feature being constructed subsequent to adoption.

2. Base Map

The base map for the Farm Plan shall include the entire Vineyard Property and may be an aerial photograph, topographic map, LiDAR derived shaded relief map, Google Earth image, or equivalent that depicts features at 1:6000 or larger scale (a 1:2400 scale base map is recommended so that smaller features including stream channels, riparian corridors, vineyard drainage structures, reservoirs, roads, etc. can be discerned and delineated accurately). Topography shall be delineated to distinguish the land areas where the average ground surface slope is < 5 percent, 5-to-30 percent, and those areas > 30 percent, and also shall include 5-to-40 foot (consistent with US Geological Survey 7.5 minute quadrangle conventions), or higher resolution contour intervals.

The Vineyard Property base map(s) shall delineate the following:

- Property boundaries;
- Parcel boundaries and identifiers (APN numbers);
- Geomorphic terrane units (see Water Board, 2009, pp. 19-21) and/or soil series (with series identifier and erosion potential rating);
- Boundaries of vineyard blocks (showing row direction, slope, and block ID);
- Engineered drainage structures (e.g., subsurface drainage systems, underground outlets, diversion ditches, lined waterways or outlets);
- Vineyard avenues;
- Non-vineyard land uses (grazing areas; winery area, etc.);
- Farm buildings, agrichemical handling and mixing sites, agrichemical storage facilities, and equipment yards and/or staging areas;
- All channels including Class I, II, and III, and also human-made waterways/ditches;
- Water wells and streamflow diversion structures;
- Springs and seeps;
- Reservoirs, ponds, and lakes;
- All roads and road crossings, with road surface type (paved or unpaved) and crossing type (culvert, bridge, ford, etc.) also delineated; and

- Known active or potentially active landslides[5], soils with high erosion hazards, and known active or potentially active gullies.

3. Performance Standards for Discharge.

BMPs shall be installed and maintained as needed throughout the Vineyard Property to achieve the following performance standards:

a) Soil erosion in the Farm Area[6]: soil loss rate ≤ tolerable soil loss rate. The tolerable soil loss rate is as defined by the USDA Soil Conservation Service (1994).

b) Sediment delivery from existing unpaved roads (Hillslope Vineyards only): a) culvert inlets have a low plug potential[7]; b) critical dips shall be installed at culverted crossings that have a diversion potential; and c) ≤ 25 percent of the total length of unpaved roads are hydrologically connected[8].

c) Sediment delivery from new roads (Hillslope Vineyards only): all new roads, (unpaved and/or paved) shall be storm-proofed roads (see below, **Storm-Proofed Roads**).

d) Storm Runoff from an existing Hillslope Vineyard[9]: shall not cause or contribute to downstream increases in bed and/or bank erosion (see below, **Bed and Bank Erosion**).

e) Storm runoff from a new Hillslope Vineyard: a) peak storm runoff[10] in 2-, 10-, 50-, and 100-year (24-hour duration) rainfall events following vineyard development shall not be greater than pre-development peak storm runoff (see below, **Peak Storm Runoff)**[11]; and b) shall not cause or contribute to downstream increases in bed and/or bank erosion (see below, **Bed and Bank Erosion**).

[5] Mapped landslides and/or areas with a high potential for future landsliding may be identified based on field observations, aerial photo interpretation, and/or review of published information including: California Geological Survey (2016), US Geological Survey (1997a), and US Geological Survey (1997b). Also, a Debris Flow Potential Map developed for the Water Board by UC Berkeley is available upon request.

[6] The Farm Area at a minimum includes all vineyard blocks, lanes, and avenues. Vineyard lanes and avenues are the field roads along the edges and/or in between the vineyard blocks.

[7] Trash barriers or deflectors are installed where needed. For additional guidance, please see Weaver et al. (2014), "Culvert Inlet and Outlet Treatments", pp. 137-143.

[8] Hydrologic connectivity refers to the length or proportion of a road that drains runoff directly to streams or other water bodies. Any road segment that has a continuous surface flow path to a natural stream channel during a storm runoff event is termed a hydrologically connected road or road reach. Connectivity usually occurs through road ditches, road surfaces, gullies, or other drainage structures or disturbed surfaces.

[9] A "Hillslope Vineyard" is defined by grapes planted on an average slope > 5 percent. The method for determining slope is as specified by Napa County: http://www.countyofnapa.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=4294967662 . An "existing" Hillslope Vineyard is one that was planted prior to adoption of this Order.

[10] Peak runoff is defined as the instantaneous maximum value for discharge during a storm runoff event.

[11] Attainment of this performance standard shall be evaluated prior to vineyard development through site-specific hydrologic modeling ~~and subsequent to development by group or site-specific BMP effectiveness monitoring of soil infiltration capacity, as specified in Attachment E~~. In modeling runoff, ripping of soils shall not be inferred to result in a long-term increase soil infiltration capacity, and Hydrologic Soil Group Classification shall not be modified.

f) Pesticide management: An integrated pest management program shall be developed and implemented for the vineyard (UC Statewide IPM Program, 2015), and effective practices shall be implemented to avoid mixing, storage, or application of pesticides near wells and surface waters, or in ways that could contribute to receiving water toxicity.

g) Nutrient management: Best management practices to guide nutrient applications (e.g., fertigation, cover crops, soil amendments, plant and/or soil testing) shall be implemented as needed to protect water quality.

Further Specification of Performance Standards for Discharge

Peak Storm Runoff: The model developed to evaluate attainment of the peak storm runoff performance standard, as specified above, shall include and be consistent with all of the following;

- Pre- and post-project peak runoff estimates shall be provided for each sub-watershed area that drains into a vineyard drainage outfall. The size of the sub-watershed area is dictated by the drainage area lying upslope of each drainage structure outfall directing runoff from a vineyard block.
- Pre- and post-project peak flow estimates shall also be quantified at all locations where runoff exits the property (e.g., swales, creeks, ditches).
- Numerical modeling shall include hydraulic computations that integrate routing of flow through drainage elements such as pipes, surface ditches, rock/grass-lined swales, sedimentation basins, etc. into the numerical rainfall-runoff model.
- Numerical modeling shall include and account for all types of runoff from roads that drain into modelled sub-watershed areas.
- Numerical modeling shall include routing of flow through proposed BMP structures that would be implemented to control erosion and/or attenuate runoff.
- BMP structures shall be designed to address predicted project hydraulic conditions, such as water depth and velocity.
- Similar to vineyard drainage elements, routing of flows through BMPs (e.g., flow control structures, energy dissipaters/outlet protection, rock lined ditches, check dams, sediment basins, slope drains, streambank stabilization structures, and gravel berms) may alter runoff rate, and therefore, shall be integrated into the model/hydrologic analysis.
- A comprehensive description of the modeling approach, methods, assumptions, and peak flow estimates shall be integrated into the erosion control plan.

Storm-Proofed Roads (applies only to new roads built within a Hillslope Vineyard Property) (as defined by Weaver et al. (2014) shall meet the following specifications (as applicable):

- Stream crossings have a drainage structure designed for the 100-year flood flow including woody debris and sediment (Cafferata et al, 2004).
- Stream crossings do not have diversion potential.
- Culvert inlets have a low plug potential (trash barriers or deflectors are installed where needed).
- Culverts are installed at the base of the fill and in line with the natural channel.

- Emergency overflow culverts that emerge higher in the fill have full round, anchored downspouts that extend to the natural channel.
- Deep fills (deeper than a backhoe can reach from the roadbed) with undersized culverts or culverts with high plugging potential are fitted with an emergency overflow culvert.
- Bridges have stable, non-eroding abutments and do not significantly restrict 100-year flood flow.
- Stream crossing fills are stable.
- Approaching road surfaces and ditches are "disconnected" from streams and stream crossing culverts to the maximum extent feasible using road shaping and road drainage structures.
- Class I (fish-bearing) stream crossings meet State Fish and Wildlife and National Marine Fisheries Service fish passage criteria.
- Road surfaces and ditches are hydrologically "disconnected" from streams and stream crossing culverts. Road surface runoff is dispersed, rather than collected and concentrated.
- Ditches are drained frequently by functional ditch relief culverts and/or rolling dips.
- Outflow from ditch relief culverts does not discharge to streams.
- Ditches and road surfaces drainage does not discharge (through culverts and/or rolling dips) onto active or potential landslides, and/or into gullies.
- Fine sediment contributions from roads, cutbanks, and ditches are minimized by utilizing seasonal closures and installing a variety of surface drainage techniques including road surface shaping (outsloping, insloping or crowning), rolling dips, ditch relief culverts, water bars and other measures to disperse road surface runoff and reduce or eliminate sediment delivery to the stream.

Bed and Bank Erosion: the performance standard for bed and bank erosion downslope of a Hillslope Vineyard is evaluated and achieved as follows:

1. Review available information including: property land-use and natural disturbance history; vineyard design and management practices; natural and engineered drainage features; and soil, geology, landslide, and topographic maps.
2. Conduct a field survey[12] to evaluate and document channel condition, beginning at the point(s) of discharge from the Hillslope Vineyard along overland flow pathways and/or into the receiving channel(s), downstream to the first response reach (e.g., gravel-bedded channel reach with a slope ≤ 0.02), and/or to the property boundary (whichever is encountered first).

As technically and economically feasible, at sites where a Hillslope Vineyard discharges into an Unstable Area,[13] as a precaution the Discharger shall implement additional BMPs to attenuate Vineyard Property storm runoff. For example, these BMPs may include establishment of no-till cover crops, application of composted mulch, soil amendments to increase organic matter content (e.g., crop residues, manure, and/or compost), installation of level-spreaders, disconnecting existing drainage pipe systems, and/or construction of

[12] At a minimum, the field survey shall be conducted once every five years, and also following a 5-year or greater recurrence interval peak discharge, that is $\geq$ 10,000 cfs at the Napa River near St. Helena gage.

[13] Unstable areas include down-cutting and/or head-cutting stream channels, gullies, and/or landslides.

detention basins. Also, as technically and economically feasible, the Discharger shall implement soil bioengineering projects to control erosion in actively eroding gullies and landslides, and also in channel reaches that are down-cutting and/or head-cutting. Example soil bioengineering projects are described in Marin Resource Conservation District (2007).

4. Performance Standards for Stream and Riparian Habitats[14] (only applicable to unconfined alluvial channel reaches)

To qualify for enrollment in Tier 1, stream-riparian habitats shall be fully protected by:

a) Establishing and maintaining stream setbacks, as measured from the top of bank, along all unconfined alluvial channels[15] that are on average ≥ 1.5 times the bankfull width (see Table 2 for calculation of setback width as a function of watershed area); and/or

b) Implementing active and/or passive restoration measures, including managed bank retreat with vegetation restoration only, through Farm Plan implementation and/or participation in a reach-based habitat enhancement project, including the Rutherford Napa River Restoration, the Oakville to Oak Knoll Napa River Restoration, the Carneros Creek Adaptive Management Plan, and/or any other reach or tributary scale stewardship plan, that has been reviewed and approved by the Water Board.

Note: all permittees must prepare the stream-riparian element of the Farm Plan as specified below in Section 5.

5. Required Elements of the Farm Plan

The Farm Plan shall include all of the following elements:

a) Base map(s) (as specified above);
b) Conservation practices to control discharges of agrichemicals;
Conservation practices to control Farm Area sediment discharge and to attenuate peak runoff;
c) Conservation practices to reduce sediment discharge and attenuate peak runoff associated with property access roads;
d) Stream-riparian habitat characterization, and as applicable, a description of conservation practices implemented ~~Conservation practices to protect and/or enhance stream-riparian habitat complexity and connectivity~~;

[14] An unconfined reach, is where the valley width is greater than four-times the bankfull channel width. Examples of unconfined alluvial channel reaches include: a) almost the entire length of the Napa River and Sonoma Creek; and b) also along their tributaries where they exit canyons to traverse alluvial fans or valleys.

[15] No vineyard avenues, roads, ~~pipelines, pumps~~, or rows can be maintained within the setback, which is measured perpendicular to the channel beginning at the top of the bank. Where the stream setback width required by the local land-use authority is greater than 1.5 times the bankfull channel width, the full width of the locally required stream setback must be complied with in order to qualify for Tier 1 designation under the General Permit.

e) Water quality controls for reservoirs that receive recycled wastewater, and which may discharge to surface waters of the State (as applicable); and

f) Photo point monitoring.

Progress toward achievement of the performance standards for unpaved roads, and bed and bank erosion shall be reported as part of the annual compliance report (See Attachment E, Table E-1).

Where the deadline for the achievement a performance standard is later than the date of completion of the Farm Plan (Table 1), the Farm Plan shall include a time schedule for achievement of the performance standard, and milestones to gauge incremental progress.

Agrichemical controls

The Farm Plan shall describe the BMPs that are in-place and those that will be implemented to control discharges of agrichemicals including all nutrients and pesticides. This element of the Farm Plan shall describe practices for safe storage, mixing, and loading of agrichemicals, and/or to protect against discharges to surface and groundwater that could contribute to a violation of water quality standards. Specifically this element of the Farm Plan shall be developed and implemented to attain the performance standards for pesticide management and nutrient management as specified above. Performance standards for nutrient management and pesticide management must be achieved by the date of completion of the Farm Plan, which for an existing Vineyard Property is within three years of adoption of this Order, and for a new Vineyard Property, is within three years of adoption of this order or by the completion of vineyard construction (whichever date is later)[16].

Farm Area sediment discharge and peak runoff controls

The Farm Plan shall describe the BMPs that are in-place and those that will be implemented within the Farm Area, which includes at a minimum the vineyard blocks and avenues, to control sediment delivery to stream channels and to attenuate peak storm runoff. Specifically this element of the Farm Plan shall be developed and implemented to attain the performance standards for vineyard soil erosion, and as applicable, for storm runoff from a Hillslope Vineyard (as specified above).

The performance standards for vineyard soil erosion must be achieved by the date of completion of the Farm Plan, which for an existing Vineyard Property is within three years of adoption of this Order, and for a new Vineyard Property, by the completion of construction of the new vineyard.

The performance standards for storm runoff from a Hillslope Vineyard - as related to bed and bank erosion - must be achieved: a) at an existing Hillslope Vineyard, within six years of adoption of this Order; and b) at a new Hillslope Vineyard, within six years of the completion of vineyard construction.

[16] Whichever date is later is specified to allow new vineyards constructed in the year following permit adoption sufficient time to achieve compliance.

At a new Hillslope Vineyard, in addition to required monitoring and reporting (specified in Attachment E), achievement of the performance standard for peak runoff shall be evaluated through site-specific hydrologic modeling, and the Hydrologic Model shall be appended to the Farm Plan. In preparing the hydrologic model, ripping of soils may not be inferred to result in an improvement with regard to infiltration capacity.

Road sediment discharge and peak runoff controls

The Farm Plan shall describe the BMPs that are in-place and those that will be implemented throughout the Vineyard Property to control sediment delivery to stream channels and attenuate storm runoff peak from existing unpaved roads, and also from all new roads including unpaved and paved roads. Specifically this element of the Farm Plan shall be developed and implemented at a hillslope Vineyard Property, to attain the performance standards for existing unpaved roads including those for percent road length that is hydrologically connected, plug potential, stream diversion potential, and also for storm-proofing of all new roads (as specified above). At an existing hillslope Vineyard Property, road-related performance standards for existing unpaved roads must be achieved within ten years of adoption of this order. At a new hillslope Vineyard Property, road-related performance standards for existing unpaved roads must be achieved within ten years of completion of construction of the vineyard. All new roads constructed within a hillslope Vineyard Property, must be storm-proofed by the completion of construction.

Stream-Riparian Habitat Characterization ~~Protection and Enhancement Actions~~

The entire stream network including swales, ephemeral channel reaches, intermittent channel reaches, and perennial channel reaches shall be delineated throughout the Vineyard Property. All channel reaches shall be classified and delineated as confined, moderately confined (alluvial), and unconfined (alluvial). Channel condition within moderately confined alluvial channel reaches, and unconfined alluvial channel reaches[17] ~~(e.g., those that are moderately confined or unconfined)~~ shall be assessed to describe the active channel including:

- Active channel width,
- Bars, pools, and riffles,
- Large woody debris,
- Summer baseflow,
- Flood levels,

[17] Channel confinement defines the ratio of the valley width (VW) to the channel width (CW). Where VW < 2CW a channel is classified as confined. Where VW > 4CW, a channel is classified as unconfined. Moderately confined channels are where CW < VW < 4CW. Within the Napa River and Sonoma Creek watersheds, unconfined alluvial channel reaches are where the adverse impacts of channel incision on habitat complexity and floodplain connectivity are most pronounced. Examples of unconfined alluvial channel reaches include: a) almost the entire length of the Napa River and Sonoma Creek; and b) also along their tributaries where they exit canyons to traverse alluvial fans or valleys. Unconfined alluvial channel reaches provide essential habitat for: a) exceptionally diverse assemblages of native fishes; b) all of the potential habitat for Chinook salmon; and c) much of the potential habitat for steelhead. The steeper and more confined tributary channel reaches, with step-pool and/or cascade bedform types, that also provide part of the habitat network for steelhead, are classic sediment transport reaches that are much less sensitive to incision. However, substantial changes in large woody debris loading in these reaches can change reach scale habitat structure and complexity.

- Bank heights,
- Bank erosion areas,
- Riparian corridor width and proximity to the Farm Area,
- Description of the vegetation types and sizes within the riparian corridor including the extent of non-native/invasive species,
- Observations of fish and wildlife,
- Locations of roads, on- or off-channel reservoirs, and/or other features upstream or downstream (e.g., grade control structures, bank stabilization structures, road crossings) that may affect bed and bank erosion locally or at reach scale, and
- Description of the management regime for the channel and/or corridor management.

Consistent with U.S. EPA's Section 404(b)(1) Guidelines for Dredge and Fill Material, in determining the circumstances under which stream or wetland filling may be permitted, in general, it is preferable to avoid disturbance. When this is not possible, disturbance should be minimized. Mitigation for lost stream or wetland acreage and habitat values through restoration or creation should only be considered after disturbance has been minimized. Marin RCD (2007) and Cramer et al. (2012) provide useful guidance with regard to streambank stabilization techniques for stream channels that are consistent with the protection of ecological and geomorphic functions. Fischenich (2001) provides useful information regarding stability thresholds for bioengineering techniques. An example of an acceptable approach, with regard to level of detail[18] is as described in Sonoma County RCD et al. (2016).

[18] Please note that LandSmart is revising the Farm Plan Template (Version 3.0) to include information regarding summer baseflow, and also flood levels.

~~Fully Protected Stream Riparian~~ Corridors Stream and Riparian Habitats Performance Standard[19]

~~Where a Vineyard Property has:~~

~~a) Established and maintained stream setbacks[20], as measured from the top of bank, along all unconfined alluvial channels that are on average ≥ 1.5 times then bankfull width (see Table 2 for calculation of setback width as a function of watershed area); and/or~~

~~b) Has implemented active and/or passive restoration measures through participation in a reach-based habitat enhancement project, including the Rutherford Napa River Restoration, the Oakville to Oak Knoll Napa River Restoration, the Carneros Creek Adaptive Management Plan, and/or any other reach or tributary scale stewardship plan, that has been reviewed and approved by the Water Board, the setbacks established under these plans are considered sufficient for the Vineyard Property to be considered to have Fully Protected Stream-Riparian Corridors.~~

Vineyard Properties ~~with~~ that have a ~~Certified~~ Verified Farm Plan that is fully implemented, and that have attained the Performance Standard for Stream and Riparian Habitats, as applicable, are eligible for enrollment under Tier 1. Table 2 presents the relationship between bankfull channel width and watershed area within the permit area.

[19] This performance standard for stream and riparian habitats is not applicable at Vineyard Properties that do not include unconfined alluvial channels. Such properties also qualify for enrollment under Tier 1 upon full implementation of a Verified Farm Plan that attains applicable performance standards for discharge (as defined in Section 3 of this Attachment).

[20] ~~No vineyard avenues, roads, pipelines, pumps, or vineyard rows can be maintained within the setback, which is measured perpendicular to the channel beginning at the top of the bank.~~

Water quality controls for reservoirs that receive recycled wastewater and which may discharge to surface waters of the State[21] (only as applicable)

The Farm Plan shall describe the BMPs that are in-place and/or that will be implemented to protect water quality in downstream water bodies <u>located on parcels under the same ownership as the discharger,</u> as related to operation and maintenance of reservoirs that receive recycled water, and which may discharge to surface waters of the State. This element shall detail operation and maintenance activities of these reservoirs, design overflow conditions, and the drainage location(s) during overflow and/or maintenance. The Discharger shall consider the timing, magnitude, and duration of water released from these reservoir(s) to downstream waterbodies including minimizing the discharge of recycled water. The Discharger shall implement erosion and sediment control BMPs to prevent potential erosion impacts to creeks at the point of discharge and downstream of the discharge. The discharger shall take measures to ~~minimize impacts on~~ <u>enhance</u> downstream riparian areas including as applicable eradicating non-native species in downstream riparian areas within the Vineyard Property, augmenting gravel and wood supply to downstream channel reaches, and/or riparian habitat enhancement. The Farm Plan also shall include appended Water Rights permits or licenses that apply to the reservoir and describe management measures and reporting measures to ensure compliance with any bypass requirements and ensure net environment benefit associated with the use and storage of recycled water.

Photo point monitoring

The Farm Plan shall include photo point monitoring data as specified in Attachment E (Monitoring and Reporting).

~~**Time Schedule for Farm Plan Completion**~~

~~For all existing Vineyard Properties, the Farm Plan shall be completed and certified within three years of adoption of this Order. For all new Vineyard Properties, the Farm Plan shall be completed and certified by the date of the completion of vineyard construction or within three years of adoption of this Order, whichever date is later. Thereafter, the Farm Plan shall be kept at the Vineyard Property and be available for review by Water Board staff upon request.~~

~~If a Discharger elects to develop and implement Farm Plan independently, that is without the Farm Plan being certified by an approved Third-Party Program or an approved Qualified Professional, the Farm Plan must be submitted to the Executive Officer to confirm compliance with all conditions specified herein. In this case, the time schedule for submittal at an existing vineyard property is within two years of adoption of this Order, and at a new Vineyard Property is within one year prior of the projected date for the initiation of vineyard construction.~~

[21] These include reservoirs constructed on-channel, and/or off-channel reservoirs that include spillways where subsequent to overflow there would be a discharge to surface waters of the State.

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Table 1. Summary of Deadlines for Compliance

Existing Vineyard Property			New Vineyard Property	
Farm Plan: completed and Verified ~~Certified~~[22]	Within **three years of adoption of this Order**		**Farm Plan**: completed and Verified ~~Certified~~	By **completion of vineyard construction or** within **three years of adoption of this Order** (whichever date is later)
Performance Standards for new roads	By **completion of construction**		**Performance Standards** for new roads	By **completion of vineyard construction**
Performance Standards for Soil erosion in the Farm Area, Pesticide Management, and Nutrient Management	Within **three years of adoption of this Order**		**Performance Standards** for Soil erosion in the Farm Area, Pesticide Management, and Nutrient Management	By **completion of vineyard construction**
Performance Standards for Bed and Bank Erosion	Within **six years of adoption of this Order** (see note below)		**Performance Standards** for Bed and Bank Erosion	Within **six years of vineyard construction** (see note below)
Performance Standards for Peak Runoff	(see note below)		**Performance Standards** For Peak Runoff	Assessed via modeling By **completion of vineyard construction** (see note below)
Performance Standards for existing unpaved roads	Within **ten years of adoption of this Order**		**Performance Standards** for existing unpaved roads	Within **ten years of ~~adoption~~ completion of vineyard construction**
Performance Standards for new roads	By **completion of construction**		**Performance Standards** for new roads	By **completion of construction**

Note: The effectiveness of BMPs implemented to attain performance standards for storm runoff from Hillslope Vineyards also shall be validated via required monitoring (see Attachment E).

[22]**If a Discharger chooses to develop the Farm Plan independently, the Farm Plan must be submitted to the Water Board for review/approval**. For an existing Vineyard Property, the deadline for submittal is within two years of adoption of this Order. For a new Vineyard Property, the deadline for submittal is within two years of adoption of this Order, ~~or one year prior~~ to at the time of vineyard construction, whichever date is later.

Table 2. Relationship between Bankfull Channel Width and Watershed Area (Jackson, unpublished data, as cited in CLSI, 2009)

(Bankfull Width in feet = 13.03 * [Watershed Area, mi^2]$^{0.494}$; R^2 = 0.76; N = 50 sites)

Watershed Area (mi^2)	Estimated Bankfull Channel Width (ft)
0.1	4
0.2	6
0.5	9
1	13
2	18.5
3	23
4	26
5	29
8	37
10	41
15	50
20	59
50	93
100	131

ATTACHMENT B

Notice of Intent Form

(Draft Version of Form)

GROWER REQUIREMENTS | HELP / INSTRUCTIONS

REGION 2 WATER BOARD VINEYARD PROPERTY PROGRAM - NOTICE OF INTENT - OPERATION INFO

NOTE: NAVAGATING AWAY FROM THIS FORM BEFORE CLICKING THE SAVE AND ADD THIS VINEYARD PROPERTY BUTTON. MAY CAUSE YOU TO LOSE ALL ENTERED DATA

Vineyard Property: One or more parcels (legally designated by the Napa County or Sonoma County Assessor's offices) of land, containing, in whole or in part, a vineyard where 5 acres or more are planted in grape vines by the same person or group.

Vineyard Operation: A person or group operating one or more Vineyard Properties in Napa or Sonoma counties.

Section I: Intent to Enroll Vineyard Property

Name of Operation:

Operator / Responsible Party: Operation Contact:

Business Mailing Address: City: State: Zip: ☐ ADDRESS IS A RESIDENCE

Phone Number: Fax Number: E-mail Address:

Section II: Vineyard Property Farm Plan

Has a Farm Plan been completed for this Vineyard?

Farm Plan Certified by _____
(Name of Qualified Professional or Third-Party Group or Not Applicable)

REGION 2 VINEYARD PROPERTY PROGRAM - NOTICE OF INTENT - GENERAL VINEYARD PROPERTY INFO

NOTE: NAVIGATING AWAY FROM THIS FORM BEFORE CLICKING THE ADD THIS VINEYARD PROPERTY BUTTON, MAY CAUSE YOU TO LOSE ALL ENTERED DATA

Section III: Vineyard Property Name

Vineyard Property Name:

Section IV: Vineyard Property Status

○ Actively Farming at this Vineyard Property ○ No Longer Farming at this Vineyard Property

Date operation started farming at this vineyard property: MM/DD/YYYY

Section V: Vineyard Property Location

Is this vineyard property located on one contiguous block of land? ○ YES ○ NO If YES, mark the centroid of the property. If NO, mark the largest parcel.

Vineyard Property Address / Location: City: ☐ ADDRESS IS A RESIDENCE

Provide Geographic Location of Vineyard Property

○ Mark the Vineyard Property Location on an Interactive Map

VINEYARD PROPERTY MAP(S)	UPLOAD VINEYARD PROPERTY MAP(S)
NO VINEYARD PROPERTY MAPS HAVE BEEN UPLOADED FOR THIS VINEYARD PROPERTY	

Section VI: Assessor Parcel Number(s) and Landowner(s) ADD ADDITIONAL LAND OWNER

Assessor Parcel #(s): ADD MORE PARCLES

The following individual is the : ○ Landowner ○ Trustee or Other Authorized Legal Representative of the Landowner

Name of Landowner: Contact Name:

Mailing Address: City: State: Zip:

Phone Number: Fax Number: E-mail Address:

Section VII: Vineyard Property Contact Information

Vineyard Property Contact:

Mailing Address: City: State: Zip:

Phone Number: Fax Number: E-mail Address:

Section VIII: Vineyard Property Characteristics

Total Vineyard Property Acres: ____ Total Acres Planted in Grapes: ____

A) Acreage of area planted in grapes with slope less than 5%: ____

B) Acreage of area planted in grapes with slope from 5% to 30%: ____

C) Acreage of area planted in grapes with slope greater than 30%: ____

D) Did development of all or part of the vineyard property involve a timber conversion or timber harvest plan? ○ YES ○ NO If yes, number of acres: ____

E) Reservoir(s) located on-site?: ○ YES ○ NO # of acres discharging into on-site reservoir(s): ____

# of acres planted in grapes discharging into on-site reservoir(s): ____

F) Operated under an Erosion Control Plan approved by local government agency? ○ YES ○ NO

Section IX: Waterbody Information

Is this vineyard property adjacent to a waterbody: ○ YES ○ NO If YES, provide name of waterbody: ____

Additional waterbody name: ____ Additional waterbody name: ____

Does a waterbody pass through or exist on this vineyard property?: ○ YES ○ NO If YES, provide name of waterbody: ____

Additional waterbody name: ____ Additional waterbody name: ____

Section X: Pesticide Permit Information ADD ADDITIONAL OIN / SITE ID / PERMIT HOLDER

Are pesticides applied on this Vineyard Property? ○ YES ○ NO

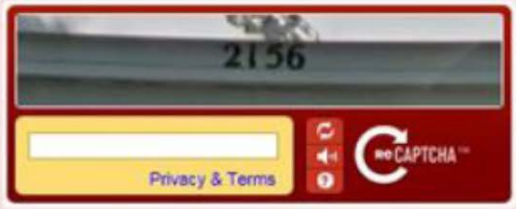
If YES, are they applied under a Department of Pesticide Regulation Permit? ○ YES ○ NO

Operator Identification Number: *(for Pesticide Applications on Vineyard Property)* ____ - ____ - ____ Site ID: ____

Name of Permit Holder: ____ Site ID: ____

SAVE and ADD THIS VINEYARD PROPERTY

ADD ADDITIONAL VINEYARD PROPERTY or Click the SUBMIT AND PRINT Button Below



After you have provided the required information regarding your operation and vineyard properties, you must fill out the reCaptcha to the left and then click the button below to submit the form to the San Francisco Bay Regional Water Quality Control Board (Water Board). You will then be prompted to print out a copy of the form, sign it, and mail it to the Water Board. Additional detailed instructions are included on the printout:

SUBMIT AND PRINT

ATTACHMENT C

California Regional Water Quality Control Board
San Francisco Bay Region

General Waste Discharge Requirements
Order No. R2-2017-00XX

Agricultural Third-Party Program ~~and Qualified Professional~~ Roles, Responsibilities, and Approval Process

The Water Board encourages Dischargers to work with Third-Party Programs[1] ~~and Qualified Professionals~~[2] in the development and implementation of Farm Plans.

This document explains the roles, responsibilities, and prerequisite qualifications of Third-Party Programs ~~and Qualified Professionals~~ and provides guidance on the types of information needed for Water Board approval of Third-Party Programs ~~and Qualified Professional technical service providers~~.

1. What are the roles of a Third-Party Program ~~or Qualified Professional~~?

Third-Party Programs ~~and Qualified Professionals~~ provide technical assistance/expertise to help dischargers comply with requirements of this Order. Third-Party Programs must fulfill all of the following roles:

- Assist dischargers with development ~~and implementation~~ of Farm Plans as needed to achieve the performance standards in this Order;
- Verify that a Farm Plan prepared under your program, or professional oversight, is complete and that upon full implementation it will achieve all applicable performance standards for discharge, as described in this Order. Verified Farm Plans receive a technical review by a Qualified Professional who signs - the Farm Plan, a verification form, or a letter - to indicate that she/he concurs that upon full implementation, the Farm Plan would achieve all applicable performance standards for sediment and storm runoff control. A "Qualified Professional" is defined to include a California registered professional in a discipline associated with erosion and sediment control, for example a professional engineer, licensed geologist, or certified professional in erosion or sediment control. Subject to review and approval by the Executive Officer, other individuals also may be designated as Qualified Professionals.

[1] Third-Party Programs provide technical assistance/expertise to help Dischargers comply with requirements of this Order.

~~[2] "Qualified Professional" is defined to include a California registered professional in a discipline associated with erosion and sediment control including for example a professional engineer, licensed geologist, or certified professional in erosion and sediment control.~~

Optional roles may also include:

- Assist dischargers with the filing of Notice of Intent and/or other required paperwork;
- Assisting dischargers in securing the necessary permits for projects implemented to comply with this order;
- Assisting dischargers with ~~BMP implementation~~ monitoring and reporting;
- Assisting dischargers with preparation and/or submittal of annual reports;
- Assisting dischargers with applications for grants or other financial assistance;
- Conducting ~~BMP effectiveness~~ monitoring; and/or
- Managing fee collection and payment to the State Water Board.

2. Who can qualify to be an approved Third-Party Program ~~or Qualified Professional technical service provider~~?

~~At a minimum, one of the staff or consultants of a Third-Party Program must be a California registered professional in a discipline associated with erosion and sediment control (e.g., a professional engineer, licensed geologist, certified erosion control specialist, and licensed landscape architect) and be available to provide technical input and review as needed. Similarly, a Qualified Professional must be a California register professional (as described above), and demonstrate proficiency in erosion and sediment control.~~

To be eligible for approval, Third-Party Programs ~~and Qualified Professionals~~ must demonstrate that they have experience working with Vineyard Property owners and/or managers, and technical expertise and experience in developing and implementing non-point source pollution control programs. Third-Party Programs ~~and Qualified Professionals~~ providing technical assistance must provide objective input.

Groups ~~and Individuals~~ that may apply for approval

- Local public agencies
- Resource Conservation Districts
- UC Cooperative Extension
- Non-profit organizations
- Water quality coalitions or other watershed groups
- ~~Licensed professional engineer, licensed geologist, licensed landscape architect, or certified professional in erosion and sediment control~~

Groups and Individuals that will not be approved

- Entities that own or operate a Vineyard Property regulated by the Water Board (except in those cases where the vineyard is operated primarily for public education, research, or demonstration purposes).
- Entities or individuals that have a conflict of interest. A conflict of interest is a situation in which financial or other personal considerations have the potential to compromise or bias

professional judgment and objectivity in verifying that a Farm Plan is complete and/or upon full implementation that it would attain the performance standards for discharge (as applicable) that are contained in this Order. An individual is considered to have a financial conflict of interest if they have a financial stake/interest in the facility for which they are providing technical assistance. Entities that collect fees from program participants to sustain or administer Third Party Programs or assist with State Water Board fee collection are not considered to have a financial conflict of interest.

3. What is documentation is required of a Program ~~or Individual~~ seeking Water Board Approval?

Third-Party Programs seeking Executive Officer approval must submit the information below:

a. Provide a description of the methods that will be used to maintain records of the Dischargers/Vineyard Properties enrolled in your program, and also of the Dischargers/Vineyard Properties that have farm plans that are Verified (as complete and that upon full implementation will attain performance standards for discharge).
b. Demonstrate that Farm Plan assistance materials (e.g., templates, work books, guides) were developed with input from Water Board staff, other agency staff, technical experts, and/or academics and growers who have experience and knowledge of agricultural management practices and road management to control erosion. Materials must be sufficiently comprehensive to ensure that full implementation of the Farm Plans will achieve the performance standards of this Order.
c. Describe the process (e.g., workshops/training, site visits, outreach) to be used to assist Dischargers in developing complete and accurate Farm Plans.
d. Demonstrate that the Third-Party program has the qualified staff, or access to contractors, who have the appropriate professional licenses or certifications, technical expertise, or academic training in disciplines associated with preparing and implementing Farm Plans.
e. Describe the process that will be used to verify that a Farm Plan is complete and that upon its full implementation will achieve the performance standards for discharge specified in this Order. Where the Farm Plan is verified independently, that is by professionals not employed by the Third-Party Program, the Third-Party Program should submit a list of Qualified Professionals, one-or-more of whom would provide technical review to verify farm plans.

~~Qualified Professionals seeking Executive Officer approval, in addition to providing the information requested immediately above, also shall:~~

~~f. Submit a resume which details their professional experience;~~
~~g. Three examples of relevant project experience in erosion control; and~~
~~h. Letters of reference for the erosion control projects highlighted in their application package.~~

Third-Party Programs ~~or Qualified Professionals~~ interested in providing assistance with fee collection also must submit:

f. Group Fee Collection: Describe the process and procedures that will be used to track and manage group fee collection. If a discharger is a member of a group that has been approved

by the State Board to manage fee collection and payment, there is a discounted fee assessed per acre.

4. How to request Water Board Approval?

Interested Third-Party Program ~~or Qualified Professionals~~ seeking Water Board approval should submit written requests that include items 3a through 3h, listed above, and/or item 3i (as applicable). The Water Board's Executive Officer will review each request and will either:

- Approve the request
- Request additional information if the application package is incomplete and additional information is needed to complete the submittal, or
- Disapprove the request if items 3s-3h cannot be adequately addressed.

Following Executive Officer approval of the request, electronic copies of the Executive Officer-approved Third-Party Program's ~~and/or Qualified Professionals~~ Farm Plan templates and assistance materials will be made available to the public upon request.

A request for approval must be submitted electronically to [*electronic mailbox to be provided*]. An initial list of approved Third-Party Programs will be posted by January 12, 2018 (six months following Adoption of this Order). In order to be included on the initial list, a complete application must be submitted by October 12, 2017 (three months following adoption of this Order), and the interested Third-Party Program must be approved by the Executive Officer.

5. How will the Water Board review and evaluate Third-Party Program ~~and Qualified Professional~~ performance?

Water Board staff will periodically review and evaluate the performance of approved Third-Party Programs ~~and Qualified Professionals~~ to ensure that the program and services provided meet the requirements specified above, that any required documentation is complete, submittals for group reporting and fee collection (optional) are accurate and timely, and that adequate Farm Plans are consistently being prepared by the group's regulated entities. The Executive Officer may terminate its approval of a Third-Party Program ~~or Qualified Professional~~ if it is determined that the Water Board's requirements are not being met.

Nonpoint Source Policy

The State Water Board's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program adopted on May 20, 2004 (NPS Policy) requires regulation of nonpoint source pollution in California through WDRs, WDR waiver programs, or discharge prohibitions.

The NPS Policy specifically allows for Third-Party Programs or coalitions of dischargers to work collaboratively to improve water quality and allows the Water Board to evaluate Third-Party Program performance. Each proposed program will be judged individually on its merits.

ATTACHMENT D

California Regional Water Quality Control Board
San Francisco Bay Region

General Waste Discharge Requirements
Order No. R2-2017~~6~~-00XX

NOTICE OF TERMINATION

Signed forms must be submitted to:

San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: Vineyard Program

SECTION I. FACILITY OPERATOR INFORMATION

Name:		Contact E-mail:
Mailing Address:		
City:	State: CA	Zip Code:
Name of Contact Person:		Contact Phone:

SECTION II. LANDOWNER INFORMATION (IF OPERATOR IS NOT THE OWNER)

Name:		Contact E-mail:
Mailing Address:		
City:	State:	Zip Code:
Name of Contact Person:		Contact Phone:

SECTION III. FACILITY INFORMATION

A. Facility Name		County:
Mailing Address:		Contact E-mail:
City:	State: CA	Zip Code:

Name of the Contact Person for the Vineyard Property : _____ _____ _____ _____	Contact Phone: Email:
Facility County Assessor's Parcel Number	
A. Total Vineyard Property Parcel(s) Size: _____ acres B. Total area planted in grapes: _____ acres	

SECTION IV. BASIS OF TERMINATION

A. CHANGE OF VINEYARD PROPERTY OWNERSHIP or CHANGE IN CONTROL OF VINEYARD PROPERTY (check if true)

[ ] The control or ownership of this **Vineyard Property** changed on the following date: _____

The contact information for the succeeding **Vineyard Owner or Operator** is :

_____
_____
_____
_____

B. VINEYARD PROPERTY CLOSURE or CHANGE IN LAND USE

[ ] The use of the **Vineyard Property** changed and the **Vineyard Property** no longer meets the eligibility requirements of the General Waste Discharge Requirements for the following reasons

_____
_____
_____
_____
_____

as of the following date: _____

SECTION V. LANDOWNER NOTIFICATION

If the facility is leased or operated by someone other than the owner, this section must be signed by the operator.

I certify that the owner of the facility has been notified of these General Waste Discharge Requirements and that I have been designated by the owner as the "Authorized Representative."

Operator's Printed Name:_____ Signature:_____

Title: _____ Date: _____

SECTION VI. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Owner or Authorized Representative Printed Name:_____

Owner or Authorized Representative Signature:_____ _____

Date:_____

Telephone Number:_____Email:_____

ATTACHMENT E

California Regional Water Quality Control Board
San Francisco Bay Region

General Waste Discharge Requirements
Order No. R2-2017-00XX

MONITORING AND REPORTING REQUIREMENTS

This Monitoring and Reporting Program (MRP) is issued pursuant to Order No. R2-2017-00XX (Order) and California Water Code (CWC) section 13267. The Discharger shall not implement any changes to this MRP unless, and until, a revised MRP is approved by the Executive Officer. To allow the Water Board to evaluate compliance with the terms and conditions of the Order, this MRP requires that monitoring, sampling, and record-keeping be conducted by Vineyard Property owners and operators (hereinafter, Dischargers). The Executive Officer may modify Attachment E, as necessary or appropriate. Public Notice of the modification of Attachment E would be provided, and revised requirements would be posted on the Water Board website.

This MRP requires that Tier 2 and Tier 3 Dischargers prepare an Annual Report of compliance (Table E-1), to be submitted to the Water Board by December 15 of each year. The Annual Report shall document: a) status of the Farm Plan (e.g., as applicable, completed, "verified"); b) property inspections; and c) progress toward attainment of applicable performance standards for discharge (e.g., miles of unpaved roads and percent length hydrologically connected). Per the time schedule and specifications, defined as follows herein, Tier 2 and Tier 3 Dischargers also are required to submit a Monitoring Plan and a Monitoring Results Report to evaluate Streambed Conditions and BMP effectiveness.

SUMMARY OF MONITORING AND REPORTING REQUIREMENTS:

Tier 1:
Verification Letter
BMP Implementation Monitoring

Tiers 2 and Tier 3*:
BMP Implementation Monitoring
Stream Monitoring
BMP Effectiveness Monitoring
Annual Compliance Report
Monitoring Plan (per BMP Effectiveness and Streambed Monitoring)
Monitoring Results Report (per BMP Effectiveness and Streambed Monitoring)

*Tier 3 Dischargers must submit their Farm Plan to the Water Board for review/approval.

MONITORING AND REPORTING BASED ON TIERS

Three tiers for enrollment are defined under this Order and the MRP that are related to the relative level of threat to water quality presented by pollutant discharges at an individual Vineyard Property. Tier 1 sites are expected to present the lowest level of threat, Tier 2 an intermediate level, and Tier 3 the highest potential threat. Required monitoring and reporting, as related to enrollment tier, is as presented below.

A. Tier 1 (Stewardship Tier): Water Quality Monitoring and Reporting Requirements

Tier 1 Dischargers are required to submit a Verification Letter and to conduct BMP Implementation Monitoring, as specified immediately below. Attachment A specifies requirements for enrollment in Tier 1 (Stewardship Tier). In summary, these include having fully implemented a "verified" Farm Plan to meet all applicable performance standards (which are as specified in Attachment A).

