

## ENVIRONMENTAL CHECKLIST AND IMPACTS

JUNE 26 2019

## STATE CLEARINGHOUSE

1. **Project Title:** Pescadero-Butano Watershed Sediment Total Maximum Daily Load (TMDL) and Habitat Enhancement Basin Plan Amendment
2. **Lead Agency Name and Address:** California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612
3. **Contact Person and Phone:** Setenay Bozkurt Frucht  
(510) 622-2388
4. **Project Locations:** Pescadero-Butano Watershed  
San Mateo County, California
5. **Project Sponsor's Name & Address:** California Regional Water Quality Control Board  
San Francisco Bay Region (Water Board)  
1515 Clay Street, Suite 1400  
Oakland, California 94612
6. **General Plan Designation:** Not Applicable
7. **Zoning:** Not Applicable
8. **Description of Project:**

The project is a proposed Basin Plan amendment to the water quality control plan (Basin Plan) to establish a total maximum daily load (TMDL) for sediment in stream channels in the Pescadero-Butano watershed, and an implementation plan to achieve the TMDL and related goals for stream-riparian habitat enhancement. The project would involve numerous management actions and erosion control projects to reduce fine sediment delivery (e.g., sand, silt, and clay) to Pescadero and Butano creeks and their tributaries, and management actions to 1) enhance channel and floodplain connectivity; 2) enhance stream-riparian habitat complexity; and 3) increase the amount of large woody debris in channels including through construction/installation of engineered log jams primarily in public parklands and timberlands. The TMDL is established at  $\leq 125$  percent of natural background, along with numeric performance standards for sediment delivery from roads and residual dry matter in grazing areas. It also establishes numeric targets for residual pool volume, substrate composition, and the amount of large woody debris in channels to define attainment of water quality objectives for sediment and settleable material, as well as for habitat complexity. The project area includes the entire land area and all channels draining into and including Pescadero and Butano creeks lying west of the eastern watershed boundary along State Highway 35 and Highway 9, downstream to the Pescadero marsh and lagoon complex. The project area excludes the Pescadero marsh and lagoon.

**9. Surrounding Land Uses and Setting:**

The Pescadero and Butano Creeks drain approximately 81 square miles (mi<sup>2</sup>) of the Santa Cruz Mountains in western San Mateo County (with a very small portion of it in Santa Cruz County) and enter the Pacific Ocean near the town of Pescadero. The watershed contains steep forested slopes, deep canyons with steep inner gorges, a coastal valley, and rolling hills and grasslands near the coast. The region is geologically active and is bordered by the east by the San Andreas Fault. While the Pescadero sub-watershed is 58 mi<sup>2</sup>, the Butano sub-watershed is 23 mi<sup>2</sup>. Land uses in the watershed are dominated by ranching, farming, timberlands, and parks and open space. Residents of the town of Pescadero number less than 700. The watersheds provide habitat for a diverse array of aquatic life. In addition to steelhead trout (*Oncorhynchus mykiss*) and coho salmon (*Oncorhynchus kisutch*), which were historically supported by both Pescadero and Butano creeks and some of their tributaries, the watershed also hosts other species of concern including tidewater goby (*Eucyclogobius newberryi*), red-legged frog (*Rana aurora draytonii*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*).

**10. Other public agencies whose approval is required:**

The State Water Board, the California Office of Administrative Law, and the U.S. EPA must approve the Basin Plan amendment following adoption by the Water Board. In addition, actions taken to achieve the Basin Plan amendment including installation of engineered log jams in stream channels and/or replacement or retrofit of road-crossings over stream channels (to reduce sediment delivery), would require permits from the US Army Corps of Engineers (Clean Water Act Section 404 permit); the US Fish and Wildlife Service (Endangered Species Act Section 7 Consultation); the California Department of Fish and Wildlife (Streambed Alteration Agreement); the Water Board (Clean Water Act Section 401 permit); and the County of San Mateo. Other road-erosion control projects implemented to achieve performance standards for sediment delivery from roads will involve substantial earth moving, and therefore would require discretionary permits from the County of San Mateo.

**I. AESTHETICS**

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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**Would the project:**

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|--|--------------------------|--------------------------|--------------------------|---|
| a) Have a substantial adverse effect on a scenic vista?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |

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|---|--------------------------|--------------------------|--------------------------|---|
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |

a-d) Any physical changes to the aesthetic environment as a result of the Basin Plan amendment would be small, local, and short-term. No actions or projects that could result from the Basin Plan amendment would result in tall or massive structures that could obstruct views from or of scenic vistas, or degrade the existing visual character or quality of any site or its surroundings. It would not create any new source of light or glare. The Basin Plan amendment would not result in adverse aesthetic impacts.

## II. AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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### Would the project:

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|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |

- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?    X
- d) Result in the loss of forest land or conversion of forest land to non-forest use?    X
- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?   X

- a) Adoption of the Basin Plan amendment could increase the level of landowner participation in cooperative efforts to enhance channel stability and stream-riparian habitat conditions in Pescadero and Butano creeks and their tributaries (e.g., Butano Farms restoration project), which could in turn result in a reduction in the amount of land cultivated near channels (e.g., voluntary increases in setbacks of agriculture from channels) or establishment of vegetated filter strips). However, these actions would not substantially reduce the fertility of soils in areas designated as Prime, Unique, or Farmland of Statewide Importance.

The Basin Plan amendment includes best management practices (BMPs) to control sediment discharges from surface erosion, gullies, and/or shallow landslides. Because the BMPs and the performance standards are not prescriptive, they can be selected within the context of site-specific constraints. The Basin Plan amendment also includes performance standards for sediment discharges from roads. Road BMPs would be constructed and maintained within the footprint of existing roads, or within the footprint of new roads where they are constructed, and therefore, would not have any direct effect on agricultural production or present any direct potential for conversion of farmlands to other uses.

- b) The Basin Plan amendment would not affect existing agricultural zoning or any aspects of Williamson Act contract and would not have any adverse impact in this regard.
- c) The Basin Plan amendment would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production and would not have any adverse impact in this regard.
- d) The Basin Plan amendment would not result in the loss of forest land or conversion of forest land to non-forest use. It, therefore, would not have any adverse impact in this regard.
- e) Adoption of the Basin Plan amendment could increase the level of landowner participation in cooperative efforts to enhance channel stability and stream-riparian habitat conditions and to minimize soil disturbance in sensitive areas (on steep slopes and adjacent stream channels), which could result in a localized, minor reductions in the amount of land cultivated, particularly adjacent

to stream channels (e.g., voluntary increases in setbacks of agriculture from channels). Adoption of the Basin Plan amendment, through installation of vegetated buffer strips up to 35 feet wide or setback areas that would be fallow, could also result in a localized, minor reductions on the amount of land cultivated adjacent to stream channels. These buffer or setback areas would comprise a small amount of land area. Therefore, overall, less-than-significant impacts could result.

### III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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**Would the project:**

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
a) Because the Basin Plan amendment would not cause any significant changes in population or employment, it would not generate ongoing traffic-related emissions. It would also not involve the construction of any permanent emissions sources. For these reasons, no permanent change in air				

emissions would occur, and the Basin Plan amendment would not conflict with applicable air quality plans.

- b) The Basin Plan amendment would not “violate any air quality standard or contribute substantially to an existing or project air quality standard.” Nor would it involve the construction of any permanent emissions sources or generate ongoing traffic-related emissions. Construction that would occur as a result of Basin Plan amendment implementation such as earthmoving operations to reduce sediment discharges from eroding areas like roads or sediment management BMPs would be of short-term duration and would likely involve discrete, small-scale projects as opposed to massive earthmoving activities.

