

State of California  
Department of Fish and Game


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## Memorandum

DEPARTMENT OF FISH AND GAME  
SACRAMENTO

Date: April 25, 2008

To: Tam Doduc, Chair  
State Water Resources Control Board  
1001 I Street, 25<sup>th</sup> Floor  
Sacramento, CA 95812-2000

From: Donald Koch   
Director  
Department of Fish and Game

Subject: Response to Notice of Draft Policy for Maintaining Instream Flows in Northern California Coastal Streams

The Department of Fish and Game (Department) appreciates the opportunity to review the Draft Policy for Maintaining Instream Flows in Northern California Coastal Streams (Policy).

While the Department agrees with the principles and concepts presented in the Policy and believes that the proposals are generally protective of resources in anadromous streams, the Department requests several changes aimed at strengthening the methods for protecting fisheries resources. As presented in the attachments, the Department's major comments focus on the season of diversion, minimum bypass flow in small watersheds, protection of a wide range of fish and wildlife resources, and providing a mechanism to allow the Department to exercise its authority as the trustee agency for California's resources. With the Department's recommended changes, the Policy will maintain instream flows that provide needed protection of fish and wildlife resources of Northern California coastal streams.

The Department appreciates the Water Board's leadership and your staff's diligence in developing this important Policy. We look forward to our continued collaboration with your staff to develop and implement this Policy. Should you have any questions or require clarification regarding our recommendations or comments, please contact Carl Wilcox, Chief of the Water Branch, at (916) 445-1231.

Attachments (2)

STATE WATER RESOURCES CONTROL BOARD  
SACRAMENTO  
MAY 1 2008



cc: State Water Resources Control Board  
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Sacramento, CA 95814

Victoria Whitney, Deputy Director  
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Attachment A, Resource Protection Recommendations  
Response to Notice of Draft Policy for Maintaining Instream Flows in Northern  
California Coastal Streams.

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DR. C. W. H. ...  
SACRAMENTO

DR. C. W. H. ...  
~~2008 APR 21 AM 11:02~~  
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Attachment A contains the Department of Fish and Game (DFG) resource protection recommendations to the State Water Resources Control Board (SWRCB) after reviewing the Draft Policy for Maintaining Instream Flows in Northern California Coastal Streams (Policy). These comments have been grouped into six categories as they relate to recommendations for modifications or revisions to: I) General comments, II) Measures to protect instream flow, III) Application of the Policy, IV) Allowing DFG to appropriately exercise its authority as the trustee agency for California's resources under the Policy, V) Making a determination that streams should be placed on the Fully Appropriative Stream list, and VI) Other resource protection issues.

## **I. General Comments**

We support the inclusion of a broad definition of fish<sup>1</sup> instead of the narrow definition of "fish" as used in the Stream Classification System in Section 4.2. A limitation of the Policy's narrow definition of "fish" (to include only anadromous salmonids) would result in an inconsistency with the Fish and Game Code and would possibly allow unacceptable impacts on fisheries resources held in the public trust.

DFG concurs with the five guiding principles specified in the Policy and, with the addition of an inclusive definition of "fish" and inclusion of a modified fifth principle (below), feels that it will serve to protect fisheries resources, including salmonids, in the streams in the policy area. All of these principles, and not a subset of these principles, must be applied to all projects to ensure that water diversions minimize impacts on instream flow and associated beneficial uses. It is therefore our understanding that administration of water rights will conform to all the principles listed below:

1. Water diversions shall be seasonally limited to periods which instream flows are naturally high to prevent adverse effects to fish and fish habitat.
2. Water shall be diverted only when stream flows are higher than the minimum instream flow needed for fish spawning and passage.
3. The maximum rate at which water is diverted in a watershed shall not adversely affect the natural flow variability needed for maintaining adequate channel structure and habitat for fish.
4. Construction or permitting of new onstream dams shall be restricted. When allowed onstream dams shall be constructed and permitted in a manner that does not adversely affect fish and their habitat.

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<sup>1</sup>"Fish" means wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn, or ova thereof. (Fish and Game Code section 45)

5. Cumulative effects of water diversions on instream flows needed for the protection of fish and their habitat shall be ~~considered~~ analyzed and either minimized with appropriate mitigation to provide instream flow protection or, if minimization is not possible, avoided by restricting new diversions within that watershed.

The change in the fifth principle is necessary to ensure that protection is provided against adverse impacts caused by multiple water diversions within a watershed. This is an important consideration in the policy area where multiple small diversions, which in and of themselves may not be adverse, are located in watersheds where the impacts of all diversions cumulatively contribute to conditions that adversely impact fisheries resources.

## **II. Measures to Protect Instream Flow**

### **Section 2.3.1 Season of Diversion**

Based on DFG's understanding of the watersheds of the policy area, the resources they support, and review of the data and analysis provided in the Technical Report documents accompanying the Draft Policy, DFG does not agree that extending the season of diversion into the dry months of October and November is fully protective of instream flows or the resources those flows are intended to support for the following reasons:

1. The proposed season does not coincide with periods of highest rainfall or stream flow within the policy area (Appendix B, Technical Report) and allowing diversions during these months is inconsistent with the principle listed in Policy Section 2.2 restricting diversions to periods when stream flows are naturally high.
2. Diversions at this time interfere with groundwater recharge during early rain events and may cause delays in the onset of increased fall stream baseflows.
3. The proposal underestimates the difficulties in protecting peak high flow variability in the fall. These early peak flows provide important cues for Chinook and coho salmon migration into coastal spawning streams and timely sandbar breaching for access to these streams. The Policy relies on an assumption that peak flows will be protected because of the minimum bypass flow (MBF) requirements and maximum cumulative diversion (MCD) rate limitations in the watershed. This may be true if all diverters were diverting under the Policy criteria for MBF and MCD. However, this is not the case in the policy area where existing diversions are currently operating and impacting these early peak flows without providing the proposed protection of either the MBF or MCD. These existing diversions include 1) both authorized and illegal onstream dams that fill with first flows, 2) late season/post harvest irrigation by authorized direct diverters, riparian right holders, and unauthorized direct diverters. The result is that additional diversions during this time are likely to result in the further

impairment or loss of needed peak flow variability. The Policy limits the diversion season in the spring to protect the variability of flows needed to support outmigration and therefore should be consistent with its proposed fall diversion season as well. The provided technical analysis does not support the inconsistency and is problematic based on the supporting data that shows October and November are typically drier than April, May, and June (months when diversions are restricted).

