

RESPONSE TO COMMENTS
on
Proposed Order No. R1-2013-0005

General Waste Discharge Requirements
For Timber Operations on
Non-Industrial Timber Management Plans (NTMP)
in the
North Coast Region

Prepared by:
North Coast Regional Water Quality Control Board
May 2, 2013

Background

On January 8, 2013, the Regional Water Board released draft of Order No. R1-2013-0005 for a 30 day public comment period. The Regional Water Board conducted a public Workshop on the draft Order on January 24, 2013 in Santa Rosa. Based on written comments and comments made in person at the January 24 workshop, the Board directed staff to solicit further input from landowners, foresters, focus groups and CAL FIRE, and revise the draft Waiver as necessary and appropriate. On February 25, 2013, Regional Water Board staff met with CAL FIRE staff to discuss NTO completion inspections and Forest Practice Rules (FPR) requirements for landowners during the prescribed maintenance period. On March 13, 2013 Regional Water Board staff held a focus group meeting consisting of representatives of CAL FIRE, RPFs, landowners, and environmental groups to discuss and provide input on proposed revised waiver conditions. Among other points of agreement, which have been incorporated into the proposed Order, focus group participants concluded that establishing general WDRs for NTMPs, which unlike waivers of WDRs, do not require renewal within 5 years, would be more consistent with the long term planning horizon inherent in NTMPs and associated ECPs. Accordingly, proposed Order R1-2013-0005 (the *NTMP WDR*) establishes WDRs, which retain the substantive elements of the January 8, 2013 draft NTMP Waiver, particularly the two tiered structure, and establishes specific and general requirements for discharge that are equivalent to what were specific and general conditions of the draft Waiver.

Revised conditions require an inspection prior to completion of an NTO and annual inspections during the erosion control maintenance period, and specify that inspections conducted pursuant to FPR requirements, including CAL FIRE completion and maintenance inspections, can satisfy these inspection needs. In addition, specific Tier B conditions were revised to ensure that ECPs are maintained as necessary to function as long term tools to control sediment discharge from NTMPs in accordance with the Basin Plan and Porter-Cologne Water Quality Control Act.

Written responses to comment letters on draft Order No. R1-2013-0005 received between January 8, 2013 and February 11, 2013 were included in the agenda for the May 2, 2013 Board meeting and made available to the public by email subscription list and posted on our web site at the following URL on April 18, 2013:

http://www.waterboards.ca.gov/northcoast/board_info/board_meetings/05_2013/

The revised Order was made available for public review on March 28, 2013 and the period to comment on the proposed changes made to the January 8, 2013 draft Order prior to the proposed May 2, 2013 adoption hearing began on March 28, 2013 and ended on April 29, 2013. The Regional Water Board received 4 comment letters on proposed changes made to Order No. R1-2013-0005 between March 28, 2013 and April 29, 2013.

Comments received during the March 28 – April 29, 2013 Comment Period

Alan Levine, Coast Action Group	April 25, 2013
Lisa Weger, NTMP Landowner	April 25, 2013
Matt Greene, California Licensed Foresters Association (CLFA)	April 26, 2013
Jack Rice, California Farm Bureau (CFB)	April 29, 2013
Bill Snyder, CAL FIRE	April 29, 2013

Substantive comments received during the comment period are summarized below, followed by Regional Water Board Staff response. Four of the comment letters expressed support for the proposed Order, although CLFA and California Farm Bureau qualify their support and suggest modifications described below. Comments on issues that were addressed in the first response to comments released April 18, 2013 are not addressed below.

Comment #1 – Hillslope sediment and unevenaged management

Comments from Matt Greene of the California Licensed Foresters Association (CLFA) and Alan Levine of Coast Action Group (CAG) both addressed the potential cumulative watershed effects of sediment discharge resulting solely from tree removal under various silviculture methods. Finding 11 in the draft NTMP WDR states: "It is generally thought that partial harvesting under uneven aged silviculture has a lower potential to result in adverse impacts to water quality than more intensive harvesting under evenaged management." CFLA argues that this statement is not adequately supported by scientific literature. CLFA's letter goes on the state that all of the literature they are aware of points to roads, watercourse crossings and skid trail as the primary source of sediment. CAG's letter states that hill slope sediment production from timber operations (tree removal) is a substantial factor in sediment production which the draft WDR fails to address.