Fine particulate matter less than 10 micrometer (PM<sub>10</sub>) is the pollutant of greatest concern with respect to construction. PM<sub>10</sub> emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Given the limited duration and scale of reasonably foreseeable construction activities to comply with the Basin Plan amendment, PM<sub>10</sub> standards, however, would not be “substantially” violated, if at all. Additionally, if specific construction projects were proposed to comply with requirements derived from the proposed Basin Plan amendment, such projects would have to comply with the Bay Area Air Quality Management District’s (BAAQMD) requirements with respect to the operation of portable equipment. Moreover, BAAQMD has identified readily available measures to control construction-related air quality emissions (BAAQMD 1999) that are routinely employed at most construction sites. These measures include watering active construction areas; covering trucks hauling soil; and applying water or applying soil stabilizers on unpaved areas. Therefore, in consideration of all of the foregoing, the Basin Plan amendment would not violate any air quality standard or contribute substantially to any air quality violation, and its temporary and localized construction-related air quality impacts would be less-than-significant.

- c) In accordance with BAAQMD CEQA Guidelines, for any project that does not individually have significant operational air quality impacts, the determination of significant cumulative impact should be based on an evaluation of the consistency of the project with the local general plan and of the general plan with the regional air quality plan. The Basin Plan amendment will not result in, nor authorize, new land uses, housing, or other uses that would generate sustained air emissions. The Basin Plan amendment projects would be consistent with the 2001 Bay Area Ozone Attainment Plan and the 2000 Bay Area Clean Air Plan. Therefore, the Project would not result in a cumulatively considerable net increase in any criteria pollutant. This would be a less than significant impact.
- d) Because the Basin Plan amendment would not involve the construction of any permanent emissions sources but rather involves short-term and discrete construction activities, it would not expose sensitive receptors to substantial pollutant concentrations. The Project area is primarily rural and agricultural, and residential uses are low density. Minor construction and/or earth moving undertaken to comply with the Basin Plan amendment during site preparation and road modification/construction could result in particulates in the air in the immediate area of grading and construction but would not expose sensitive receptor, likely to be located substantial distances, to substantial pollutant concentrations.

e) Because the Basin Plan amendment would not involve the construction of any permanent emissions sources but rather involves short-term and discrete construction activities, it would not create objectionable odors affecting a substantial number of people. Diesel engines may be used for some construction equipment during site preparation and construction activities to modify existing roads and road crossings. Odors generated by construction equipment would be variable, depending on the location and duration of use. Diesel odors may be noticeable to some individuals at certain times, but would not affect a substantial number of people given that agriculturally zoned districts contain a low population density. Therefore, the impact of the Basin Plan amendment with regard to odors is considered to be less than significant.

**IV. BIOLOGICAL RESOURCES**

<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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**Would the project:**

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>

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|--|--------------------------|--------------------------|---|--------------------------|
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |

The Basin Plan amendment was developed specifically to enhance, restore, and protect water quality and beneficial uses, including fish, wildlife, and rare and endangered species. Nonetheless it is possible that in order to comply with the proposed Basin Plan amendment, specific projects involving construction and earthmoving activities could be proposed that could potentially affect candidate, sensitive or special status species (collectively, special-status species), either directly or through habitat modifications. While the minor construction and earthmoving operations would occur in already disturbed areas and might involve reconstruction, reshaping and blading for proper drainage, or replacement of existing roads and structures, it is possible (although not likely) that these and other activities to reduce erosion and enhance stream habitat could occur in and impact areas where there are special-status species and habitats.

- a) Table 22 provides a summary of the types of reasonably foreseeable compliance actions. In general, there are six types of reasonably foreseeable compliance actions: 1) projects to reduce sediment delivery from road-related erosion; 2) projects to increase LWD loading in channels (including construction/installation of log jams); 3) projects to enhance stream and floodplain habitat; 4) projects to reduce sediment delivery from surface erosion; 5) projects to reduce sediment delivery from gullies and landslide erosion; and 6) projects to manage stormwater runoff to reduce sediment delivery.

Reasonably foreseeable projects that may adversely affect special-status species would be subject to review and approval by the Water Board and/or other resource agencies. For instance, all of the log jam or inset floodplain construction projects and projects to enhance stream habitat would occur in stream channels that provide potential habitat for steelhead and/or coho salmon, and therefore, permits to protect special status species would be required from:

- Regional Water Quality Control Board, which reviews and conditions projects to ensure that water quality is protected;
- US Army Corps of Engineers, which regulates placement of all materials in waters of the US;
- NOAA Fisheries, which conditions US Army Corps permits to protect commercially important species, including steelhead and coho salmon, that are listed under the federal Endangered Species Act;
- US Fish and Wildlife Service, which conditions US Army Corps permits to protect all non-commercial species listed under the federal Endangered Species Act, including California red-legged frog, San Francisco garter snake, and marbled murrelet;
- California Department of Fish and Wildlife, which reviews and conditions projects to protect all state-listed candidate, sensitive, threatened, and/or endangered species;

- California Coastal Commission, which regulates development within the coastal zone and delegates permit authority to San Mateo County and its certified Local Coastal Program [LCP]; and
- County of San Mateo, which would require a CEQA determination and a Biological Site Assessment to ensure that all species listed as rare, threatened, endangered, or of special concern under state or federal law are protected.

Where construction for projects 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 apply for a Clean Water Act Section 401 permit authorization and waste discharge requirements, and also to comply with the requirements thereof. Standard conditions of the Water Board CWA Section 401 permit and waste discharge requirements include the requirements to comply with the terms and conditions of the CDFW Streambed Alteration Agreement and the Section 7 consultations, which would reduce impacts to all special-status species to a less than significant level.

The Water Board, in the course of carrying out its statutory duties to protect water quality and beneficial uses (including preservation of rare and endangered species and wildlife habitat as set forth in the Basin Plan), will either not approve compliance projects with significant adverse impacts on special-status species and habitats or require avoidance or mitigation measures to reduce impacts to less-than-significant levels. The Basin Plan amendment includes project components to avoid or mitigate impacts to special status species including but not limited to: a) pre-construction surveys; b) construction buffers and setbacks; c) relocation and restoration of sensitive habitats where permissible and avoidance is impossible; d) limiting the timing of construction activities to avoid site-specific impacts to fisheries and other aquatic wildlife to the period between June 1 and October 1, unless CDFW, USFW, and/or NOAA Fisheries define an alternative work window to avoid site specific impacts on special-status species; e) limiting all construction to daylight hours to protect California red-legged frog; and f) where noise from heavy equipment e.g. during culvert removal, placement of large woody debris, has the potential to cause nesting marbled murrelets to abandon nests, limiting such work to the fall and winter months, and excluding use of heavy equipment within ¼ mile of occupied or un-surveyed suitable marbled murrelet habitat (CDFW could modify the work window at individual sites if protocol surveys determine that habitat quality is low and occupancy is very unlikely).

Long-term impacts of actions taken to comply with the Basin Plan amendment would be beneficial for all special-status species. Considering the above mitigation measures, short-term construction-related impacts of Basin Plan actions would be reduced to a less than significant level.

The other type of reasonably foreseeable actions to comply with the Basin Plan amendment, would relate to road-erosion control on the County, State, or open space lands. For any road-erosion control project involving a stream crossing, and/or other jurisdictional wetlands, the same logic as presented above would apply, and that impacts to special status species would be less than significant. For the remainder of road-erosion control actions/project types (e.g., cross drains and ditch relief culverts, excavation of road-related landslides, construction of rolling dips, out-sloping of

road segments, installation of water bars, management of sediment and vegetation in inboard ditches, and removal of road berms), where roads are located on public land, impacts to upland animal and plant species would be less than significant because: i) vegetation surveys and rare plant inventories have been completed for the parks and open space lands in the watershed; and ii) the County of San Mateo would require a Biological Site Assessment and CEQA determination for the road erosion control projects. For the privately-owned roads, almost all construction activity would be confined to the footprint of the existing roads, and for projects involving grading of 250 cubic yards or more, the County of San Mateo would require permits and an environmental review and compliance with CEQA. Therefore, we conclude that impacts would be less than significant.

