

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2001 - 14

In the Matter of the Petition of
**PACIFIC LUMBER COMPANY
AND SCOTIA PACIFIC COMPANY LLC**

For Review of Monitoring and Reporting Order No. R1-2001-19
Issued by the
California Regional Water Quality Control Board,
North Coast Region

SWRCB/OCC FILE A-1380

BY THE BOARD:

I. INTRODUCTION

The North Coast Regional Water Quality Control Board (Regional Board) issued Monitoring and Reporting Order No. R1 2001-19 on March 28, 2001.¹ The order directs Pacific Lumber Company and Scotia Pacific Company LLC (hereinafter Pacific Lumber or petitioner) to conduct specified water quality monitoring in the South Fork Elk River watershed in the area of a proposed timber harvest known as the "Hole in the Headwaters" in Humboldt County. Pacific Lumber filed a petition with the State Water Resources Control Board (SWRCB) on April 25, 2001, asking the SWRCB to rescind the Regional Board order. Pending resolution of the petition, Pacific Lumber asked for an immediate stay of the Regional Board order.

¹ The Regional Board order was signed by the Assistant Executive Officer on behalf of the Regional Board's Executive Officer in accordance with a delegation of authority from the Regional Board pursuant to Water Code section 13223 and page 4-31.008 of the Water Quality Control Plan for the North Coast Region (Basin Plan). Unless otherwise noted, all references to actions of the Regional Board include actions of the Regional Board staff.

Following a hearing on May 17, 2001, the SWRCB entered an order denying Pacific Lumber's request for a stay. (SWRCB Order WQ 2001-09.) The SWRCB conditioned our denial of the requested stay upon the Regional Board not pursuing administrative civil liability for violations of the order provided that Pacific Lumber does not begin timber operations for Timber Harvesting Plan No. 1-97-520 HUM (hereinafter THP 520) pending our review of the petition on the merits. The SWRCB conducted an evidentiary hearing on the merits of Pacific Lumber's petition on June 25 and 26, 2001, and participating parties were allowed until August 24, 2001, to submit post-hearing legal briefs.

As discussed below, the SWRCB concludes that protection of water quality and beneficial uses of water in the Elk River watershed will require that Pacific Lumber conduct water quality monitoring and reporting that were not included as conditions of the California Department of Forestry and Fire Protection's (CDF) approval of the THP 520. Based on the evidence presented in the hearings before the SWRCB, however, we conclude that the water quality monitoring requirements specified in the Regional Board order should be modified in several respects pursuant to the findings and provisions of this order.² The background to this proceeding, the need for water quality monitoring in the area of THP 520, and the specific monitoring and reporting provisions required for protection of water quality are addressed below.

II. BACKGROUND

A. CDF Approval of Pacific Lumber Company's THP 520

The present dispute involves potential water quality impacts of timber operations on land that was acquired by Pacific Lumber Company in 1999 as one of several transactions

² The SWRCB regards the conclusions of this order to be precedential with respect to the authority of the SWRCB and Regional Water Quality Control Boards to require water quality monitoring and monitoring reports for timber harvest operations where appropriate. The need for monitoring and reporting requirements that may be established in a specific case will necessarily involve site specific considerations and other relevant facts.

related to the agreement to preserve the famous old growth Headwaters Forest property in Humboldt County. The land is located in the watershed of the South Fork Elk River, and the area in which the timber harvesting will occur includes several tributaries to the South Fork Elk River. The area was logged previously and most of the trees proposed to be harvested are approximately 55 to 75 years old. (Regional Board 28, p. 15.) An undesirable legacy of the previous logging is that the property includes a large number of substandard watercourse crossings that produce a significant amount of sediment that enters the South Fork Elk River and tributary streams. THP 520 includes provisions for removal of some of the crossings and for upgrading other watercourse crossings to current standards. CDF originally approved the timber harvesting plan for 720 acres on August 24, 1998, when the property involved was owned by the Elk River Timber Company. (Pacific Lumber 20.)³

The Regional Board comments on THP 520, as originally proposed by Elk River Timber Company, recommended a cooperative stream monitoring program in which the monitoring protocols, techniques, and monitoring locations would be chosen by the landowner in cooperation with interested parties. Among the interested parties specified in the Regional Board's February 6, 1998, comments was Elk River resident Kristi Wrigley who testified in support of the Regional Board order at the hearing before the SWRCB. (Regional Board, p. 8.) The forester who responded to comments on behalf of Elk River Timber Company in 1998 agreed that a cooperative monitoring program should be established, stated that the company had been in contact with Ms. Wrigley, and said the company was investigating different protocols,

³ Citations to exhibits in the record are given by the name or abbreviation of the party who submitted the exhibit, followed by the page number or other location within the exhibit where the information is located. Citations to the reporter's transcript of the hearing on June 25 and 26, 2001, are indicated by the letters "R.T." followed by the beginning page and line number of the cited information, and the ending page and line number of the cited information. Citations to the transcript of the May 17, 2001 hearing on the request for a stay include the date of the hearing after the letters "R.T."

