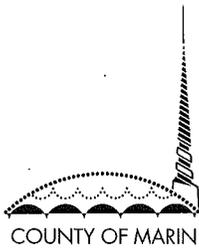


Appendix E

Written Comments Received

Available electronically at:

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



DEPARTMENT OF PUBLIC WORKS

Quality, Excellence, Innovation

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Mike Napolitano
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Marin County Public Works Comments on the Staff Report for the Lagunitas Creek Watershed TMDL and the Draft Basin Plan Amendment (BPA) for the Lagunitas Creek Watershed

April 21, 2014

Dear Mr. Napolitano:

Thank you for the opportunity to submit comments on the Staff Report for the Lagunitas Creek Watershed Fine Sediment Reduction and Habitat Enhancement Plan (TMDL) and the associated Draft Basin Plan Amendment for the Lagunitas Creek Watershed (BPA). The County greatly appreciates the time, energy and technical expertise that went into developing and interpreting the scientific studies that support the TMDL. We commend you and your staff on having skillfully incorporated information from a wide array of sources into the analysis, staff report and Draft BPA.

We would like to acknowledge and thank Regional Water Board staff for engaging in the peer review process for the initial draft of the staff report, and for acknowledging many of the resulting constructive comments and discussions in the current draft staff report and BPA. While the revisions have resulted in an improved plan to address many of the sediment and habitat challenges in the Lagunitas Creek watershed, the County would like to encourage the Regional Water Board to revisit the prescribed timeline for compliance actions on paved roads in the TMDL project area. The County believes that current activities through existing programs are directly supporting the sediment reduction and management goals of the TMDL. Specifically, requirements in the existing NPDES phase II permit, and leadership in the Fish Passage and San Geronimo Salmon Enhancement Programs, which are summarized below, align well with the required implementation measures in the BPA. So, as we did in our July 31, 2013 response to the CEQA scoping process, the County is requesting an incremental, iterative process that meshes with our available resources. The County is submitting the attached comments on the staff report and the BPA consistent with our initial request. Our comments are summarized below:

- 1) The County of Marin's Stormwater Program is working towards meeting TMDL performance standards on our County paved road system through compliance

Accounting

Airport

Building Maintenance

Capital Projects

Certified Unified Program
Agency (CUPA)

Communications
Maintenance

County Garage

Disability Access

Engineering & Survey

Flood Control &
Water Resources

Land Development

Purchasing

Real Estate

Reprographic Services

Road Maintenance

Stormwater Program

Transportation &
Traffic Operations

Waste Management

with the 2013 NPDES Phase II permit in Woodacre, the largest populated area in the TMDL project area. The NPDES permit requires the County to assess and prioritize storm drain maintenance by June 30, 2015 and develop and implement a program to assess Operations and Maintenance (O&M) activities for roads, bridges and Right-of-way (ROW) maintenance by June 30, 2016. These efforts will support the goals of the TMDL and will result in progress towards the County requirements under the BPA.

- 2) The BPA requires all public agencies with jurisdiction over roads in the project area to adopt and implement road maintenance guidelines to protect aquatic habitat, water quality and salmonid fisheries and conduct an annual training program for road maintenance staff. The County of Marin has met these requirements by developing a roads maintenance manual and conducting annual trainings for roads workers and their managers: *County Road Maintenance Guidelines for Protecting Aquatic Habitat and Salmonid Fisheries* (2004). This existing program supports the NPDES permit requirement for O&M assessment, and the implementation requirements of the BPA. The County requests that these ongoing efforts be recognized as complying with the requirement in the BPA.

- 3) The County Public Works Department requests that the Water Board remove the 5 year deadline to complete assessments and develop a schedule of repairs for County paved roads because funding for paved roads assessments is difficult to secure, the County is working through existing programs including the Local Stormwater Program, DPW Roads Division, the County Watershed Program and other efforts to support many of the recommendations in the BPA, and the timeline imposed for paved roads does not align with the characterization in the Staff Report that paved roads are a much lower priority sediment source than unpaved roads.

Marin County has a long history of working in the Lagunitas watershed to improve water quality and salmonid habitat through a variety of programs including the NPDES permit compliance program, FishNet4C, Public Works Fish Passage Program, Roads and Woody Debris MOUs with MMWD, the Salmon Enhancement Plan for San Geronimo Valley and the San Geronimo Valley Landowner's Assistance Program. Many of the elements in these existing programs functionally meet the goals and objectives of the BPA and the County anticipates continued implementation of these existing programs during the implementation phase of the TMDL. Marin County looks forward to working with the Water Board collaboratively in the future on these important issues.

