

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF JULY 8, 2005

Prepared on June 17, 2005

ITEM: 26

SUBJECT: GENERAL CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS – TIMBER HARVEST REQUIREMENTS, CENTRAL COAST REGION, ORDER NO. R3-2005-0066

SUMMARY:

At the December 3, 2004 Water Board meeting, staff presented a status report titled "Summary of Timber Activities and Proposed Actions." The report described the status of timber harvest activities managed through individual conditional waivers and monitoring and reporting associated with individual conditional waivers. At the conclusion of the presentation, the Water Board directed staff to prepare a review of a proposed monitoring and reporting program for timber harvest activities for Water Board consideration.

At the February 10, 2005 Water Board meeting, staff presented a report on proposed "Eligibility Criteria" and a monitoring and reporting program for timber harvest activities. The proposed "Eligibility Criteria" help Water Board staff determine the appropriate regulatory option and level of monitoring for those activities. At the conclusion of the presentation, the Water Board directed staff to bring the "Eligibility Criteria," a new general conditional waiver of waste discharge requirements (Timber Harvest Requirements), and a monitoring and reporting program (MRP) for timber harvest activities for Water Board consideration at the July 8 Board Meeting.

The current staff report¹ proposes the following for Water Board consideration:

- Adoption of Negative Declaration for the proposed Timber Harvest Requirements.
- Adoption of general conditional waiver of waste discharge requirements (Timber Harvest Requirements) for timber harvest activities that meet specific eligibility criteria (Attachment 1).
- Proposed monitoring and reporting program (MRP) to be included with new Timber Harvest Requirements (Attachment 2).
- Eligibility Criteria Decision Tool (Eligibility Criteria) – this decision tool helps determine the appropriate regulatory option and level of monitoring for proposed Timber Harvest Activities (Figure 1 and Attachment 3).

The proposed Timber Harvest Requirements are structured similar to other general conditional waivers of Waste Discharge Requirements and comply with California Water Code (CWC) sections 13269(a)(2) and 13267(b)(1).

¹ Comment letters and Water Board staff responses to comments for this Item were mailed separately.

Figure 1. Eligibility Criteria Decision Tool

Cumulative Effects Ratio	HI				MED				HI			
Drainage Density Index	HI		MED		HI		MED		HI		MED	
Soil Disturbance Factor	HI	MED	HI	MED	HI	MED	HI	MED	HI	MED	HI	MED
	↓ ↓		↓ ↓		↓ ↓		↓ ↓		↓ ↓		↓ ↓	
	TIER IV		TIER III				TIER II				TIER I	
Regulatory Option	Individual WDR or Waiver				General Conditional Waiver Requirements for Timber Operations							
Monitoring Requirements	Individual MRP				Tier III Monitoring Requirements include Implementation Monitoring, Effectiveness Monitoring, Water Quality Compliance Monitoring, and Forensic Monitoring as necessary. Tier II Monitoring Requirements include Implementation Monitoring, Effectiveness Monitoring, and Forensic Monitoring as necessary. Tier I Monitoring Requirements include visual monitoring as required by CDF.							

The conditions of these proposed Timber Harvest Requirements protect beneficial uses by:

- (i) Prohibiting pollution, contamination or nuisance (CWC Section 13050);
- (ii) Requiring monitoring and compliance with applicable water quality control plans;
- (iii) Requiring the Discharger to grant access to Central Coast Water Board staff to perform inspections; and
- (iv) Requiring approval of the Timber Harvest Plan (THP) or Non Industrial Timber Harvest Plan (NTMP) by the California Department of Forestry and Fire Protection.
- (v) Requiring the Discharger to use the Best Management Practices to minimize erosion and sedimentation, and to maintain and repair those devices.

Staff proposes that applicants submit a notice of intent (NOI) to obtain coverage under the Timber Harvest Requirements. The NOI will include sufficient information to allow staff to determine

which tier of the Timber Harvest Requirements should apply. Dischargers enrolled under the Timber Harvest Requirements will be required to comply with the requirements of the Order and implement management practices for the protection of water quality and beneficial uses.

The proposed Timber Harvest Requirements include monitoring and reporting requirements to confirm compliance with Order conditions. The MRP also meets section 13269's requirement that monitoring programs for waivers must support the development and implementation of the waiver program, including verifying the adequacy and effectiveness of the waiver's conditions. Timber Harvest Requirements will reduce staff time for processing proposed timber harvest activities and allow more field time for pre/post-harvest inspections.