1. Verification Letter (Confirming Attainment of Performance Standards)

At the time of enrollment in Tier 1, the permittee shall submit a letter signed by a representative of an approved Third-Party Program confirming that: a) the Farm Plan has been "verified" and has been fully implemented; and b) as applicable, that the performance standard for Stream and Riparian Habitats has been attained (as defined in Attachment A). Once every five years thereafter, a verification letter must be submitted to the Water Board verifying that the farm plan remains fully implemented in order for the permittee to retain their Tier 1 status.

2. BMP Implementation Monitoring

Photo-points provide a qualitative indication of BMP performance and habitat and water quality conditions in receiving waters. Photo-points shall be established and monitored each year to document winter readiness, demonstrate annual maintenance practices and BMP implementation, and to document habitat and water quality conditions in receiving waters at and/or near points of discharge. Photo-points shall be numbered and depicted on maps contained in the Farm Plan (requirements and specifications for the Farm Plan are included in Attachment A). Photo-point records and field notes shall be appended to the Farm Plan. Guidance regarding establishment and protocols for photo-point monitoring are provided in OWEB (2007) and NRCS (2009).

B. Tier 2 and 3 Dischargers: Water Quality Monitoring and Reporting Requirements

Introduction

Tier 2 and Tier 3 Dischargers are required to conduct BMP Implementation Monitoring, Streambed Monitoring (as applicable), and BMP Effectiveness Monitoring, and also to submit an annual compliance report (Table E-1). The required Streambed and BMP effectiveness monitoring may be satisfied either through participation in a watershed-based group effort, or through individual property-specific monitoring. Following permit adoption, in State fiscal year 2017-18, Water Board staff intends to work with Third-Party Programs, and/or establish a technical advisory committee, to provide additional guidance with regard to BMP effectiveness monitoring, and streambed monitoring and reporting.

BMP Implementation Monitoring

Photo-points provide a qualitative indication of BMP performance and habitat and water quality conditions in receiving waters. Photo-points shall be established and monitored each year to document winter readiness, demonstrate annual maintenance practices and BMP implementation, and to document habitat and water quality conditions in receiving waters at and/or near points of discharge. Photo-points shall be numbered and depicted on maps contained in the Farm Plan (requirements and specifications for the Farm Plan are included in Attachment A). Photo-point records and field notes shall be appended to the Farm Plan. Guidance regarding establishment and protocols for photo-point monitoring are provided in OWEB (2007) and NRCS (2009).

Specification of Streambed and BMP Effectiveness Monitoring Option

This MRP allows Tier 2 and 3 Dischargers to conduct stream monitoring and BMP effectiveness monitoring either through individual or watershed-based group monitoring. We strongly encourage Dischargers to participate in a watershed-based group monitoring program. Dischargers who do not elect to participate in a group monitoring program must submit their individual monitoring plans to the Executive Officer for review and approval and conduct individual, property-specific surface water quality monitoring that achieves the same purpose as the group program. At the time of enrollment, Tier 2 and Tier 3 Dischargers must elect a surface water quality monitoring option, either:

a) **Napa River and/or Sonoma Creek Watershed-Based Group Monitoring**; or

b) **Individual Property-Specific Monitoring**,

in order to comply with the monitoring requirements specified in this Order.

For all existing vineyard properties, regardless of the monitoring option Tier 2 and 3 Dischargers elect, **by July 15, 2019**, a surface water quality monitoring plan (monitoring plan) shall be submitted to the Executive Officer for review and approval. **By July 15, 2022**, a report that presents and analyzes monitoring results (monitoring report) shall be submitted for review and approval by the Executive Officer. The scope of the monitoring plan and monitoring report shall include BMP effectiveness and streambed monitoring as described below. As indicated earlier, the Executive Officer may modify Attachment E, as necessary or appropriate at a future date.

For new vineyard properties, those that are developed subsequent to adoption of this Order, that elect the Group Monitoring option, the monitoring plan and report requirements are satisfied subject to meeting the terms of enrollment in the group (i.e., if the new Vineyard Property enrolls in a Group, that has previously submitted a monitoring plan and report that were approved by the Executive Officer, these reporting requirements are satisfied). For new vineyard properties that elect the Individual Property-Specific monitoring option, the requirements are the same, however, the deadline for the monitoring plan submittal is by two-years following vineyard development, and for the monitoring report by five-years following vineyard development.

Streambed Monitoring

Streambed substrate conditions shall be monitored in channel reaches that provide existing and/or potential spawning habitat for steelhead and/or salmon to evaluate attainment of TMDL numeric targets for sedimentation in the Napa River and Sonoma Creek watersheds (Water Board 2008b, Table 1; Water Board 2009b, Table 1). The requirement to monitor streambed substrate conditions may be satisfied through participation in watershed-based group monitoring program, or by individual property-specific monitoring, which is applicable, if a Vineyard Property includes channel reaches that provide existing and/or potential spawning habitat for steelhead or salmon. Potential spawning sites are as defined in Water Board, 2009b, Table 1, which is included immediately below. A watershed-based group monitoring program for streambed monitoring, already has been developed for the Napa River watershed, that could be implemented to satisfy this requirement as defined in Stillwater Sciences (2013), and/or with refinements. Field sampling protocols for: a) spawning gravel permeability are defined in Barnard and McBain (1994) and/or in Stillwater Sciences (2013); b) streambed scour as defined in Nawa and Frissell (1993), Schuett-Hames et al. (1999), and/or in Stillwater Sciences (2013); c) substrate composition percent fines, are defined in Valentine (1995); and d) v-star are defined in Hilton and Lisle (1993).

TMDL sediment targets [streambed conditions] for the Napa River and its Tributaries (Table 1, Water Board, 2009b).

Spawning gravel permeability	Median value ≥ 7000 cm/hr[a]
Streambed scour	Mean depth of scour ≤ 15 cm[b]

[a] Target applies to all potential spawning sites for steelhead and salmon in the Napa River and its tributaries, excluding those upstream of municipal water supply reservoirs.

[b] Target applies to the response of the streambed to peak flows less than the bankfull event at all potential spawning sites for salmon in gravel-bedded reaches of: 1) mainstem Napa River; and 2) alluvial reaches of tributaries where streambed slope is between 0.001 and 0.02. Potential spawning sites can be identified based on the following: 1) dominant substrate size in the streambed surface layer is between 8 and 128 mm; 2) minimum surface area of gravel deposit is 0.2 square meters in tributaries and 1.0 square meter in mainstem Napa River; or 3) located within mainstem Napa River at a riffle head, pool tail, and/or pool margin or in tributary reaches where streambed slope < 0.03, or in tributary reaches where streambed slope > 0.03 in pool tails, backwater pools, and/or in gravel deposits associated with flow obstructions (e.g., woody debris, boulders, banks).

TMDL sediment targets [streambed conditions] for Sonoma Creek and its Tributaries (Table 1, Water Board, 2008b).

Spawning gravel permeability	Median value ≥ 7000 cm/hr[a]
Pool filling	Decreasing trend in the volume of fine sediment deposited in pools
Substrate Composition- Percent Fines	Percent of fine sediment less than 0.85 mm in diameter is less than or equal to 14 percent of the total bulk core sample (<14% fines < 0.85 mm)[b]
	Percent of fine sediment less than 6.40 mm in diameter is less than or equal to 30 percent of the total bulk core sample (<30% fines < 6.40 mm)[b]
[a]Target applies to all potential spawning sites for steelhead and salmon in Sonoma Creek and its tributaries. [b]Target applies to wadeable streams and rivers with gradient less than 3 percent. A wadeable stream is one which an average human can safely cross on foot during the summer, low flow season while wearing chest waders.	

BMP Effectiveness Monitoring

BMP Effectiveness Monitoring shall be conducted to evaluate attainment of the performance standards for sediment discharge and storm runoff, specified by this Order. In summary:

a) All vineyards must perform a **ground cover survey** to evaluate attainment of the performance standard for soil erosion in the farm area; and

b) Hillslope Vineyard Properties also must perform **road inventories** to evaluate attainment of the performance standard for sediment delivery from existing unpaved roads, and **bed and bank erosion monitoring** (cross-sectional profiles), as applicable to evaluate attainment of the performance standard for bed and bank erosion[1].

Ground Cover Survey: At all Vineyard Properties, annually during the month of November, percent ground cover shall be estimated based on a weighted average value of samples collected to characterize vineyard rows, inter-rows, and vineyard avenues. Examples of acceptable approaches for ground cover survey and estimation are presented in US Department of Agriculture (1999). Alternative approaches (e.g., normalized difference vegetation index (NDVI)) for estimation of percent ground cover also may be proposed for review and approval of the Executive Officer. In the evaluation of ground cover survey data, submitted as part of the Monitoring Results Report (see above), a weighted average or weighted median value for ground cover (accounting for relative proportions of the farm area in inter-rows, rows, avenues, and for inter-annual variation) could be input into the universal soil loss equation (USLE) or the revised universal soil loss equation (RUSLE) model to evaluate attainment of the performance standard for soil erosion within the Farm

[1] As specified in Attachment A, this performance standard applies only to hillslope vineyards. Where a hillslope vineyard discharges into an unstable area (e.g., an actively eroding gully, landslide, and/or a down-cutting or head-cutting channel), in addition to the required channel reconnaissance and photo-points, bed and bank erosion monitoring would include cross-sectional surveys to evaluate effectiveness of additional BMPs implemented to attenuate storm runoff and soil bioengineering practices implemented to control erosion in the unstable area.

Area, which corresponds to the soil loss rate being less than or equal to the tolerable soil loss rate as defined by the USDA Soil Conservation Service (1994). Other analytical approaches to evaluate attainment of the performance standard also may be proposed.

Road Inventory: At hillslope vineyard properties, an inventory of unpaved roads shall be conducted after each winter and no later than May 15, to qualitatively evaluate road sediment discharge potential and BMP effectiveness. Sources of erosion and evidence of sediment transport to stream channels shall be documented on a road inventory form. An example of an acceptable approach to road inventory is provided by the California Department of Forestry and Fire Protection (2014). Other approaches also may be proposed for review and approval of the Executive Officer.

Bed and Bank Erosion: This monitoring is applicable only at hillsope vineyard properties. As specified in Attachment A (to evaluate attainment of the performance standard for bed and bank erosion), a field survey must be performed (as specified in Attachment A) to evaluate attainment of the performance standard. Based on conditions documented in the required field survey[2], where a hillslope vineyard discharges into an unstable area (e.g. an actively eroding gully, a landslide, and/or a head-cutting and/or down-cutting channel), additional BMPs must be implemented (as feasible) to attenuate storm runoff and to control erosion in the unstable area. The required cross-section and photo-point monitoring (where a hillslope vineyard discharges into an unstable area) is to evaluate erosional volume and response to BMP implementation and other factors, and shall be presented and evaluated in the Monitoring Results Report (see above). Other approaches to monitoring may be proposed in the required Monitoring Plan.

Annual Compliance Report

Following permit adoption, each year by December 15, all Tier 2 and Tier 3 Dischargers must submit an annual report that documents progress toward completion of the Farm Plan and progress toward attainment of the performance standards for discharge. The Annual Reporting Form and Schedule for Compliance are included as Table E-1 to this attachment.

Farm Plan Submittal

Tier 3 Dischargers also must submit a completed Farm Plan (as specified in Attachment A) to the Water Board for review and approval in conformance with the schedule for compliance specified in Attachment A. Upon approval, such a Farm Plan is defined as Verified, and the Vineyard Property would qualify for enrollment in Tier 2 or Tier 1, as applicable.

[2] At a minimum, the field survey shall be conducted prior to submittal of the monitoring report, and at least once every five years thereafter, and/or following the occurrence of a 5-year or greater recurrence interval peak discharge, that is ≥ 10,000 cfs at the US Geological Survey Napa River near St. Helena gauge.

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TABLE E-1: ANNUAL COMPLIANCE REPORTING FORM

This Vineyard Property is in compliance with the General WDRs Permit for Vineyard Properties in the Napa River and Sonoma Creek Watersheds, Resolution No. R2-2017-00XX).

Vineyard Property Name:	Phone: Email:
Mailing Address or P.O. Box:	City, State, ZIP Code:
List all Assessor Parcel Numbers (APNs) or legal description (Township, Range, Sections) for the Vineyard Property included in this plan:	

Enrolled under: ☐Tier 2 ☐ Tier 3

Farm Plan (check each box below, as applicable)

☐ Farm Plan has been completed[3].

☐ Farm Plan has been Verified[4] by: _____ Date: _____

Property Inspections (fill in dates when inspections were completed)

☐ Representative photo-points have been established and are being monitored to document winter readiness, to demonstrate BMP implementation, and to document habitat and water quality conditions in receiving waters.

☐ Inspections, prior to the wet season, were conducted in the Farm Area and on Vineyard Property access roads to ensure readiness. Date(s) of inspection(s): _____

☐ Inspections, and as needed maintenance actions, were completed during the wet season to confirm that BMPs are functioning properly and/or to address problems. Date(s) of inspection(s): _____

[3] All required elements of the Farm Plan have been prepared.

[4] "Verified" means that an approved Third-Party Program has coordinated a technical review of the Farm Plan by a Qualified Professional who has signed - the Farm Plan, a verification form, or a letter - to indicate that she/he concludes that upon full implementation the Farm Plan would achieve all applicable performance standards for sediment and storm runoff control. Although a Verified Farm Plan receives technical review, it remains the Discharger's responsibility to ensure the Farm Plan is implemented to achieve all applicable performance standards for discharge. Third-Party Program verification does not constitute an approval of the Farm Plan.

TABLE E-1 (CONTINUED): ANNUAL COMPLIANCE REPORTING FORM

If the Vineyard Property includes Hillslope Vineyard Blocks:
☐ Field surveys were conducted to assess compliance with the bed & bank erosion performance standard.
Date(s) of field survey(s): _____

Baseline Conditions as Related to Performance Standards

Farm Area

Acres in the Farm Area: _____

Acres under a County approved ECP: _____

Hillslope Vineyard Runoff (check boxes below as applicable)

☐ The Vineyard Property includes Hillslope Vineyard blocks.

☐ Hillslope Vineyard blocks drain into an unstable area (e.g., landslide, gully, or head-cutting or down-cutting channel).

☐ The Farm Plan includes BMPs to achieve the performance standard for bed and bank erosion.

Unpaved Roads

Miles of unpaved roads: _____
Percent, by length, of unpaved roads that are hydrologically connected: _____

Number of stream crossings along unpaved roads: ___
Of these, number of crossings with diversion potential: ___

Number of stream crossings on unpaved roads that drain forested areas ____
Of these, number of stream crossings with trash racks ____

Farm Plan Submittal (applicable only to Tier 3 dischargers)

Farm Plan completed: ☐Yes, the Farm Plan is attached, or was previously submitted.
☐No, the Farm Plan has not been completed yet.

Note: Tier 3 discharges must submit the Farm Plan for review and approval. For an existing Vineyard Property, the Farm Plan must be submitted within two years of adoption of this Order. For a Vineyard Property developed subsequent to adoption, the Farm Plan must be submitted at or before the time that vineyard construction is completed.

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Owner or Authorized Representative Printed Name*:_____

Owner or Authorized Representative Signature: _____
Date:_____

Telephone Number: _____ Email: _____

***** A duly authorized person designated by the owner of the Vineyard Property, as having responsibility for the overall operation of the regulated facility. The authorized representative may be the Vineyard Property operator or operator's duly authorized designee.

ATTACHMENT F

California Regional Water Quality Control Board
San Francisco Bay Region

General Waste Discharge Requirements
Order No. R2-2017-00XX

CEQA Impacts and Mitigation Measures

Table F-1 provides a summary of impacts and mitigation measures, which are presented in detail in the Environmental Impact Report.

Table F-1: Summary of CEQA Impacts and Mitigation Measures

Category: Air Quality and Greenhouse Gases		
EIR Impact No.	Impact Summary	General Order Mitigation Measures
Impact 5.1	Compliance actions (e.g., construction of BMPs that involve earth moving) completed at Vineyard Properties throughout the project area could conflict with implementation of an applicable air quality plan. The primary pollutant of concern is fine particulate matter.	Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measures AQ-1 through AQ-4.
Impact 5.2	Compliance actions (e.g., construction of BMPs that involve earth moving) completed at Vineyard Properties throughout the project area could violate air quality standards or contribute substantially to an existing or projected air quality violation. The primary pollutant of concern is fine particulate matter.	Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measures AQ-1 through AQ-4.
Impact 5.4	Compliance actions (e.g., construction of BMPs that involve earth moving) completed at Vineyard Properties throughout the project area may have the potential to expose sensitive receptors to substantial pollutant concentrations. The primary pollutant of concern is fine particulate matter.	Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measures AQ-1 through AQ-4.
Impact 5.6	Compliance actions (e.g., construction of BMPs that involve earth moving) completed at Vineyard Properties throughout the project area may generate significant GHG emissions.	Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measure GHG-1.

Table F-1 (Cont.): Summary of CEQA Impacts and Mitigation Measures

Category: Biological Resources		
EIR Impact No.	Impact Summary	General Order Mitigation Measures
Impact 6.1b	Short-term increases in sedimentation associated with BMP construction in some cases may have the potential to adversely affect special-status aquatic species.	As identified in the EIR, and as applicable to the actions taken to comply with this Order, the Discharger shall implement mitigation measures BR-1 through BR-8.
Impact 6.2	BMP construction and/or maintenance, in some cases may have the potential to adversely affect riparian habitats and/or special-status species therein.	As identified in the EIR, and as applicable to the actions taken to comply with this Order, the Discharger shall implement mitigation measures BR-1 through BR-8.
Impact 6.3	Noise generated by heavy equipment used to construct BMPs could in some cases disrupt breeding or nesting by special-status bird species.	As identified in the EIR, and as applicable to the actions taken to comply with this Order, the Discharger shall implement mitigation measures BR-1 through BR-8. Also, where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measures BR-9 and BR-10.
Impact 6.4	Detention basins and/or new storm-proofed roads could be sited in upland areas (i.e., areas upslope of waters and wetlands of the State) outside of the developed footprint of the Vineyard Property that in some cases may provide habitat for special-status species and/or are defined as Sensitive Natural Communities. In such cases, impacts to these biological resources could be significant.	As identified in the EIR, and as applicable to the actions taken to comply with this Order, the Discharger shall implement mitigation measures BR-1 through BR-8. Also, where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measures BR-9 through BR-11.

Table F-1 (continued): Summary of CEQA Impacts and Mitigation Measures

Category: Cultural Resources		
EIR Impact No.	Impact Summary	
Impact 7.2	Compliance actions (e.g., construction of BMPs that involve earth moving) may have the potential at some Vineyard Properties to cause a substantial adverse change in the significance of an archeological resource.	Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measure CR 7-2.
Impact 7.3	Compliance actions (e.g., construction of BMPs that involve earth moving) may have the potential at some Vineyard Properties to directly or indirectly destroy a unique paleontological or geologic feature.	Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measure CR 7-2.
Impact 7.4	Compliance actions (e.g., construction of BMPs that involve earth moving) may have the potential at some Vineyard Properties to disturb human remains including those interred outside of formal cemeteries.	Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, as applicable, the Discharger shall implement Mitigation Measure CR 7-2.
Category: Hydrology and Water Quality		
EIR Impact No.	Impact Summary	General Order Mitigation Measures
Impact 8.4b	Construction activities on unpaved roads and/or outside of the developed footprint of the vineyard that would occur in order to comply with the general WDRs, which could result in temporary increases in fine sediment delivery to stream channels, and resultant sedimentation.	As identified in the EIR, and as applicable to the actions taken to comply with this Order, the Discharger shall implement mitigation measures BR-1 through BR-8. <u>In Sensitive Water Supply Drainages, as defined by the County of Napa, where compliance actions are subject to the requirement to obtain a discretionary permit, as applicable, the Discharger shall comply with Mitigation Measures HY-1 and/or HY-2.</u>

Note: all compliance actions listed above that are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another state or federal agency, as applicable, can and should be adopted by other agencies as part of their respective approval processes (See CEQA Guideline 15091 and 15126.4.).

The following mitigation measures identified in the Environmental Impact Report for these general WDRs shall be implemented by the Discharger, as applicable to actions taken to comply with this Order:

A. Biological Resources

Mitigation Measure BR-1: Requirement to Obtain and Comply with CWA 401 permits

Where BMP construction overlaps with and/or disturbs a stream channel, riparian area, and/or other wetlands or waters of the United States, the Water Board would require the project proponent to comply with Mitigation Measure BR-1: to apply for a Clean Water Act (CWA) section 401 permit.

Projects subject to CWA section 401 permits also are subject to CWA section 404 permits issued by the U.S. Army Corps of Engineers, and also to Endangered Species Act Section 7 Consultations where species listed under the federal Endangered Species Act have the potential to occur. Where BMP construction activities overlap at all with aquatic and/or riparian habitats, they also are subject to Streambed Alteration Agreements issued by the California Department of Fish and Wildlife (CDFW).

Mitigation Measures BR-2 through BR-8: Construction Activity Controls

To avoid significant increases in sediment delivery to channels (and resultant sedimentation) that could arise from any construction activities undertaken to comply with the general WDRs, the Discharger shall incorporate a suite of Construction Activity Controls (Mitigation Measures BR-2 through BR-8), shown below, to avoid and minimize potential pollutant discharges that may be associated with construction activities and/or post-construction erosion in areas that were disturbed.

Mitigation Measure BR-2: Temporal Limitations on Construction

1. The timing of construction activities will take into consideration fisheries and other aquatic wildlife usage in the project area. Construction activities will occur in the period between June 1 and October 15, unless (as applicable[40]) CDFW, U.S. Fish & Wildlife Service (USFWS), and/or NOAA Fisheries define an alternative work window to avoid site specific impacts on special-status species. Work in and around streams that support anadromous fish populations or California freshwater shrimp may not begin until June 15. Work beyond October 15 may be authorized on a site-specific basis with approval (as applicable) from the Water Board, CDFW, USFWS, and/or NOAA Fisheries and provided the work would be completed prior to first winter rains. Planting may occur after October 15, if success of vegetation establishment is increased due to more favorable environmental conditions. Planting above the ordinary high water line may occur at any time of the year.
2. Excavation and grading activities shall occur only in dry weather periods. Upon completion of grading, slope protection of all disturbed sites will be installed prior to the onset of rain.

[40] In describing requirements under Mitigation Measures BR-2 through BR-8, "as applicable" refers to all projects (BMP construction/maintenance actions) that are subject to the requirement to obtain a permit from the agency that is indicated in the text that follows.

3. Construction within 75 feet of established riparian vegetation shall be avoided during the migratory bird nesting season (February 15 to August 15). If work must occur during this period, a qualified biologist or individual approved by CDFW will conduct a pre-construction survey for bird nests or nesting activity in the project area. If active nests or nesting behavior are observed (for any species other than starlings and house sparrows) an exclusion zone of 75 feet will be established to protect the nesting birds. If any listed or sensitive bird species are identified, CDFW must be notified prior to further action. Take of active bird nests is prohibited.

4. To protect California red-legged frog (CRLF) and/or foothill yellow-legged frog, all construction within stream channels shall take place during daylight hours. If suitable habitat is present for CRLF or foothill yellow-legged frog, project activities will begin after July 1 to avoid impacts on breeding or egg masses.

Mitigation Measure BR-3: Construction Site Management Controls

1. As feasible, the Discharger shall use existing ingress or egress points. Placement of temporary access road, staging areas, and other facilities shall avoid or limit disturbance to habitat and will be restored to preconstruction conditions.

2. Disturbance to existing grades and vegetation shall be limited to the actual site of the conservation project and necessary access routes.

3. Trash, litter, construction debris, cigarette butts, etc., shall be stored in a designated portion of the construction site (that does not overlap with or impact natural habitat areas), and/or shall be removed from the site at the end of each working day. Upon completion of work, the Discharger is responsible for removing all trash, litter, construction debris, cigarette butts, etc.

4. All construction debris and sediments shall be taken to appropriate landfills or, in the case of sediments, disposed of in upland areas on- or offsite.

5. No petroleum products, chemicals, silt, fine soils, and any substances deleterious to fish, amphibian, plant, or bird life shall be allowed to pass into, or be placed where it can pass into the waters of the state.

6. Contractors shall have emergency spill cleanup gear (spill containment and absorption materials) and fire equipment available on site at all times.

7. The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into waters of the state (Fish and Game Code §5650).

8. All vehicles and equipment on the site must not leak any type of hazardous materials such as oil, hydraulic fluid, or fuel. Fueling shall take place outside of the riparian corridor.

9. As needed, a contained area located at least 50 feet from a watercourse shall be designated for equipment storage, short-term maintenance, and refueling. If possible, these activities will not take place on the project site.

10. Vehicles shall be inspected for leaks and repaired immediately. Leaks, drips, and other spill will be cleaned up immediately to avoid soil or groundwater contamination. Major vehicle maintenance and washing will be done off site. All spent fluids, including motor oil, radiator coolant, or other fluids, and used vehicle batteries will be collected, stored, and recycled as hazardous waste off site. Dry cleanup methods (i.e., absorbent materials, cat litter, and/or rags) will be available on site. Spilled dry materials will be swept up immediately

11. Best management practices for construction period runoff and erosion control shall be employed as described in Requirements for Erosion Control below.

Mitigation Measure BR-4: Erosion Control Requirements

1. Best management practices for construction period runoff and erosion control shall be employed.
2. Erosion control and/or sediment detention devices shall be incorporated into the project design and implemented at the time of construction. These devices will be in place prior to October 15 for the purposes of minimizing fine sediment input to flowing water. These devices will be placed at all locations where the likelihood of sediment input exists. Sediment collected in these devices will be disposed of away from the collection site and above the normal high water mark. These devices will be inspected regularly to ensure they are functioning properly.
3. The project site will be restored to pre-construction condition or better. Disturbed areas shall be re-vegetated prior to the onset of rain by live planting, native seed casting, or hydro-seeding. See also Limitations on Construction Equipment, Earthmoving, and Vegetation Removal sections below.
4. When implementing or maintaining a critical area planting[41] above the high water line, a filter fabric fence, biodegradable fiber rolls, gravel bars, and/or hay bales shall be utilized, if needed, to keep sediment from flowing into the adjacent waterbody. At the time vegetation is sufficiently mature to provide erosion control, it may be appropriate to remove the fence, fiber rolls and/or hay bales. Annual review by the vineyard owner/operator and/or their representative(s) will occur until the critical area planting is established to control erosion.
5. All debris, sediment, rubbish, vegetation, or other material removed from the channel banks, channel bottom, or sediment basins shall be removed to a location where they will not re-enter the waters of the state.
6. Soil exposed as a result of construction and soil above rock riprap shall be re-vegetated using native seed casting or by hydro-seeding prior to the onset of rain. In general, interstitial spaces between rocks will be planted with riparian vegetation such as willows rather than hydro-seeded.
7. Discharge of decant water from any onsite temporary sediment stockpile or storage areas or any other discharge of construction dewatering flows to surface waters, except as described in Limitations to Work in Streams and Permanently Ponded Areas below, outside of the active dredging site is prohibited.
8. Inspection of the performance of sediment control devices shall occur at least once each day during construction to ensure the devices are functioning properly.

[41] A critical area planting involves establishing permanent vegetation on sites that have or are expected to have, high erosion rates.

Mitigation Measure BR-5: Limitations on Construction Equipment

1. As feasible, the Discharger shall use existing ingress or egress points, and work will be performed from the top of creek banks.
2. When heavy equipment is used, woody debris and vegetation on banks and in the channel shall not be disturbed if outside of the project's scope.
3. Heavy equipment shall not be used in a flowing stream, creek, or ponded area, except to cross a stream or pond to access the work site.
4. Heavy equipment use in a streambed is only permissible when the streambed is dry. The amount of time heavy equipment is stationed, working, or traveling within the creek bed shall be minimized.
5. Use of heavy equipment shall be avoided in a channel bottom with rocky or cobbled substrate. If access to the work site requires heavy equipment to travel on a rocky or cobbled substrate, a rubber tire loader/backhoe is the preferred vehicle.

Mitigation Measure BR-6: Limitations on Earthmoving

1. Finished grades shall not exceed 2:1 side slopes.
2. Excavated material not used in the implementation of the BMP shall be removed out of the 100-year flood plain.
3. Placement of temporary access roads, staging areas, and other facilities shall avoid or limit disturbance to habitat and shall be restored to pre-construction conditions.
4. Road improvement projects shall be modeled on the "Handbook for Forest and Ranch Roads: A Guide for planning, designing, constructing, reconstructing, maintaining and closing wildland roads," (Weaver et al., 2014).
5. If the substrate of a seasonal pond, creek, stream or waterbody is altered during work activities, it shall be returned to approximate pre-construction conditions after the work is completed, unless (as applicable) NOAA Fisheries and/or CDFW determine that other measures should be implemented.
6. Overhanging banks within potential California freshwater shrimp habitat shall remain undisturbed.

Mitigation Measure BR-7: Limitations on Vegetation Removal and Replanting

1. The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during project activities, restoring disturbed areas with native species where appropriate, and performing post-project monitoring and control of exotic species.
2. Removal of invasive exotic species is strongly recommended. Removal using hand tools, including chainsaws and weed-whackers, and hand pulling of exotics shall be done in preparation for establishment of native plantings. To the extent possible, re-vegetation will be implemented at the same time removal of exotic vegetation occurs. If giant reed (*Arundo donax*) is removed, cuttings will be disposed of in a manner that shall not allow reseeding to occur.

3. Disturbance of native shrubs or woody perennials or removal of trees from streambanks or stream channels will be avoided or minimized; if native riparian vegetation will be disturbed, it will be replaced with similar native species.

4. Except (as applicable) with approval from CDFW, there will be no cutting or removal of native trees 4" or greater diameter at breast height (DBH), except willows, for which there will be no cutting or removal of trees 6" or greater DBH. Exotic trees that are causing habitat damage or hazardous situations may be removed with approval of the project biologist. Any exotic trees removed will be replaced with appropriate natives. For any permitted tree removal, the root structure will be left intact unless (as applicable) removal is authorized by CDFW.

5. If native trees over 6" DBH are to be removed (with approval from CDFW), they will be replaced at a 3:1 ratio.

6. Projects within potential California red-legged frog habitat will be designed to minimize disturbance to vegetation near or in permanent and seasonal pools of streams, marshes, ponds, or shorelines with extensive emergent or weedy vegetation.

7. Project activities in areas of potential California freshwater shrimp habitat will avoid removal of or damage to overhanging vegetation along stream channels.

8. Hand labor will be used to trim vegetation within the channel or on the bank. Handheld equipment such a weed-whackers and chainsaws are authorized.

9. Native plants characteristic of the local habitat type will be the preferred alternative when implementing and maintaining the BMPs in natural areas. When specified, as required by the regulatory agencies, only native plant species will be used. Under special circumstances, regulators may allow for the use of non-invasive, non-persistent grass species.

10. All areas disturbed by the project or in which vegetation was removed will be restored to a natural state with native trees, shrubs, and/or grasses. Barren areas will typically be planted with a combination of willow stakes, native shrubs, and trees and/or erosion control grass mixes.

11. For projects that have removed native vegetation, post-construction re-vegetation success shall be equivalent to or better than the pre-project conditions. If, after 5 years, that level of success has not been achieved, the vineyard owner/operator or their representative(s) shall consult with CDFW to develop and implement measures to achieve success.

12. If needed, an irrigation system shall be installed to ensure establishment of vegetation; when vegetation is sufficiently established, irrigation materials will be removed.

13. The project area shall be restored to pre-construction conditions or better.

Mitigation Measure BR-8: Limitations on Work in Streams and Permanently Ponded Areas

1. In specific cases where it is deemed necessary to work in a flowing stream/creek, the work area shall be isolated, and all flowing water shall be temporarily diverted around the work site to maintain downstream flows during construction. A qualified biologist shall prepare a species protection and dewatering plan and be present for all dewatering and re-watering events. The plan shall be prepared with guidance (as applicable) from NOAA Fisheries and/or CDFW. When construction is completed, the flow diversion structure shall be removed in a manner that will allow flow to resume with the least disturbance to the substrate and water quality.

B. Hydrology and Water Quality

Dischargers shall comply with Mitigation Measures, BR-2 through BR-8 (described above), which address potential short-term construction-related increases in erosion and sedimentation impacts. These include:

- Temporal limits on construction activities (BR-2)
- Construction site management actions (BR-3)
- Requirements for erosion control (BR-4)
- Limitations on heavy-equipment use (BR-5)
- Limitations on earth moving/grading (BR-6)
- Limitations on vegetation removal and requirements for replanting (BR-7), and

  Limitations on work in streams and/or ponded areas (BR-8).

  In Sensitive Water Supply Drainages, as defined by the County of Napa, where compliance actions are subject to the requirement to obtain a discretionary permit, as applicable, the Discharger shall comply with Mitigation Measures HY-1 and/or HY-2.

Hydrology-1: Restriction on the Timing of Grading and Earthmoving Activities in Sensitive Water Supply Drainages:

> Grading and earthmoving activities undertaken to comply with this Order that are subject to Napa County's requirements are restricted to the period between April 1 and September 1, unless a grading extension is otherwise granted by Napa County.

Hydrology-2: Sensitive Water Supply Drainage Requirements:

> Except as specified under the performance standard for storm-proofing of new roads, drainage facilities and outfalls constructed in a sensitive domestic water supply drainage (as defined by Napa County) that are constructed to comply with this Order shall be sized to handle runoff from a 100-year storm event (i.e., a 24-hour duration rainfall event that has a 100-year recurrence frequency).

Where compliance actions are subject to the requirement to obtain a discretionary permit from the local land-use authority and/or from another State or federal agency, the following mitigation measures **(AQ-1** through **AQ-4**, **GHG-1**, **BR-9** through **BR-**11, and **CR-**1) shall be implemented by the Discharger, as applicable. These mitigation measures can and should be adopted by other agencies as part of their respective approval processes (See CEQA Guideline 15091 and 15126.4.).

C. Air Resources - Mitigation Measures

For implementation of BMPs with a construction site size of four acres or less, implementation of the Basic Measures (mitigation measure **AQ-1**) described below would reduce this impact to a less than significant level. For implementation of BMPs with a construction site size greater than four acres, implementation of the Enhanced Measures (mitigation measure **AQ-2**) described below would reduce this impact to a less than significant level. For implementation of BMPs that are large in area, located near sensitive receptors, or which for other reasons may warrant additional emissions reductions, implementation of the Optional Measures (mitigation measure **AQ-3**) described below would reduce this impact to a less than significant level. Implementation of mitigation measure **AQ-4,** described below, is recommended in areas considered likely to contain naturally occurring asbestos (NOA).

The following are the Basic Measures from Table 2 of the 1999 BAAQMD CEQA Guidelines, which describes the measures as those that would be implemented at all construction sites, with **AQ-4** being implemented at sites likely to contain NOA. The following descriptions are directly from the BAAQMD CEQA Guidelines and describe measures for the wide range of land use and infrastructure projects that may not be applicable to all BMPs. However, because detailed information on implementation of specific BMPs to comply with these general WDRs is not available, the following list is cited to be as inclusive as possible.

Mitigation Measure AQ-1: Basic Criteria Pollutant Emission Controls

The following Basic Measures from Table 2 of the 1999 BAAQMD CEQA Guidelines shall be implemented during construction at sites 4 acres or less in size:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Mitigation Measure AQ-2: Enhanced Criteria Pollutant Emission Controls

The following Enhanced Measures from Table 2 of the 1999 BAAQMD CEQA Guidelines shall be utilized at construction sites larger than 4 acres in size:

- All “Basic” control measures listed above.

- Hydro-seed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.)
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

Mitigation Measure AQ-3: Optional Criteria Pollutant Emission Controls

The following are the Optional Measures from Table 2 of the 1999 BAAQMD CEQA Guidelines, which describes the measures as those that are strongly encouraged at construction sites that are large in area, located near sensitive receptors or which for any reason may warrant additional emissions reductions:

- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Limit the area subject to excavation, grading and other construction activity at any one time.

Mitigation Measure AQ-4: Naturally-Occurring Asbestos Emission Reduction Controls

The following mitigation measure shall be implemented at sites containing naturally occurring asbestos. Implementation of the following mitigation measure would reduce this impact to a less than significant level.

- Comply with the BAAQMD NOA program and ARB ATCM 93105. Complying with these regulations would reduce the potential for entraining NOA, and reduce this impact to a less than significant level.

D. Greenhouse Gas Emissions (GHG-1)

The following mitigation measures can reduce the amount of construction-related GHG emissions:

Mitigation Measure GHG-1: Greenhouse Gas Emissions Controls

- Use Newer Construction Equipment. Construction equipment with newer engine models is subject to stricter emissions standards, and would generate less GHG emissions.
- Use Equipment Powered by Electricity. Some types of equipment can be powered by either diesel fuel, electricity, or a hybrid. Use of equipment powered by electricity or a hybrid would generally generate less GHG emissions.
- Use Equipment Powered by Alternative Fuels. Some types of equipment can be powered by alternative fuels (i.e., not diesel fuel). Use of alternative fuels would generally generate less GHG emissions.

Mitigation Measure BR-9: Limitations on Work within ¼ mile of Douglas fir or Redwood Habitat

1. Wherever road erosion control BMPs and/or detention basins are constructed using heavy equipment, and these projects occur within ¼ -mile of Douglas fir or redwood forest habitat, construction activities shall be restricted to August 1st through October 15th to avoid overlapping with nesting periods of all special-status bird species including northern spotted owl; or if a protocol survey determines that suitable nesting habitat is unoccupied, construction activities may occur throughout the standard work window for compliance actions under the general WDRs, which is June 15-October 15.

Mitigation Measure BR-10: Limitations on Work within ¼ mile of Mapped Sensitive Natural Community

1. Wherever road erosion control BMPs and/or detention basins are constructed using heavy equipment, and these projects occur within ¼-mile of any mapped sensitive natural community (that may provide potential breeding and/or nesting habitat for special-status birds) and/or there has been a documented occurrence of any special-status bird species, the work window for heavy equipment use shall be restricted to August 1st through October 15th to greatly reduce the potential for overlap with breeding and nesting periods of special-status bird species. Alternatively, if a protocol survey determines that potentially suitable nesting habitat is not present or unoccupied then construction activities may occur throughout the standard work window for compliance actions under the general WDRs, which corresponds to June 15-October 15.

Mitigation Measure BR-11: **Preparation of a Biological Inventory**

1. If protected species or their habitats are present at the project area, the Discharger, prior to any ground disturbance or construction, shall engage a qualified biologist to prepare biological inventory of site resources. If protected species or their habitats are present, the Discharger shall comply with applicable federal and state endangered species acts and regulations. The Discharger shall ensure that important fish or wildlife movement corridors or nursery sites are not impeded by project activities.

E. Cultural Resources

Mitigation Measure CR-1: Cultural Resources Survey and Consultations

Recognized and accepted measures that are routinely required before and during construction that involves earthmoving include:

1. Perform a cultural resources survey by a qualified archaeologist or cultural specialist that conforms to the U.S. Secretary of the Interior's Professional Qualifications Standards, as published in 36 Code of Federal Regulations.

2. Contact the State Historic Preservation Officer and federal lead agencies as appropriate for coordination of Nation-to-Nation consultations with the Native American Tribes.

3. Consult a qualified paleontological resources specialist to determine whether paleontological resources would likely be disturbed in a project area on the basis of the sedimentary context of the area and a records search for past paleontological finds in the area. The assessment may suggest areas of high or known potential for containing resources.

If the assessment is inconclusive, a surface survey is recommended to determine the fossil potential and extent of the pertinent sedimentary units within the project site. If the site contains areas of high potential for significant paleontological resources and avoidance is not possible, prepare a paleontological resources mitigation plan.

4. Consult established archaeological and historical records and conduct a field survey of the project prior to construction. Survey records shall be filed with the appropriate archaeological or historical data centers.

5. Consult with local Native American representatives as appropriate to obtain local knowledge of the project vicinity.

6. Prepare site development and grading plans that avoid disturbance of known cultural sites and/or documented sensitive areas. Project plans shall include appropriate measures to protect sensitive resources.

7. Retain a qualified archaeologist or Native American representative to monitor site development activities, particularly grading and trenching. If artifacts are observed during construction, require that construction be halted until a qualified archaeologist has been consulted.

8. Alert onsite workers to the possibility of encountering human remains during construction activities, and prepare appropriate procedures. It is usually required that all construction activities near the location of identified human skeletal remains are halted until proper consultation and mitigation is arranged.

ATTACHMENT G

California Regional Water Quality Control Board
San Francisco Bay Region

General Waste Discharge Requirements
Order No. R2-2017~~6~~-00XX

GLOSSARY OF TERMS

Annual ~~Certification~~ Compliance Reporting Form	A form submitted to the Water Board annually, documenting progress with regard to development of a Verified ~~Certified~~ Farm Plan, required monitoring, and water quality conditions as compared to Performance Standards.
Beneficial Use	The uses of water protected against degradation, such as: domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation and preservation of fish and wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or groundwater after Nov. 28, 1975 and potential beneficial uses are uses that would develop in the future through control measures.
Best Management Practice (BMP)	Methods or measures designed and selected to effectively control the discharge of pollutants from point and nonpoint source discharges.
California Environmental Quality Act (CEQA)	The California Environmental Quality Act (CEQA) establishes a duty for public agencies to avoid or minimize environmental damage where feasible, recognizing that a public agency has an obligation to balance a variety of public objectives. Passed into law in 1970, CEQA sets statewide policies that require both state and local agencies to consider the environmental consequences of decisions that involve changes to the environment. It applies to projects that require discretionary approval by a government agency.
~~Certified~~ Verified Farm Plan	~~Certified~~ This means that an approved Third-Party Program has coordinated a technical review of the Farm Plan by a Qualified Professional who has signed - the Farm Plan, a verification form, or a letter - to indicate that she/he concludes that upon full implementation the Farm Plan would achieve all applicable performance standards for sediment and storm runoff control. Although a Verified Farm Plan receives technical review, it

	remains the Discharger's responsibility to ensure the Farm Plan is implemented to achieve all applicable performance standards for discharge. Third-Party Program verification does not constitute an approval of the Farm Plan. ~~Certified Farm Plan means an approved Qualified Professional or Third-Party Program has reviewed the Farm Plan, and concluded that upon its full implementation, the Vineyard Property would achieve all applicable performance standards for discharge~~.
Discharger	Landowner and operator of Vineyard Property discharging, or proposing to discharge waste from a Vineyard Property.
Erosion	The detachment and movement of soil and rock fragments by water or under the force of gravity, which result in the wearing away of the land. When water is the eroding agent, erosional processes include sheet and rill erosion, gully erosion, and channel erosion.
Farm Area	The area that includes at a minimum, the vineyard blocks, and also vineyard lanes, and avenues (i.e., the field roads along the edges and/or in between the vineyard blocks).
Farm Plan	The plan described in Attachment A of this Order documenting natural features, developed areas, and best management practices implemented to achieve applicable performance standards for discharge.
~~Field Saturated Hydraulic Conductivity~~	~~Field saturated hydraulic connectivity is the hydraulic connectivity of the soil when it has been brought to a near-saturated state by water applied abundantly at the land surface, typically by processes such as ponded infiltration or copious rainfall or irrigation. This term is roughly analogous with infiltration capacity.~~
Hillslope Vineyard	An area where grapes are planted on an average slope that is greater than 5 percent.
Hydrologic Connectivity	Having a continuous surface flow path (road ditches, road surfaces, gullies, or other drainage structures or disturbed surfaces) to a natural stream channel during a storm runoff event.
Incision	The progressive lowering over time of streambed elevation, as a result of net erosion.
Infiltration	The movement of water into soil.