Sincerely,



Elizabeth Lewis
Principal Planner

CC: Raul Rojas; Director of Public Works
Linda Dahl; Marin County Open Space District
Brian Crawford; Marin County Community Development Agency
Dyan Whyte, Regional Water Quality Control Board

San Francisco Bay Regional Water Quality Control Board

Lagunitas Creek Watershed Fine Sediment Reduction and Habitat Enhancement Plan (Staff Report) and Draft Basin Plan Amendment (BPA)

Comments Submitted by Marin County Public Works Department
April 21, 2014

In March 2014, the SF Bay Regional Water Quality Control Board released a public draft of the staff report: *Lagunitas Creek Watershed Sediment Reduction and Habitat Enhancement Plan* which details the science and rationale that went into the listing of the Lagunitas watershed as impaired for sediment. The plan proposes actions for reducing sedimentation and improving habitat conditions for land managers throughout the watershed. In addition to the staff report, the Regional Board also released for public comment a *Draft Basin Plan Amendment (BPA)*. The BPA is a regulatory action which alters the existing Basin Plan by creating numeric targets for reducing sedimentation into the watershed from identified non-point sources. The BPA outlines a suite of prescribed actions to meet water quality standards relative to discharge of sedimentation, as well as habitat restoration goals relative to improving salmonid fisheries in the Lagunitas Creek watershed.

The Staff Report lists the following primary sources of sediment to Lagunitas Creek:

- 1) Channel Incision and Associated Bank Erosion,
- 2) Gully Erosion and Landslides
- 3) Roads (including road surfaces, cut banks and inboard ditches)

The following comments are relative to Marin County Public Works' role in controlling sediment run-off from sediment sources related to channel incision and roads and the County's ability to comply with regulatory actions prescribed in the BPA relative to these issues.

1) CHANNEL INCISION AND ASSOCIATED BANK EROSION

TMDL Proposed Action: The TMDL calculates sediment contribution from channel incision and bank erosion and states that sedimentation can be reduced by installation of engineered log jams, riparian management and restoration efforts to substantially increase the number and size of large fallen trees in channels. Water Board staff recommends projects to reconnect the channel to its floodplain in reaches where these actions would not threaten public safety or damage properties. The County of Marin is meeting these goals of the TMDL in the following ways:

MMWD MOU on Woody Debris: The County of Marin is signatory to a multi-agency MOU on Woody Debris Management developed by the Marin Municipal Water District (MMWD). The MOU spells out how wood will be managed with the objective of retaining and recruiting wood in the creek for salmonid habitat. County Public Works (DPW) adheres to this MOU and only removes fallen wood from Lagunitas Creek and its tributaries in cases where the wood is threatening a County structure, such as a County owned bridge, road or property. Best

Management Practices are employed by County DPW in the case where wood needs to be either removed or modified to protect County structures. No fallen trees are removed from private property by County crews. When wood is removed from the creek it is taken to the Nicasio Corps Yard where it is saved to be used in restoration projects in the future.

Landowner Assistance Program projects will install engineered wood structures: In 2010, the County developed a Salmon Enhancement Plan (SEP) which led to the formation of a Landowner Assistance Program in the San Geronimo Valley (SGV LAP). The SGV Lap performed evaluations on 40 privately owned properties to identify actions that would improve salmonid habitat. At several of the sites, the program has received DFW FRGP funding for the development of designs to install large wood structures in the mainstem of San Geronimo Valley Creek. The structures will be engineered and securely anchored in place, in order to protect downstream properties from impacts of mobile logs. The design, engineering, permitting and construction cost is expensive and participants in the Landowner's Assistance Program do not have sufficient funds to obtain permits and implement the projects themselves. The Regional Board should support the installation of wood structures in the San Geronimo Valley by providing funds for landowners seeking to enhance salmonid habitat and increase channel complexity by installing woody debris structures on their lands.

Need for hydraulic analysis: The Regional Board could facilitate the installation of woody debris in the San Geronimo Creek by providing hydraulic analysis in key reaches of San Geronimo Creek. No hydraulic modeling exists to analyze impacts of placing wood in the creek, so currently that burden would fall to homeowners proposing these types of projects. Additionally, MMWD operates a stream gage in San Geronimo Creek, however funding is limited and it is possible the Water District will cease to collect data from the gage if funding cannot be secured.