4. The support for an earlier diversion season in the Technical Report relied almost exclusively on the need to protect stream temperatures. However, no clear analysis of water temperature over the broad range of locations and climate zones to support the conclusion that diversions in October or November would not affect the temperature of water remaining in the stream was provided.
5. Finally, in weighing the risk to resources against the ability to increase extraction of water by extending the season, the supporting documents show that the amount of water available for extraction by new diverters during the fall will be minimal in watersheds with existing onstream reservoirs or senior right diversion already occurring.

Therefore DFG recommends that, like the protection of spring flow variability, the SWRCB include a restricted season that limits diversions to the wet months of December through March by revising the language to read:

“This policy limits new water diversions in the policy area to a diversion season beginning on ~~October 4~~ December 15 and ending on March 31 of the succeeding year”.

### **Section 2.3.2 Minimum Bypass Flows**

Based on the data and analysis provided in the Task 3 Report (R2 2007a) and the revisions of March 14, 2008, the Policy does not provide minimum bypass flows that are adequately protective of habitat for fish spawning, upstream fish passage, and other aquatic resources. DFG recommends that the minimum bypass flow formula (MBF) should be revised to:

1. Account for Chinook salmon spawning criteria (Table G-7 of Appendix G).
2. Account for the DFG’s upstream passage criteria for adult anadromous salmonids.
3. Correctly calculate a MBF above an upper limit of anadromy.

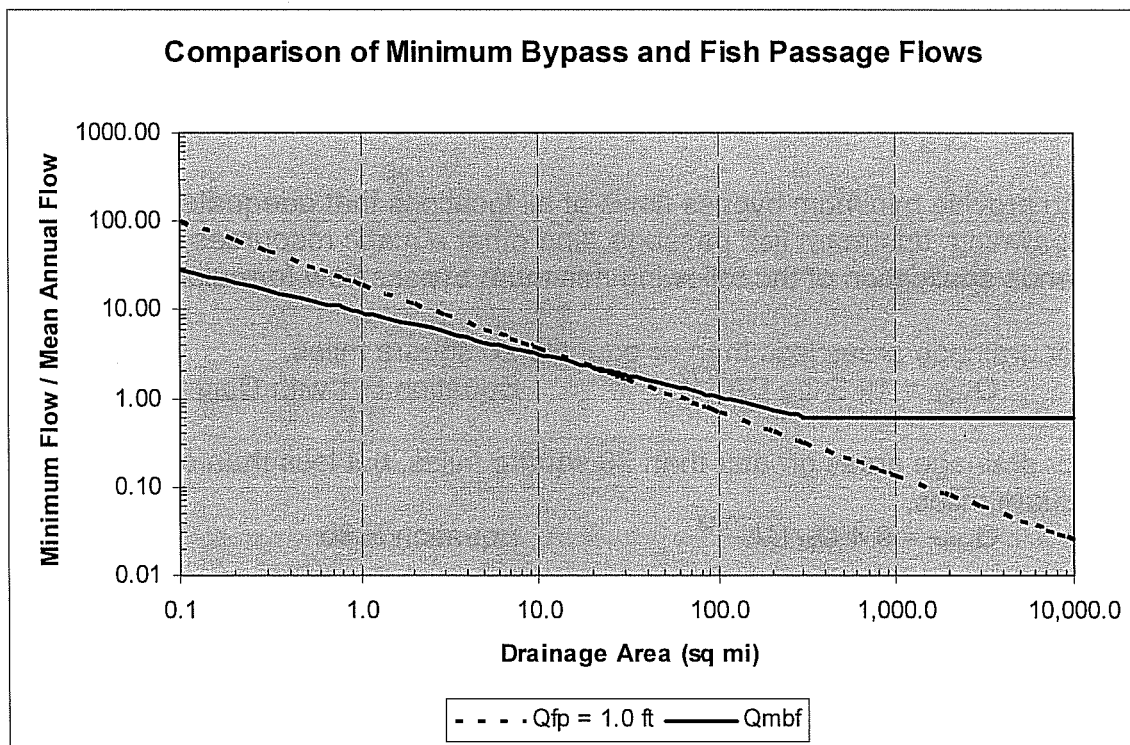
The Policy suggests that minimum bypass flows calculated with the  $Q_{MBF}$  formulas will protect habitat for fish spawning and upstream fish passage. Appendix E of the Task 3 Report (R2 2007a) describes the method used to develop the  $Q_{MBF}$  formula. In section E.3.2, it states “The Upper MBF was developed based on the spawning flow data of Swift (1976) and the spawning flows derived for the 2006 validation sites...”. The



validation site data were based on a minimum suitable depth criterion of 0.8 ft (Table G-7 in Appendix G), whereas the data of Swift (1976) were based on a depth criterion equal to 0.7 ft. While Table G-7 of Appendix G recommends a minimum spawning depth of 0.8 feet for steelhead and coho salmon, a minimum spawning depth of 1.0 feet is recommended for Chinook salmon. Notwithstanding the discussion in section E.4 of Appendix E, the minimum bypass formula should be re-evaluated based on Chinook **spawning** criteria.

In addition, Section E.4 notes “The magnitude of the MBF3 criterion for spawning appears sufficient to also ensure upstream passage **in most cases** [emphasis added], as indicated in Figure E-12.” Figure E-12 compares the MBF criterion with the upstream passage flow criteria depicted by equation E.1 for minimum passage depths of 0.75 ft, 0.5 ft, and 0.33 ft for Chinook, steelhead, and coho, respectively. However, Table G-4 in Appendix G recommends minimum upstream passage depth criteria of 0.9 ft, 0.7 ft, and 0.6 ft for Chinook, steelhead, and coho, respectively.

It is also important to note that the DFG Culvert Criteria for Fish Passage (DFG 2002) recommends a minimum passage depth of 1.0 feet for adult anadromous salmonids. Based on this minimum passage depth criteria and equation E.1, the  $Q_{MBF}$  formula does not provide sufficient flows for upstream passage for drainage areas less than 20 square miles. This is depicted graphically in Figure 1 below.