Infiltration capacity	The maximum rate at which the soil can absorb water.
Landowner	An owner or proprietor of land.
Monitoring and Reporting Program	The monitoring and reporting required by a Discharger enrolled under this Order.
Nonpoint Source	The Clean Water Act focuses on two possible sources of pollution: point and nonpoint. "Point" sources refer to discrete discharges, such as from a pipe. "Nonpoint" refers to everything else, including agricultural runoff.
Non-Point Source Policy	Adopted in 2004, the NPS Policy is designed to assist all responsible and/or interested parties in understanding how the State's NPS water quality control requirements will be implemented and enforced. The parties involved include the State Water Resources Control Board and the Regional Water Quality Control Boards, and also other federal, state and local agencies, individual dischargers, Third-Party Programs and any other stakeholders.
Notice of Intent (NOI)	A document that must be completed by the Discharger or their representative, as required to enroll a Vineyard Property into the General WDRs permit.
Operator	Person(s) responsible for management decisions made in the operation of the Vineyard Property.
Photo-point Monitoring	Photo monitoring is a qualitative tool for documenting the current management of a farm or ranch, as well as, conditions or events that may assist in its management. Monitoring is based on the establishment of permanent photo locations or photographs, which can be revisited at regular intervals to reflect changes that have occurred over time at the same location.
Peak Runoff	The instantaneous maximum value for discharge during a storm runoff event, usually expressed as cubic feet per second.
Performance Standards	Standards for pollutant discharge control that are specified as conditions for discharge under this Order.
Qualified Professional	California registered professional in a discipline associated with erosion and sediment control including for example a professional engineer, licensed geologist, registered landscape architect or certified professional in erosion and sediment control.
Reach	A subdivision of a drainage system consisting of a discreet portion of a channel.

Report of Waste Discharge	The California Water Code Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of waters of the State, other than into a community sewer system, shall file a report of waste discharge (ROWD) with the appropriate Water Board, that completely characterizes the discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentrations of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic of all treatment processes, a description of best management practices used, and a description of disposal methods. The ROWD is used to start the application process for all waste discharge requirements except for general waste discharge requirements that use a Notice of Intent to satisfy the requirements of the ROWD.
Restoration	The returning of the natural/historic functions and values to a former or degraded site.
Ridgetop	A relatively flat topographic divide above divergent and descending slopes where one or more of the descending slopes has a natural slope steeper than fifty percent for more than fifty feet in slope length.
Riparian	Located along the edge of a channel, generally on the floodplain. Characterized by access to and influence of the channel, but not in it. A riparian zone or riparian area is the interface between land and a river system. Riparian habitat is composed of trees, and other vegetation and physical features normally found on the stream banks and flood plains associated with streams, lakes, or other bodies of water.
San Francisco Bay Basin Plan	The Water Board's master water quality control planning document, designating beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater.
Section 401 Water Quality Certifications	Water Quality Certifications are issued by the Water Board pursuant to Clean Water Act Section 401 to certify that projects permitted by the U.S. Army Corps of Engineers pursuant to Clean Water Act Section 404 meet State law, regulations, and policy.
Section 404	Refers to a section of the Clean Water Act establishing a permit program for the discharge of dredged or fill materials into waters of the United States.

Soil bioengineering	A method of bank stabilization emphasizing the incorporation of biological materials such as plants, plant parts (e.g., root wads), or a combination of vegetation and inert materials (e.g., brush mats/sills, wattles, fascines, or branch packing/layering).
Third-Party Program	~~An individual Qualified Professional or a Group with at least one staff recognized as a Qualified Professional that provides~~An organization that provides technical assistance/expertise to help dischargers to comply with requirements of this Order.
Tier 1	A Discharger qualifies for enrollment under Tier 1, if the Farm Plan has been Verified and is fully implemented to achieve all applicable performance standards for discharge, and where the Vineyard Property is located adjacent to an unconfined alluvial channel, the Vineyard Property also meets the performance standard for Stream and Riparian Habitats. ~~Farms where the Farm Water Quality Protection Plan for the Vineyard Property, as described in Section F.1 and Attachment A, has been completed and Certified, the Certified Farm Plan is fully implemented to achieve all applicable performance standards for discharge, and the Vineyard Property establishes stream setbacks and/or participates in tributary or reach-based stewardship (as specified in Attachment A).\~~
Tier 2	A Discharger qualifies for enrollment under Tier 2 if: a) it has developed a Verified Farm Plan; b) the Water Board has approved the Farm Plan; or c) it is working with an approved Third-Party Program to develop a Verified Farm Plan. ~~Discharger is working with an approved Third-Party Program or Qualified Professional to develop a Certified Farm Plan for the Vineyard Property.~~
Tier 3	A Discharger who elects to develop a Farm Plan independently – without the Farm Plan being Verified – are required to enroll in Tier 3. These Dischargers must submit their Farm Plan to the Water Board for review and approval. Following Water Board approval of the Farm Plan, the Discharger, as applicable, could move into Tier 2 or Tier 1. ~~Discharger that elects to develop a Farm Plan for a Vineyard Property independently - without the Farm Plan being certified by an approved Third-Party Program or Qualified Professional.~~
Total Maximum Daily Load	An evaluation of the condition of an impaired surface water on the Section 303(d) List that establishes limitations on the amount of pollution that water can be exposed to without adversely affecting its beneficial uses, and allocating proportions of the total limitation among dischargers to the impaired surface water.

Vineyard Properties	~~The entire~~ A parcel or contiguous parcels under the same ownership, ~~where grapevines are planted on part of the property~~ each of which is developed to include a vineyard.
Waste Discharge	The discharge of any waste, including sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.
Waste Discharge Requirement	State regulations pertaining to the treatment, storage, processing, or disposal of waste discharges.
Water Quality Objective	The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or the prevent problems within a specific area. Water quality objectives may be numeric or narrative.

Appendix B:

Comments Received –

Available online at:

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

Appendix C:

Responses to Comments

Responses to Comments on July 2016 draft of the

General Waste Discharge Requirements for Vineyard Properties in the Napa River and Sonoma Creek Watersheds

Table of Contents

I. INTRODUCTION

1.1 Circulation of the General Permit for Comment

The Draft General Waste Discharge Requirements for Vineyard Properties in the Napa River and Sonoma Creek Watersheds (General Permit) and its associated draft environmental impact report (DEIR) were released for public comment on July 15, 2016. These documents, including comments received on the General Permit and DEIR, are posted on the Water Board's website at:

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

Following release of the General Permit, Water Board staff hosted a Town Hall meeting in the City of Napa on July 26, 2016, to present the General Permit and answer questions related to the General Permit and its implementation. Originally, the comment period was scheduled to close on August 29, 2016. Grape growers and agricultural organizations requested a substantial time extension to avoid overlap with the crush (wine-grape harvest period) to allow sufficient time for review and to allow the opportunity for follow-up meetings and discussions with Water Board staff prior to submittal of comments. To address these requests, Water Board staff extended the comment period on the General Permit through December 12, 2016. Subsequently, staff met with interested stakeholders including:

a) An agricultural coalition (Napa Valley Grapegrowers, Napa Valley Vintners, Sonoma County Farm Bureau, Winegrowers of Napa County, CA Association of Winegrape growers, the Napa County Farm Bureau, and the Wine Institute);
b) The Napa County Resource Conservation District (RCD);
c) The California Land Stewardship Institute;
d) NOAA Fisheries;
e) BayKeeper; and
f) The Living Rivers Council.

1.2 Summary of Written Comments Received on the General Permit

We received 49 comment letters regarding the General Permit, 30 of which were from vineyard property-owners whose primary comments included that:

a) The actions called for in the General Permit may not be still needed considering "extensive river restoration and BMP improvements" that have been completed following TMDL adoption;
b) The Water Board is not relying on current water quality data;
c) The General Permit is "duplicative of Napa and Sonoma County regulations;"
d) The General Permit is "excessively burdensome and should not include [regulate] contiguous parcels without vineyards;"
e) Water Board staff are making "unsubstantiated assumptions about the connection between basic farming practices and the health of the watershed and should remove references to nutrients and agrichemicals;"
f) The compliance schedules in the General Permit are not reasonable, especially "since many growers are still unaware of the proposed regulations;" and
g) "The arbitrary vineyard acreage threshold for inclusion (enrollment in the proposed permit) … will result in a disparate economic impact to small farmers."

Agricultural organizations, providing additional specific details, emphasized the same areas of comment as the vineyard property-owners and also recommended that the primary focus of required monitoring be evaluation of sediment TMDL numeric targets for streambed conditions.

The Napa County RCD provided the following comments: a) a recommendation that streambed monitoring be the primary focus of monitoring required under the General Permit; b) the concern that permit compliance may present an economic hardships to small farmers; c) that Napa County regulations are working and that implementation of an additional complex permit by the Water Board would "undermine and be counterproductive to current voluntary conservation actions;" d) concerns regarding the proposed approval process for "Qualified Professionals;" e) requests for clarification regarding specific details of the General Permit; and f) that the Water Board "take into account the results of ongoing fisheries monitoring."

Environmental organizations provided the following comments: a) specific guidance for modeling and monitoring to evaluate attainment of the performance standards for storm runoff form hillslope vineyards should be provided; b) that additional actions and monitoring are needed to control pesticide and nutrient discharges; c) frustration with the lack of progress in achieving the sediment TMDLs to date; d) concerns that local regulations are not protecting water quality, fisheries, and habitat; and e) that farm plans should be available for public review.

The City of Napa expressed concerns regarding potential linkages between vineyard property discharges and the occurrence in recent years of significant algal blooms in Lake Hennessey, the primary water supply reservoir for the City of Napa. It recommended that the General Permit include monitoring for turbidity, pesticides, and nutrients.

The California Land Stewardship Institute, which operates the Fish Friendly Farming Program, commented regarding: a) the compliance deadline for completion of a certified farm plan, which it suggested be extended; b) how "Qualified Professionals" are defined; c) how "Certified" is defined and used under the General Permit; and d) several specific comments regarding details of the General Permit, many of which relate to protection and/or restoration of stream-riparian habitat.

NOAA Fisheries and U.S. EPA expressed their overall support for the General Permit, while offering suggested changes to improve its effectiveness (e.g., providing additional guidance to permittees to ensure that stream-riparian habitat is protected and making specific comments relating to monitoring, tracking progress, and/or audits and inspections).

1.3 Staff Report Prepared in Support of April 12, 2017 Water Board Workshop

The Water Board conducted an informational workshop on April 12, 2017, to present and discuss staff's suggested revisions to the General Permit based on the comments received. In support of that workshop, Water Board staff prepared a Staff Report that was posted for public review on April 3, 2017 (Water Board, 2017). The Staff Report (Attachment 1 to this document) describes the General Permit and provides responses to most of the written comments on the General Permit received during the comment period which closed on December 12, 2016. Specifically, the Staff Report's responses related to comments regarding the scope/conditions of the General Permit and/or policy issues.

1.4 Responses to All Written Comments Received on the General Permit

In the section that follows, Table 1 provides a summary of all of the written comments received. Where a comment was addressed in the April 2017 Staff Report, we cross-reference the appropriate response to comment in the Staff Report. For the remaining subset of comments not addressed in the Staff Report, we provide specific responses immediately following Table 1.

Table 1. Summary of Written Comments Received			
Letter #/Commenter	Comment	Summary	Staff Report Response #
Vineyard owners/managers (26 individuals)	1.1	Introductory remarks	No response required
	1.2	General Permit (GP) relies heavily on pre-2005 data to estimate sediment loads and does not account for subsequent extensive river restoration and BMP implementation.	1
	1.3	GP excessively burdensome and should not include contiguous parcels without any vineyards.	2.1
	1.4	GP is overly duplicative with current Napa and Sonoma County regulations.	3.1
	1.5	GP imposes economic impacts not adequately determined or disclosed.	4
	1.6	GP makes unsubstantiated assumptions per connection between farming practices and watershed health; request removal of references to nutrients and agrochemicals.	2.4, 5.4
	1.7	Timelines are not sufficient, particularly since many growers still are not aware of the proposed GP.	6
	1.8	Arbitrary vineyard acreage threshold will result in disparate economic impact to small farmers.	4 and 7
	1.9	Summation	No response required
Coalition of Agricultural Organizations	2.1	Introductory remarks	No response required
	2.2 and 2.9	GP relies heavily on pre-2005 data to estimate sediment loads and does not take into account subsequent farm plan implementation, which has contributed to significant water quality improvement.	1
	2.3	The Napa River restoration efforts have been widely acclaimed and commended.	1
	2.4	The Water Board must exercise authority in manner that acknowledges existing policies and practices proven effective in reducing sediment without unnecessary, costly, and redundant regulation.	1, 3.1, and 4
	2.5	Summation of involvement and perspective	No response required
	2.6	GP is expansive and duplicative with Napa and Sonoma County regulations; imposes economic impacts not adequately determined or disclosed; and makes unsubstantiated assumptions about the connection between farming and health of watershed.	3.1, 4, and 2.4

Letter #/Commenter	Comment	Summary	Staff Report Response #
Coalition of Agricultural Organizations (cont.)	2.7	Inappropriate to regulate contiguous parcels under same ownership, where vineyards are not planted; requested revising "Vineyard Properties" to include only properties containing vineyards.	2.1
	2.8	Exclude residential areas from regulation under GP.	
	2.9	The sediment budget should be updated to determine necessity and appropriateness of the scope of the GP. Increase vineyard acreage threshold for enrollment in GP from five to twenty acres. Arbitrary vineyard acreage threshold will result in disparate economic impact to small farmers. Examine economic assumptions and reliance on grant funding.	1, 2.2, 4 and 7
	2.10	Exclude valley floor vineyards (<5% slope) from GP.	2.3
	2.11	Individual permits for >30% slope vineyards unnecessary because Napa's Erosion Control Plans include a rigorous CEQA process, making individual WDRs excessively burdensome; local regulations combined with the GP are sufficient.	2.3
	2.12	Exclude references to nutrients and agrichemicals. No demonstration that there is a likelihood of discharge that could affect the quality of Waters of the State.	2.4
	2.13	Monitor TMDL targets (streambed conditions).	5.1
	2.14	Water Code section 13141 has not been considered (must estimate total cost of an agricultural water quality control program); costs not adequately considered; discussion of economic considerations does not identify specific sources of financing; costs are overly burdensome; assume that 2009 estimates underestimate actual costs by many orders of magnitude; Water Board should consider economic impacts over time.	
	2.15	Third-Party Programs may not have necessary capacity to assist landowners within the prescribed timeframes; timeframes should be extended at least a year.	6 and 7
	2.16	Timeline for achieving WDR requirements should be extended.	6
	2.17	Following adoption, Third-Party Programs should have at least six months to apply.	
	2.18	Napa County regulations are working; 95 percent of hillside vineyards will be covered by existing regulations; no need for duplicative regulation.	1 and 3.1
	2.19	GP is duplicative and costly; GP goes beyond the Basin Plan amendment and therefore violates Water Code section 13263(a) requiring implementation of the TMDLs.	3.1
	2.20	Farm Plans should be kept at vineyard property because they may contain intellectual property, trade secrets, and proprietary information. (Water Code § 13267, subd. (b)(2) [protecting trade secrets].) Clarify that Water Board does not exercise dominion, control, or ownership of the Farm Plan and Farm Plans are not subject to the Public Records Act.	

Letter #/Commenter	Comment	Summary	Staff Report Response #
Coalition of Agricultural Organizations (cont.)	2.21	Additional outreach needed; notice should be sent to all potentially affected landowners. The Water Board should meet with industry associations after adoption.	
	2.22	Conclusion	No response required
Coalition of Agricultural Organizations (cont.) - Attachment	2a1.	Provide basis for including entire property including non-vineyard areas.	2.1
	2a.2	Developing a Farm Plan, including the site map, best management practices (BMPs), and hydrologic modeling will require over 100 hours from qualified professionals across different disciplines. At an average cost of $150-$200/hour, a Farm Plan could cost a small vineyard in excess of $20,000.	4
	2a.3	A 5-acre vineyard does not maintain the business operation or the revenue stream that can manage the costs of this regulation. The minimum vineyard size that has the financial and operational wherewithal to manage this regulation is 20 acres.	2.2
	2a.4	Will this Draft Order regulate activities at private residences (e.g., a 5.5-acre property where 5 acres are vineyard and 0.5 acre are for a residence)?	
	2a.5	How will this Draft Order interact with other permits including the Industrial General Storm Water Permit and a facility's Wastewater Discharge Requirements (WDRs) for Discharges of Winery Waste? It's inappropriate to have multiple permits regulating the same activity.	
	2a.6	"Vineyard Property" should be re-defined as "that portion of a parcel consisting of 20 acres or more of planted vines for commercial production, and all auxiliary areas under the same ownership used in direct support of the vineyard operation."	2.1 and 2.2
	2a.7	Board staff has indicated that the key reason for bringing "contiguous parcels" into the permit is to address sedimentation from rural roads. ….	2.1
	2a.8	Add language to clarify that this applies solely to recycled municipal wastewater. Consider adding definition of "Recycled Water" to the glossary of terms as well.	
	2a.9	Recognize that Vineyard Properties upstream of dams do not need to be regulated.	
	2a.10	Water Board states it may regulate any Vineyard Property regardless of size. This creates regulatory uncertainty. … Provide the basis for this finding.	
	2a.11	Include definition of "Slope" per Napa County Code	

Letter #/Commenter	Comment	Summary	Staff Report Response #
Coalition of Agricultural Organizations (cont.) - Attachment	2a.12	Vineyards on greater than 30 percent slopes should be included in this permit as those properties will be required to have similar erosion control plans.	2.3
	2a.13	Develop an exemption for vineyards with less than 5 percent slope. These vineyards, especially those on the valley floor, represent low vulnerability areas.	1 and 2.3
	2a.14	The term "Performance Standards" is used to refer to 'design specifications'. Design specifications are prescriptive – so, if they are achieved there should be no reason to monitor performance.	
	2a.15	Channel incision: We assume … this ... Order is relying on the quantitative assessment … in … Basin Plan Amendments, which used pre—2005 load estimates; According to … Basin Plan Amendments, channel erosion and incision from human activities contributes 43,000 tons per year … to Sonoma Creek and 37,000 tons per year to Napa River.	
	2a.16	We are assuming … this … Order is relying on the quantitative assessment … in the … Basin Plan Amendments, which used pre—2005 load estimates. According to the Basin Plan Amendments, soil erosion from vineyards, other row crops, livestock grazing and range lands contributed 8,600 tons/year of sediment to Sonoma Creek and 37,000 tons to Napa River during the years studied (pre-2005). Since 2005, there has been widespread adoption of environmentally friendly practices and the loading estimates in the … Basin Plan Amendments do not represent current-day practices. Participation in Napa Green, …, FFF, and other programs have changed the baseline …. …RWQCB indicated that there "…may be some reason to believe ...there's been some improvement" in regards to early results from … pilot monitoring program in Napa River.	1
	2a.17	The Basin Plan Amendments identify the contribution of sediment from channel erosion and incision associated with human activities. Yet, certain tributaries contribute more … than others. Vineyards are not the only cause of channel incision. … Because it is not clear what percentage … is attributed to vineyards, it is not appropriate to assign all the responsibility to vineyards. The Draft Order states that there are several causes for channel incision. What percentage of channel incision is attributed to vineyards versus other causes? … Vineyards can provide excellent infiltration surface.	
	2a.18	The order indicates uncertainty about deep ripping and its role in increasing erosion and/or runoff. It is inappropriate for this Order to eliminate an important management tool that is used by viticulturists to increase soil infiltration.	

Letter #/Commenter	Comment	Summary	Staff Report Response #
Coalition of Agricultural Organizations (cont.) - Attachment	2a.19	We assume that this Draft Order relies on the quantitative assessment … in the … Basin Plan Amendments, which used pre-2005 studies to estimate sediment loads. According to the Basin Plan Amendments, roads … contributed 11,200 tons of sediment to Sonoma Creek and 55,000 tons to Napa River during the period studied (pre-2005). What percentage of the sedimentation from roads occurs on vineyards versus, for example, rural residential areas? Over the last 10 years … widespread adoption of environmentally friendly practices and the loading estimates in the Water Basin Plan Amendments do not represent current-day practices. This Water Quality Concern is based on outdated and no longer relevant information. ….	1
	2a.20	Remove finding that vineyards are "potential sources of toxicity or bio-stimulatory Substances …." No evidence … that agrichemicals represent a threat to water quality ….	
	2a.21	… the Sonoma Creek sediment TMDL is established at 65,400 tons per year … approximately 125 percent of natural …. The TMDLs are based on pre-2005 studies. Progress has been made … over the last decade. … Some tributaries contribute more sediment … than others. … high contributing tributaries could be recognized as high vulnerability areas. Tributaries that contribute less … could be recognized as low vulnerability areas. Areas upstream of dams do not contribute sediment … to the … Napa River and Sonoma Creek. Also, sediment delivery estimates are based on the RUSLE model, Sediment Delivery Ratio, other models, calculations and speculations.	1
	2a.22	Board staff indicated that they expect that grant funding will be available to pay for almost one-third of road improvements and up to 80% of farm plans. … However, this is not mentioned in the permit or … staff report. … also no provision allowing property owners to petition … for an extension to come in compliance if conditions warrant. For example, if grant funding is not available, adequate resources are not available, or … lack of third party support.	

Letter #/Commenter	Comment	Summary	Staff Report Response #
Coalition of Agricultural Organizations (cont.) - Attachment	2a.23	… the basis for including 90 percent of vineyard acreage and two-thirds of total property acreage has not been provided. The Order need not include Vineyard Property upstream of dams. … Table 1 … in the Final Technical Memo… for the Napa River Sediment TMDL Monitoring Program … shows that certain tributaries are more vulnerable to sediment production than others…. Further, Board staff indicated that certain areas, Spring Mountain Road for example, consist of highly vulnerable geology…. Meaning, small land use changes can have a large impact on the amount of sediment generated. It makes sense that the Draft Order focus …on more vulnerable areas. Vineyards within low vulnerability areas should have a reduced … burden or a longer timeline for compliance. Region 5's …General Orders for Growers that are Members of a Third-Party Group uses vulnerability areas. … Small vineyards in low vulnerability areas should have the least regulatory challenges.	
	2a.24	Establish Tier's based on threat to water quality. Region 5 WDRs, growers who are members of coalition groups … are broken into four groups: small operations in high vulnerability areas, small operations in low vulnerability areas, operations in high vulnerability areas, and operations in low vulnerability areas. Monitoring and reporting requirements vary based on which of these four groups a farm sorts into. ….	
	2a.25	The appropriate acronym for best practicable treatment or control is BPTC.	
	2a.26	The Draft Order should not equate "state-of-the-art" with well vetted and time-tested. Also, as stated … in .. previous comments, the Draft Order is conflating design specifications with management practices. One is prescriptive and the other involves monitoring.	
	2a.27	The Draft Order should not include agrichemicals. … there is no evidence … that agrichemicals represents a threat to water quality …. The … Basin Plan Amendments do not identify agrichemicals as a concern. Language about pest management, pesticide storage, handling and modern spray techniques should be removed. ….	
	2a.28	There is no evidence to support nutrients as a threat to water quality in Sonoma Creek or Napa River. Requirements associated with nutrient management should be removed unless a basis for including can be provided.	
	2a.29	There is a concern that the site specific hydrologic modeling, which requires onsite soil sampling, will result in the unintended consequence of fewer BMPs.	5.1

Letter #/Commenter	Comment	Summary	Staff Report Response #
Coalition of Agricultural Organizations (cont.) - Attachment	2a.30	The schedule is not feasible without an adequate pool of qualified professionals. …The time schedule should be lengthened by six months …. Once third parties have been approved, the RWQCB should evaluate the combined capacity of all … to ensure adequate resources are available to meet the timeline in the Draft Order.	
	2a.31	Schedule for Farm Plan completion may be a burden for small vineyards Annual Reporting Forms shall be submitted electronically each year no later than October 15. This date needs to be changed to be in alignment with the farming calendar (i.e., not during harvest).	
	2a.32	… there is an inadequate pool of qualified professionals and existing stewardship groups do not have the resources … to allow compliance with the time schedule.	6 and 7
	2a.33	Hydrologically connected road - Instead, we request the Draft General WDR use the term "Flow Contributing Road" and use the USDA Forest Service definition	
	2a.34	…allow for pipelines, pumps and other established infrastructure to exist and be maintained within the setback area.	9.4
	2a.35	Properties that do not have the opportunity to have stream setbacks or participate in a tributary or reach-based stewardship project should not be prohibited from achieving Tier 1 enrollment status if their farm plan is certified and fully implemented	
	2a.36	We request clarification as to whether "same ownership" for contiguous parcels includes similar ownership.	2.1
	2a.37	We request clarification as to whether a vineyard would be considered a ridgetop vineyard if located on < 30 percent slopes with non-vineyard areas exceeding 50 percent slopes for more than 50 feet irrespective of setbacks from the steeper areas	
	2a.38	… there are concerns related to undefined and unanalyzed costs associated with implementation of storm runoff control measures, soil bioengineering project to control gully and/or channel erosion. The associated performance standard is predicated on BMP implementation being economically feasible. However, these terms are not defined … Clarification as to how exactly economic feasibility would be determined is essential …	
Assemblymember Bill Dodd	3.1	Requested extension for review and comment period to avoid overlap with harvest and to provide sufficient time for review.	
	3.2	Constituents who are vineyard owners have expressed concerns GP does not properly consider previous BMP implementation and river restoration.	1

Letter #/Commenter	Comment	Summary	Staff Report Response #
Assemblymember Bill Dodd (cont.)	3.3	Encouraged Board to work collaboratively with all interested parties to develop a fair and reasonable permit.	
San Francisco BayKeeper	4.1	Introductory remarks	No response required
	4.2	Summary concerns regard adequacy of monitoring and ability to determine compliance.	See response to comment 4.5
	4.3	General summary of comments (presented in detail in subsequent comments): 1) shorten timeline for compliance; 2) fully incorporate sediment TMDL load allocations; 3) add pesticide monitoring; 4) comply with Anti-degradation Policy; and 5) comply with Non-point Source Policy.	No response required
	4.4	GP fails to comply with Water Code section 13263 because it does not fully implement both TMDLs. GP must ensure that pesticides do not contribute to violations of water quality objectives or cause nuisance. Time schedules must assure the most rapid compliance. Water Board should revise GP to require earlier compliance by subgroups based on vineyard size; largest vineyards should comply within one year. Water Board should add interim dates for completing financial arrangements and roadwork permitting. GP should be revised to make specific load allocations and/or explain how performance standards translate to a sediment load reduction. Recommended revisions to require surface water quality monitoring sufficient to provide a baseline and show reductions of sediment discharges.	
	4.5	GP fails to adequately control or monitor for pesticide discharges. GP should be revised to require toxicity monitoring of surface waters.	
	4.6	GP fails to comply with Anti-Degradation Policy. GP fails to establish a water quality baseline to determine authorized alterations and fails to conduct an adequate anti-degradation analysis or make specific findings.	
	4.7	GP fails to comply with Non-Point Source Policy.	
	4.8a	GP monitoring and reporting requirements are insufficient, and should require surface water quality monitoring for sediment, pesticides, and nutrients.	
	4.8b	The GP should require retention of records for at least ten years.	

Letter #/Commenter	Comment	Summary	Staff Report Response #
San Francisco BayKeeper (cont.)	4.8c	Any modification, revocation, or reissuance of the GP should be publically noticed and made available for public review and comment.	
	4.8d	The Annual Compliance Report should be submitted by October 15, rather than November 15 to maximize the period of review for the Water Board staff.	
	4.8e	Farm Plan requirements must be revised to enhance effectiveness of the GP including reducing the period of advance notice prior to an inspection, improving base maps to provide additional information, and to provide additional guidance regarding what constitutes compliance with performance standards.	
	4.9	Concluding remarks	No response required
CA Farm Bureau Federation	5.1	Introductory remarks	No response required
	5.2	Porter-Cologne requires reasonable regulations. GP is overly burdensome, duplicates or conflicts with current county regulations, does not properly analyze economic impacts, may lead to disparate impacts on small vineyard owners, does not use current data regarding farming practices and the health of the watershed and ignores other regulatory tools implementing the sediment TMLD.	1, 3.1, 4, and 6
	5.3	GP should be revised to reflect other regulatory programs that collectively will comply with the TMDL.	
	5.4	GP should be revised (performance standards, exemptions and the definition of "vineyard property") to provide flexibility and feasibility due to diverse circumstances.	
	5.5	GP should focus on problem areas. Road Performance Standards should be prioritized by high erosion areas, distance from waters, or parcel size or planted acres. Road standards are overly extensive and extremely expensive. Draft EIR should include estimated cost per mile. The Draft EIR should have considered alternatives for 1) entire vineyard property; 2) vineyard facility; and 3) areas identified as high priority erosion areas.	
	5.6	Definition of vineyard property is overly broad. Non-farmed and non-grazed lands should be regulated as rural lands.	2.1
	5.7	Draft EIR fails to analyze viable alternatives identified in the 2014 Initial Study, including eligibility criteria from the 2012 Conditional Waiver.	

Letter #/Commenter	Comment	Summary	Staff Report Response #
CA Farm Bureau Federation (cont.)	5.8	Draft EIR fails to consider significant social and economic impacts and cumulative effects, including land barred from cultivation and dollar value for costs of compliance. Economic impacts should be considered over time.	
	5.9	GP relies on outdated data; should rely on current data which will demonstrate improved baseline conditions.	1
	5.10	Conclusion	No response required
CA Fish and Wildlife Unlimited	6.1	Introductory comments	No response required
	6.2	What evidence substantiates that 50% reduction in sediment load will restore properly functioning substrate conditions?	
	6.3	How will sediment delivery be measured at each vineyard property?	
	6.4	What was sediment delivery rate in 1990 when Napa River was listed as impaired, what was total vineyard acreage at that time, what is the current vineyard acreage?	
	6.5	What was sediment delivery rate in 1996 when Sonoma creek was listed as impaired, what was the total vineyard acreage at that time, what is the current vineyard acreage?	
	6.6	What is the evidence that listed aquatic species and locally rare Chinook salmon will survive over the timeframe provided to achieve GP performance standards?	
	6.7	What are the stream classification systems utilized by Napa and Sonoma counties? How are they consistent with the stream classification system used by U.S. Environmental Protection Agency or the Basin Plan? How will this project resolve inconsistencies?	
	6.8	How will streams that are naturally intermittent or have become intermittent in response to management actions be protected by GP?	
	6.9	What evidence substantiates that 5 acre threshold for enrollment will effectively control and reduce total vineyard pollutant discharges? CF&WU recommends all vineyards be required to enroll in the GP.	2.2
	6.10	Water Board should provide comprehensive regulatory oversight over all required vineyard monitoring; discouraged the use of third parties.	
	6.11	All monitoring data, Farm Plans, and Annual Compliance reports should be publically available on the Water Board website with links to eWRIMS.	
	6.12	What agrichemicals will be regulated by the GP?	

Letter #/Commenter	Comment	Summary	Staff Report Response #
CA Fish and Wildlife Unlimited (cont.)	6.13	How does the GP protect and monitor dry-season baseflow and govern related groundwater pumping?	
	6.14	What is the evidence to substantiate proposed delisting of Napa River and Sonoma Creek, as related to nutrient impairment?	
	6.15	How many Timber Conversion Plan (TCP) requests were approved or rejected over the past 17 years? How will the GP address and resolve adverse impacts of CDF-approved TCPs to aquatic resources?	
	6.16	How will the Upper Napa River Habitat and Sediment Reduction Plan affect the GP?	
	6.17	How does the GP resolve fish migration barriers?	
	6.18	The GP must also ensure that there is adequate streamflow.	
	6.19	Adequacy of water quality and quantity must be considered and addressed together in a comprehensive manner to ensure success of the GP.	
California Land Stewardship Institute	7.1	Introductory remarks	No response required
	7.2	Three years is not sufficient for all vineyard properties in both watersheds to complete farm plans; suggests 6 years.	6
	7.3	GP is uneven in its treatment of pollutant sources and performance standards; Definition of Qualified Professionals is incomplete; performance standards for stream setbacks are lacking; no prohibitions on hard approaches to bank stabilization; need to add performance standards to protect ecological and geomorphic integrity of stream-riparian habitats.	7 and 8
	7.4	Description of requirements for farm plan to be in Tier 1 is inadequate. Suggested revisions to explain how to determine if a farm plan is fully implemented and identify who is responsible for doing so. Descriptions of Tier 1 requirements need to discuss in more detail practices for streams. Suggested adding performance standards for discharges from eroding creek channels.	8
	7.5	Requested revision to use “verified” instead of the term “certified.” Farm plans could be deficient if they are not signed and stamped by a licensed professional.	7
	7.6	Don’t think the vineyard property acreage estimate is correct; requested source of information.	
	7.7	Performance standard for bed and bank erosion needs to be refined/clarified with greater guidance in how to interpret observations of channel erosion.	8.2

Letter #/Commenter	Comment	Summary	Staff Report Response #
California Land Stewardship Institute (cont.)	7.8	Should provide mechanism for Third-Party Programs to assist dischargers in submitting Annual Reports, and the timing of its submittal should be reconsidered to avoid harvest season.	
	7.9	Various comments related to specific details of maps required in Farm Plans.	
	7.10	Protocol for required field survey for bed and bank erosion is needed.	5.5
	7.11	Upper Napa River Restoration Plan should be listed (per Tier 1 qualification).	
	7.12	Please properly reference Fish Friendly Farming materials.	
	7.13	Proposed soil infiltration monitoring should be carried out with Technical Advisory Committee to assure fairness. Competitive bidding process should be used to select qualified contractor for monitoring.	5.1
City of Napa (September letter)	8a.1	Recognize and correct failure of staff to coordinate within the Water Board, the permit requirements for vineyard properties with those required for the City's Drinking Water Plant. GP should require monitoring and adaptive management for pesticides in reservoirs and the City should not have to pay fines for detections of pesticides in excess of discharge limits.	
	8a.2	The City respectfully requests assistance from the Water Board to control nutrient and pesticide discharges from non-point sources into water bodies that contribute to the City's drinking water reservoirs. If such discharges are contributed, to ensure they don't result in automatic fines to the City. The City seeks to work with the Water Board and all stakeholders to proactively address the issue at the source and protect water quality for maximum beneficial use over the long-term, as required by Article X, Section 2 of the California Constitution.	2.3, 5.3, and 5.4
	8a.3	Concluding remarks	No response required
City of Napa (December letter)	8b.1	Introductory comments and background information	No response required
	8b.2	Comment regarding specific aspects of monitoring soil infiltration capacity	5.1
	8b.3	Turbidity should be monitored to assess attainment of performance standards	5.5
	8b.4	No baseline of impacts in the reservoir water column. GP ignores impacts from vineyards that need to be reduced to avoid degradation of water quality in reservoirs.	
Robin Ellison	9.1	Comments in support of adoption of the proposed GP. Expressed support for the strictest regulations possible for sediment and agrichemical runoff.	No response required

Letter #/Commenter	Comment	Summary	Staff Report Response #
ICARE	10.1	How many acres of hillside vineyards are in Napa County?	
	10.2	GP should cover cave tailings; Division of Mines and Geology doesn't properly regulate cave tailings disposal.	
	10.3	GP should also regulate herbicides including glyphosate.	2.4
	10.4	Turbidity monitoring should be required to confirm compliance with Anti-degradation Policy.	5.1 and 5.5
	10.5	City of Napa drinking water exceedances for trihalomethane (a byproduct of treatment with chlorine) are being caused by vineyard nutrient discharges. Why won't Water Board require turbidity monitoring?	5.1, 5.3, and 5.5
	10.6	Sediment stored on vineyard properties (from cave tailings and landslides) is moved to and stored on County roads. These actions should be regulated under GP.	
	10.7	Detention basins required to attenuate runoff increases as part of an ECP, escape scrutiny under CEQA and must be considered in DEIR.	
	10.8	Various recommendations regarding farm plan inventory and mapping (cave tailings mapping, identify all Class I, II, and III streams, and show flow directions).	
	10.9	Annual Compliance Reports should be available for public review and show turbidity monitoring to demonstrate BMPs are effective.	
	10.10	Nutrient discharges need to be monitored to evaluate compliance with GP.	5.3
	10.11	Farm Plans should be available for public review to ensure all dischargers comply.	
	10.12	Suggested using stream classifications consistent with all resource agencies. Confined streams need restoration and setback provisions. Contested the Water Board's conclusion that fully –protected stream corridors are protecting listed species and water quality.	
	10.13	Require screens on reservoir overflows to prevent non-native fish in reservoirs from entering streams	
	10.14	Require evidence to confirm compliance with Fish & Game Code section 5937, Requested monitoring and reporting fish by-pass flows.	
	10.15	Comment that soil infiltration capacity monitoring be conducted by state licensed geologist or hydrogeologist.	No longer applicable, see 5.1
	10.16	Farm Plans should be reviewed by state licensed hydrogeologist/geologist	

Letter #/Commenter	Comment	Summary	Staff Report Response #
Living Rivers Council	11.1	Introductory statements	No response required
	11.2	Per the request of the Water Board, find Exhibit 1 attached.	3.2d, 8.2d
	11.3	Site specific analysis is essential; Water Board should not delegate analysis of compliance to Third-Party Programs.	
	11.4	Farm plans must undergo CEQA review.	
	11.5	Requested recirculation of the permit if the Board staff recommend excluding private parties from being farm plan preparers.	7
Living Rivers Council (Exhibit 1)	11a.1	Introductory statement per GP review and attendance at meeting with Water Board staff	No response required
	11a.2	Require Hydrologic (Peak Runoff) Assessment as Part of Farm Plan Development - The following recommended guidelines should be applied.	3.2d
	11a.3	Stipulate BMP design guidance - As currently written, the GWDR provides a list of the type of runoff and erosion control BMPs that should be included in the Farm Plan. The GWDR should stipulate that BMPs be designed pursuant to local and state BMP design manuals and guidelines. Farm Plans should be required to include a description of the methods and guidelines followed to develop project BMPs.	
	11a.4	Stipulate Guidance for Farm Plan Bed and Bank Erosion Assessment - GWDR should stipulate more specific standard methods and protocols that should be used to complete a stability assessment of pre- (new Vineyards) and post-project drainage channel bed and bank conditions.	
	11a.5	Stipulate Quantitative Farm Plan Performance Monitoring	
	11a.6	Establish Monitoring, Maintenance and Adaptive Management Plan for Farm Plans - it does not appear that the GP or Farm Plans address adaptive management measures if performance monitoring indicates a BMP is wholly or partially ineffective and new or increased channel instability is identified as a result of project construction.	
	11a.7	Concluding remarks	No response required
Los Carneros Water District	12.1	Introduction and background information	No response required
	12.2	Requested refinement of requirements for water quality enhancement downstream of reservoirs that store treated wastewater.	9.1

Letter #/Commenter	Comment	Summary	Staff Report Response #
Sarah Marsten Bittner	13.1	Introductory remarks	No response required
	13.2	Please regulate use of pesticides near schools.	
Letter #/Commenter	Comment	Summary	Staff Report Response
Linda McGlochlin	14.1	Concerns that the conflict of interest provisions (disallowing licensed engineers or geologists from preparing farm plans for their own property) are overly restrictive; these professionals have a code of conduct.	7
	14.2	The State Board of Engineers and Geologists should determine eligibility of engineers and geologists to prepare farm plans, not the Executive Officers.	7
County of Napa	15.1	Introductory remarks	No response required
	15.2	Background information regarding Napa County Conservation Regulations	No response required
	15.3	Concerns regarding potential inconsistencies between GP and County requirements per stream setbacks.	3.2
	15.4	Concerns regarding potential inconsistencies between GP and County requirements regarding permissible period for grading.	3.2
	15.5	Concerns regarding potential inconsistencies between GP and County requirements regarding drainage requirements in sensitive domestic water supply watersheds.	3.2
	15.6	Potential conflict with existing and future County erosion control plan requirements.	3.2
	15.7	If GP changes current regulatory framework in a manner that reduces resource protection, DEIR should evaluate any adverse environmental impacts from those changes.	3.2
Napa County Resource Conservation District	16.1	Introductory remarks	No response required
	16.2	Summary overview of comments	No response required
	16.3	Miscellaneous requested clarifications regarding acreage included in “planted in grapevines;” frequency of reporting for Tier 1 dischargers; timeline for reporting certification for Tier 1; mobility of dischargers between tiers; and whether dischargers may report aggregated results through a third-party.	9.2-9.5

Letter #/Commenter	Comment	Summary	Staff Report Response #
Napa County Resource Conservation District (cont.)	16.4	Support for inclusion of Qualified Professionals in roles of farm plan development and certification; concern however regarding required documentation to be considered for approval.	7
	16.5	BMP effectiveness monitoring should be replaced with monitoring to evaluate progress toward attainment of TMDL targets and supporting beneficial uses.	5.1
	16.6	Pipelines and pumps should be allowed in stream setbacks.	9.4
	16.7	Tier 3 dischargers should be allowed to participate in group monitoring.	4
	16.8	GP requirements may present economic hardships, in particular to small property owners; concerned that there is a disproportionate economic burden in regulating only the Napa River and Sonoma Creek watersheds.	4
	16.9	Please consider that Napa County is a leader regarding local regulation and voluntary programs to protect water quality and habitat; concerned that the GP will be counterproductive to current voluntary conservation actions.	1
	16.10	Please take into account the results of ongoing fisheries monitoring.	
	16.11	Closing remarks	No response required
NOAA Fisheries	17.1	Introductory remarks supporting GP.	No response required
	17.2	Strong support for several elements of GP: vineyard size criteria; tier structure; individual WDRs under specified conditions; time schedules for compliance; performance standards; and monitoring and reporting.	No response required
	17.3	Miscellaneous suggested edits to the GP including qualifications for third party groups; discourage use of riprap; encouraged turbidity monitoring training and a technical advisory committee concerning turbidity monitoring plans; listing NMFS as a responsible agency for preservation of rare and endangered species; clarifying mapping requirements; making stream setbacks conform to “fully protected stream riparian corridors; modifying Tier 1 criteria; farm plan approval process; and Water Board inspections.	5.1, 7, and 8.1
North Bay Agriculture Alliance	18.1	Introductory remarks	No response required
	18.2	From TMDL development to present, no evidence of further decline of steelhead or increase in sediment loads. Questioned whether decline of fish is tied to decline in sediment input.	1

Letter #/Commenter	Comment	Summary	Staff Report Response #
North Bay Agriculture Alliance (cont.)	18.3	Precipitation and runoff is not a "discharge of waste." Ill-suited regulatory powers; some question whether the State Legislature has authorized the NPS control program.	
	18.4	Willing to work with Water Board's three-tier approach to NPS (1. Voluntary BMP; 2. Regulated BMP; 3. Enforced Effluent Limitations) as long as vineyards remain in Tier 1 or 2 at most. Willing to identify optimum approaches to protect beneficial uses.	
Peggy Phelan	19.1	Introductory and contextual remarks	No response required
	19.2	Concerns that previous certification and full implementation of property Farm Plan through Land Smart is not considered enough by Water Board; concerns that sediment monitoring will be as cumbersome and expensive as existing stormwater sampling requirements; concerns that sediment sampling will vary depending upon the storm surge, making results inaccurate and the data unmeaningful.	
	19.3	Request that Water Board spend public funds on improving farming practices and education, not more regulations.	
PPI Engineering	20.1	Introductory remarks	No response required
	20.2	Concern that GP prohibits deep ripping of soil; questioned data and noted that none of the studies relied upon was conducted in Napa or Sonoma. Noted distinctions between deep ripping of soils versus bedrock.	
	20.3	Remarks and Walt Ranch site data presented to support opinion that deep ripping contribute to persistent and significant increase in soil infiltration capacity.	
	20.4	Summary statement that GP should not prohibit deep ripping.	No response required
Sustainability in Practice	21.1	Introductory remarks including description of Sustainability in Practice (SIP) certification process and water quality protection requirements.	No response required
	21.2	Characterization of SIP certified properties as compared to Tiers; SIP certified properties fall somewhere in between Tiers 1 and 2.	
	21.3	Documentation to obtain SIP certification meets Farm Plan requirements.	No response required
	21.4	Suggestions to include hybrid options depending on progress of farm plan development and roads.	