- b) As indicated in section IV-a) above, the Basin Plan amendment is designed to benefit biological resources, including riparian habitat and other sensitive natural communities. The Water Board, in the course of discharging its statutory duties to protect water quality and their beneficial uses, will either not approve compliance projects with significant adverse impacts on riparian habitats and other sensitive natural communities, or would require mitigation measures to reduce impacts to less-than-significant levels. Where avoidance of impacts is not possible, the Water Board requires mitigation measures for work it approves that may impact riparian habitats or other sensitive natural communities. Such requirements include but are not limited to pre-construction surveys; construction buffers and setbacks; restrictions on construction during sensitive periods of time; employment of on-site biologists to oversee work; avoidance of construction in known sensitive habitat areas; and relocation and restoration of sensitive habitats where permissible and avoidance is impossible. For instance, although reasonably foreseeable compliance actions e.g., construction of engineered log jams to increase LWD loading in channels and channel restoration projects could result in minor and short-term disruption to riparian habitat, such projects would result in an overall enhancement of riparian habitat conditions. This finding is based on the reasoning that, as the number and frequency of key pieces of large woody debris in channel reaches is greatly increased, the complexity of channel habitat and connectivity to the floodplain would also be greatly enhanced with resultant enhancement of the extent and diversity of riparian habitats (Collins et al., 2012, also see Chapter 7 of this report for additional details).

Reasonably foreseeable projects to comply with the Basin Plan amendment in the upland areas e.g., road, surface, or gully erosion control projects are subject to review and approval by the Water Board and other resource and public agencies. For any upland road-erosion control projects on the County, State, or open space lands involving a stream crossing and/or riparian habitat the same logic as presented above would apply, and that impacts to special status species would be less than significant. For the remainder of upland road-erosion control actions/project types (e.g., cross drains and ditch relief culverts, excavation of road-related landslides, construction of rolling dips, out-sloping of road segments, installation of water bars, management of sediment and vegetation in inboard ditches, and removal of road berms), where roads are located on public land, impacts to upland sensitive communities would be less than significant because: i) vegetation surveys and rare plant inventories have been completed for the parks and open space lands in the watershed; and ii) the County of San Mateo would require a Biological Site Assessment and CEQA determination for the road erosion control projects. For the privately-owned roads, almost all construction activity would be confined to the footprint of the existing roads, and for projects involving grading of 250

cubic yards or more, the County of San Mateo would require permits and an environmental review and compliance with CEQA. Therefore, we conclude that impacts would be less than significant.

- c) Basin plan amendment-related implementation actions will involve channel habitat enhancement and/or erosion control projects, a fraction of which would occur within and/or overlap with wetlands. The adverse impacts on wetlands would not be substantial, however because under the Nationwide or individual permit programs administered by the US Army Corps of Engineers, there are general conditions that require that for projects that may adversely affect all wetlands, as defined under Section 404 of the Clean Water Act, responsible parties must demonstrate that avoidance, minimization, and mitigation has occurred to the maximum extent practicable to ensure that adverse impacts to the aquatic environment are minimal. Furthermore, for all potential projects where wetland losses would exceed 0.1 acres, applicants are required to provide compensatory mitigation at a ratio that is greater than or equal to 1:1. For projects where wetland losses are less than 0.1 acre, on a case by case basis, the District Engineer may require compensatory mitigation. If TMDL implementation projects are proposed that could have the potential to disturb wetlands, they also would be subject to the Water Board's review and approval under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, and the Water Board must, consistent with its Basin Plan, require mitigation measures to avoid, minimize, and mitigate impacts to less-than-significant levels. As specified in the Basin Plan, the Water Board uses the U.S. EPA Section 404(b)(1) Guidelines for dredge and fill material in determining the circumstances under which the filling of wetlands may be permitted. This policy requires that avoidance and minimization be emphasized and demonstrated prior to consideration of mitigation. Moreover, the California Wetland Protection Policy also is incorporated into the Basin Plan. The goals of this policy include ensuring that "no overall net loss" and "long-term net gains in the quantity, quality, and permanence of wetland acreage and values..." (Governor's Executive Order W-59-93). Wetlands not subject to protection under Sections 404 and 401 of the Clean Water Act are still subject to regulation and protection under the California Water Code. Please also see discussion in part b) above relating to sensitive natural communities, some of which are wetland types.
- d) The Basin Plan amendment would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The main goal of the Basin Plan amendment is to improve and enhance fish passage. Thus, compliance projects would entail improving migratory fish corridors, not adversely affecting them. It is possible, however, that projects could be proposed to comply with the Basin Plan amendment that involve construction or earthmoving activities that could interfere with wildlife movement, migratory corridors, or nurseries (e.g., channel habitat enhancement projects, fish passage enhancement projects, road or surface erosion control projects). If that occurs, the projects would be subject to and have the same process and impacts described in responses a, and b, above. Furthermore, none of the reasonably foreseeable compliance actions (Table 22) has the potential to substantially interfere with wildlife movement, therefore we conclude that the impacts are less than significant with mitigation incorporated.

- e) The Basin Plan amendment itself does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. There is no evidence to suggest that projects proposed to comply with Basin Plan amendment requirements would conflict with these plans. In all cases, these projects would be subject to discretionary permits from the County of San Mateo (as applicable) that would be conditioned to avoid potential conflicts with local policies and/or ordinances that protect biological resources. Potential impacts will be less than significant.
- f) The Basin Plan amendment itself does not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There is no evidence to suggest that projects proposed to comply with Basin Plan amendment requirements would conflict with these plans. Potential impacts will be less than significant.

**V. CULTURAL RESOURCES**

<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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**Would the project:**

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|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?          | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to § 15064.5? | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?              | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                                 | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |
- a) Projects involving earthmoving or construction to comply with requirements of the proposed Basin Plan amendment are reasonably foreseeable. The proposed Basin Plan amendment and its reasonably foreseeable compliance projects (e.g., small-scale earthmoving and construction) would not cause a substantial adverse change in the significance of a historical resource as defined by CEQA Guidelines section 15064.5.

There are no reasonably foreseeable actions that would affect buildings that meet the definition of historical resources. Other types of historical resources that we have identified could be affected by reasonably foreseeable actions to comply with the Basin Plan amendment include the following:

- Civilian Conservation Corps erosion control structures (e.g., stream bank or bed stabilization structures, check-dams, detention basins, etc.), water supply dams, and/or road or trail structures (e.g., embankments, stream crossings, rock surfaces, and/or rock-lined ditches or cross-drains, etc.)
- Archeological sites that meet the definition of historical resources under the California Public Resource Code.

Civilian Conservation Corps (CCC) work projects occur within public parklands. In the project area, there are two state parks: Portola State Park and Butano State Park. The California Department of Parks and Recreation prepared an index that includes all major existing buildings and structures constructed by the CCC in the California State Parks<sup>56</sup>. For state parks in the Pescadero-Butano watershed, no CCC projects are documented. Although it is possible that other “minor features and infrastructure elements” were constructed by the CCC, and may be present in state parks in the Pescadero-Butano watershed, the Public Resources Code (section 5024) requires that all state agencies consult with the Office of Historic Preservation when any proposed project may adversely affect any historical resources on state-owned property.

The Office of Historic Preservation (OHP) is an arm of the State Parks Agency, and its purpose is to insure that federal and state agencies comply with state and federal laws to avoid and/or minimize adverse impacts to historical resources.<sup>57</sup> Furthermore, sections 5024 and 5024.5 of the Public Resource Code require that each state agency shall formulate policies to preserve and maintain, when prudent and feasible, all historical resources within their jurisdiction or potentially eligible for inclusion in the National Register of Historic Places or registered as a landmark. Therefore, we conclude that reasonably foreseeable actions to comply with the Basin Plan amendment would have a less than significant impact on CCC projects and/or other historical resources located on public lands because there are no historical resources identified in the project area where implementation actions would occur.

- b) With regard to projects involving earth moving or construction to comply with the Basin Plan amendment, earth moving and construction would generally be small in scale and would occur in already disturbed areas, within the footprint and/or right-of-way of existing roads. No roads would need to be relocated in order to comply with the Basin Plan amendment. Therefore, we conclude that potential impacts of road-erosion control projects implemented to comply with the Basin Plan amendment are less than significant.