Impacts of regulations on collapsing stream bank repair projects:

County DPW maintains numerous roads, culverts and bridges throughout the Lagunitas Creek watershed and needs to have the ability to make repairs to protect those structures when the bank of the creek collapses or and the structure is threatened (e.g. slip-outs downslope of the road involving the banks of a creek). Often a threat to a County structure poses a dangerous situation to the traveling public and the repair needs to be implemented in an emergency, or within a short timeframe on an accelerated permit timeline. Additionally, the County's Landowner's Assistance Program provides assistance to landowners in the San Geronimo Creek watershed whose properties are threatened by bank erosion. Restoration projects are planned where the project objectives include habitat restoration in conjunction with stabilizing collapsing banks and preventing further loss of property through bank erosion.

Regulatory actions taken by the Regional Board under the TMDL to curtail or delay permits for bank stabilization projects could highly impact the County's ability to protect the traveling public from danger and to protect public infrastructure from damage or failure. These types of regulatory actions could also highly impact a landowner's ability to prevent loss of property due to bank erosion. The Regional Board should describe what type of additional analysis would be required of the County or of private landowners when applying for permits to implement bank stabilization projects and what it would cost to conduct this analysis. The Water Board should also clarify if they will withhold permits for more traditional bank stabilization (rock rip rap) in areas where the installation of engineered wood structures would threaten adjacent properties.

2) ROADS INCLUDING ROAD SURFACES, CUT BANKS AND INBOARD DITCHES

Request to eliminate timeline in BPA for County paved roads assessments and scheduling of repairs: The County of Marin requests that the timeline for compliance for Marin County paved roads be revised or removed from the BPA for the following reasons:

Sediment Delivery Rate Methodology:

The staff report acknowledges that sediment coming off of public roads is a high priority for implementation of the TMDL, however the report admits that the contribution of sediment from paved County roads is most likely not as critical an issue as sediment coming from unpaved public roads on State Parks or NPS lands. Never-the-less, the BPA directs County Public Works, within five years of TMDL adoption, to conduct an inventory of its paved roads within the project area to identify sediment delivery sites, and produce a schedule for treatment to achieve road sediment delivery performance standard.

County staff reviewed the findings in the staff report on sediment delivery from roads and have the following issues with the methodology used to calculate Road Sediment Delivery Rates from County paved roads. Sediment delivery rates for all roads in the watershed were generated by Stillwater Sciences for the purposes of the TMDL. Sediment delivery rates for all roads in the watershed were then doubled (200%) by Water Board staff based on prior assessments conducted on steep, unpaved fire roads and trails in the upper watershed. The 200% increase also took into account the potential risk of failure at culverts and storm drains on these types of road systems. The 200% increased rate of sediment delivery generated from unpaved roads and crossings was then applied to all roads in the watershed including County paved roads. According to the staff report and BPA:

To ensure that effective sediment source controls are implemented on all public roads – unpaved and paved - consistent with the State Nonpoint Source Program, WDRs, or a conditional waiver of WDRs is required to meet the road sediment delivery performance standard (Table 4.2). Whether through adoption of a conditional waiver of WDRs or adoption of WDRs, the required actions are as follows:

The County of Marin Department of Public Works, within five years of TMDL adoption, must conduct an inventory of its paved roads within the project area to identify sediment delivery sites and produce a schedule for treatment, as needed to achieve road sediment delivery performance standard listed in Table 4.2 of the BPA.

Inequitable Regulation Amongst Agencies

The County of Marin maintains 25 miles of paved roads in the Lagunitas Creek watershed, where estimated sediment delivery rates were increased by 200% using approximations from unpaved roads. Regional Board staff, when questioned about this methodology, responded saying they do not know if there is a sediment delivery problem associated with County paved roads; but never-the-less the BPA is requiring the County to conduct inventories and produce a schedule for treatment within five years of BPA adoption. The staff report also states that California State Parks within SP Taylor State Park, and the US National Park Service within the TMDL project area, must control sediment delivery sites on unpaved roads to achieve the performance standard for road-related sediment delivery, however no timeline was stipulated. Several places

in the staff report point to the higher sediment delivery rates from unpaved roads vs. paved roads, yet Marin County Public Works was given a strict timeline for assessment and scheduling of repairs on paved roads and public agencies with unpaved roads were given no immediate timeline for compliance with assessments. Aside from being inequitable, it does not treat sediment sources off of unpaved roads with the same urgency as paved roads, which is contrary to the overarching goals and objectives of the TMDL.