Letter #/Commenter	Comment	Summary	Staff Report Response #
Sustainability in Practice (cont.)	21.5	Concluding remarks	No response required
Smith-Madrone Vineyards & Winery and V. Sattui Winery	22.1	GP is thoroughly flawed and "should be scrapped" and rewritten.	
	22.2	Criticized lack of outreach and collaboration.	
	22.3	Did not honor request to provide paper copy of DEIR to commenter; timing of release of GP and DEIR was at start of harvest, and yet this was not considered.	
	22.4	Suggested a revised GP that focuses on roads; work in a collaborative manner with local stakeholders to address minor gaps in local regulations.	1 and 3.1
	22.5	Conservation Regulations are working, and have produced proven results; reasonable to expect improvements to continue; further regulations by Water Board are both unnecessary and unreasonable; other sources of fine sediments are impervious surfaces. GP should focus on flash runoff from cities, towns, roads and highways.	1, 2, 3, and 4
	22.6	No justification for linking Napa River and Sonoma Creek watersheds in the GP.	
	22.7	GP does not properly consider economic effects of compliance; it is not reasonable.	4
	22.8	Questioned scientific basis for requiring regulation of farm roads. Noted contradictions in scientific thinking in the 1970s versus current conclusions regarding woody debris in streams and effects of fine sediments on fish.	1
	22.9	Asked for additional findings on the meaning of the words "reasonable" and "maximum benefit" with respect to the requirement that waters of the State be regulated to the "highest water quality that is reasonable" and the highest water quality be maintained consistent with the "maximum benefit to the people of the State."	1, 2, 3.1, and 4
	22.10	Hillslope vineyards help suppress massive forest fires, resulting in substantial reduction in sediment discharge; forest lands are not properly managed.	
	22.11	Summation and appeal to begin a new era of transparency and cooperation.	
Sonoma County Resource Conservation District	23.1	Introductory Comments	No response required
	23.2	Support for approach/role for Third-Party Programs.	
	23.3	Specific/detailed comments per proposed soil infiltration capacity monitoring.	5.1
	23.4	Conclusion	No response required

Letter #/Commenter	Comment	Summary	Staff Report Response
United Winegrowers for Sonoma County	24.1	Introduction/summation of comments	No response required
	24.2	Current farming practices, local ordinances and resource groups have already fixed the problems that permit is designed to address.	1, 2, and 3
	24.3	Vineyard surface erosion is insignificant.	1, 2, and 3
	24.4	Road mileage is significantly over-estimated; questioned the calculation.	
	24.5	Channel erosion is mostly natural and not related to vineyard management actions.	
	24.6	Mitigation measures for compliance actions are over-blown.	
	24.7	Suggestion that vineyards already are meeting road hydrologic connectivity performance standard.	
	24.8	Current stream setbacks are working; concerns regarding contradictory expectations of the counties versus the GP setback requirements.	3.2
	24.9	Noted confusion over how miles of roads were calculated and questioned whether it is appropriate to regulate hillslope or flat vineyards as proposed.	
	24.10	The commenter requests clarifications regarding the monitoring requirements under each Tier.	
	24.11	Questions regarding mitigation that falls within the purview of other agencies, but is required by the GP.	
	24.12	New modeling or monitoring requirements call into question basis for requirements.	5.1, 5.2, 5.3, 5.4, and 5.5
	24.13	Have estimated costs to landowners changed (as compared to TMDL reports)?	4
	24.14	Concluding remarks emphasizing the need for a more focused and efficient approach to regulation.	No response required
U.S. EPA	25.1	Introductory remarks and statement of support	No response required
	25.2	Monitoring should focus primarily on evaluation of sediment conditions in the watershed rather than BMP effectiveness.	5.1
	25.3	Suggested that the Water Board conduct a more defined program of farm plan review/site inspections to audit performance.	
	25.4	U.S. EPA supports development of a program to track implementation actions and their effectiveness; Water Board should facilitate establishment of integrated, user-friendly and affordable reporting mechanism.	

II. RESPONSES TO COMMENTS NOT INCLUDED IN THE STAFF REPORT

Comment Letter #1: Vineyard Owners/Managers

All comments responded to in the Staff Report or no comment needed.

Comment Letter #2: Coalition of Agricultural Organizations

Comment 2.8: Exclude residential areas - Properties with vineyards in Napa and Sonoma encompass a wide range of uses – from 100% vineyards to mixed uses, including wineries and residences. As written, the Draft General WDR's broad definition of "Vineyard Property" fails to distinguish between agricultural uses and residential uses. As a result, residences associated with vineyards become subject to the WDR simply by virtue of being located on "Vineyard Properties". This would have the anomalous and disproportionate result of subjecting some residential areas to costly regulation, based on a factor (location) irrelevant to the regulatory goal. The Regional Board provides no finding to support a conclusion that residential areas on "Vineyard Properties" pose a greater threat to water quality than residential areas outside of "Vineyard Properties." Accordingly, we request that the Regional Board staff exclude residential areas/features from the definition of "Vineyard Property", or by revising the WDR to clarify that no Farm Plan requirements or performance standards apply to residential areas/features on Vineyard Properties.

Response to Comment 2.8: The General Permit does not include any terms or conditions that would regulate discharges from residential areas. The General Permit is focused on discharges from the farm area - as defined in the General Permit - and within Hillslope Vineyard Property discharges from all unpaved roads. Please also note that Attachment A to the General Permit, Farm Plan Requirements, specifies that:

> "The vineyard property base map shall delineate:
>
> - Non-vineyard land uses (…)."

To avoid confusion in this regard, any residential area within a vineyard property required to enroll in the General Permit, should be labeled and delineated as a residential area on the base map, and noted that the residential areas are not subject to the Farm Plan.

Comment 2.14: Before a Regional Board can implement any agricultural water quality control program for discharges from irrigated lands, the Porter-Cologne Water Quality Control Act requires that "an estimate of the total cost of the program, together with an identification of potential sources of financing, shall be indicated." (Wat. Code §13141). Neither the Draft General WDR Tentative Order nor the DEIR include a discussion or analysis of these statutory requirements and instead only focus on provisions of the Water Code that give it the authority to adopt the Draft General WDR. The statutory requirements of Water Code § 13141 are intended to ensure that regulations are not overly burdensome on the regulated community.

For example, the economic impacts of the Draft General WDR BMP requirements for storm runoff from hillslope vineyards, or to control gully and/or channel erosion, are simply dismissed based on the relevant performance standard being "predicated on BMP implementation being economically feasible. Therefore, by definition . . . would not present a significant economic burden." (DEIR, pp. 87 and 110). How then are the estimated benefits of the Draft General WDR calculated without analysis of whether

or not the performance standard and associated BMPs are economically feasible and would be implemented?

The Regional Board has also failed to provide a definition of "economically feasible." Therefore, it is unclear what standard will be used to make this determination. The issue of road erosion and runoff control BMP costs is based on an estimate of $23,000 per mile of road but there is no discussion of how this translates to a typical vineyard property or how these costs relate to either gross or net revenue. In addition, the discussion of economic considerations fails to identify any potential sources of financing, as expressly required by Water Code § 13141.

Response to Comment 2.14: Water Code section 13141 was satisfied in the development of the sediment TMDLs for the Napa River and Sonoma Creek watersheds and does not apply in this case - adoption of general WDRs pursuant to section 13263. Even if the General Permit could be considered an agricultural water quality control plan, the Staff Report, Response to Comment 4, provided estimates of the total compliance costs and also described revisions to the General Permit to address concerns regarding the potential for economic hardship:

> "Staff have prepared example compliance cost estimates for a small valley floor vineyard, and also for small, medium, and large hillslope vineyards located on a large parcel (640 acres) to support a conclusion that costs to comply with the General Permit would correspond to approximately 1-to-8 percent of typical total operating costs for vineyards that are established within the permit area.
>
> Water Board staff also recommends these changes to the following sections of the General Permit, all of which would reduce potential compliance costs:
>
> a) Vineyard property definition (see Response to Comment 2.1);
>
> b) Road performance standards (clarification – only applicable at Hillslope Vineyard Properties); and
>
> c) Tier 3 monitoring requirements (also are allowed to participate in Group Monitoring Programs, which would substantially reduce monitoring costs).
>
> **Recommended changes to General Permit to address concerns regarding potential economic hardships**
>
> As described earlier (Response to Comment 2.1), staff recommends that the vineyard property definition be revised, such that only those parcels planted in grapes be regulated, typically, a five acre-or-larger vineyard. This revision would result in an estimated 8 percent reduction in the total property area enrolled in the General Permit, and a smaller reduction in the planted area enrolled. The overall effect on sediment delivery to channels and substrate conditions in streams would not be measurable, however, this revision would reduce the potential for economic hardship associated with permit compliance that could occur for a cash-poor (i.e., five acre vineyard), but land-rich (640-acre parcel) farmer, who, considering this large parcel, could have significant compliance costs associated with road-erosion control.
>
> Staff also recommends revising the General Permit to: a) allow Tier 3 permittees the ability to participate in group monitoring program option, which would be much more cost effective (less than $10 per acre per year) than developing and conducting an individual monitoring program; and b) clarify that the road erosion control performance standards only apply to hillslope vineyard properties.

We also note the following information, which bears on costs and/or grant funding:

a) Over the past decade in the Napa River watershed, the Water Board has provided approximately $2.9 million in funding for farm plan development and implementation and road-erosion control projects; note that other public agencies including the USDA Natural Resources Conservation Service, the California Department of Fish and Wildlife, the US EPA, and the California Coastal Conservancy, also provided significant funding that is not considered here.

b) The typical cost for the road erosion control actions required under the proposed General Permit would be less than or equal to $30,000 per mile (Bill Burmingham, Napa RCD, personal communication, 2015). Considering an average density of unpaved roads at hillslope properties within the permit area equal to four miles per square mile of land area, and for every four miles of unpaved road, typically one mile would need to be treated to comply with the permit. Therefore at a 640 acre hillslope vineyard property, we estimate average total cost for road erosion control actions would be less than or equal to $30,000. We estimate that approximately 100 miles of unpaved roads located within hillslope vineyard properties, will need to be upgraded in order to comply with the General Permit.

c) To develop more precise cost estimates for farm plan development as currently required under the General Permit, we contacted Laurel Marcus, the Executive Director of the California Land Stewardship Institute (CLSI) that has developed and implemented the Fish Friendly Farming Program. Between 2004 and present, CLSI has developed almost 500 farm plans covering approximately 71,000 of vineyard properties within the permit area (CLSI, 2016). Based on their experience, Ms. Marcus indicates that vineyard managers and/or property owners are usually able to complete most of the elements of the farm plan independently. CLSI staff assistance is typically needed to help complete farm plan elements relating to roads and creek/river corridors. In most cases, the total amount of CLSI staff effort would not be expected to exceed 40 hours (L. Marcus, personal communication, 2017). Applying an average billing rate of $125 per hour, the total cost to the landowner of farm plan development ($125/hr x 40 hr) would be a one-time cost less than $5000. For the smallest vineyard (i.e., five acres) that would need to be enrolled under the General Permit, this cost could be worked into a business plan and funds could be set aside incrementally over a ten-year permit implementation period, corresponding to an estimated cost $100 per planted acre per year. At a larger vineyard, the cost per planted acre would be less.

d) Considering all the above, and available information regarding operating costs for vineyards in the permit area (Cooper et al., 2012; Smith et al., 2010 and 2016), we have estimated compliance costs for a typical small (10 acre) valley floor vineyard, and also for a small (10 acre), medium (20 acre), and large (100 acre) hillslope vineyard located on a large property (640 acres). Under these examples, total compliance costs would range from about $20-to-$315 per acre per year corresponding to a 1-to-8 percent increase in total operating expenses for typical vineyards located within the permit area. Following development and implementation of the farm plan, which would occur during the first decade of the permit, estimated compliance costs would decrease substantially, corresponding to < 2 percent of total operating expenses."

Considering, all of the above, we conclude that in almost all cases compliance with the General Permit should not present an economic hardship. Economics is one of a great many factors that are routinely considered in adopting WDRs and has been extensively considered in this case. (Water Code § 13263.) In pertinent part, to estimate and consider potential costs, Water Board staff has:

a) Interviewed technical staff at the California Land Stewardship Institute, who have prepared about 500 farm plans for vineyard properties located in the Project Area, to estimate typical cost range for preparation of a farm plan in order to comply with the General Permit (L. Marcus, 2017, personal communication);

b) Interviewed technical staff at the Napa County RCD and Pacific Watershed Associates, who have extensive experience and expertise in road-erosion control projects to estimate average cost per mile in order to comply with the General Permit performance standards for road-erosion control (see for example, B. Burmingham, 2016, personal communication);

c) In estimating agricultural water quality program costs as part of the development of the Napa River watershed sediment TMDL, Water Board staff interviewed staff at Prunuske Chatham and Associates to estimate a typical range for the cost of soil bioengineering techniques to control gully and/or channel erosion associated with concentrated runoff from hillslope vineyards (S. Chatham, personal communication, 2005), and these cost estimated were adjusted to reflect the effects of subsequent inflation;

d) Reviewed cost estimates for streambed monitoring (Napa RCD, unpublished data, 2016), which would be the primary focus of the monitoring program required under the General Permit; and

e) Reviewed the State Board's Agricultural Lands Fee Schedules and cost estimates for monitoring programs to comply with irrigated agricultural permits issued by other regional water quality control boards.

Staff has met with the stakeholders to discuss the breadth of potential concerns including economic impacts and have also communicated with stakeholders concerning potential grant opportunities, group monitoring efforts that can reduce costs (e.g., meetings with the Conservation Committee of the Napa County Farm Bureau on 6/1/16, 9/7/16, and 11/2/16; a Town Hall meeting in the City of Napa to discuss the permit and answer questions on 7/26/16; meeting with the directors and staff of the Napa County RCD on 10/24/16; and in meetings with the Coalition of Agricultural Organizations on 10/28/16 and 11/14/16).

The EIR also summarizes the extensive body of research staff has developed concerning economic impacts and concludes that no environmental impacts will occur as a result of the economic impact of complying with the Order (DEIR, pp. 86-88). Please also see our Response to Comment 8-4 regarding the draft EIR, where we provide further clarification to support the finding in the draft EIR that it is highly unlikely that the General Permit would render a Vineyard Property economically nonviable. No evidence has been presented to the contrary by this or any other commenter. Response to Comment 8-4 regarding the draft EIR also summarizes subsequent revisions to the General Permit that further reduce the potential for economic hardship.

Finally, as related to the part of this comment, that "economically feasible" has not been defined, please also note, actions taken to attenuate hillslope vineyard storm runoff and/or bio-technically stabilize eroding gullies and/or unstable channels, as required where feasible under the General Permit, also are eligible for State and federal water quality grants, and since these actions related to implementation of adopted TMDLs, they would have a very high priority for funding.

Comment 2.17: Following adoption, Third-Party Programs should have at least six months to apply.

Response to Comment 2-17: The proposed timelines for the initial submittal of applications by prospective Third-Party Programs (within three months of adoption) and for approval of Third-Party Programs (six months following adoption) are interconnected to the proposed timelines for enrollment by permittees (one year following adoption) and attainment of performance standards for discharge from the farm area (three years following adoption).

Providing more time for preparation of applications by Third-Party Programs would necessitate moving all of the other compliance deadlines back. We do not find a delay to be justified or necessary. The required Third-Party Program application materials are not unreasonable or burdensome to prepare within a three-month period. Also, note that three prospective Third-Party Programs provided comments on the General Permit: Fish Friendly farming, LandSmart, and SIP. None requested additional time to prepare their applications. Also, note that in previous meetings with prospective Third-Party Programs, we received the request to post all initially-approved programs at the same time, so that none who met the three-month deadline for application submission would be at a competitive disadvantage.

If other Third-Party Programs need more time to prepare their applications, nothing in our approval process would preclude this.

Comment 2.20: Farm Plans should be kept at vineyard property because they may contain intellectual property, trade secrets and proprietary information. (Water Code § 13267, subd. (b)(2) [protecting trade secrets].) Clarify that Water Board does not exercise dominion, control or ownership of the Farm Plan and Farm Plans are not subject to the Public Records Act.

Response to Comment 2.20: In most cases, the General Permit would not require dischargers to submit the Farm Plan to the Water Board. The General Permit only requires Farm Plan submittal if a vineyard owner/operator elects to prepare the Farm Plan independently and not have it Verified by an approved Third-Party Program.

Based on Water Board staff experience in conducting a property inspection and farm plan review, for more than one-hundred vineyard properties in the General Permit area, we have found that review of the Farm Plan in the abstract, that is without actually being on the site and conducting a field inspection, can lead to false positives (e.g., the plan looks like it addresses all potential discharges effectively, but in fact it does not) and also false negatives (e.g., there appears to be a problem, but in fact there is not). Also, the Farm Plan is a living document that is subject to update in response to changes in cultural practices and/or property conditions. For these reasons, as a general matter, we do not intend to require that Farm Plans be submitted.

However, we concur with other commenters that all interested parties should be able to access a summary report that provides property-specific information related to General Permit compliance, including progress toward Farm Plan completion and implementation and status of water pollution control actions as related to attainment of the performance standards for discharge. To that end, we require submittal of an Annual Compliance Report for all Tier 2 and Tier 3 Dischargers. The Annual Compliance Report balances confidentiality concerns, avoids the problem of Farm Plan review outside of the context of a site inspection, and satisfies the legitimate desire for transparency and public review to assess compliance and progress in the control of pollution.

Comment 2.21: Additional outreach is needed. Despite repeat notification about the proposed WDR from major industry organizations in both Napa and Sonoma Counties, landowners remain unaware of the proposed regulations. The number of regulations currently affecting and imposed upon vineyard and winery owners is extensive. In order for any WDR order to be successfully adopted by landowners' subject to the regulation, the Regional Board needs to develop a more robust communications and outreach plan. We request that the Regional Board send a notice to all potentially affected landowners notifying them of when the matter will be presented and heard by the Board. Additionally, time should be allocated for Regional Board staff to attend meetings of local industry associations once a regulation is adopted.

Response to Comment 2.21: Development of a regulatory mechanism that would control sediment is not a new issue in the Napa River and Sonoma Creek watersheds. Outreach for the Napa River and Sonoma Creek sediment TMDLs included numerous public meetings over a period of years to present and receive input on technical studies (e.g., Limiting Factors Analyses, and Watershed Sediment Budgets); Town-Hall meetings to present and receive input on the proposed sediment TMDLs and Habitat Enhancement Plans; and multiple hearings before the Water Board and the State Water Board, where all interested parties participated and provided comments/input (including local Farm Bureaus, RCDs, Napa Valley Vintners, Sonoma Valley Vintners, North Bay Agricultural Alliance, The Wine Institute, etc.).

Prior to the proposed General Permit, Water Board staff also prepared a proposed waiver of WDRs requirements for vineyard properties within the project area, where we consulted regularly with the agricultural community and other interested parties throughout that process, which spanned multiple years. That effort was suspended due to CEQA "Fair Argument" challenges to the adequacy of the environmental document prepared to evaluate effects of compliance with the waiver of WDRs permit.

The General Permit is the latest rendition of a regulatory tool that will finally implement the sediment TMDLs as related to Vineyard Properties. In advance of consideration of adoption of the General Permit, Water Board staff conducted an extensive program of outreach to all interested parties including vineyard owners and managers. For example, Water Board staff met with the Conservation Committee of the Napa County Farm Bureau on June 1, September 7, and November 2, 2016. Staff also presented and discussed the proposed General Permit at a well-attended community meeting in the City of Napa on July 26, 2016, that included several vineyard managers and owners. Staff met with the directors and staff of the Napa County RCD on October 24, 2016, and with the Coalition of Agricultural Organizations on October 28 and November 14, 2016. Earlier in the process, beginning more than a year prior to release of the draft General Permit, we also met regularly with representatives of local Farm Bureaus and Resource Conservation Districts, the Napa Valley Vintners, and representatives of the Wine Institute. Also, we received comment letters from twenty-six individual vineyard property owners/managers, suggesting many are now aware of the proposed General Permit. Also, the Water Board conducted an informational workshop on April 12, 2017, to present and discuss the General Permit with all interested parties. In short, there have been several years of outreach and coordination to get to this draft General Permit. In fact, few permits receive such vetting prior adoption.

As has been the case with other agricultural permits implemented by this Water Board, following permit adoption, and well in advance of the deadline for enrollment, we expect to transmit correspondence by certified mail to all property owners listed on Accessor's Parcel records to notify them of their obligations. We also would expect to continue a robust program of outreach in coordination with agricultural groups, county regulatory staff, and Third-Party Programs. We are open to any other specific suggestions you may have and also continuing to work in coordination with your member organizations to inform vineyard owners/managers about the permit and its requirements.

Comment Letter#2: Coalition of Agricultural Organizations (Cont.) – Attachment to Comment Letter

Comment 2a.4: Will this Draft Order regulate activities at private residences (e.g., a 5.5-acre property where 5 acres are vineyard and 0.5 acre are for a residence)?

Response to Comment 2a.4: Please see Response to Comment 2.8.

Comment 2a.5: How will this Draft Order interact with other permits including the Industrial General Storm Water Permit and a facility's Wastewater Discharge Requirement (WDRs) for Discharges of Winery Waste? It's inappropriate to have multiple permits regulating the same activity.

Response to Comment 2a.5: The vast majority of vineyard properties that would be regulated under the General Permit do not include the facilities mentioned, and the permits in question do not address pollutant discharges from farm areas, nor in most cases, sediment discharges from unpaved roads.

Also, as indicated in Response to Comment 2.8, the land areas associated with other facilities including wineries that may be located on a "vineyard property" (as defined in the General Permit) and that are subject to other permits administered by the Water Board, should be delineated on the base map(s) for the Farm Plan and indicated therein to not be subject to the Farm Plan.

Finally, the draft EIR considered a reasonable range of alternatives as required by CEQA. For all of the above reasons, we disagree with the commenter.

Comment 2a.8: Add language to clarify that this applies solely to recycled municipal wastewater. Consider adding definition of "Recycled Water" to the glossary of terms as well.

Response to Comment 2a.8: The commenter did not explain why they are requesting the change - specifying that the requirement apply to reservoirs that receive recycled wastewater from a municipal source. Therefore, it is unclear to staff as to why such a change may be justified. No change is made in response to this comment. Other than recycled wastewater from municipal sources that are subject to NPDES permits and the requirements of the General Permit, discharge to waters of the State of other types of recycled wastewater is strictly prohibited.

Comment 2a.9: Recognize that Vineyard Properties upstream of dams do not need to be regulated.

Response to Comment 2a.9: That alternative was in fact considered as part of the EIR (Alternative 3, p. 284) but was not selected, primarily because it would not protect fish and aquatic wildlife in stream reaches located upstream of reservoirs from potential impacts of vineyard property discharges. Also, considering the Anti-Degradation Policy, and documented linkages between vineyard property sediment discharges (Water Board, 2009a, pp. 13-58), the proposed project is expected to protect Municipal and Domestic Water Supply (MUN) beneficial uses from potential degradation.

Comment 2a.10: Water Board states it may regulate any Vineyard Property regardless of size. This creates regulatory uncertainty. … Provide the basis for this finding.

Response to Comment 2a.10: The Water Code provides the Water Board with the authority to regulate any discharge or potential discharge that may affect water quality. Also, the finding is consistent with the State Non-Point Source Control Policy.

Comment 2a.11: Include definition of "Slope" per Napa County Code.

Response to Comment 2a.11: Please see footnote 6 on p. 10 of the General Permit.

Comment 2a.14: The term "Performance Standards" is used to refer to 'design specifications'. Design specifications are prescriptive – so, if they are achieved there should be no reason to monitor performance.

Response to Comment 2a.14: None of the performance standards in the General Permit include design drawings or design specifications, and therefore they are not prescriptive. The required BMP effectiveness monitoring (Attachment E) would include measurements or observations that correspond to inferred sediment discharge rate. The required BMP effectiveness monitoring is justified to confirm that sediment discharge rates are not excessive.

Comment 2a.15: Channel incision: We assume … this ... Order is relying on the quantitative assessment … in … Basin Plan Amendments which used pre—2005 load estimates; According to … Basin Plan Amendments, channel erosion and incision from human activities contributes 43,000 tons per year … to Sonoma Creek and 37,000 tons per year to Napa River.

Response to Comment 2a.15: Correct.

Comment 2a.17: The Basin Plan Amendments identify the contribution of sediment from channel erosion and incision associated with human activities. Yet, certain tributaries contribute more … than others. Vineyards are not the only cause of channel incision. … Because it is not clear what percentage … is attributed to vineyards, it is not appropriate to assign all the responsibility to vineyards. The Draft Order states that there are several causes for channel incision. What percentage of channel incision is attributed to vineyards versus other causes? … Vineyards can provide excellent infiltration surface.

Response to Comment 2a.17: All responsibility is not assigned to vineyards. The General Permit is one of several actions being implemented to control channel incision, which as explained in the *Napa River Sediment Reduction and Habitat Enhancement Plan* (Water Board, 2009a, see for example, pp. 79-80 and 85-87); the primary focus of efforts to control and address the impacts of incision on sediment supply and habitat complexity and connectivity in through voluntary river restoration projects, embodied by the examples in the Rutherford and Oakville-to-Oak Knoll reaches of the Napa River.

In addition to runoff control from hillslope vineyards required under the General Permit, other existing permits also require actions to reach this same objective (storm runoff attenuation), including the Waiver of WDRs for grazing areas and the Napa County Ordinance to control runoff increases that may occur as a result of new structural development projects.

Comment 2a. 18: The order indicates uncertainty about deep ripping and its role in increasing erosion and/or runoff. It is inappropriate for this Order to eliminate an important management tool that is used by viticulturists to increase soil infiltration.

Response to Comment 2a.18: The Order does not eliminate or regulate deep ripping. Please see Responses to Comments 20.2, 20.3, and 20.4.

Comment 2a. 20: Remove finding that vineyards are "potential sources of toxicity or bio-stimulatory Substances …." No evidence … that agrichemicals represent a threat to water quality ….

Response to Comment 2a.20: As related to toxicity, please see the Staff Report, Responses 2.4 and 5.4. As related to vineyards being a potential source of bio-stimulatory substances, the related clause in this finding – "where the application rate and/or discharge of agrichemicals and/or fertilizers are not properly controlled to limit discharges to the surface and/or groundwater" – is key. The General Permit requires reasonable and prudent actions to be implemented and documented to address this concern. Absent such controls being in-place (e.g., well-head protection, berms around mix and load sites, plant tissue and/or soil sampling to guide nutrient application rates, integrated pest management practices), it is reasonable to conclude that vineyard properties may be potential sources of toxicity or bio-stimulatory substances. No changes were made to the General Permit in response to this comment.

Comment 2a.22: RWQCB staff indicated that they expect that grant funding will be available to pay for almost one-third of road improvements and up to 80% of farm plans. … However, this is not mentioned in the permit or … staff report. … also no provision allowing property owners to petition … for an extension to come in compliance if conditions warrant. For example, if grant funding is not available, adequate resources are not available, or … lack of third party support.

Response to Comment 2a.22: Please see the Staff Report, Response to Comment 4. Also, please note that Finding 7 has been added to the General Permit to provide additional support for "limited resources farmers" (as defined by the USDA Natural Resources Conservation Service, 2014), which is as follows:

> "The Water Board recognizes that certain limited resource farmers (as defined by the U.S. Department of Agriculture, Natural Resources Conservation Service, 2014[5]) may have difficulty achieving compliance with this Order. The Water Board will prioritize assistance ~~for~~to these farmers, including but not limited to technical assistance, grant opportunities, and necessary flexibility to achieve compliance with this Order (e.g., adjusted farm plan, monitoring, reporting, or time schedules)."
>
> Related footnote:
>
> [5] The USDA Natural Resources Conservation Service definition of a limited resources farmer can be found at https://lrftool.sc.egov.usda.gov/LRP_Definition.aspx (URL as indexed on June 3. 2017).

Comment 2a.23: … the basis for including 90 percent of vineyard acreage and two-thirds of total property acreage has not been provided. The Order need not include Vineyard Property upstream of dams. … Table 1 … in the Final Technical Memo… for the Napa River Sediment TMDL Monitoring Program … shows that certain tributaries are more vulnerable to sediment production than others…. Further, RWQCB staff indicated that certain areas, Spring Mountain Road for example, consist of highly vulnerable geology…. Meaning, small land use changes can have a large impact on the amount of sediment generated. It makes sense that the Draft Order focus …on more vulnerable areas. Vineyards within low vulnerability areas should have a reduced … burden or a longer timeline for compliance. Region 5's …General Orders for Growers that are members of a Third-Party Group uses vulnerability areas. … Small vineyards in low vulnerability areas should have the least regulatory challenges.

Response to Comment 2a.23: With regard to focusing the General Permit on "problem areas," as described in the draft EIR, sediment impairment in the project area is not a "problem sites" paradigm, instead, as explained in the Regional Setting for the Hydrology and Water Quality Chapter (draft EIR, Section 8.1, p. 231):

"Within a given bedrock or alluvial deposit type, land-use activities exert a significant influence on total sediment supply to channels, and in all cases, regardless of terrain type, half-or-more of total sediment supply to channels is associated with land-use activities[50] – primarily intensive historical grazing, viticulture, and/or roads (Water Board, 2009a, pp. 42-47; Water Board, 2008a, Table 5, p. 43)."

Related Footnote:

"[50] In the stream channels draining hard volcanic bedrock, where natural supply is very low, a doubling of supply causes high quality winter refuge habitat for salmonids to be significantly degraded (i.e., with the increase in sediment supply, sand and fine gravel fills in the spaces between cobble-boulder bedforms making them no longer suitable as refuge habitats for juvenile steelhead and other aquatic wildlife species).This is one example of why we have not focused our permit program "on high sediment supply problem sites." We need to restore the refuge habitats, as well as improve the overall condition of the Napa River and Sonoma Creek in order to support recovery of large resilient steelhead populations in the Napa River and Sonoma Creek watersheds."

Also, as described in the Staff Report, Responses to Comments 1 and 2.3, effective sediment discharge control practices need to be in-place at most vineyards (which are a spatially extensive land cover type, corresponding to 16 of the total land areas within the Napa River and Sonoma Creek watersheds) and also on related unpaved roads on these properties (which have a typical density greater than 4 miles per square mile of land area), in order to attain water quality objectives for sediment.

Comment 2a.24: Establish Tier's based on threat to water quality. Region 5 WDRs, growers who are members of coalition groups … are broken into four groups: small operations in high vulnerability areas, small operations in low vulnerability areas, operations in high vulnerability areas, and operations in low vulnerability areas. Monitoring and reporting requirements vary based on which of these four groups a farm sorts into. …

Response to Comment 2a.24: The General Permit does establish tiers that are defined based on relative threat to water quality.

Tier 1 is open to all Vineyard Properties that have fully implemented a Verified or approved Farm Plan to attain all applicable performance standards, and as such present the lowest potential threat to water quality.

Please note that a variety of criteria could be used to define threat to water quality, however, we have found that size of the planted vineyard does not correlate well with potential threat to water quality.

Although the primary criteria for enrollment in the General Permit under Tier 2 versus Tier 3 relates to the Discharger either working with an approved Third-Party Program to have their Farm Plan Verified (to enroll in Tier 2), versus in Tier 3 the Discharge electing to prepare the farm Plan independently, the permit requirements are identical, except that Tier 3 Dischargers must submit their Farm Plan for review and approval, and enrollment fees under Tier 3 are higher.

The higher enrollment fees for Tier 3 are justified, given the fact these Dischargers would not be working with an approved Third-Party Program, and therefore, the Water Board anticipates the need to focus additional staff resources on the review of their Farm Plans and related site inspections.

Other criteria could have been used, however, other than the higher enrollment fees, Tier 3 Dischargers do not experience any additional burdens under the General Permit. As described above, the additional fees are justified.

Comment 2a.25: The appropriate acronym for best practicable treatment or control is BPTC.

Response to Comment 2a.25: The General Permit is clear in indicating what BPT refers to. Therefore, no change was made.

Comment 2a.26: The Draft Order should not equate "state-of-the-art" with well vetted and time-tested. Also, as stated … in .. previous comments, the Draft Order is conflating design specifications with management practices. One is prescriptive and the other involves monitoring.

Response to Comment 2a.26: If the commenter is aware of more effective BMPs than the ones we have referenced in the draft EIR and/or General Permit, we would be interested in receiving this information. It is unclear otherwise what the first part of the comment is getting at. As to the second part of the comment (conflating design specifications with management practices), please the Response to Comment 2a.14.

Comment 2a.27: The Draft Order should not include Agrichemicals. … there is no evidence … that agrichemicals represents a threat to water quality …. The … Basin Plan Amendments do not identify agrichemicals as a concern. Language about pest management, pesticide storage, handling and modern spray techniques should be removed. ….

Response to Comment 2a.27: Please see the Staff Report, Responses to Comments 2.4 and 5.4. As related to agrichemicals, the General Permit requires reasonable and prudent actions to in-place and documented to ensure that Vineyard Properties are not a potential source of bio-stimulatory substances. Absent reasonable and prudent pesticide and nutrient controls being in-place (e.g., well-head protection, berms around mix and load sites, plant tissue and/or soil sampling to guide nutrient application rates, integrated pest management practices), Water Board staff conclude that vineyard properties may be potential sources of toxicity or bio-stimulatory substances.

Comment 2.28a: There is no evidence to support nutrients as a threat to water quality in Sonoma Creek or Napa River. Requirements associated with nutrient management should be removed unless a basis for including can be provided.

Response to Comment 2a.28: Please see Response to Comment 2.a27.

Comment 2a.30: Time Schedule for Achievement of Performance Standards - The schedule is not feasible without an adequate pool of qualified professionals. Existing stewardship groups likely do not have the resources to allow vineyards within both watersheds to comply with the time schedule. Given the required qualifications described in Attachment C to this draft Order, it is unlikely that there will be many options for vineyards to choose from. The time schedule should be lengthened by six months to ensure that adequate resources are available. Once third parties have been approved, the RWQCB should evaluate the combined capacity of all certified third party programs to ensure adequate resources are available to meet the timeline in the Draft Order.

Response to Comment 2a.30: Please see the Staff Report, Response to Comment 7, which addresses the comment as related to availability of Qualified Professionals to assist in preparation of Farm Plans. More

generally as related to the time schedule for achievement of the performance standards, see Response to Comment 6 therein. As noted in the Staff Report:

> "[W]e estimate that "75 percent-or-more of the total property area that would be covered under the General Permit, already has completed farm plans, that could be certified [now referred to in the General Permit as "verified'] under the General Permit as-is (i.e., at all valley floor sites) and/or could be certified [verified] under the General Permit with minor addenda (e.g., at some hillslope sites) where additional actions would be needed to achieve road erosion control performance standards currently contained in the General Permit."

Also as noted therein, the General Permit comes 8-to-9 years following adoption of the sediment TMDLs, and throughout the process of TMDL development and in the period following adoption, Water Board staff worked with vineyard managers and owners, agricultural organizations, local non-profits, and government agencies to encourage development of farm planning programs and has helped secure substantial funding for farm plan development and implementation. Also, changes in the time schedule could threaten the ability to attain the performance standards in advance of the schedules for attainment of the sediment TMDLs as specified in the Basin Plan.

Therefore, we have not changed the proposed schedule.

Comment 2a.31: Schedule for Farm Plan completion may be a burden for small vineyards. Annual Reporting Forms shall be submitted electronically each year no later than October 15. This date needs to be changed to be in alignment with the farming calendar (i.e., not during harvest).

Response to Comment 2a.31: Please see Responses to Comments 2a.30 and 2a.22. Also, the date for submittal of the Annual Report has been changed to December 15. Please see the revised General Permit (Section F.2b, p. 16, and Attachment E, p. E-6).

Comment 2a.33: Hydrologically connected road - Instead, we request the Draft General WDR use the term "Flow Contributing Road" and use the USDA Forest Service definition.

Response to Comment 2a.33: Hydrologically connected as defined in the General Permit is identical to the definition in Weaver, et al., (2014, p.328) and also as described in several sections therein in great detail through examples and discussion. This definition is well accepted and understood by experienced road erosion control professionals working for local RCDs and non-profits, including some that are expected to apply to be recognized as approved Third-Party Programs.

Comment 2a.35: Properties that do not have the opportunity to have stream setbacks or participate in a tributary or reach-based stewardship project should not be prohibited from achieving Tier 1 enrollment status if their farm plan is certified and fully implemented.

Response to Comment 2a.35: We regret the confusion that the draft language caused. The stream-setback performance standards only are applicable to Tier 1 enrollment, if a vineyard property includes unconfined alluvial channel reaches. If that is not the case, then documentation (i.e., the verification letter) demonstrating that the Farm plan is fully implemented to achieve all applicable performance standards for discharge, is sufficient for enrolment in Tier 1.

Please see the revised language in the General Permit (Finding 6), which clarifies the requirements for enrollment in Tier 1, and now reads as follows:

> "A Discharger qualifies for enrollment in Tier 1, if the Farm Plan as described in Attachment A, has been Verified~~,~~ and is fully implemented to achieve all applicable performance standards for

discharge, and where the Vineyard Property is located adjacent to an unconfined alluvial channel, the Vineyard Property also meets the performance standard for Stream and Riparian Habitats (as specified in Attachment A)."

Comment 2a.37: Request clarification as to whether a vineyard would be considered a ridgetop vineyard if located on < 30 percent slopes with non-vineyard areas exceeding 50 percent slopes for more than 50 feet irrespective of setbacks from the steeper areas.

Response to Comment 2a.37: Yes. To provide further clarification however, please note that, consistent with Sonoma County Code, where a vineyard was setback 50 feet-or-more from the descending slope(s), and/or 100 feet-or-more from unstable areas, such a vineyard could qualify for coverage under the General Permit.

Comment 2a.38: … there are concerns related to undefined and unanalyzed costs associated with implementation of storm runoff control measures, soil bioengineering project to control gully and/or channel erosion. The associated performance standard is predicated on BMP implementation being economically feasible. However, these terms are not defined … Clarification as to how exactly economic feasibility would be determined is essential …

Response to Comment 2a.38: Please see the Staff Report, Response to Comment 4. Please also see the EIR, Sections 3.3 and 4.1, where economic issues are addressed in detail, and also therein, Response to Comment 1.2 on the draft EIR, where we summarize our extensive consultation with interested parties and all of the information we reviewed to estimate and consider costs. Also, as described above in Response to Comment 2a.22, the General Permit has been revised to provide additional flexibility and support to "limited resources farmers."

Please also note, actions taken to control sediment discharge form unpaved roads, and/or to bio-technically stabilize eroding gullies and/or unstable channels, as required where feasible under the General Permit also are eligible for State and federal water quality grants, and, since these actions related to implementation of adopted TMDLs, they would have a high priority for funding.

Comment Letter#3: Assemblymember Bill Dodd

Comment 3.1: "I urge the Board to consider extending the August 29, 2016 comment period to allow for additional collaboration between Board staff and stakeholders. The current timeline is particularly burdensome as many vineyards throughout my district are well into the harvest season limiting their ability to focus on providing comprehensive feedback on this matter."

Response to Comment 3.1: As indicated in the Staff Report, grape growers and agricultural organizations also requested a substantial time extension to avoid overlap with the crush (wine-grape harvest period), as needed to allow sufficient time for review, and to allow the opportunity for follow-up meetings and discussions with Board staff prior to submittal of comments. To address these concerns, Water Board staff extended the comment period on the General Permit through December 12, 2016, and met with interested stakeholders including:

a) An agricultural coalition (Napa Valley Grapegrowers, Napa Valley Vintners, Sonoma County Farm Bureau, Winegrowers of Napa County, CA Association of Winegrape growers, the Napa County Farm Bureau, and the Wine Institute);
b) The Napa County Resource Conservation District (RCD);
c) The California Land Stewardship Institute;
d) NOAA Fisheries;
e) BayKeeper; and
f) The Living Rivers Council.

Comment 3.3: I hope the Board staff can work collaboratively with all interested parties to develop a fair and reasonable permit.

Response to Comment 3.3: Please see our Response to Comments 2.21 and 3.1, and note we conducted an informational workshop in April 2017 to present the General Permit and receive additional input.

Comment Letter #4: San Francisco BayKeeper

Comment 4.4: The General Permit fails to comply with Water Code Section 13263 because it does not fully implement both TMDLs. Time schedules must assure the most rapid compliance. Water Board should revise the General Permit to require earlier compliance by subgroups based on vineyard size; largest vineyards should comply within one year. Water Board should add interim dates for completing financial arrangements and roadwork permitting. The General Permit should be revised to make specific load allocations and/or explain how performance standards translate to a sediment load reduction. Revisions recommended requiring surface water quality monitoring sufficient to provide a baseline and show reductions of sediment discharges.