With regard to log jams construction projects implemented to comply with the Basin Plan amendment, earthmoving and vegetation disturbance to provide construction site access, and/or to install key large woody debris pieces into the streambed and/or banks would be minor. No log jams will be constructed where they might adversely impact archeological resources. In order to obtain a Clean Water Act section 401 permit, prior to starting construction of any log jam project, the Water

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<sup>56</sup> [https://www.parks.ca.gov/?page\\_id=24878](https://www.parks.ca.gov/?page_id=24878)

<sup>57</sup> <http://ohp.parks.ca.gov/pages/1072/files/sanmateo.pdf>

Board also would require a copy of the CEQA determination for the project including documentation of the analyses performed to determine whether the project site overlaps with known or potential archeological sites (as determined through review of the County's Archeological Sensitivity Map). To avoid impacts to archeological resources, for sites that may overlap with archeological resources, prior to constructing any engineered log jam project that would involve earth moving, the Water Board would require as mitigation measures that: 1) a field survey be performed by a qualified archeologist, who would provide recommendations and/or procedures to further investigate and/or mitigate adverse impacts; and 2) if cultural resources are discovered during field survey or subsequent construction activities, all earth moving would cease until a qualified archeologist assesses the potential resources and their significance, and then develops recommendations or procedures to mitigate any impacts.

- c) With regard to projects involving earth moving or construction to comply with requirements of the proposed Basin Plan amendment, earth moving and construction would occur in already disturbed areas, within the footprint and/or right-of-way of existing roads. No roads would need to be relocated in order to comply with the Basin Plan amendment. Therefore, we conclude that potential impacts on paleontological resources of road-erosion control projects implemented to comply with the Basin Plan amendment are less than significant.

With regard to log jams construction projects implemented to comply with the Basin Plan amendment, earthmoving and vegetation disturbance to provide construction site access, and/or to install key large woody debris pieces into the streambed and/or banks would be minor. No log jams will be constructed where they might adversely impact paleontological resources. In order to obtain a Clean Water Act section 401 permit, prior to starting construction of any log jam project, the Water Board also would require a copy of the CEQA determination for the project including documentation of the analyses performed to determine whether the project site overlaps with known or potential paleontological sites. To avoid impacts to paleontological resources, for sites that may overlap with such resources, prior to constructing any engineered log jam project that would involve earth moving, the Water Board would require as mitigation measures that: 1) a field survey be performed by a qualified paleontological resources specialist, who would provide recommendations and/or procedures to further investigate and/or mitigate adverse impacts; and 2) if cultural resources are discovered during field survey or subsequent construction activities, all earth moving would cease until a qualified paleontologist assesses the potential resources and their significance, and then develops recommendations or procedures to mitigate any impacts.

- d) With regard to projects involving earth moving or construction to comply with requirements of the proposed Basin Plan amendment, earth moving and construction would generally be small in scale and would generally occur in areas already disturbed by recent human activity and not occur in areas of known human remains (the only known cemetery in the Pescadero-Butano watershed is the Mount Hope Cemetery), whether historic or prehistoric, as defined by section 15064.5 of the CEQA Guidelines. State law requires that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately, and the County coroner shall be notified immediately. If the coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within 24 hours. The Native Heritage Commission

would then identify the person(s) it believes to be the most likely descendants, and they would be responsible for making recommendations for the disposition and treatment of the remains. Therefore, we conclude that any potential impacts would be less than significant with mitigation incorporation.

**VI. GEOLOGY AND SOILS**

	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>

**Would the project:**

- |   |  |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |
|---|--|--------------------------|--------------------------|--------------------------|---|--------------------------|--------------------------|--------------------------|---|--------------------------|--------------------------|--------------------------|---|--------------------------|--------------------------|--------------------------|---|--------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|--------------------------|--------------------------|--------------------------|---|
| <ul style="list-style-type: none"> <li>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:               <ul style="list-style-type: none"> <li>i) Rupture of a known earthquake fault, as delineated on the most recent applicable Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist, or based on other substantial evidence of a known fault? (California Geological Survey, Special Publication 42: Fault-Rupture Hazard Zones in California).</li> <li>ii) Strong seismic ground shaking?</li> <li>iii) Seismic-related ground failure, including liquefaction?</li> <li>iv) Landslides?</li> </ul> </li> <li>b) Result in substantial soil erosion or the loss of topsoil?</li> <li>c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</li> <li>d) Be located on expansive soil, as defined in Title 24, section 1803.5.3 of the California Code of Regulations, creating substantial risks to life or property?</li> <li>e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater</li> </ul> | <table border="0"> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>X</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>X</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>X</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>X</td></tr> <tr><td><input type="checkbox"/></td><td>X</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>X</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>X</td></tr> </table> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> | X | <input type="checkbox"/> | X | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| <input type="checkbox"/>  | <input type="checkbox"/>   | <input type="checkbox"/> | X                        |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |
| <input type="checkbox"/>  | <input type="checkbox"/>   | <input type="checkbox"/> | X                        |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |
| <input type="checkbox"/>  | <input type="checkbox"/>   | <input type="checkbox"/> | X                        |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |
| <input type="checkbox"/>  | <input type="checkbox"/>   | <input type="checkbox"/> | X                        |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |
| <input type="checkbox"/>  | X  | <input type="checkbox"/> | <input type="checkbox"/> |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |
| <input type="checkbox"/>  | <input type="checkbox"/>   | <input type="checkbox"/> | X                        |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |
| <input type="checkbox"/>  | <input type="checkbox"/>   | <input type="checkbox"/> | X                        |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |                          |                          |   |                          |   |                          |                          |                          |                          |                          |   |                          |                          |                          |   |

disposal systems where sewers are not available  
for the disposal of wastewater?

X

- a) The Basin Plan amendment would not involve the construction of habitable structures; therefore, it would not involve any human safety risks related to fault rupture, seismic ground-shaking, ground failure or landslides.
- b) Specific projects involving earthmoving or construction activities to comply with requirements derived from the proposed Basin Plan amendment are reasonably foreseeable. Such activities would not result in substantial soil erosion or the loss of topsoil. The purpose of the Basin Plan amendment is to reduce erosion, not increase it. To meet the Basin Plan amendment targets, construction would be designed to reduce overall soil erosion associated with erosion. However, temporary earthmoving operations could result in short-term, limited erosion. These specific compliance projects would be subject to the review and approval of the Water Board, which requires implementation of routine and standard erosion control best management practices and proper construction site management. In addition, construction projects over one acre in size would require a general construction National Pollutant Discharge Elimination System permit and implementation of a stormwater pollution prevention plan to control pollutant runoff such as sediment. Therefore, the Basin Plan amendment would not result in substantial soil erosion, and its impacts would be less-than-significant.
- c) The Basin Plan amendment could result in projects involving roads, creek crossings, and other projects located on steep slopes or unstable terrain. These projects would be designed to stabilize existing sources of sediment, such as roads or eroding gullies and landslides, and/or to reduce erosion and sedimentation. In addition, all Basin Plan amendment construction activities would be designed and conducted under the supervision of a certified Professional Geologist licensed in California. Construction activities would be designed to minimize any potential for landslides, lateral spreading, subsidence, liquefaction or property risks due to unstable soils.
- d) The Basin Plan amendment would not involve construction of buildings or any habitable structures (as defined in Uniform Building Code). Local agencies proposing construction to comply with requirements derived from the Basin Plan amendment would be required to obtain building permits to ensure that they do not locate structures on expansive soils. Minor grading and construction could occur in areas with expansive soils, but this activity would not create a substantial risk to life or property. Therefore, the Basin Plan amendment would not result in impacts related to expansive soils.
- e) The Basin Plan amendment would not require wastewater disposal systems; therefore, affected soils need not be capable of supporting the use of septic tanks or alternative wastewater disposal systems.

**VII. GREENHOUSE GAS EMISSIONS**

<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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**Would the project:**

- |  |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?      | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |

The Natural Resources Agency adopted the CEQA Guidelines Amendments to analyze the environmental impact of greenhouse gas emissions (GHGs) in December 2009. San Mateo County adopted the San Mateo Energy Efficiency Climate Action Plan in 2013.