Response: TMDLs throughout the North Coast Region point to logging roads as one of the most significant sources of anthropogenic sediment discharge. Staff understands the concept that a forest that is selectively harvested once every 10 years for 50 years could generate more sediment in the stream than a forest that is clearcut once every 50 years because of continuous impacts from road wear and tear, especially roads not well maintained. However, it is also likely that with selective entries every 10 years, landowners would evaluate and maintain their roads on a regular basis.

Overall, there is support for the general statement that partial harvesting is likely to result in less sediment production than more intensive tree removal. It would appear that the FPRs implicitly recognize this by including vegetative protective covering remaining after harvesting as one of four factors in the calculation of Erosion Hazard Rating (EHR) required

for every THP or NTMP. Higher levels of post-harvest vegetative cover as typically are typically remain following timber operations on NTMPs contributes to lower EHR values, indicating an inverse relationship between erosion hazard and post-harvest vegetation canopy.

Timber harvesting can also result in increased rates of shallow landslides on vulnerable slopes due to decreases in root strength and increased soil moisture (Reid and Keppeler, 2012). Tree roots can enhance the strength of shallow soils, increasing the soil's ability to resist failure. When trees are harvested, their roots gradually decay, reducing the reinforcement they provide and increasing the potential for shallow landslides. The loss of root strength gradually increases over a period of several years, with the critical period of maximum loss occurring approximately 5 to 15 years after harvesting (Ziemer 1981a). As new roots grow into the space previously occupied by the older roots system, the support they provide gradually increases. Loss of root strength varies with species and intensity of harvest. Partial harvesting of resprouting species such as redwood or tanoak is thought to minimize the degree and duration of the period of diminished root strength. This is due the fact that a significant portion of trees remain after harvesting and that the roots of those remaining trees do not die back completely after the tree is cut down.

Interception, evaporation, and evapotranspiration of rainfall by forest canopy can also reduce the volume of precipitation that infiltrates and remains in soils. Harvesting trees can therefore result in increased soil moisture and runoff, which can contribute to landsliding and increased erosion. Various studies (Lewis, 2003) (Reid and Lewis, 2007) (Pearse and Rowe, 1979) have found reductions in effective rainfall (the part of precipitation that reaches stream channels as runoff) over 20%, in harvested stands compared to unharvested stands, due to interception and evaporation of precipitation before it reaches the ground and removal moisture from the soil through evapotranspiration in unharvested stands. Zeimer (1981b) found only minor changes in peak flows following partial harvesting. Vulnerability to shallow landsliding processes varies throughout a hillslope, primarily as a function of soil depth, slope gradient, contributing drainage area, subsurface hydrology, and soil characteristics.

Regarding CAG's comment that the draft NTMP WDR does not adequately address hill slope sediment production from timber operations, staff disagrees. The linkage between hillslope harvesting and in-stream conditions is difficult to quantify. Many studies have been conducted to try to better understand the relationship between rate of harvesting and cumulative watershed effects, which result from a complex interaction of many different factors. Such factors include inherent watershed characteristics, such as geology and geomorphology; external natural processes such as climate and timing of stochastic events (i.e. large storms, earthquakes, fires); and type of management practices and extent of watershed area disturbed. The rate and intensity of harvest in a watershed is an important management variable. Several studies cite specific thresholds for the rate of harvest and associated disturbance, above which, cumulative impacts are likely to occur. Studies have linked specific processes to watershed impact, such as increased peak flows (Lisle et al. 2000, Lewis et al. 2001), landslide related sediment discharge (Reid, 1998), road density (Cedarholm et al. 1981, Gucinski et al. 2001, Trombulak et al, 2000), or clearcut equivalent acres (USDA Forest Service, 1974, Klein et al. 2011). Appropriate harvest rate thresholds presented in the scientific literature, expressed as watershed area harvested over time (typically percent per year or per decade), vary greatly. The report of the scientific review

panel on California Forest Practice Rules and salmonid habitat (Ligon et al, 1999) recommended harvest rates between 30% and 50% per decade, depending on site specific variables, harvesting prescriptions, past watershed disturbance, and other factors.

For NTMPs, increases in sediment related cumulative watershed effects from timber operations can largely be addressed by implementation of prevention and minimization measures as required by the proposed NTMP WDR including utilization of partial harvesting methods that retain a significant amount of forest canopy.

