

**ATTACHMENT B
MONITORING AND REPORTING PROGRAM
FOR
ORDER NO. R5-2017-0XXX**

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code section 13267 and includes requirements for Projects enrolled under the Waste Discharge Requirements General Order for Discharges Related to Timberland Management Activities on Non-federal and Federal Lands, Order No. R5-2017-0XXX (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.

Dischargers with Projects 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 within this MRP.

~~Projects currently enrolled under Order No. R5-2014-0144 shall be automatically enrolled under this Order and the Discharger shall become subject to all of its requirements upon the effective date (see Finding 10 of the Order).~~

I. INSPECTION PLAN

Dischargers shall prepare and implement an Inspection Plan for Projects that exceed 100 acres for all Categories (*except* Category 1 and Category 5B (unless the U.S. Forest Service conducts implementation, forensic, and effectiveness monitoring in the Project area in lieu of National Core BMP Protocol monitoring)). The Inspection Plan shall be designed to ensure that management measures are installed and functioning prior to a precipitation event that generates overland flow, that the measures were effective in controlling significant sediment discharges (see definition in Attachment A) throughout the winter period, and that no new significant sediment discharge sources developed. The Inspection Plan shall include a site map that includes monitoring points and 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 enrollment or 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.

II. MONITORING REQUIREMENTS BY CATEGORY

Projects enrolled under this Order are subject to monitoring requirements based on category of enrollment and threat to water quality. Monitoring requirements for each category are detailed below.

NON-FEDERAL PROJECTS (Categories 1 - 4)

Table 1. Monitoring and Reporting Requirements for Non-Federal Projects

Order Category	1	2B/3B	2A	3A	4
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	Conduct by November 15 ¹				
Forensic Monitoring			Conduct <u>Twice</u> Between November 16 and April 1 ^{1, 2}	Conduct <u>Once</u> Between November 16 and April 1 ¹	
Effectiveness Monitoring		Conduct Once Between April 2 and June 15 ¹			
Summary of Operations / Annual Report			Submit by July 15		
<i>Erosion Site Table</i> and PFP ³ Update(s)			As Needed ⁴		

¹Photo-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 (Incident Report required, see Part IV.). Monitoring to be included in annual report due July 15 annually.

²Once between Nov. 16 and Jan. 15 AND once between Jan. 16 and April 1 (see Part III.C.).

³Post-Fire Management and Reforestation Plan (PFP), if applicable (see Attachment C).

⁴Timely amendments to be made throughout Project enrollment when conditions or management objectives have changed.

The monitoring requirements above that are in addition to those required by the FPRs, do not supersede or nullify the monitoring requirements required by the FPR

FEDERAL PROJECTS (Categories 5A and 5B)

Table 2. Monitoring and Reporting Requirements for Federal Projects

Order Category	5A (Post-Fire)	5B
Inspection Plan	Prepare for Projects >100 acres - submit copy when requested ¹	
Implementation Monitoring	Conduct by November 15 ²	Complete one of the following National Core BMP monitoring protocols in the Project area based on the highest threat to water quality from Project activities ^{2,4,5} <ul style="list-style-type: none"> • Road B. Completed Road or Waterbody Crossing Construction or Reconstruction; • Road C. Road Operation and Maintenance; • Veg. A. Ground-based Skidding and Harvesting; • Veg. B. Cable or Aerial Yarding; • Veg. C. Mechanical Site Treatments; or • WatUses C. Completed Reconstruction/Repair or Operation and Maintenance of Water Sources (Drafting)
Forensic Monitoring	Conduct <i>Twice</i> Between November 16 and April 1 ^{2,3}	
Effectiveness Monitoring	Conduct Once Between April 2 and June 15 ²	
Summary of Operations / Annual Report	Submit by August 15	
<i>Erosion Site Table</i> and PFP ⁶ Update(s)	As Needed ⁷	
<p>¹For Category 5B, prepare only if electing to do traditional implementation, forensic, and effectiveness monitoring in the Project area in lieu of National Core BMP protocols (see footnote 5 below). ²Photo-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 (Incident Report required, see Part IV.). Monitoring to be included in Annual Report that is submitted August 15 annually. ³Once between Nov. 16 and Jan. 15 <u>AND</u> once between Jan. 16 and April 1 (see Part III.C.) ⁴One <i>additional</i> National Core BMP monitoring protocol is 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). The <i>National Best Management Practices for Water Quality Management on National Forest System Lands, Volume 1: National Core BMP Technical Guide</i> is located at: http://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf ⁵The Discharger may opt to conduct implementation, forensic, and effectiveness monitoring as detailed for Category 3A in lieu of conducting the National Core BMP monitoring protocols; <u>the monitoring must occur in the Project area.</u> ⁶Post-Fire Management and Reforestation Plan (PFP), if applicable (see Attachment C). ⁷Timely amendments to be made throughout Project enrollment when conditions or management objectives have changed.</p>		