Response to Comment 4.4: Water Code section 13263 requires that WDRs "implement any relevant water quality control plans that have been adopted." It does not, however, require that one WDR permit, such as the General Permit, *fully* implement a TMDL. Indeed, such a conclusion defies logic. Most TMDLs include an implementation plan to reduce the load of a particular pollutant through a multi-faceted approach, requiring numerous permits, alongside agency efforts through grant funding and volunteer or local stakeholder efforts [for example the Napa River Sediment Reduction and Habitat Enhancement Plan calls for adoption of permits to regulate discharges from several categories of land-use including grazing areas, vineyard properties, rural areas, parks and open space and municipal public works; it also calls for voluntary actions to restore habitat complexity, enhance baseflow in streams, restore fish passage and protect or reduce stream temperature]. Most TMDLs anticipate some combination of efforts, including permitting mechanisms, to achieve load reductions. The exception would be a "single action TMDL," wherein a single permitting action will resolve water quality impairment. The Napa River and Sonoma Creek sediment TMDLs were not single action TMDLs, and both contemplated a suite of actions that would be necessary to resolve sediment impairments in the two water bodies. Moreover, it is clear from the plain text that the General Permit will implement both TMDLs:

> "Resolution 68-16 incorporates the federal "antidegradation" policy (Cal. Code Regs., tit. 40, § 131.12). This Order is consistent with these policies because its implementation will result in improved water quality and achievement of TMDL sediment load allocations."

The EIR similarly states:

> Achieving the Performance Standards for Discharge would meet the load allocations identified in the sediment TMDLs adopted for the Sonoma Creek and Napa River watersheds. (Draft EIR, Executive Summary, p. 1.)

The Project Objectives section states:

> The fundamental project objective is to implement the Napa River and Sonoma Creek sediment TMDLs including achievement of vineyard property discharge performance standards for sediment and storm runoff, and ultimately to meet the TMDLs' sediment allocations and targets as needed to restore properly functioning substrate conditions in channel reaches that provide habitat for anadromous salmonids. (Draft EIR, p. 45.)

The General Permit complies with Water Code section 13263 in implementing the relevant TMDLs. To the extent Baykeeper suggests that the General Permit should be revised to make specific load allocations and/or explain how performance standards translate to a sediment load reduction, Baykeeper cites no authority for that proposition. Indeed, if Baykeeper wanted the Water Board to assign individual loads to individual farms, that is a comment that would have been pertinent to the adoption of the TMDL. Contesting load allocations at this point is untimely. (Water Code § 13320.)

Baykeeper contends that the Water Board must assure the most rapid compliance. (Citing Cal. Code Regs, tit. 23, § 2231, subd. (d).). Baykeeper cites to the Code of Regulations for the proposition that time schedules cannot "permit any unnecessary time lag" and should include dates for compliance. (*Id.* at § 2231, subd. (b) and (c).) The General Permit includes dates for compliance that are based upon a balance between comments from vineyard property owners and agricultural organizations (see Comments 1.7 and 2.16) expressing significant concerns regarding the compliance schedules being too aggressive when considered in relation to existing institutional capacity (for Farm Plan development[1], road retrofit projects, and hillslope and channel erosion control projects) and comments from environmental organizations (including BayKeeper) suggesting that the schedules are too lax. We also note that the timeframes for compliance are supported by NOAA Fisheries (see Comment 17.2). Finally, with regard to this part of the comment, please note as described in detail below, all performance standards would be achieved (and therefore related sediment load) earlier that the dates specified for attainment of the TMDLs.

The timeframes for compliance also are consistent with the Non-Point Source Policy:

> The Porter-Cologne Act (CWC §13242[b] and § 13263[c]), the NPS Program Plan, and the NPS Implementation and Enforcement Policy recognize that there are instances where it will take time to achieve water quality requirements. The effort may involve all or some of various processes, including: identification of measurable long term and interim water quality goals; a timeline for achieving these goals; identification and implementation of pollution control MPs; provision for maintenance of the implementation actions; provision for additional actions if initial actions are inadequate; and, in the case of third-party organizations, identification of a responsible third-party to lead the efforts.
>
> In considering approval of specific interim goals and the time necessary to achieve those goals, a RWQCB may consider such factors as the necessity of providing for significant capital outlays for MP implementation, the presence of a severely degraded waterbody, and whether or not an NPS control implementation program is a component of a larger TMDL implementation program. The time schedule may not be longer than that which is reasonably necessary to achieve an NPS implementation program's water quality objectives. Preliminary development of the time schedule shall be undertaken by the party responsible for developing the NPS control implementation program. The RWQCB may amend and must approve the time schedule. If the RWQCB later determines that additional time is necessary to complete the program, it may make further amendments to the time schedule or issue an enforcement order that contains a compliance schedule.

(Non-Point Source Policy, p. 13.): The timeframes proposed in the General Permit took into account these factors. The General Permit specified that all dischargers must attain performance standards before the dates specified in the Basin Plan for attainment of the sediment TMDLs. For an individual property owner, up to ten years is provided for attainment of the performance standards for roads, taking into account the need to secure financing (and/or input/schedule this work into the property business plan), the need to complete road inventories, prepare plans, obtain additional permits, locate qualified contractors, and schedule the work. These obstacles to compliance were identified by vineyard owners and operators as well as third party groups in the extensive outreach Water Board staff conducted. (See Response to Comment 2.21 for a summary of outreach efforts engaging the regulated entities.) Also, as a practical matter, considering the administrative challenges and need to develop additional institutional capacity, repairing 100-to-200 miles of unpaved roads will be a major undertaking that will require several years to

[1] In addition, the California Land Stewardship Institute, which has prepared almost 500 farm plans for vineyard properties within the project area, commented (Comment 7.2) that the General Permit should allow six years for all vineyard properties to develop Verified Farm Plans.

complete. The General Permit takes these factors into consideration as anticipated in the Non-Point Source Policy.

Water Board should revise the General Permit to require earlier compliance by subgroups based on vineyard size; largest vineyards should comply within one year. Water Board should add interim dates for completing financial arrangements and roadwork permitting.

With regard to the General Permit performance standards, please note that these performance standards either meet or exceed the level of sediment discharge control specified in the Basin Plan. Therefore, attainment of these performance standards is expected to achieve or exceed the amount of sediment load reduction for vineyards, specified in the adopted sediment TMDLs.

For example, the General Permit performance standard for "soil erosion in the farm area" is substantively identical to the performance standard for this source, as specified by the Napa River sediment TMDL (Water Board, 2009b, p.10; draft General Permit, p. 11), and is equivalent or superior to performance standard for this source as specified by the Sonoma Creek sediment TMDL (Water Board, 2008b, p. 11).

The General Permit performance standard for storm runoff control at existing hillslope vineyards to "not cause or contribute to downstream increases in bed or bank erosion" (General permit, p. 11) is identical to the performance standard for hillslope vineyard runoff as specified by both the Napa River and Sonoma Creek sediment TMDLs (Water Board, 2009b, p.10; Water Board, 2008b, p. 11). Furthermore, the General Permit performance standard for storm runoff control at new hillslope vineyards – "peak storm runoff shall not be greater than pre-development" - is more protective/restrictive than the Basin Plan, which called for actions to "attenuate significant increases in storm runoff."

The other category of sediment control at vineyard properties called for by the sediment TMDLs contained in the Basin Plan is for roads (Water Board, 2008b, p. 11; Water Board, 2009b, p. 11). The General Permit's performance standards define retrofits to existing unpaved roads, and design specifications for all new roads, which are predicted to reduce road sediment discharge to levels below the quantitative performance standard specified by the Napa River sediment TMDL ($\leq$ 500 cubic yards per mile per 20-year period, Water Board 2009b, p. 11), and that are superior to the qualitative performance standard for roads specified by the Sonoma Creek sediment TMDL (Water Board, 2008b, p. 10). For example, the baseline value for percent hydrologic connectivity of unpaved roads in the two watersheds is 50 percent of the road length. The General Permit, by requiring that hydrologic connectivity be $\leq$ 25 percent (draft General Permit, p. 11), effectively reduces sediment delivery by surface erosion processes acting on the road prism at existing unpaved roads by 50 percent-or-more; at new/proposed roads, the performance standards for storm proofing, effectively eliminate all controllable sediment discharge from surface erosion processes acting on the road prism. Similarly, the General Permit's performance standards to address diversion and plug potential at all existing or new vineyards are predicted to reduce sediment discharge associated with crossing erosion and/or diversion by 50 percent-or-more. These actions in total would result in Vineyard Property road sediment discharges being below the quantitative performance standard for roads ($\leq$ 500 cubic yards per mile per 20-year period) specified by the Napa River sediment TMDL and, as stated above, are superior to qualitative performance standards for this source, as specified by the Sonoma Creek sediment TMDL.

In summary, the performance standards for sediment discharge and storm runoff control contained in the General Permit are equivalent or superior to the performance standards specified by the Sonoma Creek and/or Napa River sediment TMDLs. Therefore, we are confident that attainment of the General Permit performance standards will result in attaining or exceeding load reductions called for in the sediment TMDLs.

On the subject of monitoring to evaluate progress in reducing sediment loads as compared to the baseline, please see the revised Monitoring and Reporting Requirements (General Permit, Attachment E), which now focuses primarily on monitoring of streambed conditions to assess progress toward attainment of water quality objectives for sediment and also include BMP effectiveness monitoring to evaluate attainment of the performance standards for discharge. Also, note that on the subject of baseline and monitoring, the Court of Appeal has already weighed in on this issue:

> "[O]ne of the performance standards in Table 4.1 of the Plan states, "Effectively attenuate significant increases in storm runoff, so that runoff from vineyards shall not cause or contribute to downstream increases in rates of bank or bed erosion." (*Living Rivers Council v. State Water Resources Control Board* (2014 WL 1813289), at p. 9.)

The Court of Appeal noted that "this is a qualitative performance standard, and does not need to contain a quantitative requirement. The State Board is allowed by law to implement it through the Regional Board's [WDRs] for specific projects as presented in the future … [T]he State Board may best measure compliance through monitoring and measurement of any actual changes in stream bed incision and bank erosion … rather than adopting a numerical proxy which itself would have a large margin of error." (*Id.* at pp. 15-16.)

Comment 4.5: The General Permit fails to adequately control or monitor for pesticide discharges. The General Permit must ensure that pesticides do not contribute to violations of water quality objectives or cause nuisance.

Response to Comment 4.5: The General Permit performance standard for pesticide discharge is as follows:

> "**Pesticide Management**: an integrated pest management program shall be developed and implemented for the vineyard, and effective practices shall be implemented to avoid mixing, storing, or applying pesticides near wells and surface waters, or in ways that could contribute to receiving water toxicity (Draft EIR, p. 51; see also, Appendix A)."

This requirement is consistent with the Water Code and is intended to ensure that pesticides do not impact waters of the State.

As defined and considered in the draft EIR that examines environmental effects of actions that could be taken to comply with the General Permit, as noted in the draft EIR (p. 81):

> "Integrated pest management (IPM) is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to: human health; beneficial and non-target organisms; and the environment" (University of California, Statewide Integrated Pest Management Program, 2015). IPM is in widespread use at vineyards within the project area. The overall effect of IPM as compared to the baseline would be a modest decrease in pesticide use and/or discharge."

Currently, there are no water quality control permits within the project area to control potential pesticide discharges; there are only pesticide use reporting requirements through CDPR and the Agricultural Commissioner's Office, and pesticide labeling instructions that define conditions for legal use. Therefore, at worst, at an individual vineyard property where IPM has already been implemented, the pesticide

control actions required under the General Permit would have a neutral effect on pesticide discharges as compared to the baseline, and any related impact to special-status fish species and/or their habitats. At other vineyard properties, where IPM has not been previously adopted, compliance with the permit would result in a reduction in potential pesticide discharge and potential impacts on water quality. Therefore, the overall effect of adoption of the General Permit would be to reduce the potential for adverse impacts of pesticide discharges on special-status fish species and/or other water quality conditions or beneficial uses.

Comment 4.6: The General Permit fails to comply with Anti-Degradation Policy. The General Permit lacks findings that any change in water quality 1) will be consistent with the maximum benefit to the people of the State; 2) will not unreasonably affect present and anticipated beneficial use of such water; and 3) will not result in water quality less than that prescribed in state policies.

Response to Comment 4.6:

BayKeeper's anti-degradation analysis is flawed because it skips over the first phrase of the anti-degradation policy, which conditions the need for an anti-degradation analysis on a situation wherein "a discharge will degrade high quality water… ." The General Permit takes steps to reverse existing degradation, so the analysis could end at that point. (See, e.g., State Water Board Order WQ 90-5, In the Matter of the Petition Of Citizens For A Better Environment (CBE), 1990 WL 182452, at *31 [noting that the Antidegradation Policy contemplates allowing a *lowering* of water quality only justified using the criteria in the Policy]. See also State Water Board Order WQ 86-17, In the Matter of the Petition of Rimmon C. Fay, p. 20 [*reductions* in water quality must be justified with findings].)

In this case, the General Permit adds a belt-and-suspenders statement, making the explicit finding that:

> This Order is consistent with these policies because its implementation will result in improved water quality and achievement of TMDL sediment load allocations.

Improvement of water quality in a water body is the opposite of degradation. Any improvement in water quality is, de facto, consistent with the maximum benefit to the people of the State. To the extent that more detailed findings are necessary to address the three criteria Baykeeper cites from the Anti-degradation Policy, the statement that the General Permit will achieve load allocations assures the reader that implementation of the General Permit will not affect present and anticipated beneficial uses and will result in water quality that meets the Basin Plan (criteria (2) and (3) above).

With respect to the second step of the anti-degradation analysis, the General Permit's Anti-Degradation finding also addresses the maximum benefit to the People of the State, stating that:

> 31. This Order will result in the best practicable treatment or control (BPT) of discharges to prevent pollution or nuisance and the maintenance of the highest water quality consistent with the maximum benefit to the people of the State. The management practices required under the Order are BPT because they reflect the state-of-the-art methods for Vineyard Property controls that integrate soil and site management practices for pest management and weed control, nutrient management, pesticide storage, handling and modern spray techniques, vineyard and road erosion, and road runoff control. The methods have proven to be effective where implemented in vineyards and associated roads.

Baykeeper concedes that the General Permit's BPT determination is proper.

Comment 4.7: The General Permit fails to comply with Non-Point Source Policy

Response to Comment 4.7: The Non-Point Source Policy requires that nonpoint source control implementation programs include five key elements. The General Permit meets each of these elements:

> KEY ELEMENT 1: An NPS control implementation program's ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements.
>
> KEY ELEMENT 2: An NPS control implementation program shall include a description of the [management practices] and other program elements that are expected to be implemented to ensure attainment of the implementation program's stated purpose(s), the process to be used to select or develop MPs, and the process to be used to ensure and verify proper [management practice] implementation.

The General Permit specifies performance standards for discharge (which at a minimum attain sediment load allocations and effectively control potential nutrient and pesticide discharges) and requires BMP implementation monitoring and other record keeping and reporting to confirm that the management practices are implemented. [General Permit, Attachment A, pp. A-3 through A-6]

> KEY ELEMENT 3: Where a RWQCB determines it is necessary to allow time to achieve water quality requirements, the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.

See Response to Comment 4.4 concerning the strategy for the proposed timeframes in the General Permit. The General Permit specifies a schedule of compliance that has milestones for evaluation of discharges, developing a plan to address these, and in attaining standards. [See General Permit, Attachment A, Table 1, p. A-13]

> KEY ELEMENT 4: An NPS control implementation program shall include sufficient feedback mechanisms so that the RWQCB, dischargers, and the public can determine whether the program is achieving its stated purpose(s), or whether additional or different MPs or other actions are required.

The General Permit requires monitoring of BMP effectiveness monitoring and also to evaluate attainment of water quality objectives for sediment; we also have annual reporting to gauge progress toward attainment of performance standards. [Attachment E, pp. E-3 through E-6, and E-9 through E-10] In response to several commenters' concerns, the monitoring was revised to include an evaluation of attainment of water quality objectives for sediment, and to evaluate the effectiveness of BMPs as related to control of sediment discharge and storm runoff that will make the monitoring more indicative of compliance and more accurately measure success in achieving TMDLs.]

> KEY ELEMENT 5: Each RWQCB shall make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program's stated purposes.

Although Water Board staff hopes to avoid the need for enforcement of noncompliance through additional outreach in implementation, the General Permit does reference the Enforcement Policy and potential penalties for noncompliance. [General Permit, Section D, pp. 14-15]

Comment 4.8a: The General Permit's monitoring and reporting requirements are insufficient and should require surface water quality monitoring for sediment, pesticides and nutrients.

Response to Comment 4.8a: Please see Attachment E (Monitoring and Reporting Requirements), which has been comprehensively revised in response to a wide range of comments received. That said, we disagree that monitoring is required to assess attainment of each of the performance standards. For example, the performance standard for pesticide application and discharge control require that an integrated pest management program be implemented per the specified guidance. Attainment of this performance standard can be evaluated directly through Farm Plan review and site inspection; no monitoring is required.

Comment 4.8b: The General Permit should require retention of records for at least ten years.

Response to Comment 4.8b: Annual Compliance Reports provide a record that will be in-place throughout the duration of the General Permit. Similarly, Farm Plans are maintained on the Vineyard Property throughout the duration of the General Permit, as are photo-point records.

Comment 4.8c: Any modification, revocation or reissuance of the General Permit should be publicly noticed and made available for public review and comment.

Response to Comment 4.8c: In response to the reopening provision per updates to the required monitoring and reporting, the proposed process is transparent (updated requirements will be posted to the Water Board website and interested parties who have signed-up on our list serve, will automatically receive notice) and complies with statutory requirements.

Comment 4.8d: The Annual Report required under the General Permit should be submitted October 15, rather than November 15, to maximize the Regional Board's review period, and made publicly available online.

Response to Comment 4.8d: The date for submittal of the Annual Report has been revised to December 15, reflecting a balance between avoiding overlap with the wine grape harvest period (which often extends into late October) and when winterization actions occur and should be in place (by November 15). By allowing Dischargers to complete winterization actions following harvest and sufficient time to conduct required surveys, we believe it is more likely that the work will be done properly and on-time.

Comment 4.8e: The requirements for Farm Plans must be revised to enhance the General Permit's effectiveness, including reducing advance notice prior to inspection to 24 hours, improving Base Maps to require additional information, and provide further detail concerning what constitutes compliance with performance standards.

Response to Comment 4.8e: Nothing in the General Permits restricts the timing of property inspections by Water Board staff. We disagree with the requested change to only provide 24 hours advance notice. The commenter seems to suggest that Dischargers will perform an intensive amount of property BMP maintenance or implementation (e.g., cleaning out culvert inlets; making sure that ground cover is sufficient in farm areas) in advance of a scheduled inspection under the proposed typical timeframe of providing 72-hour advance notice of an inspection. Considering the types of actions that are required, this seems implausible, and that the difference between 24- and 72-hours advance notice of a scheduled inspection would be insignificant. Alternatively, if the commenter's assertion is correct, providing 72-

hours advance notice would result in accelerated attainment of compliance with General Permit requirements.

With regard to suggested revisions to Farm Plan mapping, please note that there already is a requirement to show photo-point locations on a map, the direction of flow can be determined by review of required topographic contour mapping and stream channel mapping, and there also is a requirement to show all points of discharge form the vineyard (e.g., all drainage structures must be mapped). Attachment A has been revised to add the requirement to include a legend and north arrow; that change is as follows:

> The Vineyard Property base map(s) shall include a north arrow and legend and delineate the following: …

Comment Letter #5: California Farm Bureau Federation

Comment 5.3: The General Permit should be revised to reflect other regulatory programs that collectively will comply with the TMDL.

Response to Comment 5.3: As discussed in Response to Comment 4.4, the Napa and Sonoma sediment TMDLs contemplated a suite of actions that would implement the TMDLs. There is no reason to clarify this in the text of the General Permit, which already discusses the TMDL history and objectives.

Comment 5.4: In formulating regulations of waste discharges from irrigated lands, such as the Vineyard WDR, the Regional Board should seek to develop the most efficient and feasible program that accomplishes water quality goals. (Pub. Resources Code, § 21061.1.) Further, regulations must be feasible such that they are "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (*Ibid.*) All components of feasibility, especially in terms of the regulation's impacts to agriculture, must be fully analyzed within the Regional Board's environmental analysis. As evidenced in the draft Vineyard WDR and associated Draft EIR, the feasibility and efficiency of the program is questionable.

Within the Napa River and Sonoma Creek watersheds, some tributaries contribute little to no sediment loads, warranting the need for localized regulatory adaptations of, or exemptions from, regulation under the Vineyard WDR. Given the diverse array of geography, topography, local conditions, sediment loading potential, and agricultural commodities grown in the Napa and Sonoma counties, the Vineyard WDR's management and monitoring requirements must be flexible and allow for necessary adaptations, both for localized areas and throughout the region. In order to recognize this diversity and allow for necessary flexibility, which in turn, will further the feasibility of the program, specific components of the Vineyard WDR need to be revised, such as performance standards, exemptions, and the definition of vineyard property.

Response to Comment 5.4: The first part of this comment relates to the California Environmental Quality Act analysis of potential environmental effects of actions that could be taken to comply with the proposed General Permit. With regard to feasibility, please note that no social, environmental, or technological factors have been identified by the commenter or anywhere in the record. As indicated in the final EIR, economic considerations, as related to potential effects on agriculture were properly considered, and the period for comment on the draft EIR closed on September 14, 2016. Nevertheless, in response, we direct the commenter to the final EIR, Response to Comments 1-2 and 8-4, where these same issues were raised.

Also, as presented in the draft EIR, the General Permit is flexible. It does not specify the means of compliance. A wide array of best management practices (see Section 2.5 of the draft EIR) may be employed to attain the performance standards for discharge, and its performance standards are specific to location (valley floor or hillslope vineyard) and/or apply to location/type of feature (e.g., unpaved roads located within hillslope vineyard properties).

In response to the comment that some tributaries to the Napa River and/or Sonoma Creek contribute little or no sediment, no evidence is provided to support this claim, nor identification of any specific tributary. Please also note that individual Vineyard Properties can qualify for a Notice of Exemption if they do not discharge sediment.

And as noted in the draft EIR, the "sediment problem sites" paradigm does not apply, instead, as explained in the Regional Setting for Hydrology and Water Quality (draft EIR, Section 8.1, p. 231):

> "Within a given bedrock or alluvial deposit type, land-use activities exert a significant influence on total sediment supply to channels, and in all cases, regardless of terrain type, half-or-more of total sediment supply to channels is associated with land-use activities[50] – primarily intensive historical grazing, viticulture, and/or roads (Water Board, 2009, pp. 42-47; Water Board, 2008, Table 5, p. 43)."
>
> Related Footnote:
>
> "[50] In the stream channels draining hard volcanic bedrock, where natural supply is very low, a doubling of supply causes high quality winter refuge habitat for salmonids to be significantly degraded (i.e., with the increase in sediment supply, sand and fine gravel fills in the spaces between cobble-boulder bedforms making them no longer suitable as refuge habitats for juvenile steelhead and other aquatic wildlife species).This is one example of why we have not focused our permit program "on high sediment supply problem sites." We need to restore the refuge habitats, as well as improve the overall condition of the Napa River and Sonoma Creek in order to support recovery of large resilient steelhead populations in the Napa River and Sonoma Creek watersheds."

We also note that, in response to comments on the General Permit, we made three changes to further focus compliance actions and reduce potential costs:

a) The vineyard property definition was revised, so that the General Permit would only regulate parcels where a 5 acre-or-larger vineyard is planted (removing several adjacent parcels from regulation that contain unpaved roads, but no planted vineyard, and hence reducing road-erosion control costs);

b) We provided clarification that the road erosion control performance standards only apply to Hillslope Vineyard Properties; and

c) We added a finding to prioritize technical assistance and grants for certain limited resource farmers (as defined by USDA) and also to provide these parties necessary flexibility to achieve compliance with this order including through adjusted farm plan, monitoring, reporting, and/or time schedules for compliance.

In summary, the General Permit is properly focused, flexible, and feasible, and it will not contribute to significant direct or indirect impacts on Agricultural Resources.

Comment 5.5: The General Permit should be revised to focus on problem areas. There is no need for the Regional Board to impose arbitrary restrictions on commercial agriculture so long as farmers take necessary steps to demonstrate water quality improvement over a scientifically feasible timeline with intermediate milestones. The primary focus of maintaining and improving water quality *over time* should remain. To aid in reaching this goal, the Regional Board should evaluate recent water quality data and sediment data, and use such data to implement and adjust management practice implementation. Further, problem areas should be identified by reviewing the respective TMDL studies, in particular the Limiting Factor Analysis and Sediment Source Analysis reports, of the Napa River and the Sonoma Creek watersheds, as well as more recent data. Guided by recent data, further collaboration between the Regional Board and agriculture can occur in order to develop a feasible and reasonable long-term solution.

The General Permit should be revised to appropriately regulate areas with the potential for water quality impacts, rather than all properties regardless of its impact potential. For example, as currently drafted, the Road Performance Standards cover the entire vineyard property, not just the vineyard facility. (See Draft WDR, p. 11; Draft WDR Attachment A, pp. 6-7.) The Performance Standards also cover all roads and do not prioritize the areas with high- and moderate-high- priority erosion sites, distance from surface waters, or parcel size or planted acres. As proposed, the Road Performance Standards are overly extensive and will be extremely expensive to implement.

The Draft EIR should have included and fully analyzed alternatives for the Road Performance Standards, such as standards for 1) the entire vineyard property, 2) the vineyard facility, and 3) areas identified as high priority erosion areas. Without such an analysis within the Draft EIR, the Vineyard WDR cannot properly develop a vineyard regulatory program that complies with CEQA and the Water Code Prior to adoption of the Vineyard WDR and Draft EIR, the Draft EIR must be revised to include additional analysis regarding Road Performance Standards, and the Vineyard WDR must be revised to focus on problem areas rather than all properties regardless of the potential to impact water quality. Such analysis is necessary to properly shape the requirements within the Vineyard WDR as different performance standards, scope of coverage, and definitions of a "vineyard property" may be found to more fully comply with the mandates of the Water Code and CEQA.

Response to Comment 5.5: This comment also appears to pertain almost entirely to the required environmental analysis under CEQA, for which the comment closed on September 14, 2016. As discussed in the Response to Comment 10-1 in the final EIR, the EIR evaluated a reasonable range of alternatives. There is no requirement to consider every potential iteration or even every alternative proposed, but a range of alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making. (Cal. Code Regs., tit. 23, § 15126.6, subd. (f).) That is what has occurred in this case.

With regard to focusing the General Permit on problem areas, please see Response to Comment 5.4 above.

With regard to information considered to evaluate the proper scope and requirements for the General Permit, please see Response to Comment 1 in the Staff Report, where we explain how we have reviewed available information including the Limiting Factors Analyses, Sediment Source Analyses, and other available information to shape the scope and conditions of the General Permit.

Comment 5.7: The Draft EIR fails to analyze viable alternatives such as the 2012 vineyard acreage thresholds and the 2014 flat land exemption.

Response to Comment 5.7: The comment period on the draft EIR closed on September 14, 2016. Nevertheless, these comments were addressed in the final EIR, in Response to Comment 10-1 on the draft EIR.

Comment 5.8: The draft EIR fails to consider significant social and economic impacts and cumulative effects.

Response to Comment 5.8: The comment period on the draft EIR closed on September 14, 2016. Nevertheless, these comments were addressed in the final EIR, in Response to Comments 1-2 and 10-2 on the draft EIR.

Comment Letter #6: California Fish & Wildlife Unlimited

Comment 6.2: What evidence substantiates that 50% reduction in sediment load will restore properly functioning substrate conditions?

Response to Comment 6.2: In summary, the *Napa River sediment TMDL and Habitat Enhancement Plan* included development of an empirical relationship between sediment supply and spawning gravel permeability (Water Board, 2009a, Figure 14, pp. 59-74). Using the empirical relationship, a 50 percent reduction in land-use related sediment delivery to channels as compared to the 1994-2004 period is inferred to correspond approximately to attainment of the numeric target for spawning gravel permeability which defines in-part the attainment of water quality objectives for sediment. A detailed description of our analysis is presented in Water Board (2009a, pp. 59-74).

Comment 6.3: How will sediment delivery be measured at each vineyard property?

Response to Comment 6.3: We are not proposing direct monitoring/measurement of sediment delivery to channels from vineyards and/or unpaved roads. Please see Attachment E of the General Permit, which describes requirements for BMP implementation, BMP effectiveness, and streambed condition monitoring. The proposed monitoring is intended to confirm required BMP implementation occurs and determine overall effectiveness of BMPs and progress toward attainment of water quality objectives for sediment.

Comment 6.4: What was sediment delivery rate in 1990 when Napa River was listed as impaired, what was total vineyard acreage at that time, what is the current vineyard acreage?

Response to Comment 6.4: As described in Water Board (2009a, p. 8) the Water Board sediment impairment listing in 1990 was based on:

> "… evidence of widespread erosion (USDA Soil Conservation Service, 1985; White, 1985) and inferred threats to fish habitat (Cordone and Kelly, 1961)… ."

Also, we note that inter-annual variability in sediment supply is extreme in watersheds that have a Mediterranean climate including the Napa River and Sonoma Creek (Water Board, 2009, pp. 69-71, and 74). Therefore, sediment delivery rate in any one year does not provide a useful index of impairment. The underlying question appears to be, what can the Water Board say about the magnitude of the sedimentation problem in 1990, as compared to the TMDL baseline period (1994-2004) and the present time, and how has vineyard development changed during the period? The Staff Report responds to this question in detail. While we think that streambed conditions have improved in recent years as compared to the TMDL baseline period, our observations at more than 100 vineyard properties led staff to conclude that additional improvement is needed in order to restore properly functioning streambed conditions. Although the total planted acreage of vineyards has increased significantly between 1990 and present, also as described in the sediment source analysis (Water Board, 2009a, pp 13-58), land-use related sediment delivery rates are a function of a wide array of historical and present-day land-uses, therefore vineyard development although an important factor, is one of several management-related influences on sediment delivery to channels. For example, in addition to the General Permit, the Water Board also is administering a permit to regulate grazing areas that is already in place and has been closely involved in the large-scale river restoration efforts, fish passage projects, and efforts to protect base flow. These issues are discussed in detail in the Staff Report (see Response to Comment 1 therein).

Comment 6.5: What was sediment delivery rate in 1996 when Sonoma creek was listed as impaired, what was the total vineyard acreage at that time, what is the current vineyard acreage?

Response to Comment 6.5: Please see our Response to Comment 6.4.

Comment 6.6: What is the evidence that listed aquatic species and locally rare Chinook salmon will survive over the timeframe provided to achieve General Permit performance standards?

Response to Comment 6.6: Under current conditions, based on the results of spawner surveys and smolt trapping conducted by the Napa County RCD (see Response to Comment 16.c below), we think that spawning fall-run Chinook salmon in the Napa River watershed are a dependent population that is sustained by a combination of juveniles born in the watershed that return to spawn and strays from Central Valley hatchery reared or wild spawning fish. A substantial amount of additional river habitat restoration is planned to occur within the next five years, which, considered together with the fish passage project at the Zinfandel Lane Bridge and substantial restoration of wetland habitats in the estuarine reach of the Napa River, should improve watershed production of ocean migrating juvenile salmon. The habitat restoration projects also should contribute to a substantial decrease in sand deposition in the streambed, and much greater habitat complexity and connectivity, all of which would be expected to reduce probability of extirpation of Chinook salmon within the ten-year period provided to achieve all sediment discharge performance standards. Similarly, the fish passage and river restoration projects should also benefit steelhead. That said, although we conclude that sediment control actions and habitat enhancement are necessary to support conservation and recovery of the steelhead population, we have not suggested that these actions alone are sufficient. As recognized in the Basin Plan amendment, a broader suite of actions including protection and enhancement of base flow is likely needed to conserve the steelhead population.

Please also see Response to Comment 16.10 for a more detailed and related response.

Comment 6.7: Water management decisions and actions need to be based upon the same stream classification system to be effective. What are the stream classification systems utilized by Napa and Sonoma counties? How are they consistent with the stream classification system used by the U.S. Environmental Protection Agency (Rosgen) or Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan)? If inconsistent, how will this Project address and resolve the discrepancies in order to better protect the beneficial uses of the state's waters?

Response to Comment 6.7: As a general matter, compared to local and federal government agencies, the Water Board has the broadest authority with regard to regulation of projects that may impact stream channels and/or other wetlands.

Following adoption of the General Permit, as part of a broader program of coordination, Water Board staff plan to provide Napa County staff with a GIS layer – a geographically referenced map that delineates the complete stream channel network in the Napa River watershed. This layer could be used to flag parcels where stream channels subject to state regulatory protection may be located. In such cases, we will request that county staff notify our agency of the potential project and provide the contact information of the applicant.

Comment 6.8: How will streams that are naturally intermittent or have become intermittent in response to management actions, be protected by the General Permit?

Response to Comment 6.8: Regulation of surface water diversions and/or groundwater pumping is outside of the scope of the General Permit. However, the Basin Plan amendment adopted for the Napa River sediment TMDL calls for a program of actions to protect and enhance baseflow in stream channels (Water Board 2009b, Table 5.2). Actions 2.2, 2.3, and 2.4 to protect or enhance baseflow that are identified in Table 5.2 have been implemented. Action 2.1 has not. Other regulatory programs including the Sustainable Groundwater Management Act (SGMA) and/or surface water diversions subject to regulatory oversight by the State Water Board's Division of Water Rights, are primary regulatory programs for protection of baseflow.

Comment 6.10: All vineyard monitoring should be performed by the staff of the San Francisco Bay Regional Water Quality Control Board and not retained, third-party and/or private-sector consultants.

Response to Comment 6.10: *Self*-monitoring programs are the cornerstone of most Water Board permitting mechanisms. The State Water Board has validated these programs despite the "fox guarding the henhouse" challenges. For example, in State Water Board Order 75-24, the Board addressed the question of whether it was realistic to expect a company "to honestly abide by its self-monitoring program. Petitioner contends that the State should perform the monitoring… ." The State Water Board found that "The self-monitoring program has been applied in California since added to the Dickey Act in 1951 with some degree of success." The State Water Board declined to require continual state monitoring, attributing the success of the self-monitoring program to the requirements that:

> Dischargers must submit monitoring reports under penalty of perjury. [Water Code Section 13267(b)]. Falsification of reports or inaccurate reporting is subject to severe monetary and criminal penalties. [Water Code Section 13387(b)]. The Company's water laboratory has been certified by the California Department of Health to conduct wastewater analyses. In addition, the Regional Board does conduct routine compliance monitoring checks at the Anderson mill. The purpose of the checking program is to insure accurate reporting and to verify self-monitoring results. (Order No. WQ 75-24, In The Matter Of The Petition Of Jack W. Greening at *2.)

The use of third party programs is not new to the Water Board or even the State Water Board. Third party programs provide an additional layer of dependability not provided by self-monitoring. As stated by the State Water Board in considering the use of third party monitoring in the Central Coast Regional Water Board's irrigated lands ag waiver:

> [W]e believe it is important here for us to express our support of third party approaches generally. There are a number of advantages to utilizing a third party approach to regulation of agricultural discharges. From a resource perspective, third parties allow a regional water board to leverage limited regulatory staff by acting as intermediaries between the regional water board staff and the growers, freeing regional water board resources to focus on problem areas or actors. Third parties also may have the expertise to provide technical assistance and training to growers at a scale that cannot be matched by regional water board staff resources, and, in many cases, third parties already have relationships in place with the dischargers.

(State Board Order WQ 2013-0101, In The Matter Of Review Of Conditional Waiver Of Waste Discharge Requirements Order No. R3-2012-0011 For Discharges From Irrigated Lands and Monitoring and Reporting Program Order Nos. R3-2012-0011-01, R3-2012-0011-02, A, 2013 WL 5958786, at *9.)

The State Water Board cautioned the Central Coast Water Board to verify the adequacy and effectiveness of waiver conditions and "provide sufficient feedback mechanisms for determination of whether the required controls are achieving the Agricultural Order's stated purposes." (*Ibid.*) The General Permit provides those same types of mechanisms to ensure the efficacy of the third party component/option.

[e.g., General Permit, Attachment E, Annual Compliance Report, and BMP effectiveness monitoring requirements, pp. E-5 and E-6, and pp. E-10 and E-11]

The Non-Point Source Policy also promotes the use of third party programs, within certain limitations:

> The RWQCBs have broad flexibility and discretion in using their administrative tools to fashion NPS management programs, and are encouraged to be as innovative and creative as possible, and, as appropriate, to build upon Third-Party Programs. (Non-Point Source Policy, p. 10.)
>
> The SWRCB and RWQCBs may not delegate their NPS authorities and responsibilities to another agency, and may not indefinitely defer taking necessary action if another agency is not properly addressing a NPS problem. However, where another agency is constructively involved in NPS efforts, the SWRCB and RWQCB should seek to take those efforts into account and, where appropriate, take advantage of these third-party efforts. Not only does this avoid unnecessary duplication of effort, it an leverage the SWRCB's and RWQCB's limited staffing and financial resources. (Non-Point Source Policy, p. 10.)

The Non-Point Source Policy specifies that the Regional Water Boards "must determine that there is a high likelihood the implementation program will attain the RWQCB's stated water quality objectives" and may not "indefinitely defer enforcement action to other agencies" if water quality problems persist, but it may ask the agency to enforce its own requirements.

In the case of the General Permit, monitoring plans and reports are submitted under penalty of perjury, and, for those aspects of monitoring that require advanced technical knowledge, they would be performed by state-licensed engineers and/or geologists, who must abide by an ethical code of conduct, or be subject to potential revocation of their licenses. Please also note that the Water Board plans to conduct a program of property inspections and farm plan reviews to evaluate compliance with all aspects of the General Permit.

Comment 6.11: All monitoring data, Farm Plans, and Annual Compliance reports should be publically available and on the Water Board website with links to eWRIMS.

Response to Comment 6.11: Please see our Response to Comment 2.20 concerning Farm Plans. The monitoring data that is subject to the requirement (under the General Permit) to be reported, and also the Annual Compliance Reports (which provide property-specific information), will be public records that are available to all interested parties. Monitoring data will be submitted once every five years as part of a required Monitoring Results Report (Attachment E, p. E-3); these reports will be public records will be available to all interested parties. We also are open to the suggestion of posting all of the monitoring and reporting information on our website soon after receipt. The exact format, website location, and/or database that may be used are subject to the results of an in-progress effort by the State Water Board to develop tools for submittal and downloading of data and reports required under Irrigated Lands Regulatory Programs.

Comment 6.12: What agrichemicals will be regulated by the General Permit?

Response to Comment 6.12: The General Permit establishes requirements for discharge of nutrients and all pesticides as specified in Section B of the Order, and also in Attachment A to the Order.

Comment 6.13: How does the General Permit protect and monitor dry-season baseflow and related groundwater pumping?

Response to Comment 6.13: Regulation of surface water diversion and/or ground water pumping is outside of the scope of the General Permit. Therefore, the General Permit does not include baseflow or groundwater monitoring. Please also see our Response to Comment 6.8, which highlights baseflow monitoring (Water Board, 2009b, Table 5.2, Action 2.2) that is already occurring in key tributaries to the Napa River that provide essential habitat for steelhead.

Comment 6.14: What is the evidence to substantiate proposed delisting of Napa River and Sonoma Creek, as related to nutrient impairment?

Response to Comment 6.14: Please see Resolution No. R2-2014-0006 and the related Staff Report (Water Board, 2014) that was prepared to support the proposed delisting, which can be downloaded at:

http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/basin_plan/docs/121613/Item%206%20Napa%20Sonoma%20nutrient%20delist%20FINAL%20APPROVED.pdf .

Comment 6.15: How many Timber Conversion Plan (TCPs) requests were approved or rejected over the past 17 years? How will the General Permit address and resolve adverse impacts of California Department of Forestry-approved TCPs to aquatic resources?

Response to Comment 6.15: These comments relate to regulatory programs administered by the California Department of Forestry and Fire Protection (CDF). CDF is the lead agency for such projects and, although the Water Board staff consults with CDF on water quality impacts related to proposed TCPs, the Water Board does not maintain a tally of the number of requests considered. Where a TCP is proposed to develop a vineyard, that project would be subject to the requirement to obtain individual waste discharge requirements (WDRs) from the Water Board. The performance standards for discharge under individual WDRs and other terms and conditions of such WDRs would, in most cases, be equivalent or stricter than requirements under the General Permit to address additional erosion anticipated as a result of timber removal.

Comment 6.16: How will the Upper Napa River Habitat and Sediment Reduction Plan affect the General Permit?

Response to Comment 6.16: We think that the commenter is referring to the "Upper Napa River Restoration Plan" that has been prepared by the California Land Stewardship Institute. If so, once that plan has a certified CEQA document, we expect to recognize discharger participation in its implementation as a means to qualify for enrollment under Tier 1.

Comment 6.17: How does the General Permit resolve fish migration barriers?

Response to Comment 6.17: Regulation and/or remediation of fish migration barriers is not within the scope of the General Permit. However, as a consequence of Farm Plan development and implementation, we do expect many structures built in channels that are barriers or impediments to fish migration will be identified, and some will be modified to restore fish passage. Over the past decade, through our administration of grants for farm plan development and implementation, we have provided funding for a number of fish passage projects implemented in the Napa River watershed including for a former barrier on lower Dry Creek that now is remediated, and restoring access to several miles of high quality spawning and rearing habitat for steelhead in Dry Creek.

Comment 6.18: The Water Board also must ensure that there are adequate bypass flows downstream of dams (California Fish and Game Code, Section 5937, Fish in Good Condition Downstream of dams).

Response to Comment 6.18: The California Department of Fish and Wildlife has sole regulatory jurisdiction of the Fish and Game Code. Where a Vineyard Property operates a surface water diversion subject to regulation by the State Water Board's Division of Water Rights, all of those diversions are subject to the Public Trust doctrine, including the requirement to maintain fish in good condition downstream of a dam. Please also see our Responses to Comments 6.8 and 6.13.

Comment 6.19: Adequacy of water quality and quantity must be considered and addressed together. "CF&WU was fortunate enough to be in attendance on December 16, 2015 of the Triennial Review of the Basin Plan, when State Water Quality Control Board member Steven Moore spoke at length about the State and Regional Board system as one evolving, no longer separate in their respective obligations to water rights versus water quality ("That line is gone now."). Instead, Moore emphasized collaborative management between the State and Regional Boards, something the Porter-Cologne Water Quality Control Act refers to as a coordinated water quality and water rights responsibility. If the objective of this Project is the restoration of native fish habitat and the preservation of endangered species, then diminished instream flows, the elevated temperatures associated with them, widespread habitat simplification, and additional cumulative factors that have caused these impacts, including noncompliance with dam bypass requirements, illegal water diversions, over-extraction of groundwater, and continued deforestation, must be considered and addressed by the State and Regional Boards in any comprehensive plan for this Project to succeed."

Response to Comment 6.19: We concur that all stressors must be addressed in an effective manner, and through a holistic approach whenever possible. Although the General Permit is not such a master regulatory program, it is a necessary component of a broader program of actions that are taking place and beginning to yield significant habitat enhancement. The holistic approach to the protection of beneficial uses that you highlight is, in fact, the approach we have promoted through development and implementation of the *Napa River Sediment Reduction and Habitat Enhancement Plan* (Water Board, 2009b). Many of the actions called for therein - to enhance habitat complexity, protect or enhance baseflow, restore fish passage, and protect or enhance stream temperature – have been implemented over spatially extensive areas within the past decade.