Equally important for the protection of instream flow, the MBF formula should be revised to accurately calculate the minimum bypass flow above an upper limit of anadromy. The proposed formula for calculating minimum bypass flows (MBF3) allows

the drainage area at an upper limit of anadromy to be used when a point of diversion is located upstream from an upper limit of anadromy. Based on the discussion in Appendix E section E.3.2.1 (page E-20), this assumes that the relationship between the minimum flow needed for aquatic resource protection and the mean annual flow ( $Q_{MBF}/Q_M$ ) is a constant at, and above, an upper limit of anadromy. However, there is nothing in the administrative record that supports this assumption. The discussion on page E-21 simply refers to a paper by Vogel et al. (1999) that establishes regional regression equations for annual streamflow. Based on the relationship between mean annual flow and drainage area suggested by Vogel et al (1999), the Appendix E authors jump to the conclusion that “[T]he assumption that changes in mean annual flow **AND MBF** [emphasis added] in small basins occur in proportion to drainage basin area appears reasonable.”

While the SWRCB and its consultant team have done a good job evaluating the minimum bypass flows needed for anadromous salmonids, no work has been done to specifically evaluate the minimum bypass flow requirements for aquatic resources upstream of an upper limit of anadromy. DFG recommends that the SWRCB remove the language from the minimum bypass flow formula (MBF3) that allows the drainage area for a point of diversion upstream from an upper limit of anadromy to be based on the drainage area at the upper limit of anadromy. Alternatively, the SWRCB can study and specifically evaluate the minimum bypass flows needed to protect aquatic resources upstream of an upper limit of anadromy. The SWRCB could also exclude areas upstream from an upper limit of anadromy from the policy area. When this last situation occurs, the minimum bypass flow requirements for aquatic resource protection upstream of an upper limit of anadromy will need to be evaluated on a case-by-case basis.

In order to provide minimum bypass flows at all locations that adequately protect habitat for fish spawning, upstream fish passage, and other aquatic resources, DFG recommends application of the following minimum bypass flow formulas<sup>2</sup>:

For drainage areas less than or equal to 20 square miles,  
 $Q_{MBF} = 19.3 Q_M DA^{-0.72}$  Equation E.1 with  $D_{MIN} = 1.0$  ft

For drainage areas greater than 20 square miles, but less than or equal to 295 square miles,  
 $Q_{MBF} = 9.4 Q_M DA^{-0.48}$  Equation E.8b

For drainage areas greater than 295 square miles,  
 $Q_{MBF} = 0.6 Q_M$

Where:

$Q_{MBF}$  = minimum bypass flow in cubic feet per second;  
 $Q_M$  = mean annual unimpaired flow in cubic feet per second; and  
 $DA$  = the watershed drainage area in square miles.

<sup>2</sup> The minimum bypass flow formula recommendations may change depending on the results of a new analysis of Chinook spawning requirements at the validation sites.

When using these equations at the point of diversion, if the upper limit of anadromy is downstream of the point of diversion, the mean annual unimpaired flow ( $Q_M$ ) and drainage area (DA) at the upper limit of anadromy may be used.

### **Section 2.3.3 Maximum Cumulative Diversion**

DFG agrees that adequate magnitude and variability of flows is needed to meet the needs of salmonids and other fish and protect the habitat for all aquatic resources. The supporting Technical Report recommends a Maximum Cumulative Diversion (MCD) of 5% of the 1.5 year flood peak flow rate for a watershed and also concludes that “this will likely result in long term adjustment and reduction in channel size, but the potential change is thought to be minor in terms of bankfull width, depth and surface grain size.” However, because this rate allows between 5 to 7 times more water to be diverted from a watershed than the 15% of the estimated winter 20% exceedence flow maximum cumulative diversion rates previously recommended, the Technical Report also devotes an entire chapter and appendix to describing the monitoring program recommendation for long-term effectiveness monitoring (on a select subset of watersheds) and adaptive management to ensure that this maximum rate of cumulative diversion affords adequate protection.

The Draft Policy does not incorporate either the effectiveness monitoring or the adaptive management components of the Technical Report recommendations in its protective criteria. Instead it deviates from the recommendations in the Technical Report for establishing and adaptively managing the MCD without providing a scientifically supportable rationale for doing so. The Policy has modified the Technical Report recommendations as follows:

1. While the Policy recognizes and describes the MCD criteria recommended in the Technical Report, it does not specifically require new applications in watersheds to conform to that MCD rate (Policy Appendix Section 5.11.). Allowing additional diversions in excess of the recommended MCD without further analysis of long term impacts does not protect either variability of flows or the stream habitat required to support public trust resources.
2. The Policy has removed the recommended long-term effectiveness monitoring that would ensure that the MCD rates is protective and maintaining habitat values needed to support resources.

DFG supports a higher maximum cumulative diversion rate of 5% of the 1.5 year flood peak to allow a significantly greater extraction of water from these watersheds *if* the recommended effectiveness monitoring and adaptive management components are in place. DFG can not support allowing any diversions that exceed the cumulative diversion rate limitations recommended in the Technical Report until long term effectiveness monitoring provides support that there would be no significant impacts resulting from this higher recommended rate. DFG recommends that the Policy include an appropriate funding source to provide monitoring assurance that these flows are

protective.

Additionally, DFG recommends that any watershed where diversions currently equal or exceed the 5% of the 1.5 year flood peak flow rate be designated a Fully Appropriated Stream (FAS) and that no additional diversions from those watersheds be permitted.

#### **Section 2.3.4 Assessment of the Cumulative Effects of Water Diversion on Instream Flows**

This Policy section “requires the evaluation of whether a proposed water diversion project, in combination with existing diversions in a watershed, may affect instream flows needed for fishery resource protection”. While this section does not clarify how that is to be done, the process is detailed in the Appendix Section 5.11.4 and 5.11.5. This section inserts a mechanism, not found in the Technical Report recommendations, that inappropriately uses an assessment method to evaluate a proposed project's impacts by allowing a comparison to the current baseline conditions in the watershed. To properly evaluate a project's impacts as they relate to protecting instream flow, this section should be revised to require an appropriate analysis of the individual project's impacts. This comparison should be made not with the current conditions or the unimpaired conditions, but instead to the protective conditions recommended in the Technical Report. Projects unable to comply with the protective conditions developed in the Technical Report are not protective of instream flow, which is the goal of this policy. Therefore, DFG can not support a provision that would allow continuous incremental reductions in the MBF or incremental increases in the MCD rate limitations that would result in additional incremental cumulative adverse impacts to the public trust.