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 the Discharger shall provide notification of such violation within 48 hours of discovery (see Part IV.).

B. IMPLEMENTATION MONITORING

Description	Implementation monitoring consists of detailed visual monitoring within the Project area of hillslope features (i.e. roads, landings, skid trails, watercourse crossings, watercourse protection zones, unstable areas) prior to a precipitation event 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 Category 5B, selected National Core BMP monitoring protocols (see Part II, Table 2) will satisfy the Implementation, Forensic, and Effectiveness portions of the monitoring requirements of the Order if the monitoring was conducted <i>within</i> the Project area.		
Inspection Timeframe	Prior to a precipitation event that generates overland flow, but no later than November 15		
Inspection Schedule	Status of Timberland Management Activities		
	Not Active ¹	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 of winter period operations , in areas where winter operations occurred, to assure management

			measures are in place and secure.
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¹Timberland management activities have not commenced on any portion of the Project.

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 existing or potential erosion sites (SEPES) identified in the Project and/or as indicated in an *Erosion Site Table* for Category 2A or 5A;
- Non-standard (in-lieu) practice areas;
 - Landings/skid trails/roads in watercourse protection zones drained/disconnected and/or stabilized;
- Road rocking near watercourses and crossings done to specifications in enrolled 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 upslope of 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).

Note: Additional implementation inspections do not need to be conducted for *completed* Project areas where a *full round* of monitoring inspections (implementation, forensic, and effectiveness) have been completed without the occurrence of reportable incidents OR the implementation of new management measures. Project areas that are *newly* active must have an implementation inspection conducted.

C. FORENSIC MONITORING

Description	<p>Forensic monitoring consists of visual field detection techniques during the winter period within the Project area to determine the condition of installed management measures and to 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.</p> <p>For Category 5B, selected National Core BMP monitoring protocols (see Part II, Table 2) will satisfy the Implementation, Forensic, and Effectiveness portion of the monitoring requirements of the Order when the monitoring was conducted <i>within</i> the Project area.</p>		
Inspection Timeframe	<p>Category 2A and 5A- Once between November 16 and January 15, <u>AND</u> Once between January 16 and April 1</p> <p>Category 3A and 4 - Once between November 16 and April 1</p>		
Inspection Schedule	Status of Timberland Management Activities		
	Not Active ¹	Active - No Winter Ops	Active - Winter Ops
Monitoring Required?	No	Yes	Yes
Inspection Details and Guidance	<p>The forensic monitoring inspection(s) shall occur after saturated soil conditions have been reached and within 48 hours* after a storm that produces overland flow.</p> <p>The following bulleted examples may be used as guidance to determine when appropriate conditions (saturated soils and overland flow) may exist for conducting forensic inspections, but are <i>not</i> a requirement for inspection(s) as climatic conditions vary widely over the Central Valley Region.</p> <ul style="list-style-type: none"> • 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. • 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. <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	Forensic 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 identified resulting from failed management measures, failure to implement management measures, legacy timber activities, non-timber harvesting related land disturbances, and natural sediment sources.
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¹Timberland management activities have not commenced on any portion of the Project.

