

**ATTACHMENT B
MONITORING AND REPORTING PROGRAM
FOR
ORDER NO. R5-2016-0XXX**

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code section 13267 and includes requirements for Dischargers enrolled under the Waste Discharge Requirements General Order for Discharges Related to Timberland Management Activities on Non-federal and Federal Lands, Order No. R5-2016-0XXX (hereinafter referred to as the "Order"). The MRP is required to assure compliance with Order criteria and conditions, to verify the adequacy and effectiveness of the Order, to assist Dischargers with implementation and maintenance of water quality protection measures, and to identify and correct waste discharges that violate or threaten to violate water quality control plan (Basin Plan) requirements.

All Dischargers enrolled under this Order are subject to monitoring requirements; however, the comprehensiveness of the monitoring required depends upon the scope of the timberland management activities and the category of enrollment. The inspection plan, monitoring requirements by category, monitoring types (agency, implementation, forensic, and effectiveness), incident reporting, reporting requirements, and potential additional monitoring requirements are described below.

I. INSPECTION PLAN

Dischargers shall prepare and implement an Inspection Plan for Projects that exceed 100 acres for all Categories (except Category 1). The Inspection Plan shall be designed to ensure that management measures are installed and functioning prior to significant precipitation that generates overland flow, that the measures were effective in controlling significant sediment discharges¹ throughout the winter period, and that no new significant sediment discharge sources developed. The Inspection Plan shall include a monitoring points site map that includes inspection locations to be visited before, during, and after the winter period once operations have begun. Monitoring points are further described as follows:

- *Visual Monitoring Points* - Visual monitoring points shall be delineated on the monitoring points site map and shall address all bulleted inspection items applicable to the enrolled category detailed in the implementation, forensic, and effectiveness monitoring sections that follow (e.g. watercourse crossings, roads, landings, skid trails, water diversions, unstable areas, accessible watercourse confluences).
- *Photo-point Monitoring* – Photo-point monitoring locations shall be delineated on the site map and shall be identified (monumented) in the field by use of rebar, flagging or other method that will last throughout the period of enrollment for the Project. Photo-point locations shall be determined during Project inspections when Central Valley Water Board staff is present and/or as determined by the Discharger to illustrate compliance. If significant sediment discharges are detected during forensic and effectiveness monitoring, these locations shall be added to the Inspection Plan and be photo-point monitored for the remainder of the Project's enrollment.

Inspection Plans shall be maintained and updated as needed by the Discharger and/or agents thereof and shall be submitted to the Central Valley Water Board upon request.

¹Significant Sediment Discharge – means soil erosion that is currently, or, as determined based upon visible physical conditions, may be in the future, discharged to watercourses or lakes in quantities that violate Water Quality Requirements or result in significant individual or cumulative adverse impacts to the beneficial uses of water. One indicator of a Significant Sediment Discharge is a visible increase in turbidity to receiving Class I, II, III, or IV waters.

II. MONITORING REQUIREMENTS BY CATEGORY

Each Discharger enrolled under this Order is subject to monitoring requirements that are determined by category of enrollment and threat to water quality; it should be noted that the Executive Officer has the authority to request additional monitoring for Projects. Monitoring requirements for each category are detailed below.

Table 1. Monitoring Requirements for **Non-Federal Projects**.

Order Category	1	2A/3A	2B/3B
Inspection Plan	--	Prepare for Projects >100 acres - submit copy when requested	
Agency Monitoring	Yes, submit when a violation of the FPR is identified that relates to water quality protection measures		
Implementation Monitoring	--	By November 15 ¹	--
Forensic Monitoring	--	Twice Between November 15 and April 1 ¹	--
Effectiveness Monitoring	--	Between March 15 and June 15 ¹	
¹ Photo-point monitoring required as determined by Central Valley Water Board staff on Project inspections and/or as self-determined by the Discharger to illustrate compliance AND for significant sediment discharges into Class I, II, III, and IV (domestic supply) watercourses - Incident Report required.			

Table 2. Monitoring Requirements for **Federal Projects**.