The proposed MRP contains several levels of monitoring based on the potential threat to water quality. The proposed monitoring actions are directed at answering specific questions for the protection of water quality and beneficial uses.

The proposed MRP for the Timber Harvest Requirements (Attachment 2) contains three levels of monitoring (Tiers I, II, III).

Tier I (CDF Forest Practice Rules compliance and Forensic monitoring) - Tier I would apply if proposed timber harvest operations would not pose significant threat to water quality.

Tier II (Implementation/Effectiveness and Forensic Monitoring) - Tier II would apply if typical conditions of the proposed timber harvest operations include a low level of soil disturbance and a low drainage density index.

Tier III (Implementation/Effectiveness, Water Quality Compliance Monitoring, and Forensic) - Tier III would apply if typical conditions of the proposed timber harvest operations include a medium/high level of soil disturbance and a high drainage density index.

The proposed reporting program for the Timber Harvest Requirements includes:

- a. **Logbooks**
- b. **Sediment Release Reporting**
- c. **Road Inventory Program**
- d. **Violation Reporting**
- e. **Reporting on Winter Grading of Roads**
- f. **Annual Report**

Logbooks will include documentation of maintenance and repair of management practices. The proposed Eligibility Criteria allow for two regulatory options for timber harvest activities:

- a) General Conditional Waiver for Timber Harvest Operations (Timber Harvest Requirements)
- b) Individual Waste Discharge Requirements for Timber Harvest Operations

Protection of water quality and associated beneficial uses is achieved through multi-faceted implementation efforts. Assessment of those efforts needs to recognize the dynamic nature of watershed monitoring, evaluate the complexity associated with the collection of appropriate data, and formulate questions to be answered with focused monitoring efforts. In the case of timber harvest activities, the overarching goal is for monitoring to demonstrate that the proposed activities comply with Order conditions and do not cause adverse impacts to water quality and beneficial uses. The highly variable physical

geography and climate of Region 3 presents an equally variable number of inherent sediment conditions affecting water quality. Due to the dynamic geologic and tectonic forces at play in this landscape, in conjunction with a highly erosive Mediterranean climate, erosion and sedimentation naturally occur at rapid rates in much of the region. The drought, fire and flood sequence that is symptomatic of a Mediterranean climate can cause natural erosion and sedimentation to "impair" waterbodies on a periodic basis.

Human alteration of the landscape introduces anthropogenic disturbance that is often difficult to discern from this natural, or, background, disturbance. In turn, it can be extremely difficult to distinguish the water quality effect of erosion and sedimentation caused by human disturbance from that caused by natural disturbance.

DISCUSSION

A. PROPOSED GENERAL REQUIREMENTS

Staff proposes a general conditional waiver of waste discharge requirements (Attachment 1) for timber harvest activities for Water Board approval. The Timber Harvest Requirements are structured similarly to other general waivers and comply with CWC sections 13269(a)(2) and 13267(b)(1). The proposed Timber Harvest Requirements include authority for the Executive Officer to enroll individual applicants under the Timber Harvest Requirements.

The proposed Timber Harvest Requirements (Attachment 1) protect beneficial uses by:

- (i) Prohibiting pollution, contamination or nuisance, as defined by CWC Section 13050;
- (ii) Requiring monitoring and compliance with applicable water quality control plans;
- (iii) Requiring the Discharger to grant access to Central Coast Water Board staff to perform inspections; and
- (iv) Requiring approval of the THP or NTMP by the California Department of Forestry

and Fire Protection (public review process).

- (vi) Requiring the Discharger to use the Best Management Practices to minimize erosion and sedimentation, and to maintain and repair those devices.

The conditions of proposed Timber Harvest Requirements are summarized below:

1. In accordance with CWC Section 13269, the waste discharges related to timber harvest activities in the Central Coast Region shall be regulated by general conditional timber harvest waiver requirements and waste discharge requirements are hereby waived subject to the following conditions:
 - a. The Discharger shall submit a Notice of Intent (report of waste discharge under CWC Section 13260) and the waiver shall not take effect as to a particular timber operation until the Executive Officer approves the NOI.
 - b. The Discharger shall comply with all requirements of applicable water quality control plans (examples shown in Attachment A).
 - c. The Discharger shall obtain CDF approval of a THP and/or NTMP for the timber harvest activities before enrollment in this waiver takes effect.
 - d. The Discharger shall conduct timber harvest activities in accordance with the approved THP or NTMP and with all applicable sections for the Forest Practice Rules.
 - e. The Discharger shall obtain and comply with all local, state and federal permits required by law.
 - f. The Discharger shall comply with all applicable county ordinances related to timber operations, including zoning ordinances.
 - g. The Discharger shall not create a condition of pollution, contamination,

or condition of nuisance, as defined by CWC Section 13050.

