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August 25, 2006

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Subject: North Coast Regional Water Quality Control Board Comments on North Coast Instream Flow Policy

File: North Coast Instream Flow Policy

On August 16, 2006, the State Water Resources Control Board (State Water Board), conducted two public scoping meetings on the principles and guidelines for maintaining instream flows in coastal streams from the Mattole River to San Francisco and in coastal streams entering northern San Pablo Bay, for purposes of water right administration (*North Coast Instream Flow Policy*). The North Coast Regional Water Quality Control Board (Regional Water Board) appreciates the opportunity to comment on the range of actions, policy alternatives, mitigation measures, and significant effects that should be analyzed in the Substitute Environmental Document (SED). Recognizing the relatively short time period in which the State Water Board must develop the Policy, and the Regional Water Board's significant interest and authority over water quality within portions of the Project area, the Regional Water Board submits the following comments with the hope of continuing the dialogue and aiding the Division of Water Rights in the development of certain aspects of the Policy.

The Regional Boards have the primary responsibility for formulating and adopting water quality control plans (Wat. Code, § 13240), subject to State Water Board review and approval. (Wat. Code, § 13245.) The Regional Water Board adopted, and periodically updates, the *Water Quality Control Plan for the North Coast Region (Basin Plan)*. A Basin Plan consists of designation for waters in a given area, including: 1) beneficial uses to be protected; 2) water quality objectives; and 3) a program of implementation needed to achieve the objectives. (Wat. Code, § 13050, subd.(j).) In formulating a water quality control plan, the board is vested with wide authority to "attain the highest water quality which is reasonable, considering all the demands being made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (Wat. Code, § 13000.)

The State Water Board may also formulate and adopt state policy for water quality control in accordance with these provisions. (Wat. Code, § 13140 & 13170.) The state plan will supercede any conflicting provisions of the regional water quality control plans. Even though AB2121 specifies that the Policy be for the purpose of water rights administration, the State Water Board should utilize water quality planning principles when drafting its policy. Consistent with Water Code sections 174 and 1258, the Regional Water Board hopes that the *North Coast Instream Flow Policy* is developed in harmony with the Basin Plan (see TMDL discussion below).

In the *Notice of Preparation*, the Project is described as a policy that provides, through the State Water Board's administration of water rights, for the maintenance of instream flows in coastal streams that will likely address water right applications; small domestic use and livestock stockpond registrations; existing permits and licenses; and change petitions, including transfers, time extensions, and wastewater change petitions. Staff at the Regional Water Board have conducted a brief review of the *Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams* (NMFS-DFG Draft Guidelines) and offers the following comments:

The Regional Water Board staff strongly support:

- the seasonal limits on additional diversions;
- the prohibition on additional permitting of on-stream reservoirs;
- the minimum bypass flow provisions;
- protections of the natural hydrograph;
- and the requirement that all new permits require adequate fish passage and protection measures.

These provisions should be extended to apply to all new water right applications, not just small diversions. These requirements are a good first step in limiting further degradation of coastal streams from new water diversions.

Unpermitted Diversions

Staff also understands from the scoping meeting that there are numerous illegal diversions and reservoirs in the Project area that must comply with the Guideline provisions to receive authorization or otherwise be removed. Subject to careful mitigation to control sediment and other water quality impacts (discussed below), the Regional Water Board staff supports aggressive enforcement against illegal storage and diversions that are unable to reach compliance. In general, the Regional Water Board staff considers the removal of illegal and obsolete reservoirs and water diversion facilities to be restoration projects and therefore may tolerate short-term sediment increases and make other allowances on a case-by-case determination if these impacts are outweighed by the long-term benefits to the beneficial uses.

Onstream Reservoirs

Onstream reservoirs can adversely affect the beneficial uses of water, primarily from sediment impacts. Beneficial gravels and cobbles trapped in reservoirs result in loss of downstream habitat. Loss of habitat includes diminished supply of spawning gravel and

interstitial areas that provide habitat for fish and other aquatic organisms. In addition, loss of sediment transport downstream of reservoirs results in down cutting and increased stream bank erosion. Reservoirs can increase the potential for erosion from improperly designed spillways, and failure of dam or adjacent hill slope areas. Old, obsolete, or improperly maintained reservoirs sometimes lead to catastrophic dam failure resulting in large sediment discharges, debris torrents and stream bank erosion downstream, and may also release large quantities of stored sediment. Finally, fine sediment downstream of reservoirs may be increased due to increased erosion and reduced stream flushing flow.