Order Category	4A	4B (Post-Fire)
Inspection Plan	Prepare for Projects >100 acres - submit copy when requested	
Agency Monitoring	Yes, submit when a violation of BMPs is identified that relates to water quality protection measures	
Implementation Monitoring	By November 15 ²	
Forensic Monitoring	-- ¹	Twice Between November 15 and April 1 ²
Effectiveness Monitoring	-- ¹	Between March 15 and June 15 ²
¹ Only required when USFS cumulative watershed effects analysis indicates that the Project, combined with other USFS activities conducted in the watershed over the past 10 years, may cause any watershed or sub-watershed to exceed a threshold of concern as determined by various models (i.e. Equivalent Roaded Acres, Surface Erosion, Mass Wasting).		
² Photo-point monitoring required as determined by Central Valley Water Board staff on Project inspections and/or as self-determined by the Discharger to illustrate compliance AND for significant sediment discharges into Riparian Reserves or Riparian Conservation Areas - Incident Report required.		

III. MONITORING TYPES

A. AGENCY MONITORING

Non-federal Projects - Agency monitoring is monitoring (direct field observations) conducted by CAL FIRE to evaluate compliance with the Forest Practice Rules (FPR). The Discharger does not conduct agency monitoring, but should retain copies of all inspection reports from agency monitoring throughout the life of the Project as the reports may be requested by the Central Valley Water Board. The Discharger shall submit a copy of agency monitoring to the Central Valley Water Board when a violation of the FPR is identified that relates to water quality protection measures and provide notification of such violation within 48 hours of discovery (see Part IV.)

Federal Projects - Agency monitoring is monitoring (direct field observations) conducted by the U.S. Forest Service to evaluate compliance with their best management practices (BMP) guidance documents. The U.S. Forest Service shall submit a copy of agency monitoring to the Central Valley Water Board when a violation of BMP requirements is identified that relates to water quality protection measures and provide notification of such violation within 48 hours of discovery (see Part IV.)

B. IMPLEMENTATION MONITORING

Description	Implementation monitoring consists of detailed visual monitoring of hillslope features (i.e. roads, landings, skid trails, watercourse crossings, watercourse protection zones, unstable areas) prior to significant precipitation that generates overland flow; with emphasis placed on determining if management measures (such as erosion control measures, drainage structures, watercourse protection zones) were implemented in accordance with the Project language, FPR, BMP guidance, Central Valley Water Board recommendations, and Order criteria and conditions. For federal Projects, established BMP implementation monitoring will satisfy the Implementation and Agency Monitoring requirements of the Order when the monitoring was conducted <i>within</i> the Project area.		
Inspection Timeframe	Prior to a storm that generates overland flow, but no later than November 15		
Inspection Schedule	Status of Timberland Management Activities		
	Not Active	Active - No Winter Ops	Active - Winter Ops
Monitoring Required?	No	Yes	Yes
Monitoring Details	N/A	A pre-winter implementation inspection shall be completed prior to a storm that generates overland flow, but no later than November 15 of each year to assure that management measures are in place and secure prior to the winter period.	<i>1st Inspection</i> - A pre-winter implementation inspection shall be completed prior to a storm that generates overland flow, but no later than November 15 of each year to assure that management measures, for areas not subject to winter operations, are in place and secure prior to the winter period. <i>2nd Inspection</i> - An Implementation inspection shall be completed immediately following cessation

			<p>of winter period operations, in areas where winter operations occurred, to assure management measures are in place and secure.</p>
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Implementation Inspection – The inspection(s) shall be conducted by the Discharger and is intended to assure that management measures are properly installed; at a minimum, the inspection(s) should focus on the following Project areas:

- Culverts are clear of debris;
- Critical dips are installed and/or diversion potential is addressed at watercourse crossings;
- Fill slopes are adequately armored/stabilized;
- Road runoff is disconnected from watercourse crossings;
- Sufficient drainage facilities installed on roads and skid trails;
- Appropriate watercourse protection zones implemented;
 - Disturbed areas in the watercourse protection zones stabilized;
- Significant and existing potential erosion sites (SEPES) inspected;
- Non-standard (in-lieu) practice areas stabilized;
 - Landings/skid trails in watercourse protection zones stabilized;
- Road rocking near watercourses and crossings done to specifications in approved Project;
- Temporary and tractor watercourse crossings disconnected and fills excavated to natural grade and orientation;
- Drafting pads and approaches drained and stabilized;
 - Artificial impoundment barriers removed/diversions turned off (if no winter operations);
- Timberland management activities that have the potential to affect unstable areas near watercourses;
- Photo-point monitoring locations (As determined by Central Valley Water Board staff during Project inspections and/or as self-determined by the Discharger to illustrate compliance).