Cost of implementation to Marin County Public Works: The County Public Works Department maintains 25 miles of paved roads and four miles of roadside ditches in the Lagunitas Creek watershed. The staff report estimates the cost of sediment reduction from publicly owned paved roads at approximately 1.3 million, and the pro-rated cost to the County is then estimated to be slightly greater than \$800,000.

Cost to reduce sediment delivery from paved publically-owned roads:

[47 miles that need to be treated x (150 cubic yards per mile sediment savings) x (\$150 per cubic yard of sediment savings)] x 1.2 (to account for the cost of environmental review and permitting) + (\$50,000 to perform a road erosion inventory) = approximately \$1.3 million.

Need for grants for implementation: The County of Marin has an active fisheries restoration program that has committed resources to eight high priority projects including fish passage barrier removal and installation of woody debris structures within the Landowner Assistance Program. These projects are always grant funded with a modest match from the County. Receiving a costly, unfunded mandate from the Regional Board to conduct road inventories on paved road systems, has the potential to detract from already established restoration priorities and funds. Furthermore, the County *does not have* the funds to conduct these types of inventories and repairs without substantial grant funding and grants to work on paved roads are difficult to obtain, given the more urgent need to address sedimentation from unpaved roads. Therefore, in order for this action item to be implemented on schedule with the TMDL, the Regional Board should provide the funding necessary to complete the road related inventories and repairs for paved roads as needed and in accordance with the cost estimates generated in the staff report for the TMDL.

Considering the significance of the Lagunitas Creek watershed for coho salmon, and the impact of excessive sedimentation, road erosion control projects likely should continue to receive strong support from public agencies providing grants including the Water Board, which could help to defray a significant portion of the total cost.

Road maintenance standards, NPDES and partnership with Marin County Stormwater Program

The staff report and BPA requires all public agencies with jurisdiction over roads within the project area to adopt and implement road maintenance guidelines to protect aquatic habitat, water quality, and salmonid fisheries; conduct an annual training program for road maintenance staff, and once every three years submit a report that documents implementation, and/or recommends adaptive updates to the maintenance practices.

As part of the FishNet program, the County of Marin has already met these requirements by developing a roads maintenance manual and conducting annual trainings for roads workers and their managers: *County Road Maintenance Guidelines for Protecting Aquatic Habitat and Salmonid Fisheries* (2004). The County requests that these previous efforts be recognized as complying with the requirement in the BPA.

As well, the County is currently implementing the Phase II Small MS4 General NPDES ("Stormwater") Permit (WQO 2013-0001-DWQ). The permit boundary overlaps with the Lagunitas Creek Sediment TMDL project area (Figure 2.1 in the Staff Report) only within the Woodacre CDP (Census Designated Place). However, the stormwater permit requirements do support some of the Basin Plan Amendment requirements for County roads. Specifically, section E.11.f and E.11.g require the County to assess and prioritize maintenance of the storm drain system within the permit area which would be undertaken within the Woodacre CDP within the schedule established in the permit. In addition, Section E.11.h of the permit requires the County to develop and implement a program to assess Operations & Maintenance (O&M) activities and subsequently develop and implement applicable Best Management Practices (BMPs) for road and parking lot maintenance, bridge maintenance, and Right-Of-Way (ROW) maintenance. We request permission to focus on Woodacre CDP before transferring any knowledge acquired through the NPDES permit compliance program to other roadway segments within the Lagunitas Creek watershed.



April 24, 2014

Mr. Michael Napolitano
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Re: Lagunitas Creek Watershed Fine Sediment Reduction and Habitat Enhancement Plan

Dear Mike,

On behalf of the Marin Municipal Water District (MMWD), we are pleased to have this opportunity to comment on the Lagunitas Creek Watershed Fine Sediment Reduction and Habitat Enhancement Plan (i.e., "Lagunitas Sediment TMDL"). We are grateful for all the work that you and other Regional Board staff have put into this document. The TMDL consists of the Basin Plan Amendment and the Staff Report; the Basin Plan Amendment will revise Chapter 7, Water Quality Attainment Strategies including Total Maximum Daily Loads (TMDLs). We offer the following general comments and also specific comments on the Basin Plan Amendment and the Staff Report.