equipment, and methods. The company's response to comments asked that the Regional Board be available for technical and scientific support and stated the monitoring proposal must be designed with the premise that it continue for a minimum of 10 years. The company's response also stressed the need for rigorous standards in data collection, quality control, and analysis and use of field-tested protocols. (Pacific Lumber 18, pp. 9 and 10.)⁴

Following approval of THP 520 as initially proposed, the Elk River Timber Company sold the property to Pacific Lumber in 1999. (Pacific Lumber 21.) Pacific Lumber proposed a number of amendments to THP 520, including Amendment No. 5 dated October 5, 2000. (Pacific Lumber 26.) Amendment No. 5 revises THP 520 in several respects including: (1) changing the method of yarding from tractor/ground-based and cable yarding to "helicopter only" yarding;⁵ (2) addition of one existing, permanent appurtenant road; (3) changes needed to comply with current watercourse protection provisions of state law; (4) limitations on heavy equipment access; and (5) addition of specified winter operations including falling, helicopter yarding, and hauling on permanent rocked roads at least 48 hours after rainfall.⁶ For reasons that are not entirely clear from the record, the cooperative relationship among the landowner, nearby residents, and the Regional Board appears to have changed following acquisition of the property by Pacific Lumber.

Regional Board staff participated in the review of Amendment No. 5 to THP 520 and recommended specified water quality monitoring measures. (Regional Board 19.) Among

⁴ The company's support for a cooperative monitoring project was conditioned upon not being "precluded by involvement in lawsuits or government restriction from continuing the project at any given time." (Pacific Lumber 18, p. 10.)

⁵ "Yarding" refers to the movement of cut trees to a landing area from which the trees are loaded on a truck.

⁶ Some of the changes to THP 520 specified in Amendment No. 5 were specified previously in Amendment No. 2, but were included again in Amendment No. 5 due to litigation regarding CDF's previous approval of Amendment No. 2. (Pacific Lumber 26, p. 3.)

the concerns cited by the Regional Board were the large size of the plan, the geology and highly erosive soils in the area, discharge of sediment associated with the removal of a large number of watercourse crossings, the addition of winter operations, and the lack of an updated cumulative impacts analysis since 1997 in view of more recent changes in the watershed.⁷ The Regional Board letter discussed beneficial uses of the Elk River watershed that could be adversely affected by THP 520 (particularly coho salmon habitat and domestic water supplies) and discussed provisions in the Water Quality Control Plan for the North Coast Region (Basin Plan) relevant to the protection of the beneficial uses specified in the plan. (Regional Board 19, pp. 4 -7.) In addition, the letter cited provisions of the Forest Practice Rules applicable to protection of domestic water supplies. (Cal. Code Regs., tit. 14, § 916.10.) The Regional Board letter also responded to CDF's replies to previous Regional Board recommendations regarding specific measures needed to protect water quality. The letter concluded by stating that the Regional Board did not concur with the recommendation to approve Amendment No. 5 to THP 520 because there was no updated cumulative impacts assessment for the project, there was no evaluation of current watershed conditions, THP 520 had an inadequate surface water monitoring program, and there was no project-specific turbidity monitoring or plan for timely implementation of erosion control measures to remedy increased turbidity. (Regional Board 19, p. 13.)

The CDF response to the water quality concerns raised by the Regional Board indicates that CDF's focus at the time of reviewing Amendment No. 5 to THP 520 was on the changes proposed in the amendment, rather than on reevaluating water quality impacts of THP 520 as a whole. A March 5, 2001 letter from the CDF Review Team Chairperson explains

⁷ The changes in the watershed cited in the Regional Board's January 9, 2001 letter to CDF included the filing of four additional timber harvesting plans in the watershed, the worsening of sediment conditions impacting downstream residents since 1997, and the identification of additional sources of sediment that were not addressed in the original THP. (Regional Board 19, p. 4.)

that an approved THP was already "operable" without the water quality monitoring being proposed by the Regional Board. Because CDF expected that the amendments to the plan under consideration would reduce overall water quality impacts from what would have been expected under THP 520 as previously approved, CDF did not adopt the Regional Board's recommendations for increased water quality monitoring as a condition of approval of the amendment. (Pacific Lumber 31.) CDF approved Amendment No. 5 on March 6, 2001. (Pacific Lumber 32.)

Following approval of the amended THP without the recommended water quality monitoring requirements, the Regional Board filed a request dated March 12, 2001, for the SWRCB to appeal CDF's approval pursuant to the provisions of Public Resources Code section 4582.9. (Regional Board 20.) The SWRCB took no action on the appeal requested by the Regional Board within the 10-day period allowed by statute to file an appeal with CDF.

B. Regional Board Monitoring and Reporting Order

Water Code section 13267 authorizes Regional Water Quality Control Boards to require monitoring reports from any person who discharges, has discharged, is suspected of discharging, or who proposes to discharge waste that could affect water quality. On March 28, 2001, the Assistant Executive Officer of the Regional Board issued Monitoring and Reporting Program Order No. R1-2001-19 pursuant to the Regional Board's authority under section 13267.