C. FORENSIC MONITORING

Description	Forensic monitoring consists of visual field detection techniques during the winter to determine the condition of installed management measures, identify threatened or actual significant sediment discharges caused by failed management measures, failure to implement appropriate management measures, legacy timber activities, non-timber harvesting related land disturbances, and natural sediment sources. The goal of winter forensic monitoring is to locate potential or actual sources of sediment in a timely manner so that rapid corrective action may be taken where feasible and appropriate. If forensic monitoring detects a significant sediment discharge, the Discharger is required to submit photo-point monitoring and an Incident Report (see Part IV.) to the Central Valley Water Board.		
Inspection Timeframe	Twice between November 15 and April 1.		
Inspection Schedule	Status of Timberland Management Activities		
Monitoring Required?	No	Yes	Yes
Inspection Intent and Trigger Guidelines	<p>The intent of forensic monitoring is to monitor the Project area <i>once saturated soil conditions have been reached and within 48 hours* after a storm that produces overland flow</i>. A minimum of two forensic monitoring inspections shall take place during the winter period, including for Projects with winter operations. The following triggers may be used as guidance for when to conduct forensic inspections, but are not a requirement for inspections as climatic conditions vary widely over the Central Valley Region.</p> <ul style="list-style-type: none"> • Once, during or within 48 hours* following a 24-hour storm event of at least 2 inches (of rainfall) and after 5 inches (of total precipitation) has accumulated after November 15 and before April 1. • Once, during or within 48 hours* following a 24-hour storm event of at least 2 inches (of rainfall) and after 15 inches (of total precipitation) has accumulated after November 15 and before April 1. <p>*Inspections that cannot be conducted during or within 48 hours of such a storm event (due to worker safety, access issues or other uncontrollable factors) shall be conducted as soon as possible thereafter.</p>		
Photo-Point Monitoring	<p>Forensic photo-point monitoring is required as follows:</p> <ul style="list-style-type: none"> • As determined by Central Valley Water Board staff during Project inspections and/or as self-determined by the Discharger to illustrate compliance; and • When a significant sediment discharge (threatened or actual) is detected resulting from failed management measures, failure to implement management measures, legacy timber activities, non-timber harvesting related land disturbances, and natural sediment sources. The Discharger is required to submit an Incident Report (see Part IV.) to the Central Valley Water Board, including photos of the source of the significant sediment discharge. 		

Forensic Inspections - Inspections shall be conducted by the Discharger to identify threatened or actual significant sediment discharges such as failed management measures or natural sources (e.g. landslide). The inspection should focus on identifying evidence of erosion (e.g. rilling or gullyng of road surfaces and road fills; watercourse crossings with evidence of downcutting, plugging, or overtopping; and increased levels of sediment/turbidity in watercourses). The inspections should focus on the following Project areas:

- Constructed and reconstructed watercourse crossings;
- Existing undersized watercourse crossings;
- Watercourse protection zones where ground based equipment operations have occurred (e.g. tractor crossings, landing construction/reconstruction, watercourse crossing/road abandonment);
- Project areas of non-standard (in-lieu) practices that have the potential to impact water quality;
- Road segments that were unable to be hydrologically disconnected;
- SEPES;
- Road construction or reconstruction within 500 feet of a watercourse;
- Areas rated as high or extreme erosion hazard that have the potential to impact water quality where ground-based equipment operated;
- Areas where ground-based equipment operated on slopes greater than 65% or slopes over 50% rated as high or extreme erosion hazard that have the potential to impact water quality;
- Timberland management activities that have the potential to affect unstable areas near watercourses;
- Photo-point monitoring locations.