The Staff Report, Response to Comment 1, highlights large-scale river restoration projects that have occurred or are in-progress in the Napa River watershed. Also, many of the baseflow protection and enhancement and fish passage restoration actions called for in the *Napa River Sediment Reduction and Habitat Enhancement Plan* have been implemented, as indicated in Response to Comment 6.8 above. The progress to-date is incremental, but we remain committed to making continued progress, as needed, to protect and restore habitat for all native aquatic species.

Comment Letter #7: California Land Stewardship Institute

Comment 7.6: "As we have stated previously we do not believe the acreage listed for vineyard properties (162,000) is correct. The source of this figure should be listed including the GIS layers used to derive the acreage and who completed the analysis."

Response to Comment 7.6: The GIS analysis for the Napa River watershed involved overlap of the Napa County Agriculture Layer (2010 update), which defines land areas (polygons) planted in vineyard based on interpretation of 1:2400 scale aerial photographs, which were used to identify and delineate vineyard boundaries. Then, for the planted vineyards, we determined ownership of the underlying parcels by review/query of the Napa County Accessors Parcel Layer. Where contiguous parcels were under the same ownership, these parcels were then delineated together with the parcels underlying mapped vineyards to define individual vineyard properties. Because we were not able to locate existing GIS layers that mapped vineyard boundaries in the Sonoma Creek watershed, for that part of the project area, as stated in Appendix B of the draft EIR:

> "Lacking additional GIS data, we assume that the Napa ratios for property acreage to planted acreage, and also hillslope vineyard acreage to valley floor vineyard acreage, also can be used to approximately characterize these same attributes in the Sonoma Creek watershed."

To clarify (as indicated in Response to Comment 1-3 on the draft EIR), Appendix B of the draft EIR has been revised as shown in the underlined text below:

> **"Appendix B: GIS analysis to support evaluation of potential impacts**
>
> Our analysis was structured as follows.
>
> 1. For vineyard properties in the Napa River watershed, **we located available GIS data to estimate total vineyard property acreage and also planted acreage on hillslopes (>5 percent) and valley floor sites (≤ 5 percent)**. Specifically, the GIS analysis for the Napa River watershed involved overlap of the Napa County Agriculture Layer (2010 update), which defines land areas (polygons) planted in vineyard based on interpretation of 1:2400 scale aerial photographs, which were used to identify and delineate vineyard boundaries. Then, for the planted vineyards we determined ownership of the underlying parcels by review/query of the Napa County Accessors Parcel Layer. Where contiguous parcels were under the same ownership, these parcels were then delineated together with the parcels underlying mapped vineyards to define individual vineyard properties. For vineyard properties in the Sonoma Creek watershed, we could only locate available GIS data to estimate the total acreage of vineyard properties (available layers, with metadata, do not delineate the planted area separately). **Lacking additional GIS data, we assume that the Napa ratios** for property acreage to planted acreage, and also hillslope vineyard acreage to valley floor vineyard acreage, **also can be used to** approximately **characterize these same attributes in the Sonoma Creek watershed**."

Comment 7.8: "There needs to be a mechanism for third party groups to submit annual reports in conjunction with dischargers for at least the first 2 years of the permit. Third party programs will need to assist growers until they become better acquainted with the reporting requirements. The timing of the annual report, listed as October 15 in the permit and as November 15 in Attachment E, is in the middle of the wine grape harvest. It would make sense to pick a different time of year in order to facilitate timely completion of annual reports."

Response to Comment 7.8: We are open to working with approved Third-Party Programs and other interested parties to facilitate development of such a mechanism.

In response to this and other comments regarding the timing of the Annual Compliance Report submittal, the General Permit has been revised so that the Annual Compliance Report is due by December 15 (see Section F.2 of the Tentative Order, and also Attachment E).

Comment 7.9: There is no reason to include the boundaries of vineyard blocks or map row direction or slope of each block for the farm plan maps. Vineyard blocks are typically a small land area and this is an unnecessary level of detail. Provide a clear definition of Class I, II and III channels and human-made waterways. Rather than requiring a base map of landslides, a copy of the referenced landslide maps should be included in the farm plan.

Response to Comment 7.9: In response to these comments Attachment A (Farm Plan Requirements) to the General Permit has been revised as follows (revisions shown in underline or ~~strike-through~~):

The Vineyard Property base map(s) shall delineate the following:

- Property boundaries;
- Parcel boundaries and identifiers (APN numbers);
- Geomorphic terrane units (see Water Board, 2009a, pp. 19-21) and/or soil series (with series identifier and erosion potential rating);
- Vineyards ~~Boundaries of vineyard blocks (showing row direction, slope, and block ID)~~;
- Engineered drainage structures (e.g., subsurface drainage systems, underground outlets, diversion ditches, lined waterways or outlets);
- Vineyard avenues;
- Non-vineyard land uses (grazing areas; winery area, etc.);
- Farm buildings, agrichemical handling and mixing sites, agrichemical storage facilities, and equipment yards and/or staging areas;
- All channels including Class I, II, and III (per California Department of Forestry and Fire Protection definitions), and also human-made waterways/ditches;
- Water wells and streamflow diversion structures;
- Springs and seeps;
- Reservoirs, ponds, and lakes;
- All roads and road crossings, with road surface type (paved or unpaved) and crossing type (culvert, bridge, ford, etc.) also delineated; and
- Known active or potentially active landslides[2], soils with high erosion hazards, and known active or potentially active gullies (Alternatively, a copy of the referenced landslide maps can be included as an attachment to the farm plan).

[2] Mapped landslides and/or areas with a high potential for future landsliding may be identified based on field observations, aerial photo interpretation, and/or review of published information including: California Geological Survey (2016), US Geological Survey (1997a), and US Geological Survey (1997b). Also, a Debris Flow Potential Map developed for the Water Board by UC Berkeley is available upon request.

Comment 7.10: As described previously the requirements for a field survey to evaluate channel conditions downstream of vineyard drainage outlets needs to define how the cause of channel erosion will be determined so that hillslope vineyards are not blamed for channel erosion primarily caused by the entrenchment of the main stem river or creek.

Response to Comment 7.10: With regard the required bed and bank erosion survey, note that the bed and bank performance standard only applies to hillslope vineyard discharges into unstable areas (e.g., an actively eroding gully, landslide, and/or a down-cutting channel). The performance standard has been developed as a matter of precaution (to effectively control storm runoff and/or as feasible to use soil bioengineering practices to control accelerated erosion) where hillslope vineyards discharge into unstable areas. Regardless of causation, the performance standard applies.

In the specific case you cite - "channel erosion primarily caused by the entrenchment of the main stem river or creek" - in our experience it would be rare for a hillslope vineyard to discharge directly into an unconfined alluvial channel (the type of channel that would be most likely to react to historical or active down-cutting along the mainstem of the Napa River or Sonoma Creek). In general, most hillslope vineyards discharge into colluvial channels located on hillslopes, or to headwater channels that are steep and confined (e.g., cascade or step-pool channels), and hence, not sensitive to down-cutting because streambed substrate is quite coarse (cobble-boulder) and/or bedrock is located in the channel bed at a shallow depth below the streambed deposits.

The Staff Report, Response to Comment 5.5, also indicated our intent to work with a Technical Advisory Committee to develop a protocol for the required bed and bank erosion survey.

Comment 7.11: "The Upper Napa River Restoration Plan should be specifically listed along with the other reach-based projects which were primarily completed by our organization."

Response to Comment 7.11: Once "The Upper Napa River restoration Plan" has an approved CEQA document, including a schedule for implementation, we expect to recognize Discharger participation in its implementation, as a means to qualify for enrollment under Tier 1.

Comment 7.12: "Why are the Fish Friendly Farming documents not listed as references when a portion of the BMP manual (Table 2) is included in Attachment A? The reference to be added should be cited as:

> Marcus, Laurel. 2015. Fish Friendly Farming Environmental Certification Program Napa and Solano Counties. Farm Conservation Plan Workbooks and Beneficial Management Practices. Ca. Land Stewardship Institute, Napa."

Response to Comment 7.12: Please accept our apologies for this inadvertent omission. In response, the references cited in Attachment A to the General Permit have been updated to include proper citation of the Fish Friendly Farming workbook.

Comment Letter 8a: City of Napa (September Letter)

Comment 8a.1: "Recognize and correct the failure to coordinate discharge permitting for vineyards and the City's drinking water treatment plants."

Response to Comment 8a.1: With regard to the assertion that Water Board staff needs to better coordinate permitting for vineyards and the City's drinking water plant, note that we have coordinated with Water Board NPDES Permit staff. The requirement in the NPDES permit for the City's drinking water treatment plant - to sample for priority pollutants (including a suite of mostly banned organochloride pesticides) once every five years, of any discharges from filter backwash operations, - is a standard condition for discharges from filter backwash operations, as required to be consistent with the California Toxics Rule. Also, it is our understanding that the required water quality sampling can be performed for a small nominal cost (approximately $1,000). No changes were made in response to the comment.

Comment 8b.4: No baseline of impacts in reservoir water column. The General Permit ignores impacts from vineyards that need to be reduced to avoid degradation of water quality in reservoirs.

Response to Comment 8b.4: Please see the Staff Report, Responses to Comment 5.3, where we provide information regarding our understanding of potential nutrient discharges from vineyards and the expected effect of compliance with the General Permit in further reducing these discharges. With regard to pesticide discharges from vineyards, the General Permit performance standard for pesticide discharge is as follows:

> "**Pesticide Management**: an integrated pest management program shall be developed and implemented for the vineyard, and effective practices shall be implemented to avoid mixing, storing, or applying pesticides near wells and surface waters, or in ways that could contribute to receiving water toxicity (Draft EIR, p. 51; see also, Appendix A)."

As defined and considered in the draft EIR (p. 81):

> "Integrated pest management (IPM) is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to: human health; beneficial and non-target organisms; and the environment" (University of California, Statewide Integrated Pest Management Program, 2015). IPM is in widespread use at vineyards within the project area. The overall effect of IPM as compared to the baseline would be a modest decrease in pesticide use and/or discharge."

Currently, there are no water quality control permits within the project area to control potential pesticide discharges; there are only pesticide use reporting requirements through CDPR and the Agricultural Commissioner's Office, and pesticide labeling instructions that define conditions for legal use. Therefore, at worst, at an individual Vineyard Property where IPM has already been implemented, the pesticide control actions required under the General Permit would have a neutral effect on pesticide discharges and any related impact to special-status fish species and/or their habitats. At other vineyard properties, where IPM has not been previously adopted, compliance with the General Permit would result in a reduction in potential pesticide discharge and potential impacts on water quality.

Also, please note that the nutrient and pesticide discharge control actions in the General Permit correspond to the best practicable technology (General Permit, Finding 32).

Comment Letter #10: ICARE

Comment 10.1: How many acres of hillside vineyards are in Napa County?

Response to Comment 10.1: Within Napa County, only the Napa River watershed is subject to the General Permit. In the Napa River watershed, as of 2010, approximately 16,800 acres of hillslope vineyards were delineated by the County of Napa.

Comment 10.2: The General Permit should cover cave tailings; the Division of Mines and Geology doesn't properly regulate cave tailings disposal.

Response to 10.2: The General Permit does not include within its scope any control actions related to wine cave development or management, which the commenter mentions are regulated by the Division of Mining. Nevertheless, where cave tailings are placed or stored in a manner that presents a threat to water quality, the Water Board has authority to require actions to protect water quality including, for example, issuance of individual permits, cleanup and abatement orders, and/or notices to comply. Furthermore, as stated in Section A of the General Permit (Discharge Prohibitions), "the discharge of waste to waters of the State other than defined under this Order is prohibited."

Comment 10.6: Sediment stored on vineyard properties (from cave tailings and landslides) is moved to and stored on County roads. These actions should be regulated under the General Permit.

Response to Comment 10.6: Napa County roads already are subject to performance standards for discharge of pollutants under the statewide NPDES municipal stormwater permit, including performance standards for stock-piling of sediment (regardless of the source) to avoid impacts to water quality.

Comment 10.7: Detention basins required to attenuate runoff increases as part of an erosion control plan, escape scrutiny under CEQA and must be considered in the draft EIR.

Response to Comment 10.7: Please see the draft EIR (see for example, Section 2.5, p. 65), which lists detention basins as a reasonably foreseeable compliance action, the environmental effects of which were evaluated as part of the draft EIR.

Comment 10.8: Recommendations regarding farm plan inventory/mapping - map cave tailings, identify/delineate all Class I, II, and III streams, and show flow directions in streams.

Response to Comment 10.8: With regard to mapping cave tailings, please see Response to Comment 10.2. With regard to mapping Class I, II, and III streams, this already is a mapping requirement. With regard to flow directions, the General Permit includes the requirement to delineate topographic contours on the Farm Plan base maps, which together with the requirement to delineate stream channels would provide a basis for inferring the flow direction in streams.

Comment 10.9: Annual compliance reports should be available for public review.

Response to Comment 10.9: The proposed General Permit requires all Tier 2 and Tier 3 Dischargers to submit the Annual Compliance Report to the Water Board. As such, these documents by definition would be public records that would be available for review.

Comment 10.11: Farm Plans should be available for public review.

Response to Comment 10.11: Please see Response to Comment 2-20. We do concur however, that all interested parties should have access to a summary report that describes property-specific information related to compliance including progress toward Farm Plan completion and implementation, and status as related to attainment of the performance standards for discharge. To that end, the General Permit would require submittal of an Annual Compliance Report for all Tier 2 and Tier 3 Dischargers. The Annual Compliance Report balances confidentiality concerns, avoids the problem of review of the Farm plan outside of the context of a site inspection, and satisfies the legitimate desire for transparency and public review to assess compliance and progress in the control of pollution.

Comment 10.12: The commenter expresses objections per designation of fully protected stream-riparian corridors.

Response to Comment 10.12: Please note that the performance standard is voluntary (and enrollment in Tier 1 is provided as an incentive – not a requirement - to spur establishment of setbacks or participation in restoration projects). In response to this and other comments received, the performance standard has been renamed. It now is referred to as the performance standard for "Stream and Riparian Habitats."

In response to the question regarding why we only define stream setbacks for unconfined alluvial channel reaches, as noted in Attachment A to the General Permit:

> "unconfined alluvial channel reaches are where the adverse impacts of channel incision on habitat complexity and floodplain connectivity are most pronounced. … The steeper more confined tributary channel reaches, with step-pool or cascade bedform types, … are much less sensitive to incision."

Comment 10.13: Require screens to prevent non-native fish in reservoirs from escaping the reservoirs and entering streams.

Response to Comment 10.13: We are not aware of any guidelines that have been developed and/or published for construction of fish screens on reservoir outlet structures to keep non-native fish from escaping. The lack of information may be related to the fact that discharge through reservoir spillways if impeded, could impair reservoir safety or contribute to flow diversion and/or significant erosion onsite or offsite.

Although the escape of non-native fishes from reservoirs could in some cases be a potentially significant problem for native fish populations, this issue is not within the purview or an objective of the General Permit, which is intended to manage discharges from vineyard properties.

Comment 10.14: Require evidence to confirm compliance with Fish & Game Code Section 5937.

Response to Comment 10.14: As stated in Response to Comment 6.18, the California Department of Fish and Wildlife has sole regulatory jurisdiction over the Fish and Game Code. Where a Vineyard Property operates a surface water diversion subject to regulation by the State Water Resources Control Board, Division of Water Rights, all of those diversions are subject to protection of Public Trust resources, including maintaining fish in good condition downstream of a dam. Please also see our Responses to Comments 6.8 and 6.13.

Comment 10.16: Farm Plan should be reviewed by a state licensed hydrogeologist/geologist.

Response to Comment 10.16: For Vineyard Properties enrolled in Tier 1 or Tier 2, the General Permit requirement is for review by a "Qualified Professional," defined to include a California registered professional in a discipline associated with erosion and sediment control." Also, note that if a Discharger

enrolls in Tier 3, they are required to submit their farm plan for review and approval to the Water Board, where licensed geologists or engineers would conduct or supervise the technical review/approval of these Farm Plans.

Comment Letter #11: Living Rivers Council

Comment 11.3: Site specific analysis is essential. Water Board should not delegate analysis of compliance to Third-Party Programs.

Response to Comment 11.3: See Response to Comment 6.8. We are not delegating evaluation of regulatory compliance to Third-Party Programs. Water Board staff intend to conduct site inspections and Farm Plan reviews, and compliance status must be reported annually, signed under penalty of perjury.

Comment 11.4: Farm Plans must undergo CEQA review.

Response to Comment 11.4: The period for comments on the draft EIR closed on September 14, 2016. Nevertheless, we provide this response. Farm Plans do not involve a discretionary decision that would trigger CEQA. Rather, the Farm Plans are a status report on what BMPs are already in place and an internal management plan going forward, laying out future actions and a timeframe for implementation in order to comply with the General Permit's performance standards. Each of the reasonably foreseeable actions that dischargers would take to comply with the General Permit are evaluated as part of the draft EIR (Section 2.5, pp. 53-81).

To avoid confusion in this matter, in response to this and other comments, the General Permit has been revised such that Farm Plans that undergo an independent technical review by an approved Third-Party Program are now referred to as "Verified" Farm Plans, not "Certified" Farm Plans, and we added a disclaimer to make it clear that the Third-Party Program is not approving the Farm Plan, and the Discharger must ensure that the Farm Plan is implemented to achieve all applicable performance standards, as indicated as below:

> "Verified" means that an approved Third-Party Program has coordinated a technical review of the Farm Plan by a Qualified Professional who has signed - the Farm Plan, a verification form, or a letter - to indicate that she/he concludes that upon full implementation the Farm Plan would achieve all applicable performance standards for sediment and storm runoff control. Although a Verified Farm Plan receives technical review, it remains the Discharger's responsibility to ensure the Farm Plan is implemented to achieve all applicable performance standards for discharge. Third-Party Program verification does not constitute an approval of the Farm Plan.~~"Certified" the Farm Plan being complete, and upon its full implementation the Vineyard Property would achieve all applicable performance standards for discharge.~~

Comment 11a.3: Stipulate BMP design guidance - As currently written, the GWDR provides a list of the type of runoff and erosion control BMPs that should be included in the Farm Plan. The GWDR should stipulate that BMPs be designed pursuant to local and state BMP design manuals and guidelines. Farm Plans should be required to include a description of the methods and guidelines followed to develop project BMPs.

Response to Comment 11a.3: Design guidance is provided in the EIR (Section 2.5) and also in General Permit, Attachment A (Farm Plan Specifications) including with regard to unpaved roads, Weaver et al. (2014), and, with regard to stabilization of gullies and/or unstable channels (Marin RCD, 2007), Cafferata et al. (2004), UC Statewide IPM Program, 2015, and other sources. Also, as part of our program of oversight of the General Permit, we will be working closely with Third-Party Programs, who in most cases are expected to be working with Dischargers to design and construct soil bioengineering and/or road-erosion control retrofits. As part of the application materials submitted by these organizations (in order to be an approved Third-Party Program), these organizations are required to submit Farm Plan workbook materials, which also reference design guidance. Water Board staff also plans to conduct a program of site inspections of vineyard properties to determine compliance. We think these aspects of General Permit oversight, considered together with required BMP implementation and BMP effectiveness monitoring (General Permit, Attachment E) will provide a basis for confirming that discharges are properly controlled.

Also, wen note that because completion of the Farm Plan does not equate in many cases with full implementation of all required BMPs, we do not think it would be reasonable to require that the Farm Plan specify up-front the design standards that would be followed to construct and maintain these BMPs, in some cases a few-to-several years prior to their actual construction.

Comment 11a.4: Stipulate Guidance for Farm Plan Bed and Bank Erosion Assessment - GWDR should stipulate more specific standard methods and protocols that should be used to complete a stability assessment of pre- (new Vineyards) and post-project drainage channel bed and bank conditions. Examples of channel stability assessments include: Rosgen, Caltrans (2015), or USFWS (2015).

Response to Comment 11a.4: Please see the Staff Report, Response to Comments 5.5 and 8.2. Please note that Water Board staff has carefully reviewed the sources suggested and do not think these particular assessment protocols are well suited to application in colluvial and/or steep confined headwater channels within the project area, where the bed and bank erosion surveys would typically occur. We did perform a literature review to attempt to locate other protocols that are applicable to colluvial and/or steep/confined alluvial channels and were unsuccessful in finding anything that we think appropriate and practical. Therefore, as specified in Responses to Comments 5.5 and 8.2, we plan to work with approved Third-Party Programs and/or a technical advisory committee to develop a bed and bank erosion survey protocol that can be used to evaluate attainment of the performance standard. We expect to have the bed and bank erosion survey protocol completed within one-year of adoption of the General Permit.

As a general matter, please also note that we have defined unstable areas (e.g., actively eroding gullies, landslides, and/or down-cutting or head-cutting channels) and wherever a hillslope vineyard discharges into an unstable area, located within the same property, the performance standard for bed and bank erosion is not attained.

Comment 11a.5: The commenter stipulates that more quantitative performance monitoring be integrated into the General Permit and Farm Plans. Apart from roadway runoff, it is likely that the

dominant source of vineyard-derived sediment originates from the erosion of channels receiving runoff from vineyard drainage outfalls. These outfalls are the primarily location of proposed erosion control BMPs. Thus, similar to the level of channel stability monitoring stipulated in RWQCB permits issued for in-stream projects located throughout the Bay Area, I recommend that five years of annual longitudinal and cross-sectional profiles be completed in channels downstream of vineyard BMPs to identify changes in channel morphology. Completed in concert with annual field observations and photo-monitoring, repeated annual channel surveys are an effective approach at identifying and quantifying channel stability. If channels are found to be stable for five years after project construction, monitoring may cease or be completed on a less frequent (e.g., 5-year) interval. An evaluation on the length and frequency/number of longitudinal and cross-sectional profiles will need to be completed on a site by site basis, considering the magnitude of peak flows, type of BMP and channel condition (stability) at the time the BMP is installed.

Response to Comment 11a.5: Please see the revised requirements for BMP effectiveness monitoring contained in the General Permit (Attachment E, pp. E-3, E-5, and E-6). As indicated therein, in addition to the requirements for BMP effectiveness monitoring specified therein, we state that:

> "Following permit adoption, in State fiscal year 2017-18, water Board staff intends to work with Third-Party Programs and/or establish a technical advisory committee, to provide additional guidance with regard to BMP effectiveness monitoring …" (General Permit, Attachment E, p. E-3)

Comment 11a.6: Establish Monitoring, Maintenance, and Adaptive Management Plan for Farm Plans - it does not appear that the GP or Farm Plans address adaptive management measures if performance monitoring indicates a BMP is wholly or partially ineffective and new or increased channel instability is identified as a result of project construction.

Response to Comment 11a.6: Please see Attachment E (Monitoring and Reporting Requirements), which has been comprehensively revised in response to comments received. Cross-sections and photo-points are required where a hillslope vineyard discharges into an unstable area, additional BMPs must be implemented (i.e., to attenuate storm runoff and soil bioengineering to control erosion), and the results of the cross-section and photo-point surveys must be evaluated and included in the required Monitoring Results Report (Attachment E, pp. E-3 and E-6).

Comment Letter #13: Sarah Marsten Bittner

Comment 13.2: Please regulate the use of pesticides near schools.

Response to Comment 13.2: The California Department of Pesticide Regulatory has regulatory jurisdiction over pesticides, and it is our understanding that they are currently considering development of such regulations. The General Permit requirements do not focus on proximity to schools, but instead potential impacts to waters of the State. We do expect, however, that pesticide use, discharge, and potential human health and environmental impacts within the project area would be reduced through adoption of the General Permit, which requires implementation of Integrated Pest Management Programs at all vineyards enrolled in the permit.

Comment Letter #16: Napa County RCD

Comment 16.10: Please take into account the results of ongoing fisheries monitoring including that:

a) "Steelhead smolt production was stable or slightly increasing from 2009 through 2012, then declined in 2013 and remained low through 2016 – a pattern consistent with annual rainfall totals. … Our smolt production data (although limited for this purpose) suggest that spawning success may be a lesser limiting factor, and that more focus should be directed on effects of changing climatic conditions and long-term reductions in streamflow."

b) "Steelhead smolts in the Napa River watershed are relatively large, and likely experience high ocean survival rates. … It is also worth noting that smolts were consistently large during all eight years of sampling, despite significant variability in rainfall and streamflow patterns. … We feel there is now sufficient evidence to dismiss the hypothesis that Napa River steelhead smolts are undersized, as suggested by the Napa River limiting factors analysis."

c) "Adult Chinook salmon spawning in the Napa River watershed has been highly variable during the past 12 years. RCD has conducted adult Chinook salmon spawner surveys from 2004-2015 and has observed substantial variation in their abundance and distribution. Adult Chinook enter the Napa River estuary in fall (typically September-November) before winter baseflow has been established. As a result, the upstream migration and spawning of Chinook salmon is significantly limited, both temporally and spatially, by low-flow or dry conditions common in the lower mainstem Napa River during this time. It is therefore, important to recognize that climatic variability presents a major limiting factor for the Chinook population, and expecting consistently high runs each year may not be realistic given the life history of this species in this watershed. Chinook smolt catch rates during the past eight years show significant variability, including several years when no Chinook smolts were captured. The variability in Chinook abundance from year to year suggests that the population is relatively small and may be comprised of a significant percentage of "strays" – fish that were born in other river systems. The RCD has been involved in ongoing efforts to study the origins of Chinook salmon in the Napa River through otolith micro-chemistry and genetic analysis. However, due to the very small number of Chinook observed during the past several years, we have bene unable to collect enough tissue samples form spawned adults to draw meaningful conclusions. … Additional genetic and otolith analysis are needed to justify the TMDL's state goal of "establish[ing] a self-sustaining Chinook population," particularly given current available information and lack of historic information."

Response to Comments 16.10 a and b: Please note that the TMDL and Limiting Factors Analysis concluded that a wide array of stressors, including elevated amounts of fine sediment in streambeds, habitat simplification, stressful water temperatures, poor baseflow persistence, and fish migration barriers, interact to substantially depress the potential production of steelhead smolts in the Napa River watershed. Specifically, with regard to sediment, an elevated amount of fine sediment in streambeds has the potential to contribute both directly (Suttle, 2004, and Harvey et al., 2009) and synergistically (Harvey and Railsback, 2007) to a significant reduction in growth and/or survival of juvenile salmonids in all freshwater life stages.

Perhaps more important than the potential relationship between runoff and smolt production that you posit, is that the trapping results suggest that total steelhead smolt production from the watershed, irrespective of flow variability, appears to be quite low in all years, especially when considered in relation to the amount of potential habitat in the watershed[3].

[3] For example, extrapolated steelhead smolt production in the nearby Lagunitas Creek watershed averaged approximately 2,000-to-4,000 in the same period (water years 2010-2016) from a drainage area (upstream of that

Carefully reviewing the RCD's steelhead smolt trapping data, acknowledging uncertainty in attempting to extrapolate total smolt production, we have estimated low-to-high values for total smolt production from the Napa River watershed in the years that have been monitored. Our analysis included conservative assumptions regarding trap efficiency, the potential length of the outmigration period, and relative productivity of habitat areas located downstream of the trap; all of which would increase estimates of total smolt production.

Using the above summarized approach, we found that even in what appeared to have been more favorable years for steelhead (water years 2009-12), the extrapolated estimates for steelhead smolt production from the entire Napa River watershed, even with high rates of ocean survival, would result in at most, a few-to-several hundred adult steelhead returning to spawn in most years (Table RTC-1). A spawning steelhead population numbering a few-to-several hundred in most years, would be inferred to have a moderate risk of local extirpation in the near-term (as defined by Spence, 2008, Table 1).

Acknowledging considerable uncertainty regarding the status of the Napa River and Sonoma Creek steelhead populations, substantial evidence of significant and spatially extensive degradation of freshwater habitat conditions, and also the substantial reduction in access to potential habitat, consistent with the NOAA Recovery Plan, we remain convinced that reducing fine sediment loads is a necessary component of a broader program of actions to facilitate recovery of steelhead populations. Other actions include implementing projects in key tributaries to enhance spring and summer baseflow, and enhancing habitat complexity and connectivity on an extensive scale.

Response to Comments 16.10c: For the 2005 through 2016 period, when the RCD conducted salmon spawner surveys and/or smolt trapping, based on a review of the RCD monitoring data[4], we concur that the Chinook salmon run was highly variable and likely comprised of a significant percentage of strays in most years. Specifically, extrapolating from the number of Chinook salmon smolts captured and trap efficiency values, it appears that only in four-of-eight years that smolt trapping was conducted, that the total number of Chinook smolts produced could have been large enough to result in one hundred-or-more of these fish returning as adults to spawn in the Napa River watershed[5]. A run of one-to-a few-hundred adults, even if produced every year, would still be quite vulnerable to local extirpation, in response to natural and/or human caused disturbances.

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trap) that is approximately 40 percent as large as the area upstream of the Napa River trap (MMWD, 2016). Also, coho salmon and steelhead compete for much of the same habitat in Lagunitas (i.e., absent the coho salmon population, Lagunitas would likely produce more steelhead smolts).

[4]We commend the RCD for its commitment and effort in conducting spawner surveys and smolt trapping. We also wish to acknowledge RCD staff for their innovation, beginning in water year 2016, conducting spawner surveys via kayak, allowing staff to greatly expand the spatial extent of the surveys (because it is much faster to kayak between redds than to walk). Therefore, the water year 2016 and 2017 spawner surveys now provide a fairly accurate estimates of the total number of redds that were built in the watershed in these years (i.e., the estimated total number of redds likely are within 50 percent of true values). We strongly support continuation of the current salmonid population monitoring programs, and expansion as technically feasible, where additional spatial and/or temporal coverage would help to significantly reduce uncertainty in estimating smolt production and/or the size of the salmonid spawning runs, and also for Chinook salmon, in determining relative contribution of Napa River smolts in contributing to the total number of returning adult spawners.

[5] Chinook salmon smolt production in water years 2010, 2011, 2012, and 2016, dividing smolt captures by trap efficiency, results in plausible total smolt production values of a few thousand or more smolts. If typical smolt-to-adult survival values average about 3 percent, then about 100 adults could plausibly return for every 3,000 smolts that are produced.

Table RTC-1: Napa River watershed steelhead smolt analysis to estimate potential watershed production and adult returns

Water Year	Trap (days operated)	Trap Efficiency	# steelhead smolts caught	Estimated Smolt Outmigration (# trapped/trap efficiency)
2010	90	0.11	251	2282
2011	73	0.14	175	1250
2012	49	0.20	160	800
2013	82	0.02	77	3850
2014	53	0.06	31	517
2015	35	0.25	34	136
2016	61	0.09	64	711
mean (2010-16) =	63	0.12	113	1364
median (2010-16) =	61	0.11	77	800
Standard dev (2010-16) =	19	0.1	83	1291
95% confidence +/-	14	0.07	61	956
Coefficient Var. % (2010-16) =	31	64	74	95
Median smolt outmigration through trap =			**1400**	Extrapolated estimate for smolt outmigration over full extent of plausible period for significant outmigration period (Mar 1- Jun 30) = (median value for days trap operated) x 2 x (median value for smolts captured/median value for efficiency)
High estimate total watershed smolt production =			**2800**	Above calculation is doubled: this scenario optimistically assumes habitat areas downstream of trap produce as many smolts as habitat area upstream of trap.
Low estimate of total watershed smolt production =			**2100**	Assumes habitat areas downstream of trap produce half as many smolts as areas upstream of the trap.
Assumed high vale for ocean survival value	18.10%			Waddell Creek data, mean marine survival rates for smolts mean fork length = 220 mm (Shapovalov and Taft, 1954); note: Napa smolts average = 190 mm
Assumed low value fir ocean survival value	5.80%			Waddell Creek data, mean marine survival rates for smolts mean fork length = 160 mm (Shapovalov and Taft, 1954)
High estimate for median **adult returns** =	**507**			High estimate watershed smolt production x high estimate ocean survival
Low estimate for median **adult returns** =	**122**			Low estimate watershed smolt production x low estimate ocean survival

However, we also think it is important to emphasize that, within a few years, the Napa River Oakville-to-Oak Knoll restoration project is expected to be completed. At that time, considering the Rutherford and Oakville-to-Oak Knoll reaches together, there will be an approximately 14-mile contiguous reach, where habitat enhancement projects have been completed. Considering this spatially extensive restoration effort, together with the fish passage restoration project at Zinfandel Lane Bridge (that was completed in 2012), suitable Chinook spawning and rearing habitat would be re-established and accessible over an extensive portion of the mainstem of the Napa River, for the first time in perhaps several decades-or-more. Upon achievement of this restoration milestone, the question then becomes, could the Napa River produce enough smolts in all years to establish a self-sustaining Chinook salmon run?

With regard to this question, also as mentioned in the comment, the timing and amount of precipitation in October-December is crucial, in order to provide sufficient runoff for upstream migration by adults, spawning, and successful incubation (i.e., to avoid dewatering of redds). Although available information from the RCD's spawner surveys is not sufficient to definitively determine necessary minimum flows to support upstream migration and spawning, it is possible to make some educated guesses. Looking at the timing of spawning as documented by the RCD in 2005 through 2016 (Kohler, unpublished data, 2017), in almost all years when a notable run was documented (50-or-more redds), spawning activity appears to have peaked sometime between late October and late December.

Reviewing streamflow data for the Napa River near the Napa gaging site (Gage Number 11458000), beginning in water year 2000 and continuing through present, it appears that in all of the past 18 years, except for water year 2014[6], there was at least one period prior to the end of December when mean daily flows were between about 10 and 50 cfs for three consecutive days or more, which could provide suitable flows for upstream migration and spawning. In most years, if egg incubation begins by late December, assuming an average twelve-week long incubation period, most fry would emerge from the gravels by late March and presumably be in a good position to attain sufficient size to smolt and emigrate out of the river by late April or early May, when stream flow and temperatures should still be suitable.

Considering Napa River streamflow data, substantial variation in the length of ocean residency by Chinook salmon (typically 2-4 years), recent Napa River spawner survey and smolt capture data, and the extent of habitat restoration projects projected to be complete by 2020, Water Board staff still support the proposition that a self-sustaining run of Chinook salmon could become established in the Napa River watershed sometime in the near future. At a minimum, we think a notable dependent population comprised of a hundred-to-several-hundred returning adults could be established and maintained in most years[7] contributing to enhanced ecological diversity and productivity in the Napa River watershed, and also to significant recreational and educational opportunities.

[6] The only year since water year 2000, when we did not have any real runoff by late December, was in water year 2014, which paleo-climatologists at UC Berkeley suggest could have been the driest winter in northern California in the last 500 years. Also, note that in 15-of-18 years we analyzed, the three consecutive days of suitable flows occurred by mid-December or earlier suggesting that the timing of fry emergence should correspond with suitable outmigration flows and water temperatures in almost all years.

[7] Dependent, referring to a significant fraction of the returning adults, being strays from the Sacramento-San Joaquin watershed.

Comment Letter #18: North Bay Agriculture Alliance

Comment 18.4: Precipitation and runoff are not "discharges of waste." The Water Board has ill-suited regulatory powers for the control of non-point source pollution; some question whether the State Legislature has authorized the State Nonpoint Source Control Policy.

Response to Comment 18.4: We respectfully disagree. The Non-Point Source Policy notes in its introduction that "'discharge of waste' includes all discharges, point and nonpoint, including agricultural return flows and storm water discharges." The Non-Point Source Policy describes in great detail the basis for the regulatory authority the Water Board wields in adopting WDRs like the General Permit for nonpoint sources of pollution. (Non-Point Source Policy, pp. 2-8.)

Comment 18.5: Willing to work with Water Board's three-tier approach to NPS (1. Voluntary BMP; 2. Regulated BMP; 3. Enforced Effluent Limitations) as long as vineyards remain in Tier 1 or 2 at most. Willing to identify optimum approaches to protect beneficial uses.

Response to Comment 18.5: We have worked closely with the agricultural community throughout the development of the General Permit, to refine its focus, required control actions, and the property areas regulated. (See Response to Comment 3.1.) We also have added a provision to provide additional flexibility for limited resources farmers. We appreciate the willingness to work with the Water Board.

Comment Letter #19: Peggy Phelan

Comment 19.2: "The company I work for operates a sustainably farmed vineyard on a large parcel featuring a natural water course in the Sonoma Creek watershed. Our vineyards have been certified by the Southern Sonoma Resource Conservation District as "Landsmart". We have proactively addressed all practicable sources of erosion in our vineyards, and have third party certification to prove it. I guess that is not enough."

Response to Comment 19.2: Based on the information you provided, we would expect that the vineyard in question already has achieved Farm Plan requirements and also the performance standards for discharge specified by the General Permit. The only other significant requirement would be to perform required BMP effectiveness monitoring, which, if done through participation in a group program, should correspond to an estimated annual cost of $10 per acre-or-less. The property also would be subject to annual permit enrollment fees, which are expected to be approximately $1 per planted acre.

Comment 19.3: "My personal opinion is that it is not reasonable to quantify sediment in a dirt lined natural creek. These are not rock lined streambeds or concrete culverts, they are flowing gullies with direct soil contact, naturally occurring bank erosion and bottom scouring – of course there is sediment! I can tell you from personal observation that the quality of the water samples pulled from these gullies will vary greatly in sediment content depending on the surge of a storm. If sampling is not an exact science, how meaningful is the data?

The great majority of farmers take care of their land, it is their biggest asset, and it is that care (example "Landsmart") that should be encouraged by taxpayer funding – not more regulations. Until you've done it yourself, you don't understand the financial and time burden operating within these regulations requires. Spend the public funds on education/improving farming practices – not more regulations!

I implore you to please use common sense before establishing any more regulations."

Response to Comment 19.3: Please see our responses to Comments 2.14 and 19.2 above. We take your comments seriously and remain open to suggestions about how to improve the General Permit.

Comment Letter #20: PPI Engineering

Comment 20.2: The commenter expresses the concern that the General Permit would prohibit deep ripping of soils.

Response to Comment 20.2: The General Permit does not prohibit deep ripping of soils. Instead, the General Permit states in footnote #11 to Attachment SA (Farm Plan requirements) that:

> "Attainment of this performance standard [for storm runoff from a hillslope vineyard] shall be evaluated through site-specific hydrologic modeling and subsequent to development, group or site-specific BMP effectiveness monitoring (see Attachment E). In modeling runoff change, deep ripping of soils cannot be credited for a reduction in peak runoff."

Since deep ripping is not penalized in modeling storm runoff changes, it is unclear to Water Board staff how the modeling guidance we provided would result in a prohibition of deep ripping, or even a reduction in the application. Since the practice currently is being implemented at sites where farmer believe it aids vineyard development and/or management, we would expect those same farmers to continue to implement the practice.

Comment 20.3: The commenter discusses and presents Walt Ranch site data and literature sources to support their opinion that deep ripping should contribute to a persistent increase in soil infiltration capacity at many sites within the area covered by the General Permit.

Response to Comment 20.3: Based on the information presented in the draft EIR (pp. 32-33) we remain skeptical that deep ripping results in a persistent and significant increase in soil infiltration capacity. Furthermore, the primary references that we rely on (Beven and Germann, 1982; Beven and Germann, 2013) are literature review papers summarizing the results of studies conducted worldwide; we also rely on a highly regarded textbook "*Principles of Soil Conservation and Management*" (Blanco and Lal, 2010), the authors of which include a Noble Prize winner (Lal) and an editor of the Soil Society of America (Blanco).

Comment 20.4: Summary statement – The General Permit should not prohibit deep ripping of soils.

Response to Comment 20.4: Please see Response to Comment 20.4. The General Permit does not prohibit deep ripping.

Comment Letter #21: Sustainability in Practice

Comment 21.2: Sustainability in Practice (SIP) certified properties fall somewhere between Tier 1 and Tier 2.

Response to Comment 21.2: It is our understanding that SIP certified Farm Plans do not currently include elements related to control of sediment discharge from unpaved roads and/or control/attenuation of storm runoff increases. Therefore, at Hillslope Vineyard Properties within the project area, SIP certified properties also would need to work with an approved Third-Party Program to add these elements to their farm plans and to implement additional BMPs as needed to attain these performance standards. Also, any SIP certified vineyard property that includes unconfined alluvial channel reaches, would have to attain the performance standards for "Stream-Riparian Habitat" in order to qualify for enrollment in Tier 1.

Comment 21.4: Suggestions to include hybrid options depending on progress of Farm Plan development and road repair.

Response to Comment 21.4: Based on our follow-up conversation, it is our understanding that you are inquiring about whether the Water Board would be open to considering SIP as an approved Third-Party Program for valley floor vineyard properties, where General Permit performance standards for – soil erosion within the farm Area, pesticide discharges, and nutrient discharges – all are currently addressed through SIP Certification. Yes, we are open to this option.

Please also see our Response to Comment 21.2.

Comment Letter #22: Smith-Madrone Vineyards and Winery and V. Sattui Winery

Comment 22.1: The General Permit is thoroughly flawed and "should be scrapped" and rewritten.

Response to Comment 22.1: We respectfully disagree. Please also note following release of the July 2016 draft of the General Permit, we extended the comment period by 105 days through December 12, 2016, to facilitate the ability of vineyard owners and operators to conduct a thorough review of the draft. During the extended comment period, we also conducted several meetings with agricultural organizations to hear their concerns, answer questions, and consider changes to the General Permit.

Also, we have carefully considered the written comments on the draft that were provided by several vineyard property owners and agricultural organizations and have revised the General Permit to further focus its required water quality control actions and the land areas that would be regulated.

Comment 22.2: There is no excuse for not having conducted proper outreach and collaboration.

Response to Comment 22.2: Comment noted. Please also see responses to Comments 2.21 and 3.1.

Comment 22.3: The commenter states that we did not honor his August 16 request via email, to receive a paper copy of the draft EIR. He also states that although we knew it was the start of the harvest season, we released the draft EIR anyway (when grape growers would not have time to review the permit).

Response to Comment 22.3: Comments noted. We regret any misunderstanding we may have contributed to regarding the expectation that we would transmit a paper copy of the draft EIR to the commenter. Because the request was made via email, in our response we likely would have indicated the website address where the document could be downloaded. Unfortunately, however, we did not retain the email correspondence in question, and, by the time this comment letter was submitted - almost four months later, email messages received in August were no longer stored in our email system, so we were unable to review the original email correspondence.

Nevertheless, please accept our apologies for not accommodating your request to receive a paper copy of the draft EIR.

We also sincerely regret the deep frustration that the timing of the release of the draft General Permit caused the commenter. The draft was released on July 15, 2016, about a month prior to the beginning of the wine grape harvest season, which began in earnest in the project area in mid-August 2016. As noted in Response to Comment 22.1, to be responsive to this issue, we extended the comment period by 105-days, through December 12, 2016, to provide sufficient time for stakeholders to carefully review the General Permit and also to allow for meetings with interested parties where we answered questions and addressed concerns. We have made a concerted effort to reach out to the regulated community to take all concerns into account in drafting the General Permit. (See Response to Comments 2.21 and 3.1.)