The Regional Board order requires Pacific Lumber to incorporate specified water quality monitoring measures into its current long-term trend monitoring program for the Elk River prior to commencing timber operations pursuant to THP 520. The order also requires that a monitoring station be added in the lower portion of the South Fork Elk River drainage to monitor for stream discharge, temperature, suspended sediment, and turbidity. In addition, the Regional Board order requires establishing new monitoring stations on the South Fork Elk River

immediately upstream and downstream of THP 520 and at three locations on tributaries to the South Fork Elk River. The Regional Board order requires a detailed monitoring program to develop ambient (pre-project) water quality data, as well as "background" water quality data on a similar stream. After determining ambient conditions, the order requires petitioners to monitor streamflow, suspended sediment, turbidity, and temperature at each location and provide reports to the Regional Board pursuant to subdivision (b) of Water Code section 13267. Finally, the Regional Board order requires monitoring for turbidity upstream and downstream of 10 watercourse crossing sites.

By letter dated March 28, 2001, the Regional Board Assistant Executive Officer advised Pacific Lumber that "due to the impaired condition of the South Fork Elk River, any discharge or threatened discharges from timber harvest activities that are not reasonably controlled in the SFER watershed are considered to be quantities deleterious to the beneficial uses of SFER and its tributaries in violation of the Basin Plan prohibitions." The letter went on to explain that the water quality monitoring required by the Regional Board order was "needed to assure that discharges from [THP 520] comply with Basin Plan objectives and prohibitions, to assure that discharges do not impede recovery of the watershed, and to identify and address discharges of sediments to receiving waters in a timely manner." (Regional Board 19.)

C. Petition for Review Filed by Pacific Lumber

The petition for review filed by Pacific Lumber argues on several grounds that the Regional Board lacks the legal authority to require additional water quality monitoring for timber operations under THP 520. The petition also claims that there is no substantial evidence to justify the water quality monitoring and reporting requirements in the Regional Board order and that the water quality objectives which the order is intended to enforce are too vague and uncertain to be enforced. In addition, the petition asserts that the Regional Board order violates

the prohibition on impairment of contracts in the state and federal constitutions, breaches the agreement for purchase of the Headwaters Forest, singles out Pacific Lumber for selective prosecution in violation of its right to equal protection, and violates Pacific Lumber's rights to procedural and substantive due process. The issues raised in the Pacific Lumber petition are addressed in Sections III. through VI. below.

D. Proceedings Before the SWRCB

Following the hearing on May 17, 2001, SWRCB Order WQ 2001-09 denied Pacific Lumber's request for a stay based on the finding that the petitioners had not met their burden of proving the conditions required for issuance of a stay. (Order WQ 2001-09, p. 4, Cal. Code Regs., tit.23, § 2053.) The SWRCB conducted the evidentiary hearing on the merits of Pacific Lumber's petition on June 25 and 26, 2001, in accordance with the hearing notice dated May 25, 2001, and the procedures established at a pre-hearing conference. In addition to Pacific Lumber and the Regional Board, witnesses from CDF, the California Forestry Association, the Environmental Protection Information Center (EPIC), and the Elk River Residents Group⁸ presented evidence regarding the subjects addressed in the Regional Board order and Pacific Lumber's petition.⁹ Pacific Lumber, the Regional Board, EPIC, and the Elk River Residents Group submitted post-hearing briefs on legal and evidentiary matters related to the petition.¹⁰ The legal and factual issues raised by the petition are addressed below.

⁸ A group of landowners and residents of the Elk River watershed participated in the hearing under the designation of Elk River Residents Group.

⁹ The SWRCB also provided an opportunity for presentation of non-evidentiary policy statements by interested persons who did not participate in the evidentiary portion of the hearing.

¹⁰ Following the hearing, counsel for the Elk River Residents Group filed a request for the SWRCB to take official notice of a report by the University of California Committee on Cumulative Watershed Effects titled "A Scientific Basis for the Prediction of Cumulative Watershed Effects" (dated June 2001). Pacific Lumber filed a written objection to the Elk River Residents' request. In this instance, augmentation of the record to include the report would require reopening the record to provide an opportunity for other parties to refute information in the report. There is sufficient information in the record for the SWRCB to conclude that there is a need for additional water quality
[footnote continued next page]

III. AUTHORITY TO REQUIRE WATER QUALITY MONITORING

A. California Water Code Provisions

General state policy toward protection of water quality is set forth in Water Code section 13000 which provides in part:

“The Legislature finds and declares that the people of the state have a primary interest in the conservation, control, and utilization of the water resources of the state, and that the quality of all waters of the state shall be protected for use and enjoyment by the people of the state.

“The Legislature further finds and declares that activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.”

