

**Attachment 4**  
**Draft Volume Depletion Approach Study**  
**List of Documents to Be Reviewed**

1. The draft Volume Depletion Approach Study. *Status:* In development by consultant team lead by Stetson Engineers Inc. Length of draft study report is estimated at 100 pages, inclusive of attachments. Draft report will be provided to reviewers as a hard copy. In addition to the draft study, the following reference documents will be provided:
  - a. All references used in the volume depletion approach study. References will be provided to reviewers on CD.
  - b. State Water Board's [Policy for Maintaining Instream Flows in Northern California Coastal Streams](#) (adopted by State Water Board in 2010), with particular emphasis on the portion of the Policy providing the requirement to conduct the volume depletion approach study (Policy section 10.4.1) and the section providing the alternate criteria (Policy section A.1.8.3). These sections are also provided as an excerpt below:

**10.4.1 State Water Board study of volume depletion approach to permitting of small reservoirs on Class II and III streams**

The State Water Board will commence and will complete as soon possible, but within no more than 5 years, a study to determine whether the volume depletion approach described in Appendix A section A.1.8.3 effectively protects fishery resources. The evaluation will include assessing the effects on the fishery and aquatic habitat of diversions upstream of anadromy where the cumulative diversion rate is greater than 5 percent but no more than 10 percent by volume of the unimpaired seasonal flow volume between November 1 and March 31 as measured at the upper limit of anadromy.

**A.1.8.3 Alternate evaluation criteria for onstream reservoirs on Class II and Class III Streams**

The alternate regional criteria described below can be used to measure the cumulative effects of onstream reservoir projects on Class II or Class III streams. These criteria measure cumulative effects in percent change to seasonal flow volume.

**Class III Streams**

Projects located on Class III streams may be allowed to operate without a minimum bypass flow, maximum rate of diversion, or season of diversion if the cumulative depletion of the project and all senior projects is not more than 5 percent of the seasonal (November 1 to March 31) volume measured downstream at the upper limit of anadromy and points of interest below. Projects located on Class III streams that contribute to a cumulative depletion greater than 5 percent but not more than 10 percent of the seasonal volume measured at the upper limit of anadromy and points of interest below may be allowed to operate with only a February median bypass flow and without a rate of diversion limitation or season of diversion limitation provided either:

1. The DFG and NMFS concur that the proposed diversion will not adversely affect fishery resources, or
2. The applicant prepares a study acceptable to the DFG and NMFS that demonstrates the diversion will not adversely affect fishery resources, and the DFG and NMFS concur that the study demonstrates the proposed project will not adversely affect fishery resources. If the applicant and DFG or NMFS do not agree on the study design or results, the applicant may utilize the Pre-decisional Review Trial Program described in section 3.4.3; or
3. The State Water Board has completed a study consistent with the language in section 10.4.1 to determine whether or not additional conditions are necessary to protect fishery resources from the effects of diversion and the applicant agrees to those conditions.

#### Class II Streams

Projects located on Class II streams may be allowed to operate with a bypass flow equal to the February median flow and without a maximum rate of diversion or season of diversion if the cumulative depletion of the project and all senior projects is not more than 5 percent of the seasonal (November 1 to March 31) volume measured downstream at the upper limit of anadromy and points of interest below.

Projects located on Class II streams that contribute to a cumulative depletion greater than 5 percent but not more than 10 percent of the seasonal volume measured at the upper limit of anadromy and points of interest below may be allowed to operate with only a February median bypass flow and without a rate of diversion limitation or season of diversion limitation provided either:

1. The DFG and NMFS concur that the proposed diversion will not adversely affect fishery resources, or
2. The applicant prepares a study acceptable to the DFG and NMFS that demonstrates the diversion will not adversely affect fishery resources, and the DFG and NMFS concur that the study demonstrates the proposed project will not adversely affect fishery resources. If the applicant and DFG or NMFS do not agree on the study design or results, the applicant may utilize the Pre-decisional Review Trial Program described in section 3.4.3; or
3. The State Water Board has completed a study consistent with the language in section 10.4.1 to determine whether or not additional conditions are necessary to protect fishery resources from the effects of diversion and the applicant agrees to those conditions.

Where the cumulative depletion is found to be greater than 10 percent, the applicant may evaluate the cumulative effects of diversion by referring to the criteria described in sections A.1.8.1 and A.1.8.2 above with completion of a daily flow study, as described in Appendix B Section 5; or the applicant may proceed to site-specific studies to further evaluate the cumulative effects of diversion as described in Appendix C.