General Comments

1. To begin, we'd like to acknowledge the involvement of Regional Board staff in Lagunitas Creek and the Lagunitas Creek Technical Advisory Committee. Your involvement has been enormously helpful to MMWD's fisheries work, particularly for expanding our understanding of geomorphic processes and their impacts on salmonid populations. We also appreciate your efforts to meet with and seek input from MMWD and the Lagunitas TAC regarding the development of the Lagunitas Sediment TMDL. We expect and rely on the involvement of Regional Board staff in the stewardship of Lagunitas Creek. Your expertise and presence is crucial to successful implementation of the Lagunitas Sediment TMDL. We look forward to an ongoing collaboration with the Regional Board on these issues, for many years to come.
2. The approach to achieve sediment reduction and habitat enhancement in Lagunitas Creek is very much in line with the approach and goals MMWD identified in our 2011 *Lagunitas Creek Stewardship Plan*; this plan addresses actions to be taken by MMWD to manage the habitat of Lagunitas Creek for the benefit of the aquatic resource populations of coho salmon, steelhead, and California freshwater shrimp. We would appreciate seeing this plan referenced in the Sediment TMDL.
3. We applaud the RWQCB's approach to achieve sediment management and habitat improvement through floodplain restoration and woody debris enhancement. These are

innovative and non-regulatory approaches that have clearly grown out of the studies, assessments, and monitoring results specific to the conditions in Lagunitas Creek.

4. The Lagunitas Sediment TMDL advocates for a number of habitat enhancement projects to improve streambed conditions in the creek. The Regional Board could assist in moving these projects forward by streamlining the permit process, which is often arduous and causes unnecessary delays in the implementation of important stream restoration work.

Comments specific to the Basin Plan Amendment (BPA)

Addressing some of the comments below may warrant addressing corresponding sections in the Staff Report.

1. The BPA references the TMDL as a percentage of the natural background sediment delivery rate but never mentions what that natural background rate is; this should be mentioned or discussed in the BPA. Based upon the text and Tables 2a, 2b, 3a, and 3b, it appears that natural background sediment loading was about 6,200 metric tons/year upstream of Devils Gulch and about 10,800 metric tons/year upstream of Olema Creek.
2. The BPA correctly states that coho salmon, steelhead trout, and California freshwater shrimp are all listed under the federal Endangered Species Act. It should note that coho and freshwater shrimp are also listed under the California Endangered Species Act.
3. We agree that streambed scour can be a source of mortality to incubating salmonid eggs (see comments on the Staff Report below) and so we appreciate that Table 1 of the BPA includes a redd scour target. However, the BPA should give a bit more context to the issue of redd scour and explain why it is one of the targets for sediment reduction and habitat enhancement. It may also be informative to explain that the approach to reduce redd scour is to reduce fine sediments, coarsen the streambed, and reduce the probability or frequency for scour. The scour studies conducted by Balance Hydrologics (2010) and Stillwater Sciences (2008) basically concluded that bed scour did not appear to be as big of a problem as we thought it might be, at least in mainstem Lagunitas Creek. The BPA should explain why and where in the watershed redd scour is a concern that warrants a target for improvement. Perhaps pulling more information from the Staff Report into the BPA would sufficiently do this.
4. In order to monitor redd scour, we recommend further collaboration between MMWD and RWQCB. Through our *Lagunitas Creek Stewardship Plan*, MMWD has developed a sediment monitoring plan and we would be interested in our monitoring efforts further dovetailing with the Sediment TMDL monitoring goals. Our approach has been to identify the spatial distribution and depth of scourable patches of gravel and fine sediment. Our sampling framework could incorporate a scour monitoring element that would likely provide a basis for setting up an intelligent scour monitoring program.

5. Measuring and monitoring Tau-Star will need to be developed and refined through implementation of the Sediment TMDL and this should happen in collaboration with MMWD. Tau-Star is a difficult concept to understand and it is not easily measured. Interpretation of the data can vary depending upon the assumptions of sheer stress that are used. This could limit the effectiveness of using Tau-Star as a sediment target. MMWD's sediment monitoring plan does includes periodic measurements at selected sampling sites to analyze Tau-Star and the metric q^* , a theoretical fluvial geomorphologic index of the state of sediment supply in relation to sediment transport capacity. Our monitoring efforts will be informative to the RWQCB for evaluating streambed mobility. For example, our 2012 monitoring data found Tau-Star in some locations to be within the 0.003 – 0.006 range of the Sediment TMDL but overall the mean Tau-Star from all sites was 0.2. We recommend the BPA identify an ongoing collaboration with MMWD to work adaptively towards the bed mobility target of the Sediment TMDL.
6. The BPA (on page 9) calls for all public agencies to develop and implement road maintenance guidelines. It also requires annual training of road maintenance staff and reports every three years. We recommend the trainings be conducted no more frequently than every other year and a brief report could coincide with the training efforts. This frequency should be more than sufficient for agency staff to stay current on road maintenance practices and to review maintenance activities. We would also encourage agency inspectors and contractors to participate in the trainings.
7. The actions for sediment discharges described in Table 4.1 and 4.2 should include using and updating the GIS database of roads in the Lagunitas Creek watershed that was developed by MMWD. This GIS database provides an inventory of the road network and can also serve to track sedimentation problems, repairs, and monitoring and maintenance activities. The GIS database was developed with the intention of all stakeholders being able to utilize and contribute to it.
8. The BPA acknowledges the roads MOU and it should also acknowledge the 2007 woody debris management MOU.
9. MMWD's Lagunitas Creek Stewardship Plan describes MMWD as participating in the implementation of winter habitat and floodplain enhancement projects. Rather than be singled out to lead projects to efforts to enhance habitat complexity and connectivity we would prefer to see Table 4.3 of the BPA identify MMWD as pursuing partnerships in these efforts.
10. The basis for many of the goals for floodplain restoration and woody debris enhancement, in Table 4.4, are not well established in the BPA but they are discussed in the Staff Report. We recommend additional review from the Staff Report be incorporated into the BPA, so that future readers of the BPA will better understand these goals.
11. The floodplain restoration goal of storing fine sediment in the floodplain (Table 4.4, goal #4) could be perceived to conflict with the simultaneous goal of increasing fish habitat in the

floodplain but staff has described that the dynamic complexity of the floodplain should allow for both goals to be met. The BPA should make mention of this dynamic complexity.

12. The Lagunitas Sediment TMDL describes that current sediment delivery needs to be reduced by 50 percent, overall, and also a need to reverse channel incision, leading to aggrading the channel to re-engage the floodplain. The BPA should discuss how sediment reduction and aggrading the channel can be simultaneously achieved.
13. The Adaptive Implementation section of the BPA should mention that Lagunitas Creek has been identified as a life-cycle monitoring station in the California Department of Fish and Wildlife's (CDFWs) Coastal Monitoring Plan (CMP) and that Lagunitas Sediment TMDL will seek to dovetail with the CMPs evaluations of salmonid population status and trends in the watershed.

Comments specific to the Lagunitas Sediment TMDL Staff Report

1. The Staff Report should incorporate and reference the *Lagunitas Creek Fine Sediment Investigation* completed for MMWD by O'Connor Environmental Inc (O'Connor and Rosser 2006). This study focused on fine sediment conditions in Lagunitas Creek and provides a significant body of work that is informative to sediment management and the TMDL.
2. Scouring of salmonid redds can be a significant source of early life-stage mortality in the Lagunitas Creek watershed and so we agree with the goal of reducing redd scour. Any redd scour target should apply to floods that are frequent enough to impact salmonid populations with some regularity, so applying the target to floods with a recurrence interval of approximately five years seems reasonable. Monitoring would need to take place over many years and in many locations to document scour at these intermediate flows. What frequency and duration of redd monitoring is likely to be necessary to determine compliance with the redd scour numeric target? How should the burden of this monitoring effort be shared among agencies? As mentioned above, we recommend further collaboration to monitor redd scour.
3. The reach of Lagunitas Creek below the confluence with Nicasio Creek ("Lower Lagunitas Creek") is identified as potentially the most promising reach for floodplain restoration (page 84), despite its severe incision and lack of coarse sediment input. The TMDL recommends a feasibility study to investigate floodplain restoration in this reach. We have some questions we would like addressed before moving forward with this feasibility study or any restoration projects.
 - MMWD recently completed the *Lagunitas Creek Salmonid Winter Habitat Assessment Report* (Kamman et al 2013), funded by the CDFW Fisheries Restoration Grant Program. The assessment evaluated the potential for floodplain restoration along the entire mainstem of Lagunitas Creek and determined that restoration in the Lower Lagunitas Creek reach was impractical largely because of the extreme incision of the channel. Does Regional Board staff disagree with this determination?

- The loss of coarse sediments, which are trapped by Nicasio Reservoir, make it difficult to reverse channel degradation in Lower Lagunitas Creek. There may only be a few locations where the floodplain could be effectively reconnected with the channel. Are there process-based restoration actions that could aggrade the stream channel and re-engage the floodplain?
 - If dredging of Nicasio Reservoir and piping the dredged material to Lagunitas Creek is a consideration, are there likely to be deposits of coarse substrates close enough to the dam to make this a feasible option?
 - If trucking of dredged material is a consideration, has Regional Board staff considered the carbon emissions resulting from such a project? ;
4. As mentioned above, the *Lagunitas Creek Salmonid Winter Habitat Assessment* evaluated the potential for floodplain restoration along the entire mainstem of Lagunitas Creek. That study concluded by identifying floodplain restoration sites within the Tocaloma and Devils Gulch reaches of Lagunitas Creek. These reaches offer some of the best opportunities to re-engage the floodplain and provide the most productive juvenile salmonid rearing habitat. The Lagunitas Sediment TMDL should identify and describe these reaches as priority reaches for floodplain restoration.
 5. Road related sediment delivery is still a problem despite many years of work to reduce it. As stated in the Lagunitas Sediment TMDL, “road erosion control projects likely will continue to receive strong support from public agencies providing grants...” (page 76). These road improvement projects can achieve sediment reductions but are much less likely than floodplain restoration or woody debris projects to significantly improve habitat, coho salmon survival, or increase the population carrying capacity. In addition, roads account for about 20 percent of the mean annual sediment delivery to Lagunitas Creek and so have a smaller role than in-channel sediment supplies that can be managed through woody debris and floodplain connectivity. We request that the Lagunitas Sediment TMDL include language stating that floodplain restoration and woody debris projects will also receive strong support when awarding grants.
 6. Devil’s Gulch is described as a “redwood channel reach” (page 53), although there’s little evidence that this subwatershed supported abundant redwoods historically. A single old-growth redwood grows along the creek, and redwood stumps are nearly non-existent. Unless stumps were removed during logging operations (which was not the case elsewhere in Samuel P. Taylor State Park), this creek should be considered a “hardwood channel reach.”
 7. A source of early life stage mortality for coho salmon that was not addressed is predation by age-1+ steelhead (pages 19 and 52). Our monitoring data suggest that early life stage mortality is higher in years following large age-0+ steelhead populations, suggesting that high numbers of age-1+ steelhead decrease coho survival. We have also observed that age-1+ steelhead can appear to have gorged themselves on salmonid fry when both are present in a confined area.

Steelhead predation on coho could be reduced by increasing wood loading, as has been proposed to reduce involuntary entrainment.

8. Footnote 22 (page 45) should reference Ettlinger, E. G. Andrew, A. Chiapella and M. Paccassi. 2014. Smolt Monitoring in the Lagunitas Creek Watershed - 2013. Marin Municipal Water District: Corte Madera, California and read "As hypothesized by Stillwater Sciences (2008). Recent smolt trapping results (Ettlinger et. al. 2014), however, indicate a carrying capacity of at least 8,000 coho smolts."
9. We strongly support the inclusion of beaver reintroduction as a potential remedy to channel incision. Recent research provides compelling evidence that beavers inhabited coastal drainages near Lagunitas Creek and there's little reason to believe beavers were not native to the creek. Beaver ponds provide excellent winter habitat for coho salmon and could assist in the reagraddation of the streambed and reconnection of the creek and its floodplain.

Thank you for this opportunity to comment on the Lagunitas TMDL. Please let us know if you have any questions about our comments. We look forward to further collaboration between the Regional Board and MMWD.

Sincerely,



Gregory Andrew
Fisheries Program Manager
gandrew@marinwater.org



Eric Ettlinger
Aquatic Ecologist
eettlinger@marinwater.org

From: [Denis](#)
To: Napolitano.Michael@Waterboards
Cc: Ferguson.Leslie@Waterboards; Ponton.James@Waterboards; McLellan.Laura@Waterboards
Subject: Public Comment - Proposed Basin Plan Amendment
Date: Thursday, April 24, 2014 4:37:09 PM
Importance: High

April 24, 2014

Mike Napolitano
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
1515 Clay St., Suite 1400

Re: Public Comment - Proposed Basin Plan Amendment

Mr. Napolitano,

Below are my comments/suggestions relative to the Water Board's proposed Basin Plan Amendment and the Water Board's presentation on April 7, 2014 at the Multi-Purpose Room, Lagunitas School District:

- The April 7, 2014 Water Board staff presentation was outstanding in consolidating the major key points of TLMD impact upon the Lagunitas Creek Watershed. It was very refreshing to listen to scientists speak regarding what conditions are negatively affecting our creeks and aquatic life. Great Job!!!
- It is my contention that when the Water Board schedules any and all future public meetings relative to the Lagunitas Creek Watershed, in a public meeting room in the San Geronimo Valley, not only the local residents should be in the audience but also the following public agencies and private property owners must be in mandatory attendance.
 - ❖ Those public agencies include but are not limited to:
 - Marin Municipal Water District
 - Marin Resource Conservation District
 - County of Marin - Fire Department
 - County of Marin - Open Space District
 - County of Marin - County Public Works
 - County of Marin - Marin County Stormwater Pollution Prevention Program
 - California State Parks Department
 - California Department of Fish and Wildlife
 - Golden Gate National Recreation Area
 - ❖ Private Agricultural businesses that include but not limited to commercial Animal Husbandry to Farming
- I am proposing this list of public/private land owners to attend future Water Board meeting is because it is essential to have all affected stakeholders present at Water Board meetings, and to exposed to what is being proposed by the Water Board and its impact upon each stakeholder's property and how to manage their property to reduce TMDLs

- It would be most helpful to visually and verbally distinguish the specific land boundaries of where the:
 - San Geronimo Creek Watershed begins and end; and
 - Lagunitas Creek Watershed begins and end
 - This geographic information will greatly assist all West Marin property owners in understanding where these watershed begin/end
- The scientific terminology in the Lagunitas Creek Watershed Fine Sediment Reduction and Habitat Enhancement Plan is challenging to fully understand. I am proposing that a "Glossary of Concepts/Terms" be included before the "References Cited" section in all future staff reports.
 - This explanation of information will greatly aid the readers to understand what the Water Board is proposing relative to scientific evidence and desired scientific outcomes.
- The proposed Basin Plan mentions "establishing a regulatory program to reduce sediment delivery to channels resulting from road-related erosion".
 - I believe a Water Board Regulatory Program is essential in order to realize a decreased TLMD but the Regulatory Program should describe to affected public or private property owners of the legal/financial consequences for failing to reduce their TLMDs
- What is the Water Board's Plan to reduce sediment as stated in Table 3a - Load Allocations for Sediment Discharges Upstream of Devils Gulch - 14,100 Metric tons/year compared to Table 3b - Load Allocations for Sediment Discharges Upstream of Olema Creek - 21,000 Metric tons/year?
 - The sediment discharge from Olema Creek is 50% greater than Devils Gulch. It appears Olema Creek is greater need to reduce TMDLs
- The Basin Plan requires the County of Marin - Department of Public Works to conduct within five years of TMDL Adoption, an inventory of its paved roads within the project area to identify sediment delivery sites and produce a schedule for treatment to achieve reduced sediment.
 - I recommend that after the TMDL Adoption, the County of Marin - Department of Public Works annually perform an assessment of all their paved roads in West Marin for reducing TMDLs along with plans to reduce those TMDLs to acceptable Water Board levels, not every five years
 - I would take this road assessment inventory approach further by requiring all public agencies within the Basin Plan perform annual assessment of all non-paved roads and develop a five year plan to reduce TMDLs beginning with those roads/landslides that have contributed the largest amount of sediment into the San Geronimo and Lagunitas Watersheds.
 - Funding to reduce sediment from non-paved road should be provided via federal and Water Board grants.
- Which public agency will ensure and provide funds to stakeholders along San Geronimo Creek and its tributaries to develop reach-based stewardships groups to implement channel habitat enhancement projects?
 - Will the Water Board provide guidance in determining the prioritization

of all channel habitat enhancement project? If no, what agency will assume that role?

- What role will the Water Board assume to ensure the channel habitat enhancement projects are streamlined for an individual property owner to obtain public funding/grants for stream permits and having qualified licensed civil/general engineering contractors, besides the Salmon Protection and Watershed Network, bid on these selected habitat enhancement projects in the San Geronimo Creek area?
- I suggest the Water Board consider the Marin Resources Conservation District in Point Reyes Station to be the lead agency instead of the California Department of Fish and Wildlife to accomplish these habitat enhancement projects in the San Geronimo Creek Watershed and in the Lagunitas Creek Watershed.
- The Water Board's Proposed Basin Plan Amendment has been long overdue in scientifically determining those impaired West Marin watersheds with excessive TMDL's that are negatively affecting the aquatic habitat in those watersheds.
- The Basin Plan is a non-bias scientific document that provides recommended scientific solutions, hopefully funding sources and staffing resources to ensure that the endangered aquatic and vegetation habitat will once again thrive in the West Marin watersheds in the immediate future.

I would greatly appreciate if a Water Board staff person would kindly forward me a copy of the Regional Water Quality Board's determination regarding the Lagunitas Creek Watershed Sediment TMDL and Habitat Enhancement Plan at their June 11 at the Elihu M. Harris State Building in Oakland.

Respectfully submitted,
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