The language in paragraph 1 of this section renders this provision ineffective. DFG recommends that it be changed to read:

“The cumulative effects of water diversions on instream flows needed for the protection of fishery resources shall also be considered ~~and minimized.~~  
addressed.”

To address these cumulative effects the policy should not provide the opportunity for a continuing loss of instream values resulting from allowing incremental modifications in the protective recommendations in the Technical Report. To avoid this impact, DFG recommends that the cumulative impacts of diversions within a system be assessed based on a comparison with the protective recommendations for MBF and CMD rate in the Technical Report. Watersheds should be added to the FAS list where no water remains available after senior right holders allocations and when the Technical Report's recommended instream flow protections are considered.

#### **Section 2.3.5 Onstream Dams**

To provide adequate protection, DFG recommends that a statement of the water quality objective for onstream dams be included. The existing statements refer to other

sections of the policy for guidance, but the section itself does not clearly state the SWRCB's policy. DFG recommends that the first sentence of paragraph two be rewritten as follows:

~~Section 4.4 of this policy contains o~~Onstream dams requirements that shall only be allowed if they avoid (1) causing individual or additive impacts to on instream flows, (2) interrupting on of fish migratory patterns, (3) interrupting on of downstream movement of gravel, woody debris, or aquatic benthic macroinvertebrates, (4) causing loss of riparian habitat or wetlands, or (5) creating on of habitat for non-native species.

### **III. Application of the Policy**

#### **Section 3.1 Fishery Resources covered by the Policy**

DFG generally agrees with the premise that within the policy area where anadromous salmonids are, or have historically been present, the protective flows to support anadromous salmonids will also be protective of other smaller native species. However, in systems supporting larger native fish this may not be the case. DFG recommends that the Policy address this issue by clarifying that if a watershed supports native fish larger than salmonids, then adjustments to the MBF will be required based on consultation with DFG.

Additionally, the focus on anadromous salmonids and their habitat does not adequately analyze or address measures necessary to protect native fish populations in those streams within the policy area that 1) support native fish population but are no longer supporting anadromous fish because of dam construction or other habitat alteration or 2) never supported anadromous fish but support other native fisheries resources (some also listed under the Endangered Species Act). The technical documents did not clearly analyze or clarify the instream flow protection to be afforded to native fish communities that exist in stream reaches without anadromous salmonids although protection of these species is required under the public trust doctrine. DFG recommends that the policy be revised to address these issues to ensure that all public trust resources are adequately protected.

### **IV. DFG Authority as Trustee for California's Resources**

#### **Section 4.1.4 Determination of the Upper Limit of Anadromy**

Of the three methods intended to demonstrate the upper limit of anadromy, none require consulting with a resource agency and only one method requires that a qualified fisheries biologist be involved in the determination.

DFG recommends that any determination of the location of the upper limit of anadromy be done by a qualified fisheries biologist in conjunction with DFG and that any

determination of the upper limit of anadromy accepted by the State Water Board include a written concurrence from DFG.

#### **Section 4.1.6 Selection of Points of Interest (POIs)**

Currently DFG determines the Points of Interest at locations at and downstream of the POD where flow assessments will be performed to determine impacts to flows. The Policy proposes that the POIs will now be determined by the SWRCB in consultation with DFG.

DFG recommends the following revision to Section 4.1.6:

“The POIs identified for analysis will be selected by the State Water Board in consultation and with concurrence from DFG.”

#### **Section 4.2.1 Determination of Stream Class**

In its role as trustee for the State’s resources, DFG must be able to provide input for any stream surveys or other method to determine stream classifications and concur with the assessment. The current language in the Policy should be modified to allow DFG to exercise its public trust role in the final determination of Stream Classification.

#### **Section 4.4 Permitting Requirements for Onstream Dams**

DFG supports the recommendations in the Technical Report restricting the permitting of Onstream Dams. To ensure that the Policy accurately reflects these scientifically based recommendations, are consistent with Fish and Game Code and DFG’s public trust responsibilities, avoids internal inconsistencies, and facilitates the future permitting of the project under DFG’s authority we make the following recommendations for inclusion into the following subsections of Section 4.4.

1. All onstream dams described in Section 4.4: DFG encourages the SWRCB to provide adequate incentives and flexibility to allow revision of a project to move proposed onstream dams to alternative offstream locations. This will avoid the need to provide mitigation for the impacts of onstream dam in perpetuity.
2. Section 4.4.1: DFG agrees that no new onstream dams should be constructed on Class I streams. However, because of the severity and continuing adverse impacts resulting from continued operation of a dam on a Class I stream, unauthorized but already constructed Class I onstream dams will require site specific review to determine if appropriate mitigation is afforded by the mitigation measures proposed in the Policy. Additionally, while the Policy does not make this point clear, the mitigations approved for these projects should be continued in perpetuity. Failure to do so would result not only in violation of Fish and Game Code but in many cases, because of the sensitivity of watersheds in the Policy area, violation of the federal and state Endangered Species Acts. Therefore DFG recommends that the Policy reflect the recommendations in the Technical

Report and that Section 4.4.1 be revised to read:

“The State Water Board will not consider approving a water right permit for a new onstream dam on a Class I stream and will not consider approving an existing unauthorized onstream dam on a Class I stream unless all of the following requirements are met:

DFG recommends that the phrase directing the applicant to acquire DFG written certifications in Section 4.4.1.2.a be modified to read:

“...contacted an appropriate representative of DFG the Streambed Alteration Agreement Program at the local regional DFG office for the”

Additionally, DFG recommends this requirement be added to the requirements listed in Section 4.4.1:

“Confirmation from the state and federal resource agencies that site specific mitigation measures or plans have been reviewed and approved and are appropriate to allow subsequent permitting, including issuance of any future incidental take permits, prior to acceptance of these plans or measures by the SWRCB.”

3. Section 4.4.2: The Policy includes the possibility of exceptions to allow Class II onstream dams if the project is located above “an existing permitted or licensed reservoir that provides municipal water supply...” Approval of this type of Class II exception is not supported by the Technical Report and would be inconsistent with resource protection terms required by DFG in future authorizations for the project. Additionally, this exception as currently written does not require that the dam bypass flows as required for all other onstream dams. These discrepancies do not conform with State law. Additionally, they will lead to difficulties for the applicant when such a project, approved by the SWRCB based on a limited focus on protecting only anadromous fish, is required to address public trust protection for all aquatic resources impacted by the project under the Fish and Game Code. Therefore DFG recommends the following for Section 4.4.2:

- The removal of this Class II exception from the Policy
- That any proposed projects, like this proposed exception, inconsistent with the biological recommendations found in the Technical Report, be handled under Section 13, as Case-by-Case Exceptions to Policy Provisions
- That approval of any exceptions for allowing Class II onstream dams have concurrence from DFG to ensure that projects authorized by the SWRCB are consistent with requirements under Fish and Game Code sections 5931, 5933, and 5937.