Water Code section 13240 provides that each of the nine Regional Water Quality Control Boards is to adopt a water quality control plan for all areas within the region. The water quality control plans specify the beneficial uses of various water bodies within the region and establish water quality objectives to protect those beneficial uses. (Wat. Code § 13241.) Water Code section 13263 authorizes the Regional Boards to issue waste discharge requirements to implement adopted water quality control plans. Water Code section 13267 provides that a Regional Board may require that any person who has discharged, currently discharges, is suspected of discharging, or who proposes to discharge waste shall furnish technical or monitoring program reports. The Water Quality Control Plan for the North Coast Region (Basin Plan) delegates the authority to require information under section 13267 to the Regional Board staff. (Regional Board Exh. C, p. 6, citing Basin Plan section 4-31.008.) Information that is required to be provided under Section 13267 is subject to the requirement that “[t]he burden,

monitoring in the South Fork Elk River and the additional information in the University of California report would not change that conclusion. Therefore, the request to take official notice of the report is denied.

including costs of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.”

In reviewing a water quality monitoring and reporting order entered by a Regional Water Quality Control Board pursuant to section 13267, the SWRCB first must determine if the party to whom the monitoring order is directed has discharged, is discharging, is suspected of discharging, or proposes to discharge waste. If so, the SWRCB must then examine if the burden, including costs of preparing the required monitoring reports, bears a reasonable relationship to the need for the report and the benefits to be obtained. If the SWRCB determines that the Regional Board order is inappropriate in some respect, it may remand the action to the Regional Board, refer the matter to another state agency with jurisdiction, or take appropriate action itself. In reviewing a water quality monitoring and reporting order of a Regional Board, the SWRCB is vested with all the powers of the Regional Board under Division 7 of the Water Code. (Wat. Code § 13320(c).)

The Pacific Lumber petition argues at some length that “[t]o the extent the [Regional Board] order is directed at existing conditions on the landscape not related to timber harvesting to be conducted pursuant to THP 520, the Order is an unprecedented attempt by the Regional Board to further regulate landowners” in excess of statutory authority. (Pacific Lumber Petition, pp. 26-29.) The short answer to Pacific Lumber’s concern is that neither the Regional Board order, nor this order, is directed at regulating existing conditions on the landscape not related to timber harvesting and other activities proposed in THP 520. Both orders address the fact that Pacific Lumber’s proposed timber harvesting in the South Fork Elk River watershed will result in discharges of sediment to a watercourse that is already classified as being adversely impacted by sediment. This order upholds the authority of the Regional Board to issue water quality monitoring and reporting orders, but revises the requirements of Order No.R1-2001-19

based on our review of the evidentiary record. In the absence of THP 520, neither the Regional Board's order, nor the revised requirements established in this order, would apply to Pacific Lumber's passive ownership of land.¹¹

B. The Z'berg-Nejedly Forest Practice Act

1. The Forest Practice Act and Related Regulations Do Not Prevent Issuance of a Water Quality Monitoring and Reporting Order

The Z'berg-Nejedly Forest Practice Act was intended to create a comprehensive system for regulation and use of timberlands that promotes sustained productivity of timberlands and gives consideration to various other values including recreation, wildlife, grazing, fisheries, economic vitality, employment, and aesthetic enjoyment. (Pub. Resources Code § 4513.)

Although the act provides for regulation of most aspects of timber operations by CDF and the Board of Forestry, Public Resources Code section 4514 expressly provides:

"No provision of this chapter or any ruling, requirement, or policy of the board is a limitation on any of the following:

- (a) On the power of any city or county or city and county to declare, prohibit, and abate nuisances.
- (b) On the power of the Attorney General at the request of the board, or upon his own motion, to bring an action in the name of the people of the State of California to enjoin any pollution or nuisance.
- (c) On the power of any state agency in the enforcement or administration of any provision of law which it is specifically authorized to enforce or administer.
- (d) On the right of any person to maintain at any time any appropriate action for relief against any private nuisance as defined in Part 3 (commencing with Section 3479) of Division 4 of the Civil Code or for any other private relief."

¹¹ Because the water quality monitoring required under this order is due to potential adverse water quality impacts of Pacific Lumber's proposed timber operations, this order need not address the subject of water quality monitoring where adverse water quality impacts are due solely to activities of a previous property owner.

As discussed above, Water Code section 13267 authorizes Regional Water Quality Control Boards to require any person who is discharging or who proposes to discharge wastes to submit water quality monitoring reports. Public Resources Code section 4514 provides that the Forest Practice Act does not limit the power of any state agency to enforce or administer any provision of law that it is specifically authorized to enforce or administer. Thus, the Regional Board's authority to require water quality monitoring reports is not reduced due to the regulatory roles of the Board of Forestry and CDF over timber operations.¹²

With respect to regulation of discharges affecting water quality, Public Resources Code section 4514.3 provides:

- “(a) Timber operations conducted pursuant to this chapter are exempt from the waste discharge requirements of article 4 (commencing with Section 13260) of Division 4 of the Water Code; provided that there is a certification by the federal Environmental Protection Agency that the provisions of this chapter constitute best management practices for silviculture pursuant to Section 208 of the Federal Water Pollution Control Act.
- “(b) The exemption contained in subdivision (a) shall not apply when any of the following occurs:
 - (1) The board requests issuance of waste discharge requirements.
 - (2) There has been a finding by the State Water Resources Control Board that the board has failed to maintain a water quality regulatory process consistent with the certification under subdivision (a).
 - (3) After monitoring the water quality impacts from timber operations conducted in compliance with this chapter, there has been a finding by the State Water Resources Control Board that compliance with best management practices would result in less water quality protection than required in water quality control plans approved pursuant to Section 13245 of the Water Code.”