D. EFFECTIVENESS MONITORING

Description	Effectiveness monitoring is a visual evaluation of management measures (e.g. erosion control structures) and infrastructure (e.g. roads and watercourse crossings) within the Project area where operations occurred following the winter period. Effectiveness monitoring is intended to determine the effectiveness of implemented management measures in preventing significant sediment discharges to watercourses and in protecting water quality, and to identify any new controllable sediment sources that may have developed during the winter that were not detected during forensic monitoring. If effectiveness monitoring detects a significant sediment discharge resulting from failed management measures or failure to implement management measures, the Discharger is required to submit photo-point monitoring and an Incident Report (see Part IV.) to the Central Valley Water Board.		
Inspection Timeframe	Between March 15 and June 15.		
Inspection Schedule	Status of Timberland Management Activities		
	Not Active	Active – No Winter Ops	Active - Winter Ops
Monitoring Required?	No	Yes	Yes
Inspection/ Monitoring Details	The inspection shall be conducted by the Discharger to identify threatened or actual significant sediment discharges from failed management measures and/or failure to implement appropriate management measures. <i>The inspection should evaluate the same Project areas bulleted under the Forensic Inspections Section on the previous page.</i>		
Photo-Point Monitoring	Effectiveness photo-point monitoring is required as follows: <ul style="list-style-type: none"> • As determined by Central Valley Water Board staff during Project inspections and/or as self-determined by the Discharger to illustrate compliance; and • When a significant sediment discharge (threatened or actual) is detected from failed management measures or failure to implement management measures. The Discharger is required to submit an Incident Report (see Part IV.) to the Central Valley Water Board, including photos of the source of the significant sediment discharge. 		

Effectiveness Inspection – Evaluate the same Project areas bulleted under the Forensic Inspections Section on page 6.

IV. INCIDENT REPORT

The Discharger shall report to Central Valley Water Board staff as soon as possible, but **no later than 48 hours after detection** of any of the following, including, but not limited to:

- Violation of any Basin Plan requirement (i.e. turbidity, sediment, temperature, dissolved oxygen, pesticides); typically, this is a significant sediment discharge (threatened or actual) caused by:
 - Failed management measures (e.g. watercourse crossing fill failure; watercourse diversion; major road, landing, or skid trail failure within or adjacent to a watercourse protection zone);
 - Failure to implement appropriate management measures;
 - Natural sediment sources (landslide/unstable areas);
 - Legacy timber activities (as assessed during Forensic Monitoring);
 - Non-timber harvesting related land disturbances (as assessed during Forensic Monitoring);
- Violation(s) of eligibility criteria or conditions specified in the Order.

Typically, Incident Reporting is a result of forensic or effectiveness monitoring, but can occur at any time during a Project. After timely notification of an incident, the Discharger should discuss any implemented and planned corrective measures with Central Valley Water Board staff. Central Valley Water Board staff may require additional monitoring (inspections, photo-point, water column sampling, physical stream conditions, etc.) until corrective actions are completed and/or significant sediment discharges have ceased.

Incident Report - A written report regarding aforementioned incidents(s) shall be submitted to the Central Valley Water Board by the Discharger **within 14 days** following detection and shall include all required information specified in this MRP, including the following:

- The date incident(s) was/were discovered;
- The name and title of person(s) discovering incident(s);
- The name and title of person(s) responsible for follow-up on the incident(s);
- A map indicating location of incident(s);
- Description of the nature and extent of incident(s) (including estimate(s) of sediment/fill volume discharged, if applicable);
- Color photos of site characterizing incident(s) (including impacted watercourse(s));
- Description of corrective management measures implemented to date;
- An implementation schedule for additional corrective actions;
- The signature and title of person preparing the report.

The Executive Officer may modify or rescind this MRP at any time or may issue site-specific and individually developed monitoring and reporting requirements to any Discharger that could affect the beneficial uses of waters of the state.

V. REPORTING REQUIREMENTS

A. Agency Reporting

Dischargers are required to submit a copy of agency monitoring to the Central Valley Water Board when a violation of the FPR or BMP requirements is identified that relates to water quality protection measures; the Discharger shall notify the Central Valley Water Board within 48 hours of discovery of such an a violation.

B. Annual Reporting

The Discharger shall submit an Annual Monitoring Report to the Executive Officer by **July 15** for inspections covering the previous winter period for every year a Project is enrolled in the Order and once timberland management activities have commenced. The Annual Monitoring Report shall, at a minimum, include the following:

Summary of Operations

- The name/number of the Project;
- A table, map, narrative, or combination thereof that includes the following:
 - Watercourse crossings and road segments that have been constructed, reconstructed, and abandoned during the past year;
 - SEPES that have been addressed during the past year (non-federal Projects);
 - Units/areas harvested during the past year.