4. Section 4.4.3: That an additional requirement be added to 4.4.3 as follows:

“Any onstream dam on a Class III stream shall be constructed in such a way as to be able to bypass early and/or late season flows even when the reservoir is not full.”

5. All onstream dams described in Section 4.4: That in addition to review and approval by the SWRCB, all mitigations plans associated with the construction and operation of any onstream dams be 1) developed to be site appropriate and reviewed and approved by DFG prior to SWRCB permit terms being developed. This would include plans involving exotic species eradication, restrictions on the introduction of other species, riparian restoration, and gravel/ wood augmentation. DFG is concerned that the preparation of mitigation plans for the SWRCB without DFG approval will result in the applicant being required to develop additional and/or revised plans to meet Fish and Game Code or California Endangered Species Act requirements. It would streamline the process for the applicant if joint mitigation requirements were coordinated prior to the SWRCB permitting. DFG recommends the following modification be added to Section 4.4.4:

“Requirements specified in the Policy that are also under DFG jurisdiction, including screening, passage, bypass facilities and mitigations plans, shall be reviewed and approved by DFG prior to permits terms being developed.”

## **Section 5.0 Small Domestic Use and Livestock Stockpond Registrations**

This section require a limited season of diversion and restricts onstream dam construction on a Class I or Class II stream consistent with the Policy. However this section waives Policy requirements and SWRCB responsibility for requiring 1) bypass flow protection, 2) limits on the rate of withdrawal, and 3) the need to provide evidence that water is available for diversion that avoids harm to both resources and senior water right holders. Instead those protective measures and assessments are delegated to DFG by requiring that “DFG shall impose conditions consistent with the principles of this policy that are stated in Section 2.2.”

DFG recommends that the SWRCB require this water right action be consistent with the conditions in the Policy intended to protect instream flow under its own authority. Also, an allowance should be added for DFG to exercise its authority to protect resources by including the following provision in the Policy:

“The State Water Board may grant an exception to the season of diversion in this section if a small domestic user agrees to specific bypass flow conditions and monitoring during an extended season as required by DFG (Id., Section 1228.3 , subd. (a) (7).”



## **V. Fully Appropriative Stream List**

### **Section 4.1.2 Water Supply Report**

In demonstrating that there is available water for appropriation in the watershed sufficient to supply a new project, the Water Supply Report must consider the demand by senior water right holders, including face value on Registrations for Small Domestic Use and Stockponds, along with demand by those claiming riparian and pre-1914 appropriative rights for the season of diversion.

DFG recommends that the Policy specifically state that if the Water Supply Report finds that there is insufficient unappropriated water available to supply a new project, the subject stream will be included on the SWRCB Fully Appropriated Stream (FAS) list.

### **Section A.5.0 Instream Flow Analysis**

Just as a stream would be included on the FAS list if an insufficient quantity of water is available for senior right holders in calculations for the Water Supply Report, DFG recommends that streams with insufficient water to allow permitting new projects that comply with the Technical Report recommended instream flow protections afforded by the MBF and/or recommend protective MCD rate limitation also be placed on the SWRCB FAS List.

## **VI. Resource Protection Issues**

### **Section 2.3 Regionally Protective Instream Flow Criteria**

DFG recommends that the term "criteria" not be used because it is not defined under the Water Code. Water Code section 13142 says state policy for water quality control shall consist of all or any of the following:

- a) Water quality principles and guidelines for long-range resource planning, including ground water and surface water management programs and control and use of recycled water.
- b) Water quality objectives at key locations for planning and operation of water resource development projects and for water quality control activities.
- c) Other principles and guidelines deemed essential by the state board for water quality control.

No provision is provided in the Water Code for including "criteria" in water quality control plans or policy. The term "criteria" is not defined in the Water Code and could cause confusion when the policy provisions are used to develop permits and during enforcement. The use of "criteria" is further confused by the fact that U.S Environmental Protection Agency (USEPA) adopts "water quality criteria" for chemical constituents that are considered to be equivalent to water quality objectives as defined in the Water Code.

In order to comport more closely with the Water Code, DFG recommends:

1. The term “criteria” or “criterion” not be used in the Policy.
2. The phrase “water quality objectives” or “water quality objective”, should be use to describe the Policy-mandated characteristics of water controlled under the provisions of the Policy.
3. Section 2.0 of the draft policy should be renamed “Water Quality Principles and Objectives.”
4. Section 2.3 should be renamed Water Quality Objectives to Protect Instream Flow.”

### **Section 3.2 Geographic Area Covered by the Policy**

DFG recognizes that the list of named streams may not be complete and agrees that it is important for the Policy to be applicable to all streams in the geographic area affected by the Policy. A more comprehensive approach is to identify from a public policy perspective that all streams are covered by the Policy in the policy area. DFG suggests that the list of named streams (Appendix 3) contain a disclaimer recognizing these potentially unlisted streams and that the Policy be revised to include a statement that the Policy applies to all streams in the policy area. Specifically, DFG recommends the following revisions be made to section 3.2:

~~“This policy applies to water diversions from all streams and tributaries discharging to the Pacific Ocean from the mouth of the Mattole River south to San Francisco, and all streams and tributaries discharging to northern San Pablo Bay. The policy area includes approximately 5,900 stream miles and encompasses 3.1 million watershed acres (4,900 square miles) in Marin, Sonoma, portions of Napa, Mendocino, and Humboldt counties, as indicated on Figure 1. Information from the USGS National Hydrography Database was used to create a list of named streams that are within the policy area. This list is provided in Appendix 3. The policy applies to all water diversions from all these streams in the policy area, and to water diversions from unnamed and locally named streams that contribute flow to these streams.”~~

DFG reminds the State Water Board that public trust resources include species not listed as threatened or endangered. DFG must also stress the importance of maintaining the fish stocks above impassable artificial barriers as imperative genetically for recovery. To recover genetically lost or diluted salmonid stocks downstream, fish above barriers are sampled in an effort to find a source for the reestablishment of the natural genetic characteristics for that watershed. For both of these reasons the streams above impassable barriers should be treated in the same way as streams within anadromous reaches to protect native species including landlocked fish that could be integral in recovery of the natural origin stocks for these watersheds.