¹² Prior to the current dispute, Pacific Lumber acknowledged that the Regional Board “is the state agency charged with the responsibility to ensure compliance with the Porter-Cologne Water Quality Control Act and corresponding state and federal laws and regulation.” (Regional Board 38, p. 1.)

The potential statutory exemption of timber operations from complying with the Water Code provisions governing issuance of waste discharge requirements does not currently apply because the U.S. Environmental Protection Agency (U.S. EPA) has not certified that California's Forest Practice Rules constitute best management practices. (Regional Board 34.) To the contrary, in a letter to the SWRCB dated June 20, 2001, the Director of the Water Division of U.S. EPA Region 9 states that U.S. EPA has been concerned about the lack of monitoring associated with timber harvesting for many years and that the lack of adequate monitoring and assessment is one reason that U.S. EPA has not certified the Forest Practice Rules as best management practices. The Regional Board order presently at issue is limited to requiring various water quality monitoring and reporting. However, if future information and circumstances establish a need for issuance of waste discharge requirements, Public Resources Code section 4514.3 would not preclude issuance of those requirements.¹³

In addition, subdivision (b)(3) of section 4514.3 expressly recognizes that information obtained through water quality monitoring of timber operations may be relevant to determining future water quality protection actions that may be taken by the SWRCB. Thus, section 4514.3 cannot reasonably be interpreted to preclude the type of water quality monitoring required by the Regional Board or this order.

2. The 1988 Management Agency Agreement Among the SWRCB, CDF, and the Board of Forestry Does Not Prohibit Issuance of a Water Quality Monitoring and Reporting Order

¹³ Pacific Lumber argues that the Regional Board order at issue is, in effect, a waste discharge requirement and therefore, precluded by Public Resources Code section 4514.3 (Pacific Lumber Petition, pp. 17 and 18.) Our response to this is twofold. First, a monitoring and reporting order under Water Code section 13267 is not a waste discharge requirement. Simply requiring information to be provided about water quality is clearly different than establishing the requirements that govern discharges of waste under Water Code section 13263. Second, as discussed above, the restriction on issuance of waste discharge requirements for timber harvest plans would come into play only if U.S. EPA had certified the Forest Practice Rules as constituting Best Management Practices, which it has not.

Based on the assertion that the Regional Board order is a waste discharge requirement, Pacific Lumber argues that the Regional Board order is contrary to the requirements of the 1988 Management Agency Agreement among the SWRCB, CDF, and the Board of Forestry. The agreement states that the Forest Practice Rules, the process by which those rules are promulgated and implemented, and the provisions of the agreement itself constitute a water quality management plan for control of non-point source pollution from timber operations on nonfederal lands. (Regional Board 32, p. 5.) Pacific Lumber cites language from the agreement that, "upon EPA approval" of the specified water quality management plan, the SWRCB agrees to direct Regional Boards to cease issuance of waster discharge requirements for timber operations on nonfederal lands, except as provided in Public Resources Code section 4514.3. (Regional Board 32, pp. 4 and 5.)

In view of the fact that U.S. EPA has not certified the Forest Practices Rules and related procedures as best management practices, the potential limitations in the Management Agency Agreement concerning issuance of waste discharge requirements do not apply. Moreover, it bears repeating that a water quality monitoring and reporting order issued pursuant to Water Code section 13267 is not a waste discharge requirement and is not subject to potential restrictions regarding issuance of waste discharge requirements.¹⁴ With the exception of the provision regarding issuance of waste discharge requirements, the Management Agency Agreement expressly provides that:

"Nothing herein shall be construed in any way as limiting the legal authority or responsibility of the Water Board or Regional Boards in

¹⁴ Pacific Lumber also asserts that the Regional Board order is improper because, under Water Code section 13267(a), only a Regional Board, not its Executive Officer, is authorized to impose waste discharge requirements. There is no such restriction, however, on issuance of monitoring and reporting orders. In this instance, the Basin Plan specifically delegates the Regional Board's authority under Water Code section 13267(b) to its staff.

carrying out their mandates for control of pollution and protection of the quality and beneficial uses of the State's waters."

In view of the express language that the agreement does not limit the authority of the SWRCB or Regional Boards, the Management Agency Agreement cannot reasonably be construed as a limitation on the boards' statutory authority to require water quality monitoring and reporting pursuant to Water Code section 13267.¹⁵

C. Government Code Section 51115.5 Does Not Exempt Timber Operations From Filing Water Quality Monitoring Reports

Subdivision (a) of Government Code section 51115.5 provides that timber operations within a timber production zone pursuant to the Forest Practice Act shall not constitute a public or private nuisance. Pacific Lumber argues that section 51115.5(a) "operates to bar the Regional Board from issuing the Order, as it is designed to abate alleged public nuisance." (Pacific Lumber Petition, p. 20.) Once again, Pacific Lumber's argument is based on construing the Regional Board order to be something that it is not. A water quality monitoring and reporting order is not a nuisance abatement action nor is it premised upon an assumption that a nuisance exists. Rather, it is simply a means of obtaining information about water quality in instances where a person or entity has discharged waste, currently discharges waste, is suspected of discharging waste, or proposes actions that will result in a discharge.

