

**Attachment 1
Draft Volume Depletion Approach Study
Summary of Proposed Action**

I. Summary

The State Water Board has hired a contractor, Stetson Engineers, Inc. under Contract #11-130-300, to complete a volume depletion approach study. The study is required in the State Water Board's (State Water Board) [Policy for Maintaining Instream Flows in Northern California Coastal Streams](#) (Policy). The Policy, approved by State Water Board Resolution No. 2010-0021 on May 4, 2010, contains principles and guidelines for maintaining instream flows for the protection of fishery resources, while minimizing water supply impacts on other beneficial uses of water, such as irrigation, municipal use, and domestic use. The geographic scope of the Policy encompasses coastal streams from the Mattole River to San Francisco and coastal streams entering northern San Pablo Bay, and extends to five counties: Marin, Sonoma, and portions of Napa, Mendocino, and Humboldt Counties. The Policy applies to applications to appropriate water, small domestic use and livestock stockpond registrations, and water right petitions.

Policy section 10.4.1 requires the State Water Board to commence and complete as soon as possible, but within no more than 5 years (from May 2010), a study to determine whether the volume depletion approach described in Policy section A.1.8.3 effectively protects fishery resources. The volume depletion approach is applicable only to onstream reservoirs on Class II and III (non-fish bearing) streams. The criteria in section A.1.8.3 allow diversion to occur without (or with limited) restrictions regarding minimum bypass flow, rate of diversion, or season of diversion, depending on the extent of change in seasonal flow volume in downstream fish bearing streams.

II. Rationale

The Policy did not establish specific instream flow requirements for particular rivers or streams. Nor did it approve any particular water diversion projects, or specify the terms and conditions that will be incorporated into water right permits, licenses, or registrations. Instead, it established guidelines for evaluating the potential impacts of water diversion projects on stream hydrology and biological resources. It included principles to ensure that new water appropriations and changes to existing water right permits and licenses will not affect the instream flows needed for fish spawning, migration and rearing, or the flows needed to maintain natural flow variability, which protects the various biological functions that are dependent on that variability.

Appendix A of the Policy contains guidance for performing a Cumulative Diversion Analysis, which evaluates whether a proposed water diversion, in combination with existing diversions in a watershed, may affect instream flows needed for the protection of fishery resources. Appendix A describes two approaches, (1) a daily flow study, applicable to any type of diversion, that examines the frequency at which instream flows meet or exceed the minimum bypass flows and maximum cumulative diversion criteria established for a particular fish bearing stream; and (2) a second approach, applicable only to onstream reservoirs on Class II and III streams, which allows diversion to occur without (or with limited) restrictions regarding minimum bypass flow, rate of diversion, or season of diversion, depending on the extent of change in seasonal flow volume in downstream fish bearing streams.

The second (alternate) approach, which is detailed in Policy section A.1.8.3, was proposed during the 2010 policy adoption proceedings with limited discussion regarding the

approach's protectiveness on a regional basis. Policy section 10.4.1 requires the State Water Board complete a study to determine whether the volume depletion approach described in Policy section A.1.8.3 effectively protects fishery resources. Use of the alternate approach (section A.1.8.3) is generally restricted until, and based upon, results of the volume depletion approach study.

III. Methodology

The State Water Board administers water rights for a wide variety of applications. Persons requesting water rights can vary from vineyard owners and municipalities, to small diverters, such as people who divert water for domestic or livestock watering use. Because the Policy affects a large geographic area, the volume depletion approach study scope is to evaluate protection of fishery resources impacts of onstream reservoir on Class II and III streams throughout the Policy area.

The volume depletion approach analysis utilized new field data that was collected during 2012 and 2013 and evaluated in combination with hydrologic modeling to complete the assessment of the protectiveness of the alternate criteria in regards to season of diversion, minimum bypass flow and maximum cumulative diversion.