In addition to sediment impacts, other effects from onstream reservoirs include changes in the hydrograph resulting in adverse changes to fluvial system, dewatering or reduction of downstream flows during critical periods for spawning and other aquatic habitat needs, adverse changes in downstream riparian vegetation due to changes in downstream flow, and loss of riparian vegetation due to dewatering or reduced flow. Increase in vegetation caused by loss of high flows can result in increased channel confinement. Also, reservoirs may encourage population increases of non-native species such as bull frogs that impact native species of frogs and other amphibians. Poor water quality in onstream reservoirs can impact water quality downstream (concentrations of nutrients, algal blooms (including toxic algae), reduced DO, and increased temperatures). Removal of onstream reservoirs helps protect beneficial uses by removing these impacts on a permanent basis.

Small Dam Removal

Some work has been done on proper mitigations for small dam removal. First, it may be possible to avoid adverse impacts by modifying the structure so that water flows freely without removal. If avoidance is not feasible, it is critical that the entire dam fill and any related structures are removed, all the way down to the "original grade" of the stream bed. Some sites may require the excavation below "original grade" and placement of large rock to stabilize the streambed. In addition, all stored sediment should be removed and all previously inundated land should be stabilized with vegetation or rock to limit soil movement. Also, release of stored waters should be done to limit pulse flows. This may be accomplished by slow release not to exceed ¼ of the natural flow at the time of release. Finally, temperature increases of the receiving waters should be limited by either releasing when temperatures are the same or by slowly releasing water so as to not raise water by more than 2 degrees F over the natural water temperature.

Additional work in this area is needed. The Regional Water Board staff proposes to work collaboratively with the State Water Board, DFG, Region 2 and other interested parties to ensure that the substitute environmental document adequately addresses the cumulative impacts of numerous dam removals, and identifies appropriate mitigation measures, including the consideration of a program that phases removal projects geographically and temporally in order to minimize sediment impacts. The Regional Water Board may consider developing a general waste discharge requirement for dam removals that meets certain parameters. It would be efficient and useful if the SED adequately covered the CEQA requirements for this purpose.

Compliance and Enforcement
The Policy must contain an enforcement element that should include provisions similar to those already outlined in the NMFS-DFG Guidelines. Effective monitoring and reporting is essential to determine compliance with the Policy's requirements and whether additional measures will be necessary. As previously stated, the Guidelines appear to focus on new water right permits only. After implementation, it will be necessary to reassess water quality conditions in order to determine whether existing permits and licenses, and riparian diversions require modification.

During development and implementation of the Policy, the Division of Water Rights should seek to quantify, to the extent possible, the location and extent of all water diversions occurring in the Project area, including diversions under the claim of a riparian right. A model that tracks existing diversions would be very useful to accurately gauge the Policy's success. Regional Water Board staff strongly supports the NMFS-DFG Guidelines recommendation that SWRCB establish flow gaging stations and use the flow information to evaluate compliance and inform later revisions of the Policy. Also, we strongly advocate a policy that includes routine random compliance inspections to ensure permit compliance. Regional Water Board staff recommend that the State Water Board include strong data gathering and water diversion quantification elements as part of its Policy.

Diversion Impacts
The NMFS-DFG Guidelines are useful in bringing illegal diversions into compliance, identifying projects that require removal, and ensuring that approval of new water right permits will not impact beneficial uses individually or cumulatively. There are additional areas of concern that the State Water Board should consider addressing. The State Water Board should consider what diversions are causing impairments in the summer, particularly in water bodies that are listed as impaired under the Clean Water Act. The SED should analyze and develop policy on the effect of diversions on water temperature, salinity, estuary function, wintertime channel forming flows, and fluvial geomorphology.