Comment #2 – Periodic Erosion Control Plan update

Section A(6)(a) of the proposed Order requires that the inventory of Controllable Sediment Discharge Sources be periodically updated at no greater interval than 2 years, regardless of whether an Notice of Timber Operations (NTO) is filed, unless another timeframe is approved by the Regional Water Board as warranted by site conditions. Comments from CLFA and CFB assert that 2 years is too frequent and would result in unnecessary additional costs to landowners and have proposed 5 to 10 years and in a year that a 50 year or return interval storm (or greater) occurs (CLFA) . In addition, the commenters stated that a full review of the ECP would be overly burdensome and request clarification of the scope level of detail necessary for the periodic evaluations.

Response: ECP requirements under Tier B have been clarified to ensure that ECPs are updated and maintained as needed to function as long term tools to control sediment discharge from NTMPs in accordance with the Basin Plan and Porter-Cologne Water Quality Control Act. Section A(6)(a) of the proposed Order provides landowners with the option to propose alternative timeframes. Since 2004, ECPs have been one of the primary mechanisms in Regional Water Board permits for discharges from timber harvesting in the North Coast Region, contributing to long term protection and restoration of the beneficial uses of water by identifying and correcting controllable sediment discharge sources. In recognition of the variability in site conditions and management approaches and the expense and effort required to implement corrective actions for a wide variety of legacy sites, ECPs provide landowners a great deal of flexibility to defer corrective action and propose a reasonable implementation schedule. However, it is preferable that control of sediment discharge not be deferred but be corrected in a timely manner. As such, Tier B of the proposed Order provides an incentive to do so; landowners who complete corrective action for all CSDS identified in the inventory would not be subject to the requirement to periodically update their ECP, so in effect, landowners can opt out of the requirement.

The periodic review of ECPs is not intended as a repeat of work already done originally in preparing the document. The original ECP would remain as the master document and periodic reviews by the landowner or RPF would confirm whether conditions had changed, and if so, whether any such changes would require corrective action or revision of the ECP pursuant to section A(6)(f).

Comment #3 – WDR implementation review

California Farm Bureau suggest that as the WDR is a new approach to regulating waste discharges on NTMPs, the Regional Water Board specifically set a time within one to two years for staff to report on how the Order is being implemented.

Response: Agreed. Regional Water Board staff has committed to conducting outreach to RPFs, landowners, and other reviewing agencies to provide guidance on the requirements of the Order, to track implementation, and report back to the Board within a year.

Comment #4 – ECP implementation schedule

California Farm Bureau comments that the statement in section A(6)(a) that, “it is anticipated that corrective action for individual sites will be implemented concurrent with the first NTO in the area,” should be clarified in that this only applies to sites within the NTO, or on road accessing the NTO, as opposed to when an NTO is merely nearby.

Response: In general, the FPRs require that prior to completion of timber operations under an NTO corrective action at sites within the NTO that could adversely impact beneficial uses of water must be implemented. Regional Water Board recognizes that the NTO is the primary mechanism initiating active operations, including implementation of corrective action, mobilization of equipment and personnel and generation of funds to conduct the work. The implementation schedule required under section A(6)(a)(ii) provides landowners with greater flexibility for larger or more complex sites that may require longer term planning, monitoring, or funding, including deferring implementation of corrective action at some sites beyond NTOs as warranted by site conditions. However, some sites may pose a significant and imminent threat to water quality and may require corrective prior to the landowner submitting an NTO. The language from section A(6)(a)(ii) cited above recognizes that the NTO as a starting point when considering implementation of corrective action, but is by no means absolute.

Comment #5 – CLFA asserts that the statement in Finding 9 of the proposed Order that WDRs are periodically reviewed creates regulatory uncertainty, which could discourage landowners from developing NTMPs for their timberlands.

Response: The Regional Water Board has revised the proposed NTMP permit to be a WDR, rather than a waiver of WDRs, in order to provide landowners with a long term permit that is more in line with the long term timeframe inherent in NTMPs and ECPs. The WDR relies in large part on the water quality protection provided on NTMPs by the FPRs. In the event that the FPRs are revised or the regulation of NTMPs is otherwise changed such that water quality protection is diminished or there is compelling evidence that the proposed permitting framework is not adequate to protect water quality, the Regional Water Board has the authority and obligation to fulfill its mandate to protect and restore the beneficial uses of water and would modify or revoke the proposed permit as warranted. This is no different from any other Regional Water Board permit that would be in effect as long as it serves its intended purpose.