Implementation, Forensic, and Effectiveness Monitoring Inspection Reporting

- Name/number of the Project;
- Name/title of person submitting the report;
- Date of inspection;
- Inspector's name/title;
- Storm event date, precipitation amount, and rainfall station used (forensic only);
- Rainfall accumulation since November 15 (forensic only);
- Photographs from photo-point monitoring with date/time/location clearly delineated;
- Summary of any Incident Reports – including any corrective actions taken and additional monitoring required by the Central Valley Water Board.

U.S. Forest Service - Submittal of a BMP evaluation report by July 15 will satisfy the implementation monitoring requirements of this Order if the monitoring was conducted *within* the Project area.

Pesticide Usage Reporting – The Discharger shall submit a pesticide usage report with the annual report that includes the:

- Name/number of the Project;
- Name/title of person submitting the report;
- Application date;
- Township, Section, Range, County, Base & Meridian (or submit a map that contains this information);
- Product (commercial) name and amount applied (typically in pounds);
- Chemical name and amount applied (typically in pounds);
- Size of area treated (acres);
- Application method (aerial, ground).

C. Suspension of Monitoring for Categories 3A and 3B

Dischargers may temporarily suspend monitoring if there are extended periods where no timberland management activities will occur between the last effectiveness monitoring inspection after ground disturbing activities have ceased and timberland management activities have resumed. Under this temporary suspension, the Discharger must agree that no timberland management activities will occur during the suspension period. **The Discharger must submit a list of Plans planned for monitoring suspension that includes an explanation for the temporary suspension to the Central Valley Water Board no later than October 15.** During these interim periods, the Order shall remain in effect and monitoring shall resume either at the request of Central Valley Water Board staff (e.g. if a large storm event occurred during this period) or when on site timber harvesting operations have resumed. **The Discharger shall notify the Central Valley Water Board 15 days before timber harvesting operations resume.**

E. Submission of Reports/Data

The Central Valley Water Board is becoming a paperless office; therefore, reports should be submitted in searchable Portable Document Format (PDF), Word, and/or Excel when feasible. Documents that are less than 50 MB should be emailed to the appropriate office:

Rancho Cordova Office centralvalleyrancho@waterboards.ca.gov;
Redding Office centralvalleyredding@waterboards.ca.gov;
Fresno Office centralvalleyfresno@waterboards.ca.gov;

In the subject line of the email, include the program (Forest Activities Program), subject (e.g. annual report, incident report), county, and the name of the staff person that will receive the document (if known). Documents that are 50 MB or larger should be transferred to a disc or flash drive and mailed to the appropriate office. Staff may request that some documents be submitted in hard copy, particularly drawings or maps that require a large size to be readable, or in other electronic formats where evaluation of the data is required.

Monitoring forms (cover letter with certification statement, implementation, forensic, and effectiveness) are provided on the Central Valley Water Board Forest Activities Program website (http://www.waterboards.ca.gov/centralvalley/water_issues/timber_harvest/index.shtml) for Discharger use. If the Discharger elects to create their own monitoring forms, the annual report cover letter must include the following certification statement and the signature of the Discharger:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

The Discharger shall submit all required monitoring reports to the Central Valley Water Board in accordance with the reporting requirements specified in this Order. The Discharger shall also report monitoring data and results, in a timely manner, for all water quality related monitoring conducted independent of the requirements of this Order.

VI. POTENTIAL ADDITIONAL MONITORING REQUIREMENTS

Pursuant to California Water Code section 13267, the Executive Officer has the authority to issue site-specific and individually developed monitoring and reporting requirements to any Discharger whose activities could affect the beneficial uses of waters of the state.

Additional monitoring requirements may include, but are not limited to:

- Water column sampling (typically for sediment);
- Physical stream condition assessment for:
 - Gravel Embeddedness – Degree gravel is embedded with sand or finer sediments;
 - Pool Sedimentation – Degree of sediment depositions in pools;
 - Stream Channel Aggradation – Degree that stream channel has been raised by sedimentation;
 - Streambank Cutting, Mass Wasting and Stream Downcutting;
 - Stream-Side Vegetation;
- Streamflow data (current, historical, peak flows);
- Bioassessment.

Additionally, Class I CalWater Planning Watersheds that have been subject to land disturbance activities of 20% or greater over the past 10 years may trigger additional monitoring requirements that will be developed and issued by the Executive Officer on a site-specific basis.