Pacific Lumber recognizes that, under subdivision (b) of Government Code section 51115.5, the limitation on nuisance liability established in section 51115.5(a) does not apply "to any timber operation which (1) endangers public health or public safety or (2) prohibits the free passage or use of any navigable lake, river, bay, stream, canal, or basin or any public

¹⁵ The attachments to the Management Agency Agreement identify numerous subjects that the signatories agreed would need further evaluation and development. Those subjects include "evaluation of cumulative watershed effects" and determination of appropriate procedures to provide for cooperative monitoring studies. (See Attachments A, F, and H). Thus, the Management Agency Agreement recognizes the need for monitoring and evaluation of cumulative effects of timber operations.

park, street, or highway.” (Pacific Lumber Petition, p. 21.) Water quality monitoring information obtained pursuant to Water Code section 13267 may very well establish if a waste discharge presents a danger to public health or safety. If so, the exemption from nuisance liability under section 51115.5(a) would not apply. However, if section 51115.5 were interpreted as precluding issuance of a water quality monitoring order as asserted by Pacific Lumber, it may be impossible to obtain the information needed to determine if the nuisance liability exemption applies.

Similarly, in the absence of monitoring, it may be impossible to determine if a timber operation is being carried out in accordance with the provisions of the Forest Practice Act (including the conditions of an approved timber harvesting plan) that give rise to the exemption from nuisance liability.

Under certain specified conditions, Government Code section 51115.5(a) eliminates a legal remedy for public or private nuisance that might otherwise be available to persons challenging timber operations. The statute does not restrict the separate and independent statutory authority of the Regional Board and the SWRCB to require water quality monitoring and reporting information pursuant to Water Code section 13267.

D. Conclusions Regarding Authority to Require Water Quality Monitoring

Water Code section 13267 authorizes the Regional Board to require Pacific Lumber to furnish water quality monitoring reports in order to investigate effects on water quality associated with the discharge and proposed discharge of sediment and other waste due to timber operations and related activities under THP 520. The authority to require water quality monitoring reports under section 13267 is not restricted by the Forest Practice Act or by Government Code section 51115.5. In response to a petition for review of a Regional Board water quality monitoring order, the SWRCB examines if the burden of the order bears a reasonable relationship to the need for the information and the benefits to be obtained. Based on

its review, the SWRCB may take a number of actions including denial of the petition, remanding the matter to the Regional Board, or entering an order of the SWRCB addressing the subjects of the Regional Board order. (Wat. Code § 13320(c).)

IV. NEED FOR WATER QUALITY MONITORING

A. The Elk River Is Presently Listed as Impaired for Sediment (Clean Water Act § 303(d))

In 1997, the Regional Board classified the Elk River as an impaired water body due to excess sediment pursuant to the provisions of section 303(d) of the federal Clean Water Act. (R.T. 35:23-36:3; Regional Board 37, p. 4.) Adverse effects of excess sediment identified by the Regional Board include impaired irrigation water quality, impaired water quality of domestic water supplies, impaired spawning habitat for anadromous fish, and the increased frequency and depth of flooding due to sediment. The sources of the excess sediment identified under the section 303(d) listing include silviculture, logging road construction and maintenance, removal of riparian vegetation, streambank modification and destabilization, and erosion and siltation.¹⁶ By letter dated March 2, 1998, CDF advised landowners in the Elk River watershed that CDF also deemed the Elk River to be “significantly adversely impacted due to sediment.” (EPIC Exh. G.) By letter dated January 21, 1999, CDF advised Pacific Lumber that CDF was concerned that residents in the Elk River watershed were “experiencing an increased rate of flooding and sedimentation that corresponds with the current cycle of logging.” (EPIC Exh. A4.)

B. Past Water Quality/Erosion Problems in North Fork Elk River

Pacific Lumber has conducted extensive timber operations in recent years in the North Fork Elk River watershed. Evidence concerning events in the North Fork watershed is relevant to evaluating the need for water quality monitoring in the adjoining watershed of the

¹⁶ See 1998 California 303(d) List and TMDL Priority Schedule, available at http://www.swrcb.ca.gov/rwqcb1/program_information/tmdl/impairedwaterbodies.html.

South Fork Elk River. The Regional Board presented evidence concerning the degradation of the North Fork Elk River watershed and its tributaries due to the discharge of earthen material and organic debris from Pacific Lumber's timber operations. (e.g. R.T. 32:15-33:2.) In the 10 years preceding the classification of the Elk River as an impaired water body, Pacific Lumber conducted timber operations on approximately 38 percent of the North Fork Elk River watershed at an average rate of approximately 504 acres per year. That represented approximately a 700 percent increase over the 72 acres per year of timber harvested in the watershed during the previous decade. (R.T. 5/17/01, 31:17-32:4.) Following the increased rate of timber harvests, several large landslides occurred within the watershed.