- h. The Discharger shall not discharge any waste not specifically regulated by general conditional waiver requirements described herein, except in compliance with CWC Section 13264.
- i. The Discharger shall not cause alteration in stream temperature that exceeds Basin Plan requirements.
- j. Waste specifically regulated by general conditional waiver requirements includes: earthen materials including soil, silt, sand, clay, rock; organic materials such as slash, sawdust, or bark.
- k. Examples of waste not specifically regulated by this waiver include petroleum products, hazardous materials, or human wastes.
- l. The Discharger shall allow Central Coast Water Board staff reasonable access, pursuant to Public Resources Code 4604 (b), onto the affected property for the purpose of performing inspections to determine compliance with the conditional waiver requirements.
- m. Pursuant to California Water Code Section 13267, the Discharger shall comply with Monitoring and Reporting Program No. R3-2005-0066.
- n. The general waiver requirements do not regulate point-source discharges that require an NPDES permit under the Clean Water Act, including but not limited to silvicultural point-source discharges as defined in 40 CFR Chapter 1 Part 122.27.
- o. The Discharger shall take immediate action to repair failed crossings, culverts, roads and other sources of sediment as soon as possible.

- p. All erosion and sediment control devices, management measures and mitigations prescribed in this THP or NTMP shall be maintained for the term of the general waiver requirements.
 - q. The Discharger shall comply with all requirements of the Executive Officer pursuant to MRP R3-2005-0066.
2. The discharge of any waste not specifically regulated by the general waiver requirements is prohibited unless the Discharger complies with CWC Section 13260(a) and the Central Coast Water Board either issues waste discharge requirements pursuant to CWC Section 13263 or an individual waiver pursuant to CWC Section 13269 or the time frames specified in CWC Section 13264(a) have elapsed.
 3. This general waiver requirements shall not create a vested right and all such discharges shall be considered a privilege, as provided for in CWC Section 13263.
 4. The Executive Officer shall terminate the applicability of the general waiver requirements to specific timber harvest activities if the Executive Officer makes any of the following determinations:
 - a. The timber harvest activity is not in compliance with any applicable condition of this waiver.
 - b. The timber harvest activity has varied in whole or in any part from the approved THP or NTMP, unless these changes result in better protection of water quality.
 - c. The timber harvest activity could affect the quality or beneficial uses of waters of the State.
 - d. Such termination is otherwise in the public interest.
 5. Upon receipt of notice of termination of applicability of the waiver, the Discharger shall immediately cease all timber harvest activities that may result in discharges to waters of the State, other than activities necessary to control erosion. Upon notice of termination, the Discharger must file a report of waste discharge and applicable filing fee. Timber harvest activities that may result in discharges that could affect the quality of waters of the State may commence only upon enrollment by the Executive Officer under general waste discharge requirements, the adoption by the Central Coast Water Board of an individual waiver of waste discharge requirements or individual waste discharge requirements, or in accordance with CWC Section 13264(a).
6. The Discharger will provide information to the Executive Officer necessary to evaluate compliance with the conditions pursuant to which waste discharge requirements are waived by the Order.
 7. The general conditional waiver shall become effective on July 8, 2005, and shall expire on July 8, 2010, unless terminated or renewed by the Central Coast Water Board. The Central Coast Water Board may terminate this waiver at any time, either as to a particular timber harvest or in its entirety.
 8. As provided by CWC Section 13350(a), any person who, in violation of any waiver condition, discharges waste, or causes or permits waste to be deposited where it is discharged, into the waters of the state, is subject to administrative or civil liability for the violation.
 9. Any person affected by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

Staff is recommending the proposed general conditional waiver of waste discharge requirements for timber harvest activities because the conditions will protect water quality and associated beneficial uses.

Staff considered several options while developing the proposed Timber Harvest Requirements. Water Board staff considered the need to include multiple conditions based on:

- The individual watershed of the harvest
- The beneficial uses of the water bodies to be protected (COLD, RARE, etc.).
- Fisheries in the proposed harvest area
- Class of streams in the proposed harvest area
- Erosive nature of soils in the proposed harvest area

There are other options, in addition to the Timber Harvest Requirements, for regulating proposed timber harvest operations. If proposed timber harvest operations pose threats to water quality that will not be covered by the conditions in the Timber Harvest Requirements, individual waivers or individual waste discharge requirements can be issued.