- a) Specific projects involving earthmoving or construction activities to comply with requirements derived from the proposed Basin Plan amendment are reasonably foreseeable. Short-term construction-related impacts and mitigation measures are divided into BMPs that would result in the construction of linear features and those that would result in the non-linear features. The BMPs that would result in construction of linear futures include road-related construction e.g., water bars, ditch relief culverts, road crossings, road storm-proofing, and road reshaping and other BMPs e.g., vegetated buffer strips. The BMPs that would result in construction of non-linear futures include cover crops, conservation tillage, and soil bioengineering techniques for channel stabilization projects.

Implementation of BMPs that would result in the construction of both linear and non-linear features may generate short-term GHG emissions. The magnitude of construction activities would vary widely between types of BMPs and, for each type of BMP, would vary widely between individual sites. Construction activities would include site preparation, materials transport, grading, trenching, and placement of landscaping and erosion control features. Any short-term increases in GHG emissions would be offset by the longer-term carbon sequestration benefits of engineered log jams and floodplain restoration, riparian enhancements, and increases in the total area of riparian habitat. Impacts are therefore considered less than significant.

- b) The Basin Plan amendment would not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHGs.

**VIII. HAZARDS AND HAZARDOUS MATERIALS**

<b>Would the project:</b>	<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code, section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

a-d) It is highly unlikely that hazardous materials or substances be discovered during project activities associated with erosion control and/or habitat enhancement. If discovered, required remediation actions would include the proper disposal and transport of contaminated soils, but such waste is expected to be of small volume. Proper handling in accordance with relevant laws and regulations would minimize hazards to the public or the environment, and the potential for accidents or upsets. Construction associated with implementing the Basin Plan amendment erosion control measures would not involve the use or transport of hazardous materials, aside from those fuels (e.g., gasoline, diesel) and lubricants typically used for heavy construction equipment. Fuels and lubricant quantities would be small, and their application would be limited to the operation of construction-related equipment and vehicles. Compliance with the Basin Plan amendment would not affect the transportation of potential release of hazardous materials, nor create a significant public safety or environmental hazard beyond any hazards currently in existence.

Therefore, hazardous waste transport and disposal would not create a significant public or environmental hazard, and would be a less-than-significant impacts.

- e-f) The project would not require actions in the vicinity of airports or airstrips.
- g) Actions to implement the Basin Plan amendment would not interfere with any emergency response plans or emergency evacuation plans.
- h) The Basin Plan amendment would not affect the potential for wild-land fires.

**XI. HYDROLOGY AND WATER QUALITY**

	<i>Less Than Significant</i>		
<i>Potentially Significant Impact</i>	<i>With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>

**Would the project:**

- |   |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Violate any water quality standards or waste discharge requirements?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion of siltation on- or off-site?  | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |

- |   |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| f) Otherwise substantially degrade water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?   | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?  | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| j) Inundation of seiche, tsunami, or mudflow?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |

- a) The project would amend the Basin Plan, which articulates applicable water quality standards, to attain and maintain water quality standards in the Pescadero-Butano watershed. Therefore, it would not violate standards or waste discharge requirements and the effect of the Basin Plan amendment on attainment of water quality objectives will be beneficial.
- b) The Basin Plan Amendment would not decrease groundwater supplies or interfere with groundwater recharge. LWD construction projects to reduce sediment delivery and/or other channel habitat enhancement projects e.g., those to increase channel-floodplain connectivity could promote increases in groundwater recharge.
- c) Specific projects involving earthmoving or construction activities to comply with requirements derived from the proposed Basin Plan amendment are reasonably foreseeable. Such projects could affect drainage patterns. However, to meet proposed Basin Plan amendment allocations, they would be designed to reduce overall soil erosion, not increase it. Moreover, included in the Basin Plan amendment is a performance standard requiring that non-grazing agricultural lands effectively attenuate significant increases in storm runoff such that runoff from non-grazing agricultural lands

shall not cause or contribute to downstream increases in rates of bank or bed erosion. This performance standard ensures that erosion control measures (implemented to comply with the Basin Plan amendment) will not result in increased storm runoff and related stream bed or bank erosion. Additionally, projects components include: a) the requirement to prepare hydrologic and geomorphic analyses to support design and construction of engineered log jams or erosion-control features, as needed to avoid erosion and flooding impacts; and b) limiting the project construction period to the dry season and requiring that all Basin Plan amendment construction projects include preparation of a stormwater pollution prevention plan to control erosion and protect water quality. Nevertheless, temporary earth moving operations could result in short-term, limited erosion. These specific compliance projects also would be subject to the review and approval of the Water Board, which requires implementation of routine and standard erosion control best management practices and proper construction site management. Mitigation measures to control construction-related impacts include control of or restricting the timing of construction, requiring construction site management, control of erosion during and following construction, limiting where and when heavy equipment can be used, limiting earth moving, limiting vegetation disturbance, and requiring replanting of native vegetation. In addition, construction projects over one acre in size would require a general construction National Pollutant Discharge Elimination System permit and implementation of a storm water pollution prevention plan. Therefore, the Basin Plan amendment would not result in substantial erosion and its impacts would be less-than-significant with mitigation incorporated. The overall effect of the project on erosion and sedimentation would be a beneficial reduction in erosion and siltation.

- d) Reasonably foreseeable actions to comply with the Basin Plan amendment will involve earthmoving that could affect existing drainage patterns, and construction of engineered log jams that will contribute to increases in the amount of riparian vegetation and/or LWD in stream channels. Road-erosion control projects will reduce storm runoff from roads, and engineered log jams will provide additional floodplain water storage in public park reaches, where additional inundation would not threaten structure or human safety. Also, the project includes as a mitigation measure, the requirement to prepare hydrologic and geomorphic analyses to avoid significant increases in erosion and/or flooding. These required studies will be prepared by a Certified Professional Geologist and/or a Registered Civil Engineer that is licensed to practice in the State of California, who has expertise in fluvial geomorphology, hydrology, and river restoration. All construction projects will require use permits from the County of San Mateo, and be subject to review under the CEQA. Therefore, we conclude that the impact of the Basin Plan amendment on increases in runoff and/or flooding is less than significant with mitigation incorporated.
- e) Basin Plan amendment-related activities are, by design, intended to decrease peak runoff rates from roads, as needed to reduce sediment delivery to channels and channel erosion. Therefore, the Basin Plan amendment would not increase the rate or amount of runoff, exceed the capacity of storm water drainage systems, or degrade water quality, and there is no impact.
- f) The purpose of the Basin Plan amendment is to attain and maintain all water quality objectives. Reasonably foreseeable compliance actions would not otherwise adversely affect water quality.

- g) Basin Plan amendment will not result in construction of housing. Therefore no housing would be placed within the 100-year flood hazard zone as a result of the proposed action. No flood hazard impacts would occur.
- h) The Basin Plan amendment-related construction, with the mitigation measures incorporated, as described above in d) that will govern design and construction of engineered log jams within channels, will result in impacts that are less than significant with mitigation incorporated. For Basin Plan amendment actions to address road-related erosion, there are two types of BMPs that may be employed that involve placement of fill in channels: a) storm-proofing road crossing over channels; and b) soil bioengineering and/or biotechnical stabilization techniques to control erosion in unstable upland areas (e.g., gullies and landslides). Storm-proofing includes upgrading the road crossing to typically convey the 100-year peak flow as well as the inferred sediment and large woody debris loads. Therefore, where such undersized or failing culverts are located in flood hazard areas, the effect of actions taken to comply with the Basin Plan amendment would be beneficial (to reduce flooding) in the long-term and the impacts would be less than significant with mitigation incorporated. Soil bioengineering and/or biotechnical techniques would only be installed or constructed in channels or gullies located in upland areas to minimize erosion and sediment delivery, none of which overlap with defined flood hazard areas. Therefore, the impacts would be less than significant with mitigation incorporated.
- i) The Basin Plan amendment will not result in construction or modification of dams or levees or activities that would expose people to significant damage from dam or levee failure and no adverse impacts would occur.
- j) Basin Plan amendment-related construction would not be subject to substantial risks due to inundation by seiche, tsunami, or mudflow.