Pacific Lumber submitted evidence that above-average precipitation contributed to the increase in landslides. (Pacific Lumber 65, p. 30.) While precipitation undoubtedly can influence landslides, the record shows a correlation between landslides and areas that were recently logged. The area of the North Fork Elk River watershed is approximately 14,400 acres. (Regional Board Exh. A, p. 2.) Evidence from Pacific Lumber shows that 2,616 acres were logged from 1994 to 1997. Of the 43 landslides that occurred from 1994 to 1997, 24 occurred on areas harvested during that period. (Pacific Lumber 43, pp. 18, Table 1 and p. 33.)¹⁷ Thus, although less than 20 percent of the watershed was logged during the 1994-1997 period, Pacific Lumber's report shows that approximately 55 percent of the landslides in that period occurred in recently logged areas. The landslides caused increased sediment in the river and adversely impacted recreation, fish habitat, domestic water supplies, and agricultural water supplies. (R.T. 5/17/01, 31:17-32:15.) Twelve homes in the North Fork Elk River watershed that

¹⁷ The report on sediment sources and reduction prepared for Pacific Lumber also shows that, during the period from 1994 to 1997, the timber harvest rate was more than double the rate for five previous periods since 1954, and the rate of landslides per year increased by more than 300 percent. (Pacific Lumber 43, p. 18, Table 1, "Land management and landslide rates for six photo periods, North Fork Elk River.")

previously obtained water for domestic use from the river are now dependent upon water trucked in from other sources. (R.T. 5/17/01, 32:16-32:22.)

Regional Board Cleanup and Abatement Order No. 98-100 addresses in detail the adverse impacts upon watercourses in the North Fork Elk River watershed from timber operations conducted by Pacific Lumber. Order No. 98-100 cites the reports from residents of significant deterioration of water quality in water used for domestic purposes since 1993 due to increased sedimentation. The order notes that CDF identified 51 violations of the California Forest Practice Rules for timber harvest operations within the North Fork Elk River watershed by the specified dischargers.¹⁸ The order also states that the conditions cited by CDF caused violations or threatened violations of the waste discharge prohibitions of the Basin Plan. (Regional Board 37.)

The problems in the North Fork Elk River watershed referred to by the Regional Board are consistent with testimony presented by the Elk River Residents Group and with statements in letters to the Regional Board from other Elk River property owners and residents. (Regional Board Exh. A, p. 5.) A long-time resident, who owns property on the North Fork Elk River and at the confluence of the North and South Forks of Elk River, testified about changes that occurred in North Fork Elk River in the 1990s following large-scale logging in the watershed by Pacific Lumber. The problems included deterioration of water quality and increased flooding due to sedimentation. Reaches of the river that once contained deep rock-filled pools now are filled with mud, and portions of her orchard are flooded with mud. As one who previously

¹⁸ Cleanup and Abatement Order No. 98-100 was issued to Scotia Pacific Holding Company and Pacific Lumber Company, both of whom were identified as dischargers and ordered to take corrective abatement actions. The timber operator identified in the order is Pacific Lumber. Pacific Lumber's petition for review of Order No. 98-100 was dismissed pursuant to a stipulated agreement with the Regional Board that provides Pacific Lumber's compliance with Order No. 98-100 does not constitute an admission of liability or responsibility for circumstances or events giving rise to the order. (Regional Board 38.)

waded, swam, fished, and drank the water of the Elk River, the resident testified to her disappointment in the deteriorating water quality in recent years. (R.T. 5/17/01, 79:12-84:6.)

A second long-time resident testified that even though individual timber harvesting plans have been said to have "no significant effects," the cumulative effects of many separate timber harvests have been very significant. When Elk River residents contacted public agencies regarding deterioration of the stream, they were repeatedly asked for data, measurements, and pictures of conditions before the deterioration occurred. Having not anticipated what occurred, the residents did not have the requested "baseline" information. Based on that experience, the witness stressed the need for water quality monitoring. The witness confirmed the testimony of his neighbor regarding deterioration of the North Fork Elk River and expressed concern that the same thing could happen on the South Fork. (R.T. 5/17/01, 84:13-88:6.)¹⁹

Despite the evidence of damage to the North Fork Elk River due to past timber operations, Pacific Lumber's primary witness testified "we don't agree that bad things have happened in the North Fork." (R.T. 118:3-18:9.) The witness then went on to say that there have been numerous changes in the way that Pacific Lumber has managed its lands so "[t]he future will look different for us." (R.T. 118:9-118:11.) Pacific Lumber and CDF presented testimony regarding the improved practices that are to apply under THP 520 as compared to what was done in the North Fork Elk River watershed. If fully implemented, the improvements should reduce some of the problems caused by previous timber operations. Nevertheless, the damage to

¹⁹ The witness also testified that the increased sediment in the Elk River has buried clam beds at the mouth of the river under a foot of sediment. The witness summed up the adverse changes he has experienced as a long-time resident along the North Fork Elk River as follows: "We have lost our water, our domestic water, our agriculture water. Our kids have lost their fishing. The kids have lost their swimming holes. All of these things are of value. They involve the beneficial use of water." (R.T. 5/17/01, 87:12-87:23.)

beneficial uses of water due to timber operations in the adjoining watershed provides evidence of the need for additional water quality monitoring of timber operations in the South Fork Elk River watershed. Despite recent changes in timber harvesting methods, the fact that Pacific Lumber has received numerous citations for violations of Forest Practices Rules provides an additional reason for water quality monitoring.