For enrollment under the Timber Harvest Requirements, applicants will submit a notice of intent (NOI) to comply with the Timber Harvest Requirements. Applicants enrolled under the Timber Harvest Requirements must implement management practices for the protection of water quality and beneficial uses. The Timber Harvest Requirements will include monitoring and reporting to confirm compliance.

Once an NOI is received, Water Board staff would determine if the proposed operation is appropriate to be covered by the Timber Harvest Requirements. If so, the Executive Officer would send a letter of coverage to the applicant. Staff will provide the Water Board with a list of approved THPs on the next Board Meeting agenda following approval.

Timber Harvest Requirements will reduce staff time for the processing of individual conditional waivers of waste discharge requirements, allowing increased time for pre/post harvest inspections and

follow-up to any complaints about water quality related compliance problems with timber operations.

B. DETERMINING REGULATORY OPTIONS AND MONITORING NEEDS

At the December 3, 2004 Water Board meeting, staff presented a status report titled "Summary of Timber Activities and Proposed Actions." The report described the status of timber harvest activities managed through individual conditional waivers and monitoring and reporting associated with individual conditional waivers. At the conclusion of the presentation Water Board staff recommended development of Timber Harvest Requirements and associated monitoring and reporting program for timber harvest activities for Water Board consideration.

Prior to directing staff to return with a proposal for a new Timber Harvest Requirements, the Water Board requested staff evaluate monitoring and reporting requirements for the proposed Timber Harvest Requirements and return to the February 10-11, 2005 Water Board meeting for discussion.

At the February 10, 2005 Water Board meeting, staff presented a report on proposed "Eligibility Criteria" and a monitoring and reporting program for timber harvest activities. The proposed "Eligibility Criteria" help Water Board staff determine the appropriate regulatory option and level of monitoring. Staff have revised the Eligibility Criteria and Monitoring and Reporting Program based on the February 10, 2005 Water Board discussion.

Using the Eligibility Criteria

During evaluation of the monitoring and reporting requirements for the proposed Timber Harvest Requirements, staff concluded there was a need to establish a protocol for determining the appropriate regulatory action for a particular timber harvest activity. Staff developed and proposes incorporating the Eligibility Criteria process into the implementation of the Timber Harvest Requirements program as a tool to establish the appropriate regulatory and monitoring options (Figure 1 and Attachment 3).

The Eligibility Criteria are a method for interpreting and ranking proposed timber harvest activities. The Eligibility Criteria are a tool to guide staff selection of the appropriate regulatory option and the appropriate level of monitoring for a proposed timber harvest. Staff will also undertake a qualitative review of each NOI to ensure that the selected monitoring requirements are appropriate given any unique circumstances of a Timber Harvest Plan. The Executive Officer can then modify the MRP as necessary.

Using data available in any Timber Harvest Plan, three categories, 1) Cumulative Effects Ratio, 2) Drainage Density Index, and 3) Soil Disturbance Factor are evaluated numerically. The numeric values used for evaluation are empirically derived and rely on pre-selected thresholds. As the Water Board gathers more data from timber harvest monitoring, it may be necessary to amend the Eligibility Criteria to incorporate the growing body of knowledge of water quality information. Staff has evaluated 22 existing waivers of Waste Discharge Requirements using the Eligibility Criteria (Attachment 5). This evaluation has been used to help "tune" the Eligibility Criteria.

The numeric values assigned to the three categories only rank a proposed timber harvest activity and are not used to determine the absolute threat to water quality and beneficial uses such an activity might cause. The numeric ranking is simple and allows for more consistency and objective certainty. The numeric ranking also creates a transparent process that is clear to both the regulated community and interested public. Figure 1 provides a graphic illustration of the process and Attachment 5 shows values generated using the Eligibility Criteria for existing waivers.

Components of the Eligibility Criteria

Described below are the three risk-based categories, 1) Cumulative Effects Ratio, 2) Drainage Density Index, and 3) Soil Disturbance Ratio used for establishing the regulatory option for a proposed Timber Harvest Plan (THP).