**X. LAND USE AND PLANNING**

<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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**Would the project:**

- |   |                          |                          |                          |   |
|---|--------------------------|--------------------------|--------------------------|---|
| a) Physically divide an established community?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?    X

- a) Basin Plan amendment-related construction would be too small in scale to divide any established community.
- b) Reasonably foreseeable actions to comply with the Basin Plan amendment would not conflict with the policies and implementing programs of the San Mateo County General Plan, and/or plan and policies of other state and federal agencies responsible for management of public lands and/or any state or federal agencies with regulatory authority over compliance actions.
- c) Reasonably foreseeable actions to comply with the Basin Plan amendment would not conflict with any habitat conservation plan or natural community conservation plan. Projects proposed to comply with Basin Plan amendment requirements would be subject to local agency review and would not conflict with habitat conservation plans or natural community conservation plans.

**XI. MINERAL RESOURCES**

	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
	<u>Potentially Significant Impact</u>		

**Would the project:**

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?    X

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?    X

a-b) Basin Plan amendment-related TMDL-related excavation and construction would be small in scale and would not result in loss of availability of any known mineral resources.

**XII. NOISE**

	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<u>Potentially Significant Impact</u>			

**Would the project:**

- |   |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?   | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | X                        | <input type="checkbox"/> | <input type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |

a) Earthmoving and construction activities to comply with the requirements derived from the Basin Plan amendment could temporarily generate noise. Most reasonably foreseeable compliance actions would be located in very rural portions of the watershed, which is dominated by open space. These reasonably foreseeable compliance actions would be required to be consistent with the local agencies' own standards. Chapter 4.88 of the San Mateo County Code of Ordinances regulates noise in the County and exempts construction from the ordinance provided activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. weekdays, 5:00 p.m. and 9:00 a.m. on Saturdays or at any time on Sunday, Thanksgiving and Christmas.

- b) The Basin Plan amendment would not exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Any increases in groundborne vibration would temporary and short-term in nature.
- c) The Basin Plan amendment would not cause any permanent increase in ambient noise levels. Any noise would be short-term in nature.
- d) To comply with requirements derived from the Basin Plan amendment, specific projects involving earth moving or construction, which could result in temporary noise impacts, are reasonably foreseeable. Noise-generating operation would, however, have to comply with local noise ordinances to keep levels to less-than-significant levels. Therefore, the Basin Plan amendment would not result in substantial noise impacts, and its impacts would be less-than-significant.
- e-f) The Basin Plan amendment would not cause any permanent increase in ambient noise levels, including aircraft noise. Therefore, it would not expose people living within an area subject to an airport land use plan or in the vicinity of a private airstrip to excessive noise.

**XIII. POPULATION AND HOUSING**

	<i>Less Than</i>			
	<i>Significant</i>			
<i>Potentially</i>	<i>With</i>	<i>Less Than</i>		
<i>Significant</i>	<i>Mitigation</i>	<i>Significant</i>	<i>No</i>	
<u><i>Impact</i></u>	<u><i>Incorporation</i></u>	<u><i>Impact</i></u>	<u><i>Impact</i></u>	

**Would the project:**

- |   |                          |                          |                          |   |
|---|--------------------------|--------------------------|--------------------------|---|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| b) Displace substantial existing housing, necessitating the construction of replacement housing elsewhere?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |

a-c) The Basin Plan amendment would not affect the population of the Bay Area or San Mate County. It would not induce growth through such means as constructing new housing or businesses, or by

extending roads or infrastructure. The Basin Plan amendment would also not displace any existing housing or any people that would need replacement housing.

**XIV. PUBLIC SERVICES**

<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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**Would the Project:**

- a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

- a) The Basin Plan amendment would not affect population growth or involve construction of substantial new government facilities. The Basin Plan amendment would not affect service ratios, response times, or other performance objectives for any public services, including fire protection, police protection, schools, or parks.

**XV. RECREATION**

<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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**Would the Project:**

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
--------------------------	--------------------------	---	--------------------------

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?    X

a-b) Although the Basin Plan amendment would not affect population levels, potential enhancement of fisheries habitat and stream aesthetics has the potential to contribute to an increase in river-focused recreational activities (e.g., kayaking, rafting, fishing, swimming, wading, birding, etc.). Increases in these activities are expected to cause less than significant impacts on the environment. No recreational facilities would need to be constructed or expanded.

**XVI. TRANSPORTATION / TRAFFIC**

	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<i>Potentially Significant Impact</i>	<u>          </u>	<u>          </u>	<u>          </u>

**Would the project:**

- |  |                          |                          |                          |   |
|--|--------------------------|--------------------------|--------------------------|---|
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| e) Result in inadequate emergency access?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| f) Result in inadequate parking capacity?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |

- a) Basin Plan amendment actions could result in minor construction that would require the use of heavy equipment and trucks to move soil, longs, or other materials needed for road, hillslope,

and/or stream channel enhancement projects. Any earthmoving or construction activities would be temporary, and related traffic would be of short-term duration. Therefore, the Basin Plan amendment would not substantially increase traffic in relation to existing conditions. Levels of service would be unchanged.

- b) Because the Basin Plan amendment would not increase population or provide employment, it would not generate any ongoing motor vehicle trips and would not affect level of service standards established by the county. Therefore, the Basin Plan amendment would not result in permanent, substantial increases in traffic above existing conditions.
- c) The Basin Plan amendment would not affect air traffic. It is intended to reduce sediment delivery from unpaved roads and grazed and farmed lands to the Pescadero-Butano creek watershed and to enhance and restore channel habitat conditions.
- d) Reductions in road-related erosion called for by the Basin Plan amendment would not require implementation of hazardous design features or incompatible uses in order to meet the TMDL.
- e) Minor construction and earthmoving operations to reduce road-related erosion that would occur as a result of adoption of the Basin Plan amendment is not expected to restrict emergency access. Local agencies would confirm that specific proposal would not restrict emergency access through their environmental reviews.
- f) Because the Basin Plan amendment would not increase population or provide employment, it would not affect parking demand or supply.
- g) Because the Basin Plan amendment would not generate ongoing motor vehicle trips, it would not conflict with adopted policies, plans, or programs supporting alternative transportation.

**XVII. UTILITIES AND SERVICE SYSTEMS**

<u>Potentially Significant Impact</u>	<u>Less Than Significant With Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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**Would the project:**

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

- |   |                          |                          |                          |   |
|---|--------------------------|--------------------------|--------------------------|---|
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| g) Comply with federal, state, and local statutes and regulations related to solid waste?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |

- a) The project would amend the Basin Plan, which is the basis for wastewater treatment requirements to improve water quality and the environment in the Bay Area; therefore, the Basin Plan amendment would be consistent with such requirements.
- b) The Basin Plan amendment does not include changes to wastewater treatment facilities and no impacts would occur.
- c) New or expanded stormwater drainage facilities are not called for under the proposed Basin Plan amendment.
- d-e) Because the Basin Plan amendment would not increase population or provide employment, it would not require an ongoing water supply. It would also not require ongoing wastewater treatment services.
- f-g) Basin Plan amendment implementation would not substantially affect municipal solid waste generation or landfill capacities.