### **Section 4.1.7 Instream Flow Analysis**

At some point permitting additional diversions within a watershed will certainly exceed the capacity of that watershed to provide enough water to protect instream flows and supply senior diverters. However, both the text and the flow chart provided in the Appendix (Figure A-1) that provide guidelines for the preparation of the Water Supply Reports and Instream Flow Analysis never find that “insufficient water is available for diversion” after the process enters the Instream Flow Analysis phase. Continuing to permit additional diversions in already impaired watersheds only compounds the problem that already exists by allowing additional non-conforming diversions without adequate instream flow protection to continue to come “on line”, causing continued incremental damage to resources and/or their habitat.

DFG recommends that if it is impossible to permit a project with instream flow protections to support passage, spawning and habitat maintenance, then the determination that “insufficient water is available for the project” should be made and the stream should be placed on the FAS list.

### **Section 4.1.8 Site Specific Study to Obtain Variances from the Regional Criteria for Diversion Season, Minimum Bypass Flow and/or Maximum Cumulative Diversion**

The requirements for site specific studies in this section of the Policy are not consistent with Section 6 of the Appendix. Neither this section nor the Appendix provides sufficient detail to allow DFG to fully comment on the acceptability of the studies that would be required. Neither section addresses the site specific studies required for any variation of the instream flow protection recommendations be designed in consultation with, and approved by, applicable state and federal agencies. Additionally the results of such studies should be evaluated by those agencies to determine whether and to what extent adjustments could be made to the policy elements. While it is reasonable to expect that there may be variances to the minimum bypass flow requirement dependent on site-specific characteristics and instream flow studies, the SWRCB must provide clarification concerning their expectations and study requirements to allow any variance to the MCD which intended to protect variation of flow and maintain the channel and habitat in a watershed. Variances should be addressed on a watershed basis rather than a project-by-project basis.

There is no timeline for study progression or completion in either the Policy or the Appendix. DFG recommends that the timelines for these studies be clearly described to prevent a lack of diligence.

DFG also recommends that this section be revised to reflect both consultation with, and approval by, DFG for any site specific studies related to variances from the recommended diversion season, minimum bypass flows and maximum cumulative diversion rate, and that the results of these studies must be approved by DFG prior to inclusion as protective terms in any permit issued by the SWRCB.

## Section 4.2 Stream Classification System

The Policy uses both of the terms “watercourse” and “stream” but defines only streams. Both terms have legal definitions in use. The Forest Practice Rules (FPRs), Title 14, California Code of Regulations (CCRs) defines the term “watercourse” and CCRs, Title 14, Section 1.72 defines the term “stream”. The term “watercourse” in FPRs Section 916.5 encompasses varying level of protections for beneficial uses and resources of concern similar to the proposed classification system contained in the Policy. DFG recommends that to avoid confusion: 1) the term “watercourse” be used exclusively, 2) the term “stream” be eliminated, and 3) for the purpose of administration of this policy, the following modifications to the classification system contained in the policy be used:

Class I: Fish are always present or seasonally present, either currently or historically; or habitat to sustain fish exists; and/or domestic supplies, including springs, are on site and/or within 100 feet downstream of the operation areas.

Class II: No fish are present, but sSeasonal or year-round habitat exists for aquatic non-fish vertebrates and/or other aquatic ~~benthic macroinvertebrates~~ life.

Class III: An ~~intermittent or ephemeral~~ watercourse exists ~~that has a defined channel with a defined bank (slope break)~~ that shows evidence of periodic scour and sediment transport.

### Section 4.2.2 Determination of Stream Class by Stream Survey

DFG is concerned that Section 4.2.2 part 4 requires the observation of species when making stream classification determinations. This is inconsistent with the definitions provided in Section 4.2, which are based on habitat and do not require that the species be observed for determining the stream classification. Additionally, the types of surveys listed do not prove absence of a species. DFG recommends that this inconsistency be corrected and that surveys for determining stream classification be based on habitat availability.

DFG feels that the survey length of 25 bankfull widths is appropriate; however the bankfull width element is problematic. The bankfull concept is really only applicable to stable alluvial stream channel types and is difficult to define in 1) unstable alluvial channels, e.g., incised streams, 2) in alluvial systems with poorly defined floodplains or lacking surrogate bar formations, and 3) in bedrock controlled or bedrock-alluvial hybrid channels. The bankfull width definition in the glossary implies (in a stable system) a channel maintenance flow with a recurrence interval (not uncommon, but also not always) of 1.2 to 1.5 years. DFG recommends that the Policy either reference the recurrence interval of choice (along with an acknowledgment that it may prove to be less or greater than the average), or provide guidance for those geomorphic systems where the bankfull concept is not applicable.

DFG also recommends that the Policy state recommended sampling techniques and methods for measurement of instream habitat conditions within the policy area. This will help provide consistency in measurement techniques and ensure data results are

comparable.

## **Section 9.0 COMPLIANCE PLANS**

DFG recommends that the first paragraph be rearranged to ensure the compliance plan clearly provides the schedule for implementation of the mitigation plans and the funding guarantee for their implementation prior to initiating the project. The paragraph should be revised to read:

“The compliance plan shall identify how the water diverter will comply with the terms and conditions of permits and orders, and may include a schedule for the construction of facilities and the implementation of mitigation plans and include the schedule for the construction of facilities, the implementation of mitigation plans, and the funding guarantee for these mitigation plans.”

## **Section 10.0 Policy Effectiveness Monitoring**

Monitoring is essential to determine the effectiveness of the Policy provisions and the success of resources protection in the long term. The Policy should include a well considered plan for long term effectiveness monitoring to ensure that the instream flow recommendations, including the proposed maximum cumulative diversion rate of 5% of the 1.5 year flood event, are protective. Funding assurances are critical to support a long-term monitoring effort that is geographically sufficient to demonstrate that Policy elements are regionally protective.

SWRCB should make the commitment to support monitoring and should either 1) commit to perform the monitoring itself, or 2) require permit and license holders to collectively fund the needed monitoring as part mitigation monitoring required by the permitting processes to ensure that instream flow protection goals are met.