Cumulative Effects Ratio (CER) - The CER uses the Acres Harvested in the Planning Watershed (CalWater) in the last ten years (AH) plus Acres to be harvested (PA for Plan Area) as part of the proposed THP or Non-Industrial Timber

Management Plan (NTMP), and divides this sum by the Total Acres in the Planning Watershed (TA). This produces a value, expressed as percent of watershed that has been designated for timber harvest activities. The equation is as follows:

$$((AH+PA)/TA)*100=CER$$

The CER, as a percent of watershed that has been designated for timber harvest activities, is ranked high, medium, or low. Currently, the CER is considered high when a value is greater than 15 percent (adapted from Klein, 2003). CER is considered medium when a value is between 15 percent and 10 percent. CER is considered low when a value is less than 10 percent (Attachment 1). The acreage is total acreage subject to harvest, not percentage of trees that will be removed, since there is no clear-cutting. Consequently, the CER is a conservative factor on the side of environmental protection.

The Cumulative Effects Ratio accounts for the longer-term (ten-year) intensity of harvest within a watershed. Contemporary research, including that of Randy Klein, who presented his work at the June 2004 Timber Workshop, suggests there are thresholds of harvested acres beyond which additional harvesting within a watershed will generate discernable water quality effects, such as higher turbidity for longer duration.

Based on discussion at the February 10, 2005 Water Board meeting, staff added an additional factor to account for non-timber related cumulative impacts in a watershed. If timber harvest activities are proposed adjacent to a 303(d) listed waterbody (impacted by sediment or temperature), then the CER is always considered high. Water Board staff develops the 303(d) list based on analysis of available data and information (e.g., land uses in the watershed, such as dirt roads).

Drainage Density Index (DDI) - The DDI is derived from the single most important factor governing water quality vulnerability: the accessibility or adjacency of waterbodies to the proposed activity. The DDI is the sum of three criteria (feet of Class I watercourse times a factor of three (CI*3), plus feet of Class II watercourse times a factor of two (CII*2), plus feet of Class III watercourse (CIII)) divided by Acres to be

harvested (PA) as part of proposed THP or NTMP. The equation is as follows:

$$((CI*3)+(CII*2)+(CIII))/PA=DDI$$

The DDI is currently considered high when the value is greater than 100. The DDI is currently considered low when the value is 100 or less (Attachment 1).

The Drainage Density Index provides a gross characterization of a Timber Harvest Plan area's vulnerability to water quality impacts. More an intuitive check on site-specific risks than a quantification of those risks, the DDI implicitly includes rainfall, slope, and geologic conditions that explain the observed density of drainages throughout the site. Drainage density indicates how well drained the area to be harvested is. Channel-forming processes are controlled by several factors, including: slope, which affects the velocity of rainfall runoff and, in turn, its erosive power; the erodability of soil and rock over which water flows; elevation, which is directly correlated with rainfall quantity and intensity in the Santa Cruz Mountains; and watershed disturbance, including fire, mass wasting, and hydrologic modification by humans.

Soil Disturbance Factor (SDF) - The SDF is based on the scale of operations and the extent of ground-based equipment use. Several factors are used including acres harvested, roads, skid trails, landings, and Erosion Hazard Rating (EHR). There are, within each factor, several types of activities considered.

- Four activities are considered for roads, including linear feet of road (existing, proposed, permanent, etc.), number of road crossings (across a Class I, Class II, or Class III watercourse), in-lieu practices in Watercourse Lake Protection Zone (WLPZ), and linear feet of road through areas with high and/or extreme Erosion Hazard Rating (EHR) (Attachment 4). Lower values for this factor imply less soil disturbance during the proposed timber harvest activities.

For example, to calculate the potential impact from roads, Water Board staff developed the following equation:

$$SDF \text{ (for Linear Feet of Roads)} = ((C10*4)+(D10*6)+(E10*2)+(F10*4))/PA$$

Where:

- C = Linear feet of existing seasonal and/or temporary road
- D = Linear Feet of proposed seasonal and/or temporary road
- E = Linear Feet of existing all weather and/or permanent road
- F = Linear Feet of proposed all weather and/or permanent road

Similar calculations are developed for road crossings, road in-lieu practices in Watercourse Lake Protection Zone (WLPZ), and roads through areas with high and/or extreme EHR.