Comment 22.6: There is no justification for linking the Napa River and Sonoma Creek watershed in the General Permit.

Response to Comment 22.6: Please see Finding 24 in the General Permit.

Comment 22.10: Hillslope vineyards help suppress massive forest fires, so they result in substantial reduction in sediment discharge; forest lands are not properly managed.

Response to Comment 22.10: Whether or not hillslope vineyard development contributes to a reduction in the severity of forest fires, as stated in the draft EIR sediment budgets completed for both watersheds support the conclusion that vineyard properties are significant land-use related sources of sediment delivery to channels. For example:

> "Vineyard properties, including farming areas and extensive unpaved roads, have been identified as significant sources of sand and finer sediment discharge to the Napa River, Sonoma Creek, and their tributaries (Water Board, 2008a, p. 43; Water Board, 2009a, p.57). Also, storm runoff increases generated by vineyards and roads have been identified as two of several causes for channel incision." **(**Draft EIR, Introduction and Background, p. 30)

Furthermore, both watersheds are impaired by sedimentation.

Comment 22.11: The commenter summarizes his concerns and provides an appeal for a new era of transparency and cooperation.

Response to Comment 22.11: We recognize the olive branch you have extended and accept the offer to work together cooperatively and transparently to develop an effective and reasonable General Permit.

Comment Letter #23: Sonoma County RCD

Comment 23.1: The commenter expresses its support for the approach and role of Third-Party Programs under the General Permit.

Response to Comment 23.1: We appreciate your support and involvement.

Comment Letter #24 United Winegrowers for Sonoma County

Comment 24.4: As noted in our comments on the EIR, "It appears that the General Permit assigns an excess number of unpaved upland roads to vineyards.

Response to Comment 24.4: This comment was addressed in Response to Comment 4-3 on the draft EIR and is provided as part of the final EIR. We have accurately estimated the miles of unpaved roads on vineyard properties within the project area.

Comment 24.5: Channel erosion is mostly natural and not related to vineyard management actions.

Response to Comment 24.5: The commenter expresses an opinion that lacks supporting scientific information. We disagree. For example, please see the sediment source analysis prepared to support development of the Napa River sediment TMDL (Water Board, 2009a, pp. 13-58).

Comment 24.6: Mitigation measures for the compliance actions are over-blown.

Response to Comment 24.6: The mitigation measures are supported by the analysis of environmental effect provided in the draft EIR. The comment is non-specific and not supported by evidence.

Comment 24.7: The commenter suggests that vineyards in the project area already are meeting road hydrologic connectivity standards.

Response to Comment 24.7: We disagree, and the commenter does not supply supporting evidence. The best available information, as cited in the draft EIR, suggests that the typical baseline value for hydrologic connectivity of unpaved roads within the project area is 50 percent. If actual conditions are better, then there would be less work required to comply with the General Permit.

Comment 24.9: The commenter expresses a variety of concerns regarding roads and what features will be regulated under the permit.

Response to Comment 24.9: This comment seems to be in opposition to comments 24.4 and 24.7. The commenter now indicates the concern that the Water Board would be regulating too many miles of roads, when earlier he expressed the opinion that there are fewer miles of roads on vineyard properties than we estimated, and/or these roads may already be meeting performance standards. We direct the commenter to the General Permit, which describes the required road erosion control actions that apply to all unpaved roads located within a "Hillslope Vineyard Property" (as defined in the General Permit).

Comment 24.10: The commenter requests clarifications regarding the monitoring requirements under each Tier.

Response to Comment 24.10: The commenter correctly interprets the requirements to qualify for enrollment in Tier 1 and the benefits of being enrolled in this tier. Please note that Attachment E (Monitoring and Reporting Requirements) has been comprehensively revised in response to several comments received. With these revisions, Tier 1 only is required to conduct BMP implementation monitoring and to submit a verification letter (General Permit, Attachment E, p. E-2). Tiers 2 and 3 are required to conduct BMP implementation monitoring, stream monitoring, BMP effectiveness monitoring and to submit an Annual Compliance report and also a Monitoring plan and Monitoring Results Report, as described in detail in the General Permit (Attachment E, pp. E-3 through E-6, and E-9 through E-11). Tier 3 also is required to submit the Farm Plan for review and approval (General Permit, Attachment E, p. E-6).

Comment 24.11: Questions regarding mitigation that falls within the purview of other agencies, but is required by the GP.

Response to Comment 24.11: The draft EIR notes a number of areas (e.g., air quality) where agencies other than the Water Board have primary jurisdiction. Pursuant to CEQA, the appropriate course of action is to note such mitigation measures in the EIR (Cal Code Regs., tit. 14, § 15126.4 [discussion of mitigation measures], but the CEQA Guidelines ultimately recognize that the lead agency may not be able to enforce such measures as part of the project. (See Cal. Code Regs., tit. 14, § 15091 [findings may state that changes or alterations to the project, such as requirement of mitigation measures, "are within the responsibility and jurisdiction of another public agency" and the other agency can and should adopt those changes].)

Comment Letter #25: U.S. EPA

Comment 25.3: The Water Board needs to conduct a program of Farm Plan review/site inspections to audit performance.

Response to Comment 25.3: Please see Response to Comment 6.10.

Comment 25.4: U.S. EPA supports development of a program to track Implementation actions and their effectiveness; Water Board should facilitate establishment of integrated, user-friendly and affordable reporting mechanism.

Response to Comment 25.4: The collection of data through submittal of the Annual Compliance Reports is intended to address these very concerns.

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III. RESPONSES TO COMMENTS PROVIDED AT THE INFORMATION WORKSHOP

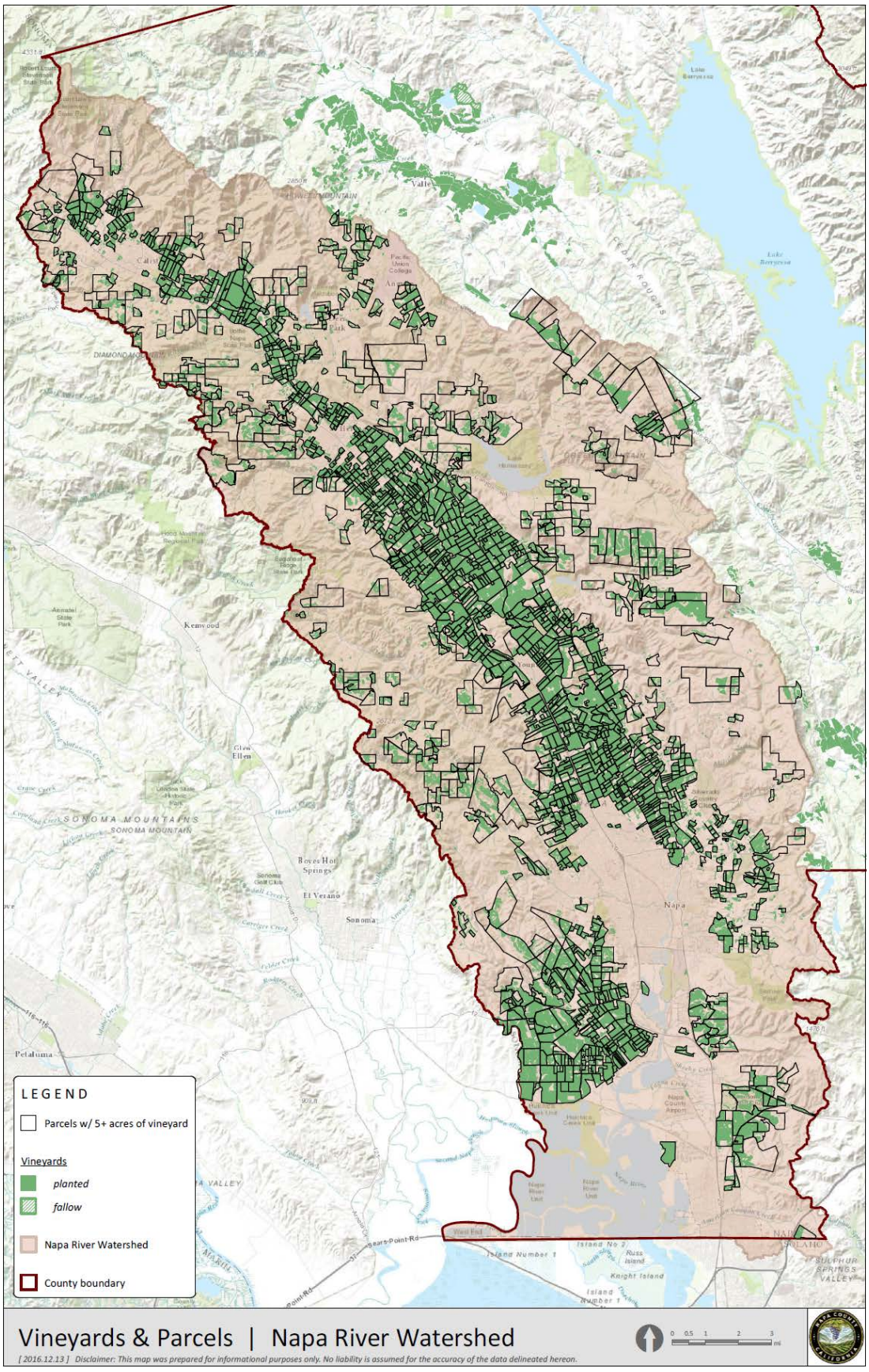
Introduction

On April 12, 2107, the Water Board held an informational workshop on the proposed General Permit. The purpose of the workshop was to present an overview of the comments received on the General Permit and our responses and suggested revisions, focused primarily on the scope/conditions of the General Permit.

While much of the discussion and testimony presented at the workshop covered comments and subject matter previously submitted on the draft General Permit as part of the extended public comment period, a couple of issues raised warrant additional clarification. The comments and responses provided below identify and respond to comments provided at the workshop that were not provide earlier and/or responded to in either the April 2017 Staff Report, or Section II, above.

Workshop Comment No. 1: Michelle Novi, representing the Napa Valley Vintners, a group that represents over 530 wineries in the Napa River Valley, stated that "only 9 percent of our great valley is planted in grapes."

Response to Workshop Comment No. 1: It is unclear what the 9 percent statistic refers to. Please see the attached see the figure on the page that follows that was developed by the County of Napa, which delineates the boundaries of vineyards (as of 2016) throughout the Napa River watershed and which shows that much more than half of the Napa Valley floor at present is planted in vineyards.


LEGEND
Parcels w/ 5+ acres of vineyard
Vineyards
planted
fallow
Napa River Watershed
County boundary
Vineyards & Parcels | Napa River Watershed
[2016.12.13] Disclaimer: This map was prepared for informational purposes only. No liability is assumed for the accuracy of the data delineated hereon.
Kenwood
Glen Ellen
Boyes Hot Springs
El Verano
Sonoma
Napa
Petaluma
SONOMA MOUNTAINS
SONOMA MOUNTAIN
Lake Berryessa

Workshop Comment No. 2: Mr. Jessie Ramer, Executive Director of the Napa County Farm Bureau (Napa Farm Bureau), with the support of the Farm Bureau's Board of directors, commented that the Napa Farm Bureau act is willing to act as the administrative agent for a group monitoring to meet the General Permit's requirements. He noted that the Napa County Farm Bureau serves in a similar capacity on behalf of the Putah Creek Watershed Group, in the adjoining east Napa River watershed. Mr. Ramer also noted that Farm Bureaus across the State have been acting in similar capacities.

Response to Workshop Comment No. 2: The Napa County Farm Bureau's offer to act as the administrative agent in support of the monitoring required by the General Permit is sincerely appreciated and perfectly aligns with the General Permit's goals of providing Tier 2 and 3 permittees the opportunity to satisfy their monitoring requirements through a more cost effective, group approach. The Farm Bureau's experience in administering such a program in an adjoining watershed demonstrates that a group monitoring option is clearly achievable, efficient, and works well for permittees.

Workshop Comment No. 3: Mr. Hannah raised a couple of concerns at the workshop, the first being the General Permit's requirements for control agrichemical discharges (pesticides and nutrients), and the second relating to the timing of establishment of a cover crop and how such a requirement could impact viticulture, groundwater levels, and/or baseflow in streams.

Response to Workshop Comment No. 3: As related to agrichemicals, the General Permit only requires that reasonable and prudent nutrient and pesticide management practices be implemented to ensure that Vineyard Properties discharges do not contribute to toxicity and/or bio-stimulation, consistent with the State's Antidegradation Policy. Specifically, the General Permit performance standards read as follows:

> "Pesticide management: An integrated pest management program shall be developed and implemented for the vineyard (UC Statewide IPM Program, 2015), and effective practices shall be implemented to avoid mixing, storage, or application of pesticides near wells and surface waters, or in ways that could contribute to receiving water toxicity.
>
> Nutrient management: Best management practices to guide nutrient applications (e.g., fertigation, cover crops, soil amendments, plant and/or soil testing) shall be implemented as needed to protect water quality."

Based on review of BMP implementation survey data for vineyard operators in the upper Putah Creek watershed (in eastern Napa County where vineyards are already regulated by the Water Board), and Water Board staff experience in conducting farm plan/site reviews at more than 100 vineyard properties within the Napa River and/or Sonoma Creek watersheds, we think that 90 percent-or-more of the vineyard properties that would be enrolled in the General Permit already have implemented effective nutrient and pesticide management practices that satisfy the General Permit's performance standards. Please also note that the General Permit does not regulate pesticide use; that authority rests with the Department of Pesticide Regulation, and adoption of the General Permit would not change that.

The second concern raised by the commenter is that the General Permit would require that well-established cover crops be in-place at the beginning of the rainy season. The nature of this concern relates to an increase in irrigation in order to get a well-established (seasonal) cover crop in-place by the start of the rainy season, and/or to maintain a permanent cover crop throughout the year, and the related potential impacts on groundwater levels, baseflow in streams, and/or with regard to increased competition between the cover crop and vines.

Please note that the General Permit does not specify that a well-established cover crop be in-place by the onset of the rainy season. Instead, the relevant performance standard is for soil erosion in the Farm Area,

which requires that predicted erosion rates (estimated through application of the Universal Soil Loss Equation) not exceed the tolerable soil loss rate.

If poor cover in a vineyard at the onset of the rainy season caused the predicted erosion rate to exceed the tolerable soil loss rate, there would be several management options to achieve this standard that would not require an increase in irrigation including: a) applying composted mulch on the ground within the vineyard prior to the onset of the rainy season, and/or b) establishing vegetated filter strips to significantly reduce the percentage of eroded sediment that actually could be discharged. Please see pp. 59-61 in the draft EIR for additional information about these BMPs, which we believe are viable alternative approaches, where irrigation demand and/or competition between the cover crop and the vineyard are of concern.

Workshop Comment No. 4: Mr. Bob Anderson, United Winegrowers for Sonoma County, commented that the *Staff Report* is in error; Sonoma County does have erosion control regulations that all new or replanted vineyards are subject to.

Response to Workshop Comment No. 4: The commenter is correct that all new and replanted vineyards are subject to the Sonoma County ordinance. However, *new or replanted valley floor vineyards* are permitted under Level I of the ordinance, *which does not include the requirement to prepare an erosion control plan*, and/or to have a Qualified Professional evaluate the management practices implemented to control erosion. Also, we note that *replanted vineyards on slopes up to 30 percent* are permitted without the requirement to prepare an erosion control plan. As a general matter, most new hillslope vineyards in Sonoma County are subject to the requirement to prepare an erosion control plan.

Workshop Comment No. 5: Gary Margadant, who lives in the Mt. Veeder area of the Napa River watershed, expressed concerns over the five-acre vineyard size threshold for enrollment contained in the General Permit. He recommended, based on his observations and video documentation of excessive erosion emanating from a hillslope vineyard, that smaller vineyards developed in steep terrains and that are subject to significant rainfall, can be subject to failure. He suggested that the General Permit contain rules that are based on slope.

Response to Workshop Comment No. 5: Please note that the General Permit includes a provision that the Water Board retains the option of regulating of any existing or new vineyard, irrespective of size, where there is a threat to water quality. Also where a new vineyard is proposed for development on steep slopes (> 30 percent), would involve forest removal (a Timber Conversion Plan), and/or is sited along a narrow steep-sided ridgetop, these new vineyards would be subject to the requirement to obtain individual property-specific permits from the Water Board (i.e., individual waste discharge requirements).

Attachment 1:

Staff Report in Support of April 12, 2017, Water Board Workshop

San Francisco Bay Regional Water Quality Control Board

General Permit for Vineyard Properties in the Napa River and Sonoma Creek Watersheds

Staff Report in Support of April 12, 2017 Water Board Workshop

April 3, 2017

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Introduction

In July 2016, the San Francisco Bay Regional Water Quality Control Board (Water Board) released, for public review, proposed general waste discharge requirements (General Permit) for vineyard properties in the Napa River and Sonoma Creek watersheds.

This Staff Report presents: a) the General Permit; and b) an overview of comments received and our responses, focused primarily on the scope/conditions of the General Permit, and policy issues. Prior to the Water Board's consideration of adopting the General Permit, Water Board staff will prepare a complete Response-to-Comments document that addresses all comments received. Staff anticipates that the General Permit will be considered for adoption at the June or July 2017 Water Board meeting.

Description of the General Permit for Vineyard Properties

Under the General Permit, a "vineyard property" is defined by a parcel, or contiguous parcels under the same ownership, which has been developed to include a vineyard. Parcels where a five acre-or-larger vineyard is planted would be required to enroll in the General Permit.

Vineyard properties may pose threats to water quality by discharging sediment, nutrients, and pesticides and/or by increasing storm runoff, which consequently can cause erosion and sedimentation and otherwise impact aquatic life. The Napa River and Sonoma Creek Total Maximum Daily Loads (TMDLs) adopted by the Water Board have established performance standards for sediment discharge and storm runoff to protect and restore water quality. The General Permit would require actions to control pollutant discharges including sediment and storm runoff from vineyards and unpaved roads, which are located throughout vineyard properties, and pesticides and nutrients from vineyards.

The General Permit would require vineyard owners or operators, of parcels that meet the enrollment criteria, to do the following:

1. Develop a farm plan;
2. Get the farm plan certified;
3. Implement the farm plan to achieve discharge performance standards;
4. Submit an annual report regarding progress toward farm plan development and achievement of the performance standards; and
5. Participate in group or individual water quality monitoring programs.

Certified Farm Plan

A farm plan documents a vineyard property's natural features, developed areas, and best management practices. Under the General Permit, a "certified" farm plan would mean that upon its full implementation of the plan, that the Vineyard Property is expected to achieve the performance standards for discharge. The Water Board's Executive Officer would approve Third-Party Programs or certify a farm plan.

At existing vineyard properties, the farm plan would need to be developed and certified within three years of its adoption. At new vineyard properties (those constructed after General Permit adoption), the farm plan would need to be developed and certified by the completion of

vineyard construction, or within three years of General Permit adoption - whichever date is later[8].

Performance Standards for Discharge

Each performance standard established by the Water Board sets a bar for the level of pollutant discharge control. Under the General Permit, at existing vineyard properties, performance standards would need to be achieved for:

1. Vineyard soil erosion, pesticides, and nutrients within three years of General Permit adoption;
2. Storm runoff/channel erosion (at hillslope vineyards) within six years of General Permit adoption; and
3. Road-related sediment delivery (at hillslope vineyards) within ten years of General Permit adoption.

At new vineyard properties, the performance standards for soil erosion, pesticides, nutrients, and storm runoff (at hillslope vineyards) would need to be achieved by the completion of vineyard construction; the performance standards for bed and bank erosion (at hillslope vineyards) would need to be achieved within six years of vineyard construction; and the performance standards for road erosion (at hillslope vineyards) would need to be achieved within ten years of vineyard construction.

How do the General Permit and County Erosion Regulations Differ?

Four significant sediment sources are associated with vineyard properties:

1. Vineyard soil erosion;
2. Off-site erosion caused by vineyard storm runoff increases;
3. Road-related sediment delivery; and
4. Channel incision.

Until recently, Napa and Sonoma county regulations focused almost exclusively on vineyard soil erosion at hillslope sites[9]. In 2009, Napa County added a requirement for new hillslope vineyards to also control storm runoff increases. The General Permit would fill gaps in local regulation so that all four sediment sources are effectively controlled to reduce fine sediment deposition in stream channels that provide habitat for endangered steelhead populations, locally-rare Chinook salmon populations, and exceptionally diverse assemblages of native fish species.

[8] The compliance deadline for new vineyard properties is flexible during the first three years following General Permit adoption, so vineyard properties developed within one or two years of General Permit adoption would not be expected to develop a certified farm plan on a more aggressive time schedule than an existing vineyard property.

[9] Only about half of the planted vineyard acreage in the area subject to the General Permit is currently subject to county erosion control regulations.

What if I own a Vineyard Property with a Completed Farm Plan?

In advance of the General Permit, many vineyard property owners have already completed farm plans to enhance water quality and habitat conditions. These include farm plans developed under Fish Friendly Farming, LandSmart, and other programs. Many hillslope vineyard properties are also operated under county-approved erosion control plans.

Therefore, we expect that many of these vineyard properties that have previously completed and implemented a farm plan, are already achieving the performance standards for discharge that would be required by the General Permit. In these circumstances, the only additional requirements for property owners would be the "certification" of their farm plan by an approved Third-Party Program, or the Executive Officer, and the continued implementation of the existing farm plan.

At vineyard properties where previously completed farm plans have achieved some, but not all, of the performance standards for discharge, addendums would need to be added to the existing farm plan to make it complete, so that upon its full implementation, the vineyard property would achieve all applicable performance standards.

Third-Party Program Resources

Within six months of adoption of the General Permit, the Water Board would recognize and publish a list of approved Third-Party Programs that have demonstrated expertise in farm plan development and implementation. Third-Party Programs would help landowners comply with General Permit requirements including farm plan development and implementation. Landowners who elect to develop a farm plan with approved Third-Party Programs would be in an excellent position to assure compliance with the General Permit.

Permit Administration

The General Permit would establish three tiers for enrollment based on the administrative costs to regulate vineyard properties and their relative risk to water quality, which are defined as follows:

- Tier 1 or Stewardship Tier: A vineyard property being operated under a certified farm plan that has achieved the performance standards for discharge and also the performance standards for "Fully Protected Stream Corridors" (as defined in the General Permit) would qualify for Tier 1. Tier 1 is exempt from annual reporting and water quality monitoring. A fee reduction is also contemplated.
- Tier 2: A vineyard property would qualify for Tier 2 if a certified farm plan is being developed for the property, or if the farm plan has been developed and certified, but has not been fully implemented. Submittal of an annual compliance form and monitoring are required under Tier 2; however, enrollees have the option of participating in a group monitoring program that would significantly reduce compliance costs. Tier 2 enrollees also may qualify for reduced permit fees.
- Tier 3 includes those vineyard property owners who elect to develop a farm plan without having it certified by an approved Third-Party Program. Tier 3 enrollees must submit their farm plans to the Executive Officer for review and certification.

All existing vineyard properties, and most new vineyard properties, would be required to enroll under Tier 1, 2, or 3, as applicable. New vineyard properties developed on a ridgetop[10], on slopes greater than 30 percent, and/or that involve a timber conversion plan present a greater risk to water quality and would be required to obtain an individual permit from the Water Board.

Circulation of the General Permit for Comment

The General Permit and its associated draft environmental impact report (DEIR) were released for public comment on July 15, 2016. These documents, including comments received on the permit and DEIR, are posted on the Water Board's website at

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

Following release of the General Permit, Water Board staff hosted a Town Hall meeting in the City of Napa on July 26, 2016 to present the General Permit and answer related questions. Originally the comment period was scheduled to close on August 29, 2016. Grape growers and agricultural organizations requested a substantial time extension to avoid overlap with the crush (wine-grape harvest period), as needed to allow sufficient time for review, and to allow the opportunity for follow-up meetings with staff and discussions prior to submittal of comments. To address these concerns, Water Board staff extended the comment period on the General Permit through December 12, 2016, and met with interested stakeholders including:

g) An agricultural coalition (Napa Valley Grapegrowers, Napa Valley Vintners, Sonoma County Farm Bureau, Winegrowers of Napa County, CA Association of Winegrape growers, the Napa County Farm Bureau, and the Wine Institute);
h) The Napa County Resource Conservation District (RCD);
i) The California Land Stewardship Institute;
j) NOAA Fisheries;
k) BayKeeper; and
l) The Living Rivers Council.

[10] A Ridgetop is as defined per Sonoma County Code (Chapter 11): "A relatively flat topographic divide above divergent and descending slopes where one (1) or more of the descending slopes has a natural slope steeper than fifty (50) percent for more than fifty (50) feet in slope length."

Comments Received on the General Permit

In the section that follows, we provide a summary of comments received and our responses, which is focused primarily on the scope/conditions of the General Permit, and policy issues. Prior to the Water Board's consideration of General Permit adoption, Water Board staff will prepare a complete Response-to-Comments document that addresses all comments received.

We received 49 comment letters regarding the General Permit, 30 of which were from vineyard property-owners whose primary concerns included:

h) Whether the actions called for in the General Permit are still needed considering "extensive river restoration and BMP improvements" that have been completed following TMDL adoption;
i) The Water Board is not relying on current water quality data;
j) The General Permit is "duplicative of Napa and Sonoma County regulations;"
k) The General Permit is "excessively burdensome and should not include [regulate] contiguous parcels without vineyards;"
l) That Water Board staff are making "unsubstantiated assumptions about the connection between basic farming practices and the health of the watershed and should remove references to nutrients and agrichemicals;"
m) That compliance schedules are not reasonable, especially "since many growers are still unaware of the proposed regulations;" and
n) "The arbitrary vineyard acreage threshold for inclusion (enrollment in the proposed permit) … will result in a disparate economic impact to small farmers."

Agricultural organizations, providing additional specific details, emphasized the same areas of comment as the vineyard property-owners, and also recommended that the primary focus of required monitoring be evaluation of sediment TMDL numeric targets for streambed conditions.

The Napa County RCD commented as follows: a) recommended and discussed in detail, why numeric targets monitoring should be the focus of required monitoring; b) expressed concerns related to economic hardships that permit compliance may present to small farmers; c) stressed that Napa County regulations are working, and that implementation of an additional complex permit by the Water Board would "undermine and be counterproductive to current voluntary conservation actions;" d) expressed concerns regarding the proposed approval process for "Qualified Professionals;" e) requested clarification regarding specific details of the permit; and f) that we "take into account the results of ongoing fisheries monitoring."

Environmental organizations provided the following comments: a) related to attainment of performance standards for discharge, specifically guidance for permittees as related to modeling and monitoring, that they recommend be included within the permit to ensure that the performance standards are attained; b) that additional actions and monitoring are needed to control pesticide and nutrient discharges; c) stating their frustration with the lack of progress in achieving the sediment TMDLs; d) stating their concerns that local regulations are not effectively protecting water quality and habitat; and e) that farm plans (required under the permit) should be available for public review.

The City of Napa expressed concerns regarding potential linkages between vineyard property discharges and the occurrence in recent years of significant algal blooms in Lake Hennessey, the primary water supply reservoir for the City of Napa. It recommended that monitoring include sampling for turbidity, pesticides, and nutrients.

The California Land Stewardship Institute, which operates the Fish Friendly Farming Program, expressed concerns regarding: a) the compliance deadline for completion of a certified farm plan, which they suggest be extended; b) how "Qualified Professionals" are defined; c) how "Certified" is defined and used under the General Permit; and d) several specific comments regarding details of the permit, many of which relate to protection and/or restoration of stream-riparian habitat.

NOAA Fisheries and USEPA expressed their overall support for General Permit, while offering suggested changes to improve its effectiveness (e.g., providing additional guidance to permittees to ensure that stream-riparian habitat is protected, and making specific comments relating to monitoring, tracking progress, and/or audits and inspections).

In the section that follows, we summarize comments received and our responses, and propose Water Board staff's recommended changes to the General Permit as circulated in July 2016, which are shown in underline and ~~strike-through~~.

Comment 1: The General Permit relies heavily on the use of pre-2005 data to estimate sediment loads, and does not account for the extensive river restoration work and improvements to BMP programs that have taken place since then. *In summary, vineyard property owners and agricultural organizations appear to be implying that Water Board staff has crafted a permit that is too burdensome, and/or that the permit is unnecessary.*

Response to Comment 1

The State Water Code and the State Nonpoint Source Policy obligate the Water Board to address all discharges of waste that could affect the quality of the waters of the State, as needed to attain and maintain water quality standards.

While Water Board staff concur that substantial river restoration has occurred in the Napa River watershed subsequent to TMDL adoption, we also conclude that additional conservation actions are needed on vineyards properties to achieve 50% or greater reductions in sediment loads (called for in the TMDLs) from road-related erosion, surface erosion in farming areas, and erosion caused by concentrated runoff from hillslope vineyards. Our supporting rational includes consideration of:

a) The referenced pre-2005 data;

b) The positive effects of subsequent river restoration and additional implementation of Best management Practices (BMPs) that have taken place since 2005; and

c) Review of more recent water quality data.

Information supporting points a) through c) are summarized below.

a) Pre-2005 data

As background, the "pre-2005 data" includes the Napa River Basin Limiting Factors Analysis (Stillwater Sciences and Dietrich, 2002), and the Napa River watershed sediment budget (Water Board, 2009)[11]. These studies provide a scientific basis for understanding the scale and breadth of land-use related impacts to steelhead and salmon populations[12]. The baseline defined by these studies is essential, in considering the potential significance of subsequent conservation actions, and more recent data. Therefore, we first summarize the limiting factors analysis and sediment budget studies.

The limiting factors analysis identified two sediment-related impacts on steelhead and salmon in the Napa River watershed: a) significantly elevated concentrations of fine sediment in streambeds; and b) pervasive channel incision, which is both a significant fine sediment source, and the primary agent for

[11]Water Board (2009) presents a watershed sediment budget that characterizes sediment discharges in the Napa River watershed between 1994 and 2004. This report also includes other parts of the TMDL, and required economic and CEQA analyses. The much later publication date (2009) is the consequence of a subsequent legal challenge of the CEQA analysis, which delayed Water Board adoption of the TMDL.

[12] Since almost all comments we received regarding watershed conditions and subsequent conservation actions refer to the Napa River watershed, our response is focused on Napa. Note however, that a salmonid limiting factors analysis (Sonoma Ecology Center et al., 2006) and a watershed sediment budget (Water Board, 2008), also were prepared for the Sonoma Creek watershed in the mid-2000's, and in general, all major conclusions described above for Napa, also hold for Sonoma. Staff are not aware of extensive restoration projects in the Sonoma Creek watershed subsequent to development of the TMDL.

habitat simplification. These sediment impacts interact synergistically with poor baseflow, stressful water temperatures, and fish migration barriers to substantially depress salmon and steelhead production.

The Napa River watershed sediment budget quantified rates of natural and human-caused sediment delivery to channels between 1994 and 2004, and also developed an empirical relationship between sediment delivery and streambed conditions (Water Board, 2009). Professor Bill Dietrich, an erosion and sedimentation expert and National Academy of Sciences Fellow, praised the study and expressed his agreement with its conclusions (Dietrich, 2006), which include the following:

- More than ½ of the fine sediment delivered to channels was associated with roads, human-caused channel incision, vineyards, and/or intensive historical grazing;
- The total rate of sediment delivery was about two-times natural background, and sand and finer sediment delivery were elevated to an even greater extent;
- Total sediment delivery to channels needs to be reduced to about 125% of the natural background rate in order to restore properly functioning streambed conditions; and
- As such, all significant human-caused sediment sources must be reduced by 50% including surface erosion in vineyards and rangelands; erosion caused by concentrated runoff from hillslope vineyards and/or intensive historical grazing; road erosion; and channel incision.

b) Consider the positive effects of subsequent conservation actions that have taken place since 2005

We concur that extensive river restoration has occurred subsequent to the TMDL, throughout approximately 7-miles of the Napa River in the Rutherford and Oakville-to-Oak Knoll reaches that has significantly enhanced streambed and other habitat conditions in these reaches[13]. We also note upon completion of other planned restoration in the Oakville-to-Oak Knoll reach, expected by fall of 2020 (Horne, 2017), approximately 14-miles of the Napa River will be restored, which is equivalent to the amount called for in the TMDL (Water Board, 2009, pp. 85-87, and 140-141). Therefore, within the next few years, it appears that sediment delivery from channel incision will be reduced by 50 percent-or-more as a result of river restoration; earlier than the deadline specified in the Basin Plan (2029). We compliment the landowners and government agencies who have worked together to make this possible.

However, in addition to channel incision, as identified by the sediment budget, other significant land-use related sediment sources also need to be reduced by 50 percent-or-more including: surface erosion in vineyards and rangelands; erosion caused by concentrated storm runoff from hillslope vineyards and/or grazing; and road-related erosion. Specifically, based on Water Board staff participation in property inspections and farm plan reviews between 2004 and 2016 at more than 100 vineyard properties in the permit area, and also through administration and technical input on grants for road-erosion control projects, we conclude that additional conservation actions are necessary at some vineyard properties in order to reduce by 50 percent-or-more: surface erosion in vineyards; erosion caused by concentrated runoff; and road-related erosion.

[13] Specifically these projects involve substantial excavation and/or fill to reduce the force per unit area exerted on the channel bed and banks; to sort and meter sediment; and to enhance habitat complexity and connectivity by increasing channel width-to-depth ratio, constructing side channels and inset floodplains, and expanding native riparian vegetation communities on channel banks and floodplains. Also, designs are premised upon sediment transport and hydraulic modeling, and are refined adaptively based on monitoring performance of earlier projects.

Based on the inspections cited above, we conclude that many vineyard properties already are achieving all applicable performance standards for discharge. For example, we conclude it is likely almost all valley-floor vineyard properties that have fully implemented a farm plan certified under the Fish Friendly Farming or Land Smart programs, are currently achieving all applicable performance standards for discharge. At other valley floor vineyard properties (those that have not fully implemented a certified farm plan), it should be fairly straightforward to document that effective practices are in-place or to implement additional BMPs as needed to meet performance standards[14].

Similarly, at hillslope vineyard properties (on five percent grade or greater) with farm plans developed under the Fish Friendly Farming or Land Smart programs that are certified and fully implemented, it is likely that most properties already have achieved most or all performance standards for discharge. In some cases, additional efforts may be needed to achieve road discharge performance standards. At other hillslope vineyard properties, which have not completed and fully implemented certified farm plans, implementation of additional BMPs will be necessary to reduce road-related erosion, and also storm runoff, where vineyards discharge into unstable areas.

c) More Recent Water Quality Data (Stillwater Sciences, 2013)

In 2011, the Water Board awarded a grant to the Napa County RCD to develop a monitoring program to assess attainment of sediment TMDL targets[15] for streambed permeability and redd scour in the Napa River watershed. To inform development of the full monitoring program, a pilot monitoring program was conducted in water year[16] 2013. The pilot monitoring program results can be used to characterize current conditions with regard to streambed permeability in five mainstem and five tributary reaches (Stillwater Sciences, 2013). Four of these tributary reaches, and one of the mainstem reaches also were monitored in water year 2004 as part of the TMDL, and therefore it is possible to assess how conditions have changed in these reaches between water years 2004 and 2013. In summary, for the stream reaches monitored in both years, streambed permeability either improved in water year 2013 or was similar to the value for water year 2004. Also, in three of four tributaries monitored in water year 2013, the median value for permeability was equal to or greater than the TMDL target value. However, in three of four mainstem Napa River reaches and one of the tributary reaches monitored in water year 2013, the median values for permeability were ≤ 3,500 cm/hr, well below the target value. Because limited data is available to characterize baseline values for redd scour, and recovery of scour chains installed in water year 2013 was poor, it is unclear how current conditions for redd scour compare to the TMDL target values.

Summary

Based on a review of available information, summarized above, Water Board staff concludes that evidence is insufficient to support a finding that properly functioning substrate conditions have been attained or will be attained in the near-term, absent implementation of the General Permit's

[14] For example with regard to sediment control, most valley floor vineyards are not subject to County requirements to prepare an erosion control plan. At some of these vineyards we have observed that tillage continues into the beginning of the rainy season, and/or ground cover is not well established prior to the onset of significant rainfall. More than half of the total acreage of vineyards within the project area is planted within valley floor sites.

[15] Numeric targets define parameters (i.e., streambed permeability and redd scour) and also target values for those parameters that define attainment of water quality objectives.

[16] The water year starts on October 1 of the preceding calendar year and continues through September 30 of the named "water year."

requirements. Furthermore, considering available information regarding the status of Chinook salmon and steelhead populations in the Napa River and Sonoma Creek watersheds, Water Board staff conclude that, it is likely that these populations are small, highly variable, and that a small fraction of the potential channel habitat has a disproportionate influence on smolt production, leaving these populations vulnerable to a moderate risk of local extirpation in the near-term (as defined per Spence, 2008, pp. 16-43, Table 1).

Finally, elevated concentrations of fine sediment in streambeds likely act directly (Harvey et al., 2009; Suttle et al., 2004), and/or in a synergistic fashion with other stressors (Harvey and Railsback, 2007) to depress potential production of steelhead and/or Chinook salmon smolts in a large portion of the potential habitat for salmonids that occurs within the Napa River and Sonoma Creek watersheds. Therefore, Water Board staff concludes that it is prudent to restore properly functioning substrate conditions with regard to sediment and other stressors, as needed to conserve and recover Chinook salmon and steelhead populations.

Comment 2: The permit scope needs to be revised as related to the vineyard property definition, size threshold for enrollment, types of vineyard properties regulated, and pollutants to be controlled.

2.1 Vineyard property definition

The vineyard property "definition is overly expansive in scope and burdensome … may lead to disparate impacts on small vineyard owners (California Farm Bureau Federation)." Many vineyard property owners and agricultural organizations commented that the vineyard property definition contained in the permit was expansive and unfair because it proposed regulation of property areas and features outside of the farming area, and that compliance with permit could result in economic hardships to small family farmers (who are land rich but cash poor).

Response to Comment 2.1

The General Permit, as circulated for comment in July 2016, defined a "vineyard property" as the entire parcel or contiguous parcels under the same ownership, where grapevines are planted on any part of the property. All vineyard properties, where 5 acres-or-more are planted in grapevines, would be required to enroll and comply with the General Permit. Water Board staff included the entire parcel or contiguous parcels under the same ownership in the vineyard property definition because extensive networks of unpaved property access roads that occur throughout these parcels are a potentially significant source of fine sediment delivery to channels that must be effectively controlled in order to achieve the TMDLs' performance standards.

In response to comments and the underlying concern, Water Board staff evaluated the effect on water quality of revising the vineyard property definition, such that a "vineyard property" would only include parcels planted in grapes, while maintaining the five-acre vineyard size threshold for enrollment. Under this revised vineyard property definition, we found there would be only a small reduction in planted vineyard acreage and total property acreage that would be enrolled in the General Permit. Specifically, we note that revising the vineyard property definition to focus solely upon parcels where a five acre-or-larger vineyard is planted, would only reduce the estimated enrolled vineyard acreage by a few percent and the total property acreage by about eight percent. From a water quality perspective, these differences in the extent of sediment control actions would not be significant.

Therefore, staff recommends that the Vineyard Property definition be revised to read (under **Scope of Coverage**):

For purposes of this Order, a "Vineyard Property" is defined ~~as the entire~~ by a parcel or contiguous parcels under the same ownership, ~~where grapevines are planted on part of the property~~ each of which is developed to include a vineyard.

Please note that under the proposed permit, the typical threshold for enrollment would be those parcels where a 5 acre-or-larger vineyard is developed**.**

2.2 Size threshold for enrollment

Agricultural organizations and vineyard property owners commented that the five-acre vineyard size threshold for enrollment, considering potential compliance costs, could constitute an economic hardship for many small family farmers. Environmental organizations questioned why smaller vineyards were not required to enroll, and whether this would compromise water quality protection.

Response to Comment 2.2

Water Board staff recommends maintaining a five-acre threshold for enrollment because:

a. Effective erosion control measures need to be in place at almost all vineyards in the permit area to achieve sediment TMDL load allocations for soil erosion in farm areas. Based on GIS analysis, a five-acre vineyard size threshold would result in approximately 90 percent of the total vineyard acreage being enrolled in the General Permit, ensuring that effective erosion control practices would be in-place at almost all vineyards."

b. During the first decade of the General Permit, total compliance costs for vineyard properties (see detailed response below, "4.0 Economic Considerations") are expected to be about $80-$320 per acre per year representing about 1-to-8 percent of total operating expenses (and these costs would go down to less than 2 percent during the second decade).

c. As described earlier, staff recommends that the vineyard property definition be revised to focus solely on parcels where a five acre-or-larger vineyard is planted, so as to reduce the potential for creating a financial hardship for a land-rich/cash-poor small family farmer[17].

[17] Note for example, if a 5 acre vineyard was planted on a 640 acre parcel, considering average road density values (miles of road per square mile of land area) for properties in the permit area, there would be approximately 4 miles of unpaved roads located throughout their property, and about 1 mile of which would need to be treated to comply with the draft permit, at an estimated cost of $25-to-30,000 per mile. Total operating expenses for a typical 5-acre vineyard at present, not considering road erosion control actions required under the permit, would range from approximately $20-to-30,000 per year. Adding the road erosion control costs, as accrued over the ten-year period for implementation, would increase total operating expenses by 10-to-15 percent during the first decade of the permit. Once the road retrofits were completed, permit compliance costs would only represent a 1-to-2 percent increase in total operating expenses.

Comment 2.3: Types of vineyards that would be regulated

Agricultural organizations and vineyard property owners commented that valley floor vineyards do not present a significant pollutant discharge threat, and therefore, should not be required to enroll in the permit, or be subject to more limited requirements with regard to the detail and scope of the farm plan. Agricultural organizations also commented that new vineyards proposed for development on greater than 30 percent slopes should also be allowed to enroll in the General Permit, and not be subject to the requirement to obtain individual waste discharge requirements.

Response to Comment 2.3

Valley Floor Vineyards

Water Board staff continues to recommend that a five acre-or-larger valley floor vineyard be required to enroll under the General Permit and be subject to all permit conditions. Per our response to Comment 2.2, Water Board staff note that total compliance costs for a small valley floor vineyard property (see detailed response below, "4.0 Economic Considerations") are expected to be modest, in most cases about $80 per acre per year, and typical compliance costs would be significantly lower per acre for a larger valley floor vineyard. More importantly, valley floor vineyards constitute more than half of the total planted acreage of vineyards within the permit area, and they are largely exempt from county requirements to prepare and implement an erosion control plan. If ground cover is not well established prior to the onset of significant rainfall, valley floor vineyards present the potential to discharge significant amounts of fine sediment into stream channels. As indicated as part of our response to Comment 1 above, based on staff inspections conducted at more than 100 vineyards within the permit area, we note that prior to farm plan certification, tillage occurs into the late fall at some sites, making them vulnerable to potentially significant rates of soil erosion and fine sediment discharge to channels. Therefore, Water Board staff continues to recommend that five acre-or-larger valley floor vineyard should be required to enroll in the General Permit, and be subject to all permit terms and conditions.