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 gullying 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, including but not limited to:

- 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 identified in the Project and/or as indicated in an *Erosion Site Table* for Category 2A or 5A;
- 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	<p>Effectiveness monitoring is a visual evaluation following the winter period of management measures (e.g. erosion control structures) and infrastructure (e.g. roads and watercourse crossings) within the Project area. 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 sediment sources. 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.</p> <p>For Category 5B, selected National Core BMP monitoring protocols (see Part II., Table 2) will satisfy the Implementation, Forensic, and Effectiveness portions of the monitoring requirements of the Order when the monitoring was conducted <i>within</i> the Project area.</p>		
Inspection Timeframe	Between April 2 and June 15.		
Inspection Schedule	Status of Timberland Management Activities		
	Not Active ¹	Active – No Winter Ops	Active - Winter Ops
Monitoring Required?	No	Yes	Yes
Inspection/ Monitoring Details	<p>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></p>		
Photo-Point Monitoring	<p>Effectiveness 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 from failed management measures or failure to implement management measures. 		

¹Timberland management activities have not commenced on any portion of the Project.

Effectiveness Inspection – Evaluate the same Project areas bulleted under the *Forensic Inspections* Section on page 7 (see Part III.C.).

IV. INCIDENT REPORT

The Discharger shall notify 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(s), threatened or actual, of any applicable water quality objective (i.e. for turbidity, sediment, temperature, dissolved oxygen, pesticides, etc.) 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 enrollment. 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/threatened 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 recent weather conditions prior to discovering the 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 for Projects that could affect the beneficial uses of waters of the state.

V. REPORTING REQUIREMENTS

A. Agency Reporting (Non-Federal Projects)

Dischargers are required to 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; the Discharger shall notify the Central Valley Water Board within 48 hours of discovery of such a violation.

B. Annual Reporting (Non-Federal and Federal Projects)

The Discharger shall submit an Annual Monitoring Report to the Executive Officer **by July 15** for Non-Federal Projects and **by August 15** for Federal Projects, for inspections conducted before, during, and after the previous winter period for every year a Project is enrolled in the Order after timberland management activities have commenced; activities that commence after the winter period (April 1) shall have monitoring inspections included in the next calendar year annual report.

The Annual Monitoring Report shall include the following (as applicable) as described under Table 1 and Table 2 of this MRP:

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/deactivated during the past year;
 - SEPES that have been addressed during the past year as identified in the Project and/or *Erosion Site Table*;
 - 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);
- Color photographs from photo-point monitoring with date/time/location clearly delineated (if applicable);
- Incident Report(s) Update – Include any pertinent updates and/or additional monitoring required by the Central Valley Water Board (if applicable).

- U.S. Forest Service Category 5B (Federal) - Submittal of selected National Core BMP monitoring protocols (see Part II., Table 2) will satisfy the Implementation, Forensic, and Effectiveness portions of the monitoring requirements of the Order when the monitoring was conducted *within* the Project area.

Non-Expiring Plans (NTMPs and WFMPs) (Non-Federal Projects)

- Dischargers that elect to remain continuously enrolled (i.e. not terminate coverage after each entry) under the Order for the duration of the Plan must (1) complete at minimum one full round of monitoring (implementation, forensic, and effectiveness) for each NTO/Harvest Notice area, and (2) be able to certify in a statement (see Part V.C. below) in the annual report that discharges

associated with timberland management activities have ceased for each NTO/Notice area prior to cessation of monitoring for that area.

C. Submission of Reports/Data

The Central Valley Water Board is transitioning to 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: centralvalleysacramento@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 form, it must include all the applicable information detailed under Part V. B. and Tables 1 and 2 of this MRP and include the following certification statement and the signature of the Discharger:

I am aware that monitoring and technical reports submitted pursuant to Water Code section 13267 are submitted under penalty of perjury, and I certify 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.

In addition, for *non-expiring* Plans that will remain *continuously* enrolled and for which the Discharger intends to cease monitoring in a NTO/Notice Area, the Discharger must include the following statement in the annual report:

I certify that all discharges associated with timberland management activities for this NTO/Notice area are and will continue to be in conformance with all applicable Basin Plan requirements and hereby notify the board that no further monitoring is planned for the subject NTO/Notice area.

The Discharger shall submit all required monitoring reports to the respective Central Valley Water Board office 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.