- For skid trails, four activities are considered including linear feet of skid trail (existing or proposed), number of skid trail crossings (across a Class I, Class II, or Class III watercourse), in-lieu practices in Watercourse Lake Protection Zone (WLPZ), and linear feet of skid trail through areas with high and/or extreme Erosion Hazard Rating (EHR) (Attachment 4). Lower values for this factor imply less soil disturbance during the proposed timber harvest activities. To calculate the potential impact from skid trails, Water Board staff developed calculations similar to the example given for linear feet of road for linear feet of skid trail (existing or proposed), number of skid trail crossings (across a Class I, Class II, or Class III watercourse), in-lieu practices in Watercourse Lake Protection Zone (WLPZ), and linear feet of skid trail through areas with high and/or extreme Erosion Hazard Rating (EHR)
- Three activities are considered for landings, including ground-based tractor access, helicopter, and in-lieu practices in Watercourse and Lake Protection Zone (WLPZ) (Attachment 4). Lower values for this factor imply less soil disturbance during the proposed timber harvest activities.

To calculate the potential impact from landings, Water Board staff developed calculations similar to the example given for linear feet of road for ground-based tractor access, helicopter, and in-lieu practices in Watercourse and Lake Protection Zone (WLPZ).

The numeric value for the SDF is ranked high, medium, or low. Currently, the SDF is considered high when a value is greater than 2500. SDF is considered medium when a value is between 2500 and 1000. SDF is considered low when a value is less than 1000 (Attachment 1).

The Soil Disturbance Factor is an expression of the overall intensity of timber operations conducted within a Timber Harvest Plan. For example, roads entering or crossing through soils with a high/extreme EHR are weighted more heavily than roads entering or crossing through soils with a moderate or lower EHR. Plans without waterbody crossings are weighted lower than those with crossings. Thus the most likely potential causes of water quality impacts are broadly characterized and the Plan's intensity can be described as one of three levels: high, medium, or low.

The Erosion Hazard Rating (EHR) factor was added to both the roads and skid trail evaluation. When a road or skid trail crosses or enters an area in the proposed Timber Harvest Plan (THP) or non-industrial Timber Management Plan (NTMP) with a high or extreme EHR, that portion of the road or skid trail is given an additional score, raising the SDF for the proposed THP or NTMP.

Water Board staff also removed the "yarding" portion of the SDF. This section of the SDF was providing limited utility in that the other SDF categories (roads, skid trails, and landings) considered are weighted more heavily and they also incorporate the yarding method. For example, tractor yarding will typically require more skid trails than cable yarding. The SDF value increases with additional skid trails.

Once the rankings are determined for the tool categories (CER, DDI, and SDF) the regulatory action and monitoring requirements are established as shown in Attachment 3. There are two regulatory options to be considered:

Tier I, II, and III - Timber Harvest Requirements

Tier IV - Individual Conditional Waiver or Individual Waste Discharge Requirements for Timber Harvest Operations

For Tier I, II, and III, timber harvest activities where the threat to water quality can be controlled through the implementation of typical management measures, enrollment under the proposed Timber Harvest Requirements would be appropriate. In addition to determining the regulatory option, the level of monitoring for proposed timber harvest activities is indicated, as shown in Attachment 3. The monitoring levels for the proposed Timber Harvest Requirements are described in section C, below, titled, "Monitoring and Reporting Program for Proposed Timber Harvest Requirements."

For all other timber harvest activities that cannot be regulated under the proposed General Conditional Waiver Requirements for timber harvest operations, Tier IV, an individual conditional waiver or individual waste discharge requirements would be appropriate. For individual conditional waiver or individual waste discharge requirements, individual monitoring and reporting programs would be developed based on site-specific conditions.

Currently, Attachment 1 shows Tier II does not require water quality compliance monitoring. However, at this stage of Eligibility Criteria development, staff proposes (for Tier II plans) that the proposed monitoring program require water quality compliance monitoring of turbidity in all new and reworked Class I and II watercourse crossings, and temperature in Class I watercourses where timber harvest occurs in the WLPZ. Staff proposes to review data collected for Timber Harvest activities after 24 months of data are collected (review after July 2007).

C. MONITORING AND REPORTING PROGRAM FOR TIMBER HARVEST REQUIREMENTS

The development of the monitoring and reporting requirements for the Timber Harvest Requirements has been focused on the necessity and usefulness of the data collected. In March 2003, the Water Board established guidance for waiver monitoring

requirements to be considered in setting the "bar" when developing all future waiver-monitoring programs. Water Board staff considered this guidance in developing the current proposed monitoring and reporting program.

The monitoring issues for the Timber Harvest Requirements are best addressed by focused monitoring efforts. By defining what is to be documented through data collected, appropriate monitoring efforts can be directed towards answering specific questions. Defined questions also assist Water Board staff with the selection of appropriate monitoring to evaluate impacts associated with timber harvest activities.

For timber harvest activities, the following monitoring types may be considered relative to the questions being asked (Attachment 8 contains additional information regarding these monitoring types):

1. Implementation/Effectiveness Monitoring –
The questions we are trying to answer through implementation monitoring are:

- Are timber harvest activities being carried out as planned?
- Are management practices being implemented as designed?

The questions we are trying to answer through effectiveness monitoring are:

- Are the implemented management measures effective at achieving desired results?

2. Forensic Monitoring – The questions we are trying to answer through forensic monitoring are:

- Are significant pollutant discharges (e.g., turbidity and sediment) visually detectable?
- Are significant pollutant discharges resulting from timber harvest activities (e.g., failed management measures) that require timely remedial action to prevent impacts to water quality and beneficial uses?
- Is turbidity and/or sediment being transported from the timber harvest area into waters of the state?

3. Water Quality Compliance Monitoring –
The questions we are trying to answer through water quality compliance monitoring through in stream or grab sample collection are:

- Are timber harvest activities impacting water temperatures?

Impact is defined as a temperature increase of more than 5°F above natural receiving water temperature (Basin Plan, 1994).

Although not a Basin Plan water quality objective, another temperature criterion that will be considered when evaluating data is whether water temperature reaches the upper limit of 68°F creating unsuitable habitat for salmonids (Cafferata, 1990).

- Are timber harvest activities impacting water clarity?

Impact is defined as when the down stream sample is at least 50 NTUs (Nephelometric Turbidity Units) and 20% greater than the up stream sample.

This is an interpretation and non-scientific conversion of the Basin Plan (1994) general water quality objectives for turbidity in Jackson Turbidity Units (JTU).

The proposed monitoring and reporting program for timber harvest activities subject to Timber Harvest Requirements will include implementation, forensic, effectiveness, and water quality compliance monitoring, as appropriate for the monitoring tier for a particular harvest.

The proposed monitoring and reporting program for timber harvest activities subject to Timber Harvest Requirements will not include assessment or trend monitoring because existing and proposed programs collect and evaluate this data. The Water Board will use the Central Coast Ambient Monitoring Program, the proposed San Lorenzo Sediment TMDL monitoring program, and the California Polytechnic Little Creek Sediment Assessment to evaluate water quality and beneficial use conditions for long-term trends.

I. Determining Monitoring Requirements

The proposed MRP for the Timber Harvest Requirements (Attachment 2) contains three levels of monitoring (Tiers I, II, III). The monitoring actions for each harvest will vary based on the potential threat to water quality.

Tier I (CDF Forest Practice Rules compliance and Forensic monitoring) - Tier I would apply if proposed timber harvest operations would not pose significant threat to water quality.

Tier II (Implementation/Effectiveness and Forensic Monitoring) - Tier II would apply if proposed timber harvest operations typical conditions include a low level of soil disturbance and a low drainage density index.

Tier III (Implementation/Effectiveness, Water Quality Compliance Monitoring, and Forensic) - Tier III would apply if proposed timber harvest operations typical conditions include a medium/high level of soil disturbance and a high drainage density index. Within Tier III there are two monitoring levels D.1 and D.2.

Monitoring level D.1 (Temperature) - Monitoring level D.1 would apply if proposed timber harvest operations would not pose significant threat to water quality, but there are Class I watercourses within the timber harvest boundary and timber harvest occurs in Class I or II WLPZ.

Monitoring level D.2 (Turbidity) - Monitoring level D.2 would apply if proposed timber harvest operations would not pose significant threat to water quality, there are Class I or II watercourses that are within or adjacent to the timber harvest boundary, and there are newly constructed or reconstructed Class I or II watercourse crossings. If no crossings exist within a proposed timber harvest plan and the plan has activity within a Class I or II WLPZ, turbidity monitoring may be required as determined by the Water Board Executive Officer.

If turbidity or temperature data collected under this monitoring program indicate water quality impacts, as determined by the Water Board Executive Officer, then the source of the water quality

impacts will be investigated and managed as required under MRP No. R3-2005-006.

Forensic monitoring, for all Tiers, would apply if at any time during CDF Forest Practice Rules compliance monitoring or implementation and effectiveness monitoring, a failed management measure or discharge is observed. Forensic monitoring will be conducted to identify the failed management measure and/or discharge and additional management measures to address the failed management measure and/or discharge will be implemented as determined by the Executive Officer (required under MRP No. R3-2005-006).

II. Reporting Requirements

For the proposed Timber Harvest Requirements, the proposed reporting requirements include:

- a. **Logbooks** - Logbooks will be used to record visual and water column data. Logbooks will include documentation of maintenance and repair of management practices.
- b. **Sediment Release Reporting** - The Discharger must report to the Water Board within 48 hours whenever at least one cubic yard of soil is released to a waterway due to anthropogenic causes or at least five cubic yards of soil is released to a waterway due to natural causes, or when turbidity is noticeably greater downstream compared to upstream (of a crossing or the Plan area).
- c. **Road Inventory Program**- The Discharger must implement a Roads Management Program
- d. **Violation Reporting** If at any time during implementation or effectiveness monitoring, the Discharger observes a discharge, the Discharger must notify the Water Board within 24 hours.
- e. **Annual Report** - By November 15 of each year, the Discharger must submit an Annual Report to the Water Board that addresses timber harvest activities that occurred the previous year, planned activities, violations, wet weather problems, implemented management practices, maintenance and repair of BMPs, recommendations for the next year, submittal of water quality data and photo documentation.

Monitoring requirements for the proposed Timber Harvest Requirements will generate information that will enable staff to answer specific questions about the protection of water quality and beneficial uses. The proposed MRP will help provide a consistent data set between timber harvest plans and provide data that may be useful across watersheds. The proposed water quality compliance monitoring will provide Water Board staff data to "ground truth" field observations.

Staff has revised the monitoring program to include the following language: "Monitoring photos need to be of sufficient quality to record the effectiveness of the implemented management practice."

D. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The Water Board is the lead agency for this project under CEQA. Staff has prepared an Initial Study in accordance with Title 14, California Code of Regulations, Section 15063 and a proposed Negative Declaration (Attachment 7) in accordance with CEQA Guidelines (Title 14, California Code of Regulations, Section 15000 et seq.). The Negative Declaration concludes that the waiver of waste discharge requirements for timber harvest activities pursuant to the proposed Timber Harvest Requirements will not have a significant adverse impact on the environment. Copies of the proposed Negative Declaration were transmitted to all agencies and persons known to be interested in this matter. Staff recommends the Water Board adopt the Negative Declaration prior to adopting the proposed Timber Harvest Requirements.

E. CONCLUSION

The Water Board's authorities and responsibilities are effectively implemented through regulating specific timber harvest activities. Use of the Eligibility Criteria to establish the appropriate regulatory action (proposed Timber Harvest Requirements or individual requirements) and direct monitoring (proposed monitoring and reporting program) for a proposed timber harvest activity will improve protection of water quality and beneficial uses by making staff available for field review. As stated above, the MRP proposed for the Timber Harvest Requirements will help provide a more consistent data set between timber

harvest plans and provide data that may be useful across watersheds. Timber Harvest Requirements, in conjunction with the proposed MRP, should allow Water Board staff time to conduct additional inspections and spend more time in the field evaluating conditions of timber operations.

Additionally, through participation and tracking of existing monitoring efforts such as the Little Creek Study, the San Lorenzo River TMDL for Sediment, the Regional Sediment Assessment Framework, and statewide monitoring initiatives, staff will be able to make progress toward the longer term goal of watershed monitoring.

F. RECOMMENDATION

Adopt Order No. R3-2005-0066 General Conditional Waiver of Waste Discharge Requirements – Timber Harvest Activities in the Central Coast Region (described herein).

Adopt Order No. R3-2005-0066 Monitoring and Reporting Program for timber harvest Requirements (described herein).

G. COMMENTS

Water Board staff received extensive comments on this item. Comments and staff responses were mailed separately.

ATTACHMENTS

1. Timber Harvest Requirements - General conditional waiver of waste discharge requirements, Order No. R3-2005-0066
2. Timber Harvest Requirements- Monitoring and reporting program No. R3-2005-0066 (MRP)
3. Eligibility Criteria Decision Tool (Eligibility Criteria)
4. Spreadsheets for CER, DDI, and SDF
5. Summary of Results Using Eligibility Criteria
6. Watercourse Definitions for Class I, II, III, and IV
7. Monitoring types defined by the State Monitoring MOU Workgroup

REFERENCES:

1. Cafferata, Peter H., (1990) Watercourse Temperature Evaluation Guide, Department of Forestry and Fire Protection
2. Klein, Randy, (2003) Duration of Turbidity and Suspended Sediment Transport in Salmonid-Bearing Streams, North Coastal California, A Report to the US Environmental Protection Agency, Region IX. March.
3. Regional Water Quality Control Board, Central Coast (1994), Water Quality Control Plan Central Coast Region (Basin Plan) – Region

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