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

- |  | <u>Potentially Significant Impact</u> | <u>Less Than Significant With Mitigation Incorporation</u> | <u>Less Than Significant Impact</u> | <u>No Impact</u>         |
|--|---------------------------------------|--|-------------------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/>              | X  | <input type="checkbox"/>            | <input type="checkbox"/> |

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past, current, and probable future projects)?  X
- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?   X

a) When taken as a whole, the proposed Basin Plan amendment would not substantially degrade the quality of the environment. Reasonably foreseeable actions to comply with the Basin Plan amendment will benefit native fish and wildlife species including rare and endangered species by decreasing sediment supply and enhancing stream-riparian habitat conditions in Pescadero and Butano Creeks and their tributaries such that fish and wildlife species and their populations in and near waters of the state thrive. Reasonably foreseeable compliance actions in all cases would be permitted by the Water Board, the California Department of Fish and Wildlife, the US Fish and Wildlife Service, NOAA Fisheries, and the County of San Mateo (which would require a CEQA determination, and as applicable, a biological assessment). As described earlier in the Biological Resources section, we conclude that compliance actions would not threaten any plant or animal community, and/or reduce the number or restrict the range of a rare or endangered plant or animal species. Also, as described in the explanation for the checklist response for Cultural Resources, there are no significant impacts to Cultural Resources.

b) *Discussion of Cumulatively Considerable Impacts.* Project-specific impacts in all resource categories are less than significant, in some instances because of mitigation, and therefore, taken together, the impacts are less than significant with mitigation. The project incorporates design and construction requirements to avoid potential impacts of erosion and sediment delivery reduction projects and LWD jam projects on salmonids and all special status bird species; and to avoid potentially significant impacts to cultural resources and to flooding and erosion. As specific implementation proposals are developed and proposed, they would likely be subject to review and/or approval by the Water Board, the California Department of Fish and Wildlife, the US Fish and Wildlife Service, NOAA Fisheries, and/or the County of San Mateo, which would either disapprove projects with significant and unacceptable impacts or require mitigation measures.

Adoption of the Basin Plan amendment is intended to facilitate implementation of the TMDL. However, the requirements identified in the TMDL implementation plan are generally implemented through waste discharge requirements, waivers of waste discharge requirements, or other regulatory tools. The Basin Plan amendment would be cumulatively beneficial to the environment in terms of some resource areas, particularly water quality and biological resources. We are not aware of any planned projects where there may be a direct overlap with or where impacts to resources may be additive when considered with any reasonably foreseeable project per the Basin Plan

amendment. Potential impacts from any such future project will be reviewed and mitigated as necessary through required permit conditions by resource agencies.

- c) The Basin Plan amendment would not cause any substantial adverse effects to human beings, either directly or indirectly. The Basin Plan amendment is intended to benefit human beings through implementation of actions predicted to enhance fish populations, aesthetic attributes, recreational opportunities, and contribute to a reduction in property damage in and/or nearby stream channels in the Pescadero-Butano watershed.

## 9.2 Alternatives Analysis

In defining and presenting reasonable alternatives to the proposed Basin Plan amendment, we discuss how each alternative could affect foreseeable environmental outcomes, and the extent to which each alternative would achieve the goals and objectives of the proposed amendment.

The objectives of the Pescadero-Butano Watershed Sediment Reduction and Habitat Enhancement Plan (Project) are to:

- Substantially reduce sediment supply to channels, to enhance channel substrate quality and complexity, and
- Enhance floodplain-channel connections in the mainstem creeks and their tributaries, as needed, to support conservation and to facilitate recovery of watershed populations of steelhead and coho salmon.

Considering the nature of the proposed amendment—a total maximum daily load (TMDL) for sediment and a related habitat enhancement plan—this alternatives analysis examines the effects of different choices for key elements of the TMDL and habitat enhancement plan including: a) the timeframe for achieving water quality objectives for sediment and for population and community ecology; b) sediment allocations; and/or c) schedule, spatial extent, and types of actions required to achieve allocations, targets, and habitat enhancement goals. Our analysis includes the following alternatives:

1. **No Action/No Basin Plan amendment** – No sediment TMDL or habitat enhancement plan would be adopted by the Water Board.
2. **Proposed Basin Plan amendment** – Involves actions to reduce sediment supply to 125 percent of natural background supply, and actions to enhance habitat conditions in stream channels and riparian corridors. Sediment reduction and habitat enhancement objectives are achieved by 2038.
3. **Implementation actions to reduce sediment supply only** – identical to proposed Basin Plan amendment, omitting the Habitat Enhancement Plan.
4. **Proposed Basin Plan Amendment with Restoration of Historic Floodplain Habitats** - identical to the proposed Basin Plan amendment except it also includes a water quality target of restoring all of the historic floodplains (approximately 500 acres) and all of the historic wet meadows (approximately 1,350 acres), or approximately a total of 1,850 acres of historic floodplain and lowland habitats.

### **Alternative 1: No Action/No Basin Plan Amendment**

If the Water Board does not adopt the proposed Basin Plan amendment, the U.S. Environmental Agency (U.S. EPA) will be required to do so, pursuant to the Clean Water Act Section 303(d) sediment listing for Pescadero and Butano creeks. U.S. EPA would most likely rely, at least in part, on the scientific analyses completed to date. Within legal constraints, the agency would be free to develop a TMDL in any manner it deems appropriate. The environmental impacts of that yet-to-be-developed TMDL are unknown. Subsequently, the Water Board would be required to prepare a plan specifying actions to resolve the impairment (e.g. an implementation plan), as needed to attain and maintain the numeric targets and sediment allocations established by U.S. EPA. Absent U.S. EPA completion of an alternative TMDL, it would be speculative to evaluate whether or not reasonably foreseeable actions needed to achieve the alternative TMDL would reduce or increase environmental impacts (as compared to the proposed Basin Plan amendment).

### **Alternative 2: Proposed Basin Plan Amendment**

The proposed Basin Plan amendment is based on the technical analyses presented in Chapters 2 through 8 of this Staff Report. The amendment includes: a) numeric targets for residual pool volume, substrate composition, and LWD; b) a TMDL for sediment in the Pescadero-Butano watershed; c) allocations for sediment inputs to channels, by source category; and d) an implementation plan specifying actions to reduce fine sediment supply associated with land use activities, and complementary actions to enhance habitat complexity. Adoption of the Basin Plan amendment sets the sediment TMDL at 125 percent of natural background load.

Implementation actions to reduce sediment supply associated with land use activities would focus on road-related erosion for all land uses, surface and gully erosion in grazing and agricultural lands, channel incision, gully and landslide erosion in parks and open space lands and in timberlands, and stormwater runoff management. Reasonably foreseeable actions to comply with the Basin Plan amendment include retrofits and/or maintenance actions to control erosion, best management practices to manage runoff and prevent stormwater erosion, and habitat enhancement through the installation of LWD in channels and grading and re-vegetation projects along channels. Adoption of the proposed Basin Plan amendment would result in attainment of numeric targets and allocations for sediment and habitat enhancement objectives by early 2038.

Based on the environmental analysis, presented earlier in this chapter, we conclude that, subject to implementation of mitigation, there are no potentially significant impacts resulting from reasonably foreseeable actions to comply with the proposed Basin Plan amendment.

### **Alternative 3: Implementation Actions to Address Sediment Only**

This alternative is identical to the proposed Basin Plan amendment except implementation would focus solely on action to reduce sediment input to channels from land use activities. Under this alternative, the Water Board would not set targets and goals or recommend actions to enhance stream or riparian habitat.

This alternative would satisfy legal requirements associated with the Clean Water Act and would resolve sediment-related threats to coho salmon and steelhead populations. However, actions to control sediment discharges alone will not be sufficient to protect, remediate, restore, and enhance the Pescadero and Butano creeks because the decline in salmonid populations is linked not only to elevated sediment input to channels but also to loss of habitat due to habitat simplification and floodplain disconnection. For instance, of all the sediment categories, channel incision has a very high priority for source reduction and control because sediment input from channel incision is produced locally, and therefore may have a greater effect on fine sediment deposition at spawning and rearing sites than more remote sources of sediment delivery. Also, of greater importance than its role as a sediment source, as the channels incise in the Pescadero-Butano watershed, they obliterate the basic physical habitat structure of the creeks, expressed by a substantial reduction in quantity of gravel bars, riffle margins, side channels, sloughs, and disconnection of the channels from their floodplains. In addition, streamside land uses, public works infrastructure, and utilities are threatened by high rates of bank erosion associated with channel incision processes. Therefore, stream and riparian habitat enhancement projects called for in the Basin Plan amendment and large-scale grading and revegetation projects along the mainstem channel are necessary both to achieve the sediment TMDL, and to enhance habitat conditions. Therefore, potentially significant impacts associated with this alternative are less than those identified for the proposed Basin Plan amendment, but this alternative is not preferred because it does not achieve one of the primary objectives.