C. Potential Water Quality Impacts of Timber Operations in South Fork Elk River Watershed

Pacific Lumber has submitted timber harvesting plans for approximately 1600 acres of the approximately 13,100 acres in the South Fork Elk River watershed. THP 520 covers 720 acres of second growth timber surrounded by Headwaters Forest Reserve boundary that was established in 1999. (Regional Board Exh. A.) The area covered by THP 520 contains several tributaries to the South Fork Elk River, and the soils in the plan area are highly erosive.

(R.T. 5/17/01, 34:17-34:23; Regional Board 6.)

CDF presented testimony that the changes incorporated into THP 520 as amended should reduce adverse water quality effects of the timber operations from what would be expected under the plan as originally proposed. The beneficial changes include the shift to helicopter yarding mentioned previously and increased stream protection zones in which logging would not occur within 100 feet of Class II watercourses. (R.T. 173:2-173:13; 174:15-174:23.)

In addition to the potential for erosion and sediment from cutting trees and moving logs, the area of THP 520 contains numerous old substandard watercourse crossings. Pacific Lumber presented testimony at the May 17, 2001 hearing that it "no longer needed to use the road system" but that Pacific Lumber had "voluntarily agreed" to repair 68 watercourse crossings. (R.T. 5/17/01, 17:3-17:9.) Subsequent testimony clarified that, of the 56 watercourse crossings that Pacific Lumber's consultant studied for sediment problems, 15 crossings are to be completely removed, 33 road crossings on the main roads will be upgraded and improved to

current standards, and 8 other crossings will require minor work. (R.T. 397:1-398:21.) Although the evidence on the precise numbers of watercourse crossings to be removed, replaced, or repaired remains unclear, the testimony indicates that at least 33 of the crossings are to be replaced or repaired and "maintained as part of [Pacific Lumber's] management roads for that area." (R.T. 397:22-398:12.)

Testimony from several witnesses supports the conclusion that, in the long term, the repair, replacement, or removal of substandard watercourse crossings should substantially reduce the total amount of sediment discharged to the stream. However, both Pacific Lumber and CDF recognize that the proposed repair or replacement of substandard watercourse crossings can result in at least a short-term increase in sediment discharge to the stream, particularly during the first winter after the work is done. (Pacific Lumber 67, pp. 8 and 11.) Testimony from the Regional Board highlighted the fact that, in many instances, Pacific Lumber's watercourse crossing plans do not involve decommissioning of existing crossings and roads. Rather, in many instances, the crossings will be put back in and may continue to cause erosion problems in the future. (R.T. 477:12-479:3.)

The Regional Board also presented testimony from a registered professional forester with extensive experience in stream restoration projects about his concern that THP 520 proposed extensive work within several channels using heavy equipment for removal or replacement of 68 watercourse crossings during a single summer.²⁰ He testified that removing or

²⁰ The statement of qualifications for David Graham Hope states that the witness is a "Registered Professional Forester and a Certified Erosion And Sediment Control Specialist with almost 30 years in evaluating timber harvest activity throughout the state." Based on his concern that even good watercourse crossing repair projects can produce increased sediment, the witness recommended that the large-scale crossing repair work proposed in THP 520 should be phased in. (Regional Board Exh. H, p. 4.) Both the Regional Board order and the modified monitoring requirements established in this order are limited to requiring water quality monitoring and reporting pursuant to Water Code section 13267, rather than regulation of other aspects of the THP. The monitoring measures required under this order, however, should help identify any problems that occur and allow for rapid corrective actions.

replacing so many crossings was neither a common nor a routine matter, and that the project has the potential to deliver significant amounts of sediment into nearby watercourses. The witness stressed the importance of having an adequate monitoring and maintenance plan for erosion control projects, particularly a large-scale project in close proximity to an anadromous fishery. The witness testified that even the best projects performed to the highest standards require maintenance to be successful. He went on to explain that proper monitoring can lead to a rapid response by hand crews in the case of remote sites with a lack of winter access for heavy equipment. A rapid response allows for critical repairs before a project unravels to a level of complete failure. The witness testified that monitoring is a preventative measure and a minimum means of ensuring the success of erosion control projects. (Regional Board Exh. H, pp. 1-4.) He concluded that the watercourse crossing work proposed by Pacific Lumber has the "potential to deliver large quantities of