## **Section 11.0 Enforcement**

DFG previously supplied written comments regarding the development of an Enforcement Policy for Water Rights in a memorandum dated June 5, 2007, Water Right Enforcement Workshop. Those comments are incorporated here by reference.

### **Section 11.1 Compliance Assurance**

DFG recommends that the compliance process be made as transparent as possible by making public documents, such as revised self-monitoring reports, compliance plans and reports of compliance, licensing and complaint investigations available on-line to the extent possible.

#### **Section 11.1.2 Self Monitoring Report**

DFG finds the requirement to identify violations of applicable requirements and corrective actions taken or planned within a specific time schedules to be valuable. However, DFG is concerned that the current reporting timeline, up to three years between the required submissions of self-monitoring reports for licenses, is too long to allow appropriate actions necessary to address adverse impacts to sensitive species in a timely manner. DFG recommends that reporting of both the violations and corrective measures occur at the time of each of these two events, not at a later date.

DFG recommends that the last sentence of second paragraph be revised to read:

“A failure to report a violation, a failure to submit a self-monitoring compliance report, or falsification of diversion records will be taken into consideration in determining the scope and magnitude of enforcement.”

DFG also recommends the Policy clarify what actions it intends to take after review of domestic use and livestock stockpond registration requests for compliance with the terms and conditions included in the Policy.

### **Section 11.1.5 Compliant Investigations**

DFG recommends the following to be included in the Policy:

1. Complaint investigations related to harm to public trust resources include field review by a SWRCB qualified biologist or environmental scientist to ensure that adverse impacts are appropriately identified and corrected.
2. All complaints submitted by resource agencies concerning public trust issues include a coordinated interagency agency site visit leading to resolution.

### **Section 11.2 Prioritization of Enforcement**

DFG understands SWRCB's limited ability to enforce against violations due to inadequate enforcement staffing levels and the redirection of that staff to meet other needs. Creating an instream flow policy without a sufficient level of trained staff dedicated to performing inspections, responding to complaints, or investigating violations does not provide disincentives for noncompliance and is unlikely to result in instream flow protection on a watershed level. DFG recommends that the SWRCB consider alternatives, including a dedicated funding source to support adequate enforcement staffing levels, in order to effectively enforce the Policy and properly ensure resource protection.

### **Section 12.0 Watershed Approach**

DFG agrees that the watershed alternative presents a viable approach to determine water availability and evaluate environmental impacts of multiple diversions in a watershed. However, it is imperative that neither the compliance nor effectiveness monitoring be waived for diversions under a watershed approach and that additional

environmental review, protective terms, and a required adaptive management component be included prior to permitting diversions.

DFG also recommends the Policy include both 1) a reasonable time schedule requirement, approved by the SWRCB, to ensure due diligence and 2) language clarifying a reasonable number, or percentage, of participants within the watershed.

### **Section 13.0 Case-by-Case Exceptions to Policy Provisions**

DFG recognizes that under specific circumstances, exceptions to the Policy may be appropriate. However, the Policy should be applicable in most circumstances and requests for exceptions should be carefully examined and each proposal supported by scientific evidence based on the best available science that demonstrates no degradation to the fish and wildlife resources and the public interest will be served if the exception is granted. Any proposal for a case-by-case exception to the Policy should be considered under the California Environmental Quality Act and evaluated by SWRCB staff in consultation with DFG and other trustee agencies prior to a public meeting and recommendations for action by the SWRCB.

### **Appendix 1 Section A.2.1.3 Estimate the Average Seasonal Unimpaired Flow Volume at Each Senior POD Identified for Analysis Along the Flow Path**

In the procedure outlined in A.5.2.1.A, Adjustment of Streamflow Records, step 1 requires the selection of daily streamflow records from a gage near the POD. Step 2 requires the applicant to calculate the average seasonal flow volume from the gage data selected in step 1. Step 2 also states that the applicant should “assume that this is the average unimpaired seasonal flow volume”.

DFG recommends that, unless the daily streamflow records selected in step 1 are from a watershed that is not impaired by water diversions or impoundments, the streamflow records should be adjusted for impairments to obtain an estimate of the unimpaired flow at the gage before they are used to calculate the average unimpaired seasonal flow volume in step 3. Additionally, DFG recommends that the SWRCB, rather than individual applicants, calculate the unimpaired flows at the gages in the policy area to avoid individual errors in calculating these unimpaired flow values.

### **Appendix 1 Section A.5.4 Can the diversion season of the proposed project be delayed until after senior onstream storage is full?**

DFG recommends that the formula used to calculate the mean monthly flow at each onstream storage POD be corrected. The correct formula is as follows:

$$Q_{\text{POD, month}} = Q_{\text{gage, month}} * (DA_{\text{POD}}/DA_{\text{gage}}) * (P_{\text{POD}}/P_{\text{gage}})$$

### **Appendix 1 Section A.5.8 Increase the Minimum Bypass Flow at the Proposed POD to Prevent Impacts to Flows Needed for Spawning and Passage at Downstream POIs**

This section of the Policy appendix describes the method for increasing the MBF at the proposed POD to prevent impacts to flows needed for spawning and passage at downstream points of interest (POI). The first step of the method requires the water right applicant to calculate impaired flows at the POI. It appears that the method is intended to account for accretions between the POD and the POI. However, the method calculates accretions by adjusting the MBF at a POD based on the change in drainage area and the change in precipitation. To properly account for accretions, the method should add the unimpaired accretions between the POD and the POI to the MBF at the POD and then subtract the diversions.

DFG recommends the formula be revised as follows:

$$Q_Y = MBF_{POD} + (Q_{POI} - Q_{POD}) - DIV$$

Where:

$Q_Y$  = impaired flow at the POI when the minimum bypass flow is being met at the POD, in cubic feet per second;

$MBF_{POD}$  = minimum bypass flow at the proposed POD based on the regional criteria, in cubic feet per second;

$Q_{POI}$  = mean annual unimpaired flow rate estimated at the POI, in cubic feet per second (calculated in step 4 of section A.5.2.1(A));

$Q_{POD}$  = mean annual unimpaired flow rate estimated at the POD, in cubic feet per second (calculated as a POI in step 4 of section A.5.2.1(A));  
and

DIV = the sum of the rates of diversion (direct diversion and collection to offstream storage) for all senior diversions that occur during the diversion season, that have inadequate minimum bypass flow terms, located between the POD and the POI, in cubic feet per second.