### **Alternative 4: Proposed Basin Plan Amendment Plus Restoring Historic Floodplain Habitats**

This alternative is identical to the proposed Basin Plan amendment except it also includes a target to restore all of the historic floodplain and lowland habitats, which covered an area of approximately 1,850 acres. This would entail more than an order of magnitude increase in the existing floodplain habitats. For the floodplain, we use the definition of Dunne and Leopold (1978):

“The floodplain is the flat area adjoining a river channel constructed by the river in the present climate and overflowed at times of high discharge. It is inundated on the average once every one or two years (p. 428, p.600).”

Historically, there were approximately 1,350 acres of wet meadows and 500 acres of floodplains along the Pescadero and Butano creeks, as well as Bradley Creek. The broad and frequently inundated floodplains of Pescadero and Butano valleys and the wet meadows provided a tremendous amount of

high quality winter rearing habitat for coho salmon in alcoves and side channels; winter rearing and refuge habitat for juvenile steelhead; essential habitat for many other native fish and wildlife species within the wet season and/or throughout the year; and supported a more extensive riparian forest (see Chapter 4.2). Due to 1) channel incision and subsequent loss of connectivity between channels and floodplains; and 2) land use changes along the riparian zone, only a minor portion of historic floodplains currently function as floodplain. There are up to 200 acres<sup>58</sup> of existing floodplain and wet meadow habitat, approximately half of which is the Butano Farms floodplain restoration project area that was completed in 2016. Therefore, this alternative includes a goal of restoring an additional 1,650 acres in the Pescadero and Butano valleys. As a result, in addition to the engineered log jams that are part of the proposed Basin Plan amendment (some of which will increase floodplain area locally in backwaters of jams), this alternative would involve large-scale floodplain restoration projects (e.g., 1,500 feet-or-greater in length) constructed adjacent to channels located in public parklands, timberlands, and private lands where feasible. Floodplain restoration involves actions to increase the elevation of the streambed and/or to decrease the elevation of the adjacent valley flat, in order to increase the frequency, area, and/or duration of inundation on the valley flat.

This alternative incorporates the following assumptions:

1. The amount and quality of different types of habitat are reasonable predictors of juvenile salmonid abundance and production (Beechie et al., 1994);
2. Large amounts of habitat need to be restored within a watershed to have a measurable effect at a population or watershed scale (Roni et al., 2010);
3. Floodplain restoration efforts would include conservation easements and acquisitions, construction and reconnection of floodplain habitats, restoration of channel alcoves, side sloughs and channels, and riparian habitat restoration; and
4. The TMDL timeline would be extended to at least 30 years, considering the time it would take to secure conservation easements and acquisitions and for stream habitat and fish response.

The geomorphic and biological objectives associated with the floodplain area target include increasing the side channel, alcove, and wetted area (during winter baseflow and higher flows) by more than an order of magnitude, storing a substantial fraction of the fine sediment supply on the floodplain, and restoring natural rates of recruitment of LWD from riparian area of channels located on timberlands or public lands. As compared to the Basin Plan amendment, this alternative would involve a much greater amount of earth moving and construction in/around stream channels, and potentially significant short-term impacts to biological resources (with significant positive medium- and long-term benefits), and

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<sup>58</sup> This is an estimate of the current area of floodplain and wet meadows within a factor-of-two. An accurate estimate of the present-day area is not available and developing this information is challenging due to access and/or availability of high-resolution topographic information. The Water Board does not have resources available to support preparation of a complete and accurate map of present-day floodplain area. Even where access is granted or high-quality topographic data is available, there is considerable variation in channel cross-section area, streambed slope, roughness, and variability in the amount of large woody debris and vegetation in the main channel and on the floodplain, it is challenging to develop this information.

potentially significant impacts to hydrology and water quality. In addition, depending upon the specific attributes of a given incised channel reach, where little or none of the adjacent valley flat is a floodplain at present, different techniques and/or approaches for reconnecting the floodplain would be called for. These techniques likely vary considerably with regard to amount of potential short-term disturbance to existing biological resources. Therefore, we conclude that a more detailed understanding of the opportunities and constraints and of the potential benefits of floodplain reconnection is warranted before implementing large-scale floodplain project, in order to optimize potential environmental benefits. This alternative is not preferred.

### **Analysis of the Preferred Alternative**

The *No Action* alternative is not preferred. Although there is a legal requirement under the Clean Water Act to develop a TMDL, the concurrent development of an implementation plan to achieve the TMDL is not a CWA requirement. Therefore, the State would be required to develop the implementation plan. Because two agencies would be involved in the process, there is a higher potential for disconnects between the TMDL and its implementation plan. In addition, this two-step process would further delay establishment, and subsequent implementation, of the TMDL. Further delay would not be the best use of public funds, as significant public dollars already have been spent to develop the proposed Basin Plan amendment. Lastly, delaying TMDL implementation would only lengthen the duration of the sediment impairment.

The *implementation actions to address the sediment only alternative* would resolve sediment-related threats to salmonids, and related beneficial uses. However, actions to enhance habitat complexity and stream and floodplain connectivity are necessary to rebuild and sustain viable populations of steelhead and coho salmon in the Pescadero-Butano watershed, and these objectives of the proposed Basin Plan amendment would not be met. The timeframe for rebuilding and sustaining viable populations of steelhead and salmon also would be increased. In addition, as described above, the sediment only alternative does not result in avoidance of any potentially significant impacts associated with the proposed Basin Plan amendment alternative and would not achieve one of the primary objectives, which is supporting conservation and facilitating recovery of steelhead and coho salmon populations. Therefore, the *sediment only alternative* is not preferred.

The *Proposed Basin Plan amendment plus restoring historic floodplain habitats* is not preferred because available information is not sufficient to accurately evaluate potential impacts and/or to optimize benefits. However, this alternative would involve a much greater amount of earth moving (>1,000 acres) and construction in/around stream channels, and potentially significant short-term impacts to biological resources (with significant positive medium- and long-term benefits), and potentially significant impacts to hydrology and water quality. In addition, because of the massive amounts of earthmoving and/or land acquisition that the cost of this alternative would be much greater compared to the proposed project.

The *Proposed Basin Plan amendment* alternative is preferred because it meets the primary objectives, has no significant impacts (with mitigation), provides the means for attaining water quality standards and addressing the sediment impairment listing, and reasonably foreseeable compliance actions would result in similar or fewer long-term adverse environmental impacts as compared to the project alternatives

### **Benefits of Project**

In order to approve the proposed Project, it is up to the Water Board to find, that based on specific economic, social, and other considerations, the benefits of the proposed Project outweigh its unavoidable adverse environmental impacts.

Some of the specific environmental benefits of the project include substantial enhancement of: a) substrate quality; b) stream and riparian habitat complexity, connectivity, and function; c) sediment storage; d) fish passage; and e) baseflow persistence. An additional environmental benefit of the project is reduced sediment loading to Pescadero marsh and lagoon, which are impaired by excessive sedimentation.

Economic benefits of the project include:

- a) Lowering the predicted costs for road maintenance and repair because roads that erode less will function better and be less costly to maintain over the long run;
- b) Reduced costs associated with damaged infrastructure and/or property that is located within, or adjacent to, actively eroding and incising stream channels by reducing the rates of erosion in these critical areas through re-establishing a balance between stream power, sediment supply, and storage; and
- c) Reducing the frequency and related costs of dredging at Pescadero Creek Road Bridge located at the downstream boundary of the Project area by reducing upper watershed sediment loading and by trapping more sediment on floodplains.

Social benefits of the proposed Basin Plan amendment include: enhanced recreational, aesthetic, and cultural experiences that are associated with healthy fisheries; the overall enhancement of stream and riparian habitats and their functions; and supporting conservation of salmonid populations within the watershed for the benefit of current and future generations.