New Vineyards developed on Greater than 30 Percent Slopes

Water Board staff continues to recommend that new vineyards proposed for development on slopes greater than 30 percent be regulated under individual permits because vineyards (and/or other types of projects) developed on steep slopes present greater potential to cause or contribute to significant increases in rates of surface, fluvial, and landslide erosion on- and/or off-site, as the result of development related changes in vegetation cover, drainage, topography, and/or the distribution of mass on hillslopes. Vineyards proposed on steep slopes should be subject to site-specific regulatory review, and also as needed, site-specific permit terms and conditions. Where steep slope vineyards are well planned, Water Board staff expects the project review process to be fairly straightforward and timely, and that the terms and conditions of individual permits would closely follow those of the General Permit.

Comment 2.4: Pollutants to be controlled

Several vineyard property owners and agricultural organizations commented that the proposed permit shouldn't include conditions related to control of pesticide and/or nutrient discharges because no findings were presented linking vineyard properties to potentially significant discharges. In contrast, environmental organizations, the City of Napa, and watershed residents commented that additional measures are needed to control and limit vineyard pesticide applications and discharges within the permit area. The City of Napa and ICARE also expressed concerns regarding nutrient pollution problems and potential linkages to vineyard properties.

Response to Comment 2.4

Water Board staff recommends maintaining the General Permit's proposed terms and conditions to control application and limit potential discharge of pesticides and nutrients from vineyard properties, and that the following finding be added to the General Permit (in the section that presents **Water Quality Concerns)** to provide additional supporting rationale:

1. Wine grapes are planted over almost the entire land area devoted to farming in the Napa River and Sonoma Creek watersheds, making viticulture in this region highly susceptible to pest infestations, and therefore subject at times to potentially high rates of pesticide application. At present, several pesticides are applied in large amounts (> 1000 pounds of active ingredient) and/or over extensive land areas (> 1000 acres) within the permit area that are xenoestrogens which may present the potential to contribute to feminization of Chinook salmon, and/or which have moderate to very high potential to contribute to aquatic toxicity (Long et al., 2005). Pesticides of highest concern that currently are applied in large amounts over extensive areas within the permit area include pendimethalin, pryaclostrobin, trifloxystrobin, oxyfluorfen, cyprodinil, triflumizole, and imidacloprid. These compounds may pose a potential threat to water quality; however, at present there is limited information on their occurrence in waters.

Comment 3: Overlap and consistency with county regulatory requirements

Comment 3.1: The Permit should not be duplicative of county regulatory requirements

Agricultural organizations and grape growers commented that the General Permit is duplicative of local regulatory programs.

Response to Comment 3.1

We disagree that the General Permit would be duplicative. As described in the DEIR project definition, we note that vineyard properties including farming areas and extensive unpaved roads have been identified as significant sources of sand and finer sediment discharge to the Napa River, Sonoma Creek, and their tributaries (Water Board, 2008a, p. 43; Water Board, 2009a, p. 57). Also, storm runoff increases generated by hillslope vineyards and roads have been identified as two of several causes for channel incision, which also is a significant fine sediment source and the primary agent of channel habitat simplification.

Local regulatory programs have focused largely on soil erosion within hillsope vineyards. Therefore, we expect that vineyard properties operating under locally approved erosion control plans would meet the performance standards for soil erosion in farming areas specified in the General Permit.

However, other potentially significant sediment sources including: a) concentration of storm runoff from hillslope vineyards and unpaved roads, which may cause or contribute to increases in off-site gully erosion, landsliding, and/or channel incision; and b) sediment discharges from unpaved roads, in most cases, have not been subject to local regulation.

Similarly, soil erosion in vineyards located on valley floor sites, which constitute more than half of the total planted vineyard acreage, are not subject to local erosion control plan requirements.

Therefore, we disagree that the General Permit is duplicative. Instead the General Permit would focus largely on closing gaps in local regulation of potentially significant sediment sources.

Comment 3.2: Potential inconsistencies with Napa County regulatory requirements

The County of Napa in its comments requested clarifications regarding potential inconsistencies between the County's existing regulations and the proposed General Permit as related to: a) stream setbacks; b) permissible timing of grading activities; c) drainage facilities constructed within domestic water supply watersheds; and d) erosion control plan requirements.

Response to Comment 3.2

a) Stream setbacks

The General Permit would not require stream setbacks but instead, provides incentives for establishment of stream setbacks and/or for participation in reach-scale stream restoration projects (refer to enrollment Tier 1). These incentives include reduced permit fees, and reduced reporting and monitoring requirements. The purpose of the voluntary setback incentives under the General Permit is to maintain and/or re-establish pool-riffle bedforms, and also an interconnected floodplain and riparian corridor in unconfined alluvial channel reaches. Most unconfined alluvial channel reaches in the Napa River and Sonoma Creek watersheds are deeply incised and simplified as a result of historical and/or current land-use activities.

In order to qualify for Tier 1, in addition to fully implementing a certified farm plan, in unconfined alluvial valley reaches (e.g., where channels traverse valley floor settings) permittees must establish a setback from the top of the bank, on each side of the channel, that is greater than or equal to 1.5 times the bankfull channel width. Including setbacks on each side of the channel and also the width of the channel, the resultant stream-riparian corridor would be greater than or equal to four times the bankfull channel width, as is needed to form and/or maintain alternate bars (Jaeggi, 1982), an inset floodplain, and allow the channel to evolve over time via meandering and/or avulsion processes (Montgomery and Buffington, 1998, pp. 33-34; Church, 2002). Providing the channel enough space to adjust its width, depth, and location is essential for formation and maintenance of complex inter-connected channel habitats (Montgomery, 2003, pp. 25-31).

To avoid potential inconsistencies with regard to the establishment of voluntary setbacks under the General Permit, as compared to width of stream setbacks required by Napa County, Water Board staff recommends adding the following text to the General Permit (within **Attachment A** of the General Permit, in the section describing **Stream-Riparian Habitat Protection and Enhancement Actions**):

> <u>"Where the stream setback width required by the local land-use authority is greater than 1.5 times the bankfull channel width, the full width of locally required stream setback must be complied with in order to qualify for Tier 1 designation under the General Permit."</u>

b) Permissible timing of grading

Napa County regulations limit grading and earthmoving activities on slopes greater than five percent in most locations to the period between April 1 and October 15; this period is further restricted in watershed subareas that are designated as "sensitive domestic water supply drainages" (e.g., Lake Hennessey watershed, upper Milliken Creek, Rector Canyon, upper Bell Canyon Creek) to the period between April 1 and September 1.

Under the General Permit, absent potential site-specific impacts to water quality and/or biological resources, the permissible period for grading and earth moving activities would be from June 1 through October 15. To avoid potential inconsistencies with Napa County regulations, Water Board staff

recommends that the General Permit be revised to add an additional mitigation measure, Hydrology-1: Restriction on the Timing of Grading and Earthmoving Activities in Sensitive Water Supply Drainages, which would be included in the General Permit within **Attachment F, CEQA Impacts and Mitigation Measures**:

> "Grading and earthmoving activities undertaken to comply with this Order that occur on slopes greater than five percent, and which are subject to the requirement to obtain a discretionary permit from Napa County are restricted to the period between June 1 and September 1."

c) Drainage facilities constructed within domestic water supply watersheds

Consistent with Napa County regulations for new or replanted vineyards, drainage facilities (e.g., culverts, detention ponds, drainage ditches) constructed in sensitive domestic water supply drainages would need to be designed and constructed to handle runoff from a 100-year storm event (i.e., a 24-hour duration rainfall event that has a 100-year recurrence frequency).

With regard to the General Permit, the performance standards for storm runoff at a hillslope vineyard is defined exactly the same as the Napa County storm runoff control requirement, so there is no potential for inconsistency with regard to drainage facilities constructed as part of development of a new or replanted vineyard.

Compliance with the General Permit would not require modification of existing road crossings (e.g., culverts, bridges, fords, etc.), but would require that new roads be storm-proofed including that all road crossings be designed to handle runoff form a 100-year storm, plus the anticipated sediment and debris loads (as defined by Cafferata et al., 2004). In this case, compliance with the General Permit would result in drainage facilities that are designed and constructed to a standard that exceed that required by Napa County for drainage facilities constructed in sensitive domestic water supply drainages.

To avoid any potential inconsistencies, staff recommends that the General Permit be revised to add an additional mitigation measure, Hydrology-2: Sensitive Water Supply Drainage Requirements, which would be included within the General Permit in **Attachment F, CEQA Impacts and Mitigation Measures**:

> "Except as specified under the performance standard for storm-proofing of new roads, drainage facilities and outfalls constructed in a sensitive domestic water supply drainage (as defined by Napa County) that are constructed to comply with this Order shall be sized to handle runoff from a 100-year storm event (i.e., a 24-hour duration rainfall event that has a 100-year recurrence frequency)."

d) Napa County erosion control plan requirements for new vineyard development projects and related mitigation, monitoring, and reporting consistent with approved CEQA documents

Napa County staff commented that it is unclear how compliance with the General Permit would interplay with the engineering design requirements and details of future approved County erosion control plans. Similarly, Napa County staff also commented that it is unclear how potential inconsistencies related to CEQA compliance per mitigation, monitoring, and reporting for these same projects would be handled.

There are two performance standards for hillslope vineyards that future approved County erosion control plans could be expected to satisfy: 1) soil erosion in the farm area; and 2) storm runoff from a new hillslope vineyard.

The General Permit currently includes guidance regarding hydrologic modeling assumptions, specifically that ripping of soils shall not be inferred to result in a long-term increase in soil infiltration capacity, and Hydrologic Soil Group Classification shall not be modified. In response to comments by Napa County staff and the Living Rivers Council, in conjunction with our review of hydrologic models prepared for several recent vineyard development projects, in order to avoid potential inconsistencies with regard to hydrologic modeling specifications and assumptions, Water Board staff recommend that the General Permit be revised to include the following additional guidance with regard to hydrologic modeling, which would be inserted into **Attachment A** of the General Permit, in the section that presents the **Performance Standards for Discharge**:

- Pre- and post-project peak runoff estimates shall be provided for each sub-watershed area that drains into a vineyard drainage outfall. The size of the sub-watershed area is dictated by the drainage area lying upslope of each drainage structure outfall directing runoff from a vineyard block.

- Pre- and post-project peak flow estimates also shall be quantified at all locations where runoff exits the property (e.g., swales, creeks, ditches).

- Numerical modeling shall include hydraulic computations that integrate routing of flow through drainage elements such as pipes, surface ditches, roc/grass-lined swales, sedimentation basins, etc. into the numerical rainfall-runoff model.

- Numerical modeling shall include and account for all types of runoff from roads that drain into modelled sub-watershed areas.

- Numerical modeling shall include routing of flow through proposed BMP structures that would be implemented to control erosion and/or attenuate runoff.

- BMP structures shall be designed to address predicted project hydraulic conditions, such as water depth and velocity.

- Similar to vineyard drainage elements, routing of flows through BMPs (e.g., flow control structures, energy dissipaters/outlet protection, rock lined ditches, check dams, sediment basins, slope drains, streambank stabilization structures, and gravel berms) may alter runoff rate, and therefore, shall be integrated into the model/hydrologic analysis.

- A comprehensive description of the modeling approach, methods, assumptions, and peak flow estimates shall be integrated into the erosion control plan.

Assuming conformance of project proponents with the modeling guidance provided immediately above, Water Board staff conclude that there should not be inconsistencies between engineering design requirements and details of future approved County erosion control plans, and General Permit compliance actions.

With regard to CEQA mitigation, monitoring, and reporting arising from Napa County CEQA documents, assuming a County-approved vineyard project achieves the General Permit's performance standards for soil erosion and storm runoff, there should be no inconsistencies related to CEQA compliance.

Comment 4: All costs must be accurately estimated and hardships to small vineyard owners considered

Agricultural organizations and grape growers expressed concerns about the General Permit's potential economic hardship to growers, particularly the small and/or family business farmer. Prominent among those concerns were the costs to prepare a farm plan, and costs to control road-related sediment delivery to channels in order to comply with the General Permit. In considering the potential compliance costs, Agricultural organizations also directed Water Board staff to specify potential sources of financing, specifically grants that will be available to offset potential costs, such that the actual cost of compliance is accurately estimated.

Response to Comment 4

Staff have prepared example compliance cost estimates for a small valley floor vineyard, and also for small, medium, and large hillslope vineyards located on a large parcel (640 acres) to support a conclusion that costs to comply with the General Permit would correspond to approximately 1-to-8 percent of typical total operating costs for vineyards that are established within the permit area.

Water Board staff also recommends the changes to the following sections of the General Permit, all of which would reduce potential compliance costs:

a) Vineyard property definition (see Response to Comment 2.1);

b) Road performance standards (see below); and

c) Tier 3 monitoring requirements (see below).

Recommended changes to General Permit to address concerns regarding potential economic hardships

As described earlier (Response to Comment 2.1), staff recommends that the vineyard property definition be revised, such that only those parcels planted in grapes be regulated, typically, a five acre-or-larger vineyard. This revision would result in an estimated 8 percent reduction in the total property area enrolled in the General Permit, and a smaller reduction in the planted area enrolled. The overall effect on sediment delivery to channels and substrate conditions in streams would not be measurable, however, this revision would reduce the potential for economic hardship associated with permit compliance that could occur for a cash-poor (i.e., five acre vineyard), but land-rich (640-acre parcel) farmer, who, considering this large parcel, could have significant compliance costs associated with road-erosion control.

Staff also recommends revising the General Permit to: a) allow Tier 3 permittees the ability to participate in group monitoring program option, which would be much more cost effective (less than $10 per acre per year) than developing and conducting an individual monitoring program; and b) clarify that the road erosion control performance standards only apply to hillslope vineyard properties.

We also note the following information, which bears on costs and/or grant funding:

a) Over the past decade in the Napa River watershed, the Water Board has provided approximately $2.9 million in funding for farm plan development and implementation and road-erosion control projects; note that other public agencies including the USDA Natural Resources Conservation Service, the California Department of Fish and Wildlife, the US EPA, and the California Coastal Conservancy, also provided significant funding that is not considered here.

b) The typical cost for the road erosion control actions required under the proposed General Permit would be less than or equal to $30,000 per mile (Napa RCD, personal communication, 2016). Considering an average density of unpaved roads at hillslope properties within the permit area equal to four miles per square mile of land area, and for every four miles of unpaved road, typically one mile would need to be treated to comply with the permit. Therefore at a 640 acre hillslope vineyard property, we estimate average total cost for road erosion control actions would be less than or equal to $30,000. We estimate that approximately 100 miles of unpaved roads located within hillslope vineyard properties, will need to be upgraded in order to comply with the General Permit.

c) To develop more precise cost estimates for farm plan development as currently required under the General Permit, we contacted Laurel Marcus, the Executive Director of the California Land Stewardship Institute (CLSI) that has developed and implemented the Fish Friendly Farming Program. Between 2004 and present, CLSI has developed almost 500 farm plans covering approximately 71,000 of vineyard properties within the permit area (CLSI, 2016). Based on their experience, Ms. Marcus indicates that vineyard managers and/or property owners are usually able to complete most of the elements of the farm plan independently. CLSI staff assistance is typically needed to help complete farm plan elements relating to roads and creek/river corridors. In most cases, the total amount of CLSI staff effort would not be expected to exceed 40 hours (L. Marcus, personal communication, 2017). Applying an average billing rate of $125 per hour, the total cost to the landowner of farm plan development ($125/hr x 40 hr) would be a one-time cost less than $5000. For the smallest vineyard (i.e., five acres) that would need to be enrolled under the General Permit, this cost could be worked into a business plan and accrued over a ten-year permit implementation period, corresponding to an estimated cost $100 per planted acre per year. At a larger vineyard, the cost per planted acre would be less.

d) Considering all the above, and available information regarding operating costs for vineyards in the permit area (Cooper et al., 2012; Smith et al., 2010 and 2016), we have estimated compliance costs for a typical small (10 acre) valley floor vineyard, and also for a small (10 acre), medium (20 acre), and large (100 acre) hillslope vineyard located on a large property (640 acres). Under these examples, total compliance costs would range from about $20-to-$315 per acre per year corresponding to a 1-to-8 percent increase in total operating expenses for typical vineyards located within the permit area. Following development and implementation of the farm plan, which would occur during the first decade of the permit, estimated compliance costs would decrease substantially, corresponding to < 2 percent of total operating expenses.

Comment 5: Monitoring program (scope, focus, technical advisory committee, group option for all tiers)

Stakeholders provided a wide range of comments regarding the monitoring program including specific suggestions regarding the purpose of monitoring, the constituents that should be monitored, and also that the utility, costs, feasibility, and suggested that applications (i.e., BMP effectiveness determination and/or TMDL target evaluation) need to be carefully considered.

The Napa County RCD and agricultural organizations both recommended that the monitoring focus primarily on evaluation of attainment of the numeric targets for sediment (i.e., streambed substrate conditions). BayKeeper, the City of Napa, ICARE, and Sarah Martsen Bittner all recommended that the permit include monitoring of pesticides to evaluate attainment of permit conditions and performance standards. The City of Napa also recommended that nutrient discharges be monitored. The City of Napa and ICARE also recommended that turbidity be monitored to evaluate BMP effectiveness as related to sediment discharges.

The Napa RCD, NOAA Fisheries, and the California Land Stewardship Institute mentioned aspects of the development and implementation of a monitoring program, where the establishment of a technical advisory committee (TAC), and/or training of vineyard managers to collect monitoring data, is recommended to ensure that the information developed is useful and objective. California Land Stewardship Institute also mentioned the need for a competitive bid process to ensure objectivity in selection of a qualified contractor.

Response to Comment 5

5.1 The primary focus of monitoring program

We agree with the Napa RCD and agricultural organizations that the streambed monitoring program to evaluate attainment of numeric targets for sediment in the Napa River watershed is essentially ready to go, once funding is secured, and that this information is directly relevant in evaluating achievement of the Basin Plan's water quality objectives for sediment, settable material, and population and community ecology. As such, Water Board staff recommends that the streambed monitoring program replace proposed soil infiltration capacity monitoring, and be the primary focus of required monitoring under the General Permit.

A key challenge in making the streambed monitoring program the primary focus of monitoring is the need for an institution to step forward to take on the responsibility of administering a group monitoring program[18], as this type of monitoring would not be cost effective for individual permittees to conduct, would yield unreliable results if not done properly, and would be time intensive for the Water Board staff to administer in working with individual permittees. Also, this type of monitoring would not be applicable to vineyard properties that do not include stream channel reaches within their property that provide potential spawning and rearing habitat for anadromous salmonids, the areas where numeric target monitoring would be conducted. In the Sonoma Creek watershed, all of the above points would apply and also an additional analytical step would be needed, which is to conduct a pilot monitoring study therein, to inform development of a full monitoring program for sediment numeric targets. For Sonoma, the targets include streambed permeability, pool filling, and substrate composition/percent fines.

In both watersheds, in order to provide context for interpretation of the results of substrate monitoring, watershed sediment yield also needs to be estimated during the period when substrate conditions are monitored because there would be substantial inter-annual variability as a function of water year type and also in response to BMP implementation. Also, although annual compliance reporting and BMP implementation monitoring would document progress with regard to BMP implementation, a complimentary effort would also be needed to evaluate BMP effectiveness as related to sediment

[18] Ideally, an agency or organization based in or nearby to the Napa River watershed would administer the monitoring program therein, and a local agency or organization based in or nearby to the Sonoma Creek watershed would administer a group monitoring program for that watershed.

discharges. A variety of approaches to evaluate BMP effectiveness may be appropriate including turbidity monitoring, measurement of sediment sources, reservoir sedimentation surveys or other approaches. Water Board staff will work with approved Third-Party Programs and/or work to help establish a technical advisory committee to develop an informative approach to monitoring for BMP effectiveness.

The General Permit, as currently drafted, specifies that two years following its adoption, permittees shall submit for review and approval a study plan for monitoring, and five years following adoption that they shall submit for review and approval a final report presenting the results of the monitoring program[19]. It also contains a provision that allows the Executive Officer to revise at any time, the monitoring and reporting required under the General Permit. These process steps provide an opportunity to further refine monitoring and reporting requirements following permit adoption.

5.2 Cost and Feasibility

Consistent with typical costs for monitoring being conducted elsewhere in California to comply with permits for agricultural properties, we would work with vineyard groups on the goal of keeping total cost of a Group Monitoring Program, including administration cost, to less than $10 per acre per year. Provided that an institution steps forward to take on the responsibility of administering a Group Monitoring Program, it should be quite straightforward for individual permittees to satisfy the General Permit's monitoring requirements by paying a set fee. Since the Water Board cannot require Group Monitoring, the General Permit will be revised to describe objectives and scope for an individual monitoring option. At a minimum, individual monitoring would include an assessment of BMP effectiveness as related to sediment discharges, and where applicable, measurement of substrate conditions as related to numeric targets. This type of monitoring would not be as cost effective to conduct at an individual property because of the economies of scale related to monitoring plan development and implementation. Following adoption of the General Permit, Water Board staff is committed to working with a Technical Advisory Committee and/or with approved Third-Party Programs, to develop a practical and cost effective option for individual dischargers.

5.3 Add monitoring of nutrients

In response to the City of Napa's concerns, we note that premium wine grapes have the lowest nutrient application rate of any important row crop cultivated in California (Rosenstock et al., 2013, Table 1, p. 75). Vineyard nutrient applications are precisely targeted, through plant tissue analysis and/or soil sampling, since it is counterproductive for vineyard managers to overstimulate growth, which has a negative effect on the quality of premium wine grapes. In most cases, nutrients are delivered via drip lines (fertigation) and deficit irrigation is practiced, which further limit the potential for discharge of applied nutrients. Nutrients bound to sediment, or dissolved in runoff also would be reduced because the proposed permit significantly reduces sediment discharges.

Also, although vineyard development has increased by a significant amount overall in recent decades within the Napa River watershed, the planted vineyard area (1771 ac) in 1993 in the Lake Hennessey watershed (total drainage area = 33,315 ac) represented 5.3 percent of the total drainage area, and the planted vineyard area in 2014 (2477 ac) represented 7.4 percent of the total drainage area, which are still modest percentages of the total drainage area.

[19] In the Sonoma Creek watershed, the pilot monitoring program would be the first phase of a full monitoring program, requiring at least three years of monitoring to be completed to inform submittal of the final report.

Significant algal blooms were first noted in 2010, and the data provided by the City of Napa documents this problem through 2015 (the most recent year for which complete sampling results have been provided). However, there only was a small increase in total vineyard acreage in the Lake Hennessey watershed in the decade preceding significant algal blooms, and planted area was essentially static from the onset of blooms through the most recent year (2014) that vineyard mapping is available. Also, the 2010 through 2015 period, with the exception of water year 2011, was characterized by an extreme and persistent drought. Paleo-climatologists at UC Berkeley suggest that water year 2014 may have been the driest winter in Northern California within the last 500 years (Los Angeles Times, February 3, 2014). Significant problematic algal blooms were documented in reservoirs throughout the State during this extended drought period suggesting that the increased algal blooms in Lake Hennessey may be related at least in part to lower reservoir inflow, warmer temperatures, and/or fewer spills of the reservoir during the 2010 through 2015 period (also shorter periods of high turbidity, which occur during and following storms, could also be a factor by allowing increased light penetration into the reservoir's water). If vineyard development and/or management practices are exerting a significant influence on problematic algal blooms, the relationship would appear to be indirect, and/or related to cumulative nutrient loading into the reservoir over time.

Considering all of the above information, Water Board staff does not recommend adding nutrients to the list of constituents that would be required to be monitored under the General Permit. It is possible that nutrient monitoring could be added in future years, most likely as part of the Surface Water Ambient Montioring Program (SWAMP) that is conducted by Water Board staff.

5.4 Add monitoring of pesticides

As described in our response to Comment 2.4, the pesticides of high concern that currently are applied in large amounts over extensive areas within the area subject to the General Permit include pendimethalin, pryaclostrobin, trifloxystrobin, oxyfluorfen, cyprodinil, triflumizole, and imidacloprid. This preliminary list will be revised at a future date based on further assessment of potential risk, and/or in response to significant changes in pesticide use within the permit area.

Within five years of the adoption of the General Permit, SWAMP expects to conduct a pilot monitoring effort in the Napa River and Sonoma Creek watersheds to sample for the occurrence of pesticides of high concern, as needed to further inform assessment of potential to impacts to water quality. Based on the results of this proposed pilot monitoring effort, permittees may be required at a future date to monitor high concern pesticides and/or aquatic toxicity, but we do not recommend revising the General Permit to require such monitoring at this time.

5.5 Technical Advisory Committee, training vineyard managers to measure turbidity and/or to perform other types of monitoring, and technical contractor selection

As indicated in our response to Comment 5.1, we support the establishment of a Technical Advisory Committee (TAC) to help develop and refine various aspect of the monitoring that would be required under the permit.

With regard to the measurement of turbidity to evaluate BMP effectiveness, Water Board staff agrees that training is needed, and we recommend that sampling protocols and/or training be developed by working with a TAC and/or approved Third-Party Programs once the General Permit is adopted.

As related to selection of a technical contractor (to conduct a Group Monitoring Program), as indicated in our response to Comment 5.1, a necessary first step is for an capable institution to step forward that

agrees to take on the responsibility of administering such an effort. Assuming an institution does step forward to take on this administrative responsibility, we are confident that its process for choosing a contractor would be objective and focused on selecting the best qualified contractor.

Comment 6: Compliance deadlines need to be revised (too aggressive or too lax)

Agricultural organizations and several grape growers commented that "the timelines allotted are not sufficient particularly since many growers are still unaware of the proposed regulations." The California Land Stewardship Institute also commented that the "three years proposed for all vineyards …to complete farm plans is [in]adequate. We would suggest at least six years."

NOAA Fisheries commented that they strongly support the proposed time schedules for achieving performance standards. BayKeeper commented that the timelines for achieving compliance "must be shortened to assure the most rapid compliance", and "There has been no progress in reducing sediment loads over the seven years since the TMDLs were adopted." ICARE also commented that "It has taken 28 years to get regulations on non-point pollution. This wait has cost the public valuable public trust losses, such as swimming, fishing and recreation in the Napa River and Sonoma Creek."

Response to Comment 6

Water Board staff recommends that the current compliance deadlines in the General Permit be maintained. We note that the consideration of General Permit adoption is occurring more than eight years following the Water Board's adoption of the Napa River sediment TMDL and nine years following adoption of the Sonoma Creek sediment TMDL. Throughout TMDL development, and in the period following TMDL adoption, Water Board staff has worked with vineyard managers and property owners, agricultural organizations, local non-profits, and government agencies to encourage development of farm planning programs and has helped secure substantial funding for farm plan development and implementation, road-erosion control projects, and river restoration projects.

Lots of progress has occurred since TMDL development and adoption. For example, between 2004 and the present, CLSI while working in the Napa River and Sonoma Creek watersheds, has completed farm plans for almost 500 vineyard properties totaling approximately 71,000 acres (CLSI, 2016). Following initiation of the LandSmart farm planning program in 2013, local RCDs in the past three years have developed farm plans that cover approximately 10,000 acres of vineyard property located within the area proposed for General Permit coverage. Considering these two programs alone, Water Board staff estimate that 75 percent-or-more of the total property area that would be covered under the General Permit already has completed farm plans, that could be certified under the General Permit as-is (i.e., at all valley floor sites) and/or could be certified under the General Permit with minor addenda (e.g., at some hillslope sites) where additional actions would be needed to achieve road erosion control performance standards currently contained in the General Permit.

Considering the progress to-date in farm plan development and implementation, the importance of restoring properly functioning substrate conditions in a timely fashion, and the range of concerns expressed, Water Board staff recommends that the compliance deadlines be maintained.

Comment 7: Definitions of Qualified Professionals and Certification

The California Land Stewardship Institute (CLSI) and NOAA Fisheries commented that the ecological expertise is needed in the evaluation of stream setbacks and/or practices implemented to manage stream bank and bed erosion, in particular, in incised channel reaches. Consequently, CLSI and NOAA

Fisheries recommend that the farm plan certification team also include professionals with biological and/or ecological expertise.

CLSI also commented that the use of the term "certified" in the General Permit is inconsistent with its common usage, where the professionals that certify something (in this case, the farm plan) are not affiliated with, and do not have other potential for conflicts of interest with the organization and/or individuals that prepared the farm plan.

Linda McGlochlin commented that the State Board of Engineers, Geologists, and Geophysicists have sole legal authority with regard to practice of geology or engineering, including on their own property. However, the … "permit prohibits the practice of … licensed geologists and engineers in preparing a Farm Plan for a property if they had a financial interest in the property." "I am concerned that this "conflict of interest" provision … implies that geologists and engineers cannot be relied upon to follow the code of conduct [for engineers and geologists] for work on their own properties. This exclusion … seems very restrictive. Tax payer money should not be spent on having the RWQCB determine the qualifications of licensed engineers and geologists."

The Napa RCD also commented that they "fully support inclusion of Qualified Professionals in the role of developing and certifying farm plans for compliance with the Vineyard WDR program. However, the current required documentation for an individual to be approved is unrealistic and will significantly limit the number of approved qualified professionals."

In summary, these comments relate primarily to who can prepare/develop a farm plan, who can certify a farm plan, and what types of requirements would be appropriate for the Water Board to specify in these regards.

Response to Comment 7

Water Board staff recommends that the General Permit be revised, such that:

a) Attachment C of the General Permit would be revised to recommend that a Third-Party Program, in the development and certification of a farm plan, also involve staff with expertise in biology and/or ecology, as related to stream protection or restoration;

b) The General Permit does not include a process for approval of Qualified Professionals, as this could reasonably be considered a restriction on professional practice of State licensed engineers and geologists; and

c) The definition of a "certified" be revised to read as follows:

"Certified means that an approved ~~Qualified Professional or~~ Third-Party Program has reviewed the Farm Plan, and concluded that upon its full implementation, the Vineyard Property would achieve all applicable performance standards for discharge.

Where the certification process does not involve independent scientists (i.e., scientists not employed by the Third-Party Program), the Farm Plan also must be stamped and/or signed as applicable by a Qualified Professional employed by the Third-Party Program to indicate that she/he concurs that upon full implementation, the Farm Plan would achieve applicable performance standards for sediment and storm runoff control.

These recommended changes would avoid restrictions on who could prepare a farm plan, and clarify that "certified" means[20]: a) either independently peer-reviewed, or b) that a Qualified Professional working for the Third-Party Program has stamped and/or signed the farm plan to concur that upon full implementation, the farm plan is expected to achieve performance standards for sediment and storm runoff control.

We expect that these recommended changes would alleviate potential bottlenecks related to Farm Plan development, and where farm plans are complete and technically sound, little additional effort would be required by staff working for an approved Third-Party Program to certify the farm plan.

If the process for obtaining certification does create a bottleneck in the farm planning and implementation process, we would expect that approved Third-party Programs will be in an excellent position to hire additional staff or contractors to meet the demand for certification on a timeline consistent with the compliance deadlines specified in the General Permit.

Comment 8: Specification of performance standards

8.1 NOAA Fisheries and the CLSI commented that streambank stabilization using hard engineering methods (e.g., rip-rap, gabions) should be strongly discouraged and/or restricted under the proposed General Permit because such practices, although they may be effective in controlling erosion locally, will increase erosion in the channel overall. In this same regard, NOAA Fisheries and CLSI also commented that the permit should require that properties pledging to implement passive restoration, allow bank erosion to progress, the only permissible intervention would be establishment of native riparian plant species, and that hard structures (i.e., rip-rap, gabions) be prohibited.

The Napa RCD commented that existing pipelines and pumps should be allowed within the stream setbacks that are established and maintained under the permit to qualify for enrollment under Tier 1.

8.2 CLSI also commented that it may not be possible to determine the cause of channel erosion. The permit should provide greater guidance in how to interpret observations of channel erosion downstream of hillslope vineyards. The Living Rivers Council also provided specific comments regarding guidance that should be included in the General Permit with regard to development of hydrologic models, and to demonstrate attainment of the performance standard for bed and bank erosion.

Response to Comment 8.1: Performance Standards for protection of stream-riparian corridors

Water Board staff recommends that, the General Permit's "**Water Quality Concerns**" section, the following text be added as a new finding:

> "Where hard engineering approaches are used to stabilize streambanks (rip-rap, gabions, etc.), even if effective locally, these structures often compromise channel stability and habitat complexity in adjacent channel reaches, resulting in an overall increase in erosion and decrease in habitat complexity within the affected channel reach. Such unintended impacts are further magnified within incised channel reaches, where the force per unit area exerted on the channel bed and banks is substantially increased as a consequence of incision."

[20] Merriam Webster defines "certified" as "to test as being true or as meeting a standard."

Staff also recommends that in the General Permit's "**Water Quality Control Plan**" section, the following text be added to further inform compliance:

> "Consistent with USEPA's Section 404(b)(1) Guidelines for Dredge and Fill Material, in determining the circumstances under which wetlands filling may be permitted[21], in general, it is preferable to avoid wetland disturbance. When this is not possible, disturbance should be minimized. Mitigation for lost wetland acreage and values through wetland restoration or creation should only be considered after disturbance has been minimized."

In **Attachment A** to the General Permit (Farm Plan Requirements), in the "**Stream Riparian Habitat Protection and Enhancement Actions**" section, staff recommends that the following text be added:

> "Consistent with US EPA's 404(b)(1) Guidelines, placement of hard engineering structures (e.g., rip-rap, gabions) in stream channels shall be avoided to the maximum extent practicable. Hard engineering structures may only be placed within a stream channel, where the incorporation of bioengineering techniques involving deformable constructed streambanks would not be sufficient to protect human safety, and/or existing buildings and other critical infrastructure located in the setback, and a significant threat has been confirmed.
>
> Marin RCD (2007) and Cramer et al. (2012) provide useful guidance with regard to bank stabilization techniques for stream channels that are consistent with the protection of ecological and geomorphic functions. Fischenich (2001) provides useful information regarding stability thresholds for bioengineering techniques."

Also, in **Attachment A** (Farm Plan Requirements), under the heading **Fully Protected Stream Corridors**, staff recommends that the following text be revised as indicated below:

> "Where a Vineyard Property has:
>
> a) Established and maintained stream setbacks, as measured from the top of bank, along all unconfined alluvial channels that are on average greater than or equal to 1.5 times then bankfull width (see Table 2 for calculation of setback width as a function of watershed area); and/or
>
> b) Has implemented active and/or passive restoration measures**,** including managed bank retreat, with vegetation restoration only, through Farm Plan implementation and/or participation in an approved Third-Party Program, a reach-based habitat enhancement project, including the Rutherford Napa River Restoration, the Oakville to Oak Knoll Napa River Restoration, the Carneros Creek Adaptive Management Plan, and/or any other reach or tributary scale stewardship plan, that has been reviewed and approved by the Water Board, the setbacks established under these plans are considered sufficient for the Vineyard Property to be considered to have Fully Protected Stream-Riparian Corridors.

[21] A wetland is defined as "an ecosystem that depends on constant or recurrent, shallow inundation or saturation at or near the surface of the substrate (National Academy of Sciences, 1995)." Wetland habitats include, for example, stream channels, and a suite of riparian forest types. Any stream or riparian corridor management action that involves temporary or permanent placement of fill within wetlands, including all waters of the United States, is subject to the requirement to obtain a Clean Water Act section 401 certification from the Water Board, and additional permits as applicable from other local, State, and federal agencies.

Vineyard Properties with a Certified Farm Plan that is fully implemented and that have established Fully Protected Stream-Riparian Corridors are eligible for enrollment under Tier 1 of this Order.

"A stream-riparian corridor greater than or equal to four-times the bankfull channel width would include the bankfull channel (1 channel width) and setbacks from the top of bank, on both side that are greater than or equal to 1.5 times the bankfull channel width. Where the stream-riparian corridor is ≥ four-times the bankfull channel width, the channel would be unconfined, and free to evolve over time via meandering and/or avulsion processes (Montgomery and Buffington, 1998; pp. 33-34; Church, 2002), which are central to the formation and maintenance of bar-pool topography (Jaeggi, 1982) and complex and interconnected channel habitat that native fish and wildlife species have evolved with in gravel-bedded streams that traverse unconfined alluvial valleys (Montgomery, 2003, pp. 25-31)."

Recommended changes to related footnotes (in Attachment A of the General Permit):

"No vineyard avenues, roads, ~~pipelines, pumps,~~ or vineyard rows can be maintained within the setback, which is measured perpendicular to the channel beginning at the top of the bank.

Benefits of enrollment in Tier 1 include exemption from the requirement to perform BMP effectiveness monitoring (as specified in Attachment E), reduced reporting requirements, and also being formally recognized by the Water Board as a Water Quality Steward."

Response to Comment 8.2: Guidance per attainment of performance standards for storm runoff from hillslope vineyards

With regard to comments provided by the Living Rivers Council (LRC) that relate to guidance for development of hydrologic models, see our response to Comment 3.2(d). We concur that all of these specifications must be included as part of a hydrologic model prepared to evaluate attainment of the peak runoff criteria.

In response to the comment provided by CLSI, we note that the storm runoff performance standards for bed and bank erosion apply to those locations where a hillslope vineyard discharges directly into a headwater channel reach, and/or an alluvial channel is located within a canyon (where typically, alluvial deposits are modest and bedrock is located within a meter of the surface of the streambed).

LRC also commented that additional guidance is needed with regard to the specification of a protocol to demonstrate attainment of the performance standard for bed and bank erosion. Water Board staff is involved in research to identify existing protocol(s) that could be recommended for this purpose, including the protocols suggested by LRC. Prior to Water Board's consideration of adoption of the General Permit, staff will either recommend additional of an existing protocol (as part of the permit package) or revising Attachment E of the General Permit (Monitoring and Reporting Requirements) to include the requirement to develop and implement a monitoring protocol for assessment of attainment of the bed and bank erosion performance standard.

Comment 9: Clarifications

9.1 The Los Carneros Water District commented that for reservoirs receiving treated wastewater, that the required water quality control actions be limited solely to the protection of water quality in downstream channel reaches located on parcels under the same ownership (as the reservoir).

Response to Comment 9.1

Water Board staff concurs with this recommended change, which is consistent with our expectation of what is practicable and feasible for a permittee, and therefore we recommend the following revision to Attachment A of the General Permit (Farm Plan Requirements), under the heading **Water Quality Controls for Reservoirs …**

> "The Farm Plan shall describe the BMPs that are in-place and/or that will be implemented to protect water quality in downstream water bodies <u>located on parcels under the same ownership as the discharger,</u> as related to the operation and maintenance of reservoirs that receive recycled water, and which may discharge to surface waters of the State.

Comment 9.2: Napa RCD requested clarification regarding how often Tier 1 dischargers would be required to provide certification reports.

Response to Comment 9.2

A certification or re-certification report would only be required once every five years.

Comment 9.3: Napa RCD requested a clarification regarding whether it is possible for dischargers to move between Tiers, and if so, to consider how this could increase the financial burden over time to the dischargers that remain outside of Tier 1, as related to the cost of the group monitoring program (Tier 1 dischargers are exempt from this monitoring requirement).

Response to Comment 9.3

Water Board staff confirms that permittees would be able to move between tiers consistent with achievement of the conditions for enrollment within the given tier. Consistent with typical costs per acre for Group Monitoring that permittees are paying under other agricultural water quality control permits previously implemented elsewhere in California, and also considering the pilot monitoring program (Stillwater Sciences,2013), Water Board staff expect it will be possible to conduct a Group Monitoring Program focused primarily on evaluation of sediment TMDL numeric targets for a total cost (including administration expenses) of $5-to-$10 per acre per year throughout the first decade following adoption of the General Permit. We also expect that as BMP implementation and monitoring progresses, it should be possible to further refine the scope and/or frequency of required monitoring. Also, note that Attachment E of the General Permit (Monitoring and Reporting Requirements), can be revised subject to review and approval of the Executive Officer, providing flexibility in adaptively updating these requirements.

Comment 9.4: Napa RCD commented that "with proper maintenance, the existence of pipelines and pumps … in a riparian setback area … should be allowed."

Response to Comment 9.4

<u>We concur. See our response to Comment 8.1, as related to Footnote 17, where we recommend the following change:</u>

> <u>"[17] No vineyard avenues, roads, ~~pipelines, pumps,~~ or vineyard rows can be maintained within the setback, which is measured perpendicular to the channel beginning at the top of the bank.</u>

Comment 9.5: Is it possible for Third-Party Programs collect and aggregate annual compliance reports for individual dischargers?

Response to Comment 9.5

No. Annual compliance reports are required for each vineyard property that is enrolled in Tier 2 or Tier 3 of the proposed General Permit.

Summary of Staff Recommended Changes to the General Permit:

1. The Vineyard Property definition be revised to read: "A Vineyard Property is defined by a parcel, or contiguous parcels under the same ownership, each of which is developed to include a vineyard."

Please note that under the General Permit, the typical threshold for enrollment would be those parcels where a five acre-or-larger vineyard is developed.

2. The permit should be revised to provide additional supporting rationale for conditions related to control of pesticide use and discharges.

3. The General Permit should be revised to avoid potential inconsistencies with Napa County regulations as related to stream setback width, timing of grading and earthmoving activities, performance standards for drainage facilities, and guidance per attainment of the performance standard for storm runoff (as related to peak storm runoff in specified design storms).

4. The General Permit should be revised to provide Tier 3 permittees with the option of participating in a Group Monitoring Program.

5. The General Permit should be revised to clarify that the performance standards for roads would only apply to hillslope vineyard properties.

6. Guidance should be added to the General Permit related to the attainment of performance standards for storm runoff from hillslope vineyards (as related to bed and bank erosion), and for the protection and management of stream-riparian corridors.

7. The General Permit should be revised to replace soil infiltration capacity with streambed monitoring to evaluate attainment of numeric targets for sediment as the primary focus of required monitoring. Complimentary monitoring of watershed sediment yield, and evaluation of BMP effectiveness, also would be needed to provide context and interpretation of results of the streambed monitoring program.

8. Within five years of permit adoption, Water Board staff intends to conduct a pilot monitoring effort to sample for the occurrence of pesticides of high concern in the Napa River and Sonoma Creek, as part of the surface water ambient monitoring program.

9. The definitions of Qualified Professional and Certified (farm plan) should be revised to address comments received. With the recommended changes, the primary effects on the General Permit would be: a) not including a process for approval of Qualified Professionals; and b) that farm plan certification teams include biology and/or ecology expertise. These changes have the potential to increase local capacity as related to farm plan development and to enhance the effectiveness of stream-riparian management actions, but are not expected to affect capacity for farm plan certification.

10. For vineyard properties that include a reservoir that receives treated wastewater, and that reservoir has the potential to discharge to a water of the State, the General Permit should be revised to clarify that the permittee is only responsible for BMP implementation in downstream water bodies located on parcels that it owns.

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