### **Appendix 1 Section A.5.11 Daily Flow Study**

The procedure outlined in the Adjustment of streamflow records method (A.5.2.1A.2 on Page A1-15), states that the gauged record may be assumed to represent unimpaired conditions. DFG recommends that the gauge record used to calculate daily unimpaired flows at a POI, be adjusted to account for any impairments. (See comment for **Appendix 1 A.2.1.3** above that recommends that the SWRCB ensure a correct unimpaired assessment by determining this value for USGS gages and providing them to applicants for use.) In addition DFG recommends that the information utilized to determine this adjustment be included for review to ensure that an error in the process does not result in the determination of an inappropriate MBF.

Finally, if the Daily Flow Study is intended to be used as an assessment of the effects of the project on instream flow protection to address both biological protection and habitat availability requirements, including appropriate channel maintenance flows, it must include site specific information on the biological needs of public trust resources at and below the POI sites. Supplying information on the amount of flow reduction or the duration of flow decreases will not adequately address the loss of required habitat



necessary to meet the biological needs of fish and wildlife resources. Adequate assessment of the effect of loss of available habitat for rearing, passage and reproduction are necessary if the assessment is to be used for a finding of less than significant impact.



Attachment B, Considerations  
Response to Notice of Draft Policy for Maintaining Instream Flows in Northern  
California Coastal Streams.

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California Department of Fish and Game  
April 2008

Attachment B contains additional Department of Fish and Game (DFG) recommendations for the State Water Resources Control Board (SWRCB) to consider on the Draft Policy for Maintaining Instream Flows in Northern California Coastal Streams (Policy). DFG feels that consideration of these additional recommendations may help to improve clarity and assist in simplifying processes related to the Policy.

### **Section 3.3 Water Right Actions Covered by the Policy**

DFG recommends that the Policy also specify which water right actions will not be covered. For example, are transfers, petitions submitted under Water Code Section 1707, and temporary urgency permits covered?

### **Section 4.0 Water Right Applications**

Circulating a CEQA document does not ensure that the project is approveable; the project may be modified or mitigated based on comments provided during the public comment period or the project may be withdrawn. DFG recommends this exception to the Policy be withdrawn and section 4.0 revised to read:

“ If, prior to adoption of the policy, the State Water Board has circulated ~~for public review~~ certified a negative declaration, mitigated negative declaration, or environmental impact report, pursuant to the California Environmental Quality Act, the State Water Board may continue processing the application without applying the regionally protective criteria contained in Section 2.3.”

### **Section 4.1.5 Fisheries Biologist Qualifications**

DFG recommends that the examples of documentation of qualifications found on line 6 of this section be revised to read:

“documentation of ~~presence during participation in~~ field data collection work.”

DFG also recommends that the fisheries biologist qualification list be expanded to include all of the qualifications required for the work described by the Policy. As written, it is specific to fish habitat assessment and instream flow studies, but if the biologist is expected to prepare mitigation, consider life history and habitat needs for resident fish, amphibians, and riparian species, then this should be included in the qualifications listed.

Additionally, DFG recommends including the qualification requirements for all other consultants providing information for SWRCB review and approval during the permitting process be added to the Policy. Specifically, hydrologists, geomorphologists, and agencies will be needed to perform site-specific studies to obtain variances from the Regional Criteria for Diversion season, minimum bypass flow and or maximum cumulative diversions specified in Appendix A. Their qualifications should be as clearly

identified in the Policy as those for the fisheries biologist.

### **Section 4.3 Fish Screens at Diversion in Class I Streams**

DFG suggests revising the title of Section 4.3 to read:

“4.3 Fish Screens at Diversion in Class I and Class II Streams”

to ensure protection of amphibians and/or other aquatic non-fish vertebrates as required under the Fish and Game Code “Fish” definition and recommends that the first paragraph in this section be revised as follows:

“fish screens shall be installed at diversions on Class I streams and may be required on Class II streams...”

DFG recommends that the reference to contacting “an appropriate representative of DFG” in the Policy be replaced with contacting “the Streambed Alteration Agreement program at the nearest Fish and Game Regional Office”.

Additionally, DFG recommends that the third paragraph discussing written certification by DFG for screening on Class I (and Class II) streams be revised to read:

“If the applicant or petitioner disagrees....the applicant or petitioner shall provide a written certification from DFG during prior to the environmental review...”

### **Section 4.4 Permitting Requirements for Onstream Dam**

DFG recommends the inclusion of language to require that any new onstream dams have multilevel water release features to ensure bypass of early season flows and as temperature control, even if the impoundment is not full.

### **Section 6.1 Petitions that will not Result in Decreased Flow in a Stream Reach Consideration**

If an extension of time is requested to put additional water to beneficial use, DFG considers this “new” water a reauthorization and subject to the terms of the policy.

DFG also recommends that the sentence related to moving or adding onstream dams under a petition be revised to read:

“Petitions that do not result in decreased flow in a stream reach but involve adding or moving an onstream dam to another onstream location shall comply with the all Policy Permitting Rrequirements. ~~for Onstream dams contained in 4.4~~”

## **Section 6.2 Petitions that may Result in Decreased Flow in a Stream Reach**

The last sentence in the first paragraph stating, “only the reach of the stream potentially affected by the proposed change need be evaluated.” needs clarification. It is unclear if the Policy is attempting to define a reach or if the reach would correctly include the Point of Diversion downstream as defined by the Policy.

## **Section 7.0 Passive Bypass Systems**

DFG recommends the last sentence of this section (page 30) be revised to read:

“If the system is damaged, the system shall be repaired, and diversions shall cease, and all flows bypassed until confirmation can be provided to the SWRB that bypass flow requirements are still being satisfied.”

## **Section 8.2 Flow Monitoring and Reporting Requirements for Automated Computer Controlled Bypass Systems**

Similar to the recommendations in Attachment A, Recommendations, Section 11.1., DFG recommends the SWRCB make the reporting process more transparent by requiring submission of annual reports as well as making that information available on-line to the extent possible.

## **Section 11.2.1 Violation Within Class 1 and Class II Streams in a Policy Area or within an Existing or Wild and Scenic River System**

DFG recommends the language be changed to make this section consistent with the definitions in Policy Section 4.2 with the following modification:

“Class I streams contain habitat for fishery resources, and Class II streams contain habitat ~~biological organisms that provide sustenance for fishery resources~~ for aquatic non-fish vertebrates and/or aquatic benthic macroinvertebrates.”