The Policy should identify the next steps that may be taken if information generated indicates that existing, authorized diversions are contributing to water quality impairments. Regional Water Board staff recommend that the State Water Board consider developing a flow objective for water bodies that are impaired due to over allocation. A flow objective will help facilitate additional water right actions if necessary. In the alternative, the State Water Board could direct the Regional Water Board to develop a flow objective for impaired water bodies in its total maximum daily load (TMDL) process.

Total Maximum Daily Loads
The Regional Water Board and the U.S. Environmental Protection Agency (EPA) are responsible for establishing the TMDL for impaired water bodies "at a level necessary to implement water quality standards" taking into account seasonal variation and margin of safety. (33 U.S.C. §303(d)(1)(C).) The TMDL process provides a quantitative assessment of water quality problems, contributing sources of pollution, and the

pollutant load reductions or control actions needed to restore and protect the beneficial uses of an individual waterbody impaired from loading of a particular pollutant. The following waterbodies are on the Clean Water Act section 303(d) Impaired Waters List and are within the geographic scope of the proposed Policy: Albion, Americano Creek, Big, Garcia, Gualala, Laguna de Santa Rosa, Mattole, Navarro, Noyo, Russian, Santa Rosa Creek, Stemple Creek, and Ten Mile River. Impairments are due to temperature, sediment, nutrients, pathogens, and low dissolved oxygen. The primary adverse impacts associated with high temperature and sediment are to the anadromous salmonid species, which have experienced severe population declines.

Some TMDLs have been adopted already for waterbodies within the Project area, several by the EPA in order to meet strict deadlines required pursuant to a consent decree (*Pacific Coast Federation of Fishermen's Associations, et al. v. Marcus*, No. 95-4474 MHP, 11 March 1997). TMDLs established by the EPA do not contain implementation plans required under the Porter Cologne Water Quality Control Act. (Wat. Code, §13000 et seq.) The TMDLs for the Albion and Navarro Rivers both identify flow and water diversions as a source contributing to impairment. The Regional Water Board is particularly concerned about the Russian River and its tributaries because it is listed as impaired for temperature and sediment. Regional Water Board staff has begun the initial phases of the Russian River TMDL process and is looking to the State Water Board's Policy to assist in this effort for impairment sources attributable to water diversions. The Regional Board typically adopts a TMDL through a Basin Plan amendment, subject to CEQA provisions for a certified regulatory program under the California Code of Regulations, title 23, section 3775-82. It would be efficient and useful if the SED adequately covered the CEQA requirements for this purpose.

Hydrologic Connections

The State Water Board must take appropriate action to mitigate impacts from water diverters switching to alternative sources. In addition to monitoring and gathering information on diversions under a claim of riparian right, the *Notice of Preparation* recognizes that a switch to groundwater pumping could impact groundwater levels, thus reducing summer instream flows. This impact could be significant along the Russian River and its tributaries. There is evidence to suggest that groundwater adjacent to the Russian River has a direct hydrological connection to surface water. (See e.g. *Northern California River Watch v. City of Healdsburg* (N.D.Cal., Jan 23, 2004, No. C01-04686WHA)__F.Supp.__[2004 WL 201502, 10] affd. (9th Cir., Aug. 10, 2006, No. 04-15442) __ F.3d __[2006 WL 2291155] ["there is, in fact, an intimate and persistent hydrological connection, albeit underground.*** There is also an immediate underground hydraulic connection between the two bodies, such that the water level in each immediately affects the water level in the other"].)

The influx of groundwater to surface water bodies is critical for support of cold water fisheries and compliance with the water quality objective for temperature. Groundwater temperatures are almost always in the range that is supportive of salmonids. The influx of groundwater often provides both thermal refugia for these species at the habitat unit scale, as well as temperature buffering that moderates temperatures on the reach

scale. Additionally, decreased water table elevations in response to groundwater pumping can eliminate riparian vegetation, further degrading aquatic habitat, as mentioned in the *Notice of Preparation*. The Regional Water Board has encountered these issues first hand in the Scott River watershed, where groundwater pumping has contributed to the impairment of the Scott River.

The Policy should recognize that groundwater use may deplete or contribute to the depletion of stream flows to the degree that beneficial uses are not supported and water quality objectives are not met. The Policy should establish a process through which the Division of Water Rights can evaluate the impacts on stream flows from new wells that are proposed in areas where the extent of the subterranean stream has not been defined. To control these impacts, the State Water Board should investigate, and if warranted, delineate the subterranean streams of the project area to inform parties whether a permit is required. It would be useful to also determine water availability of the subterranean resource, as this information will be necessary for water right permit approvals.

Summer Dams

Another area that warrants some investigation is the impact to fish populations caused by summer dams, their installation and removal. The Russian River and its tributaries have hundreds of summer dams installed annually according to a paper prepared by the National Marine Fisheries Service in July 2001, titled *The Effects of Summer Dams on Salmon and Steelhead in California Coastal Watersheds and Recommendations for Mitigating Their Impacts (NMFS paper)* (available online at http://swr.nmfs.noaa.gov/hcd/policies.htm).

The NMFS paper states, "During the months of June, July, August and September, summer dams can diminish the quality of summer rearing habitat for juvenile salmon and steelhead by changing the stream flow patterns, reducing habitat diversity, diminishing water quality, and creating barriers to the natural instream movements of juvenile stages. Summer dams can also enhance the quality for species that are predators of juvenile salmon and steelhead." This is of particular concern because of the status of endangered species in our region and the beneficial uses specifically identified in the Basin Plan for the Russian River that summer dams may impact.

The NMFS paper identifies reduction of habitat diversity, increase in stream water temperature, alteration of stream geomorphology, decrease in fish migration, and increase in salmonid predation as the primary effects on salmon and steelhead due to summer dams. The NMFS paper also discussed the cumulative effects of summer dams, "The largest threat of summer dams is their abundance. Each summer dam generates its own turbidity and sediment load; each may close the stream to fish movement; each may degrade juvenile salmon and steelhead rearing habitat; each changes the benthic community and interrupts energy flow, and each may kill some number of embryos, alevins or juveniles." Although the topic of summer dams is not addressed in the NMFS-DFG Guidelines, summer dams are appropriate for consideration under the Policy because they are subject to Division of Water Rights authority even if constructed under a claim of riparian right, and they significantly affect

instream flows. The Division of Water Rights should exercise its authority to regulate these impoundments and take action under the prohibition against waste and unreasonable use, when appropriate.

Permit Review Process

Regional Water Board staff see a need for improvement in the Water Right permit review process. Water Rights permit reviews need to include analysis of all potentially significant impacts to beneficial uses. Habitat and water quality conditions for all threatened and/or endangered species, and/or potentially significant impacts to jurisdictional waters (e.g., Stream and wetland fills per Sections 401 of the federal Clean Water Act, and/or report of waste discharge or waiver per Porter-Cologne Act) require special care.

Regional Water Boards follow the Section 404(B) (1) Guidelines developed by USEPA, which emphasize that it is generally preferable to avoid wetland disturbance. When this is not possible, disturbance should be minimized. Mitigation for lost wetland acreage and values through restoration or creation should only be considered after disturbance has been minimized.

Regional Water Board staff note that initial studies for appropriative water right applications that call for proposed on-channel dams typically do not document resource conditions in affected wetlands and waters, and/or describe analyses conducted to demonstrate due diligence in attempting to avoid and minimize impacts of proposed on-channel reservoirs to wetlands including waters of the state. Regional Water Board staff respectfully request that these issues be permit review issues addressed under one or more of the project alternatives to be explored under the proposed policy.

Finally, Regional Water Board staff believe the SED should analyze and develop policy that reduces permitting obstacles that discourage existing permittees from modifying practices or infrastructure to promote conservation objectives (e.g. dedicated instream flows, fish passage, flushing flows, wetland restoration, etc.).

Thank you for the opportunity to comment on the *North Coast Instream Flow Policy Supplemental Environmental Document*. We appreciate the challenge the Division of Water Rights faces in developing and administering a water rights policy that maintains instream flows and protects the beneficial uses of water. We look forward to working with Division of Water Rights to ensure the preservation of those beneficial uses of water.

Sincerely,

Catherine Kuhlman

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Executive Officer

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cc: Bruce Wolfe, Executive Officer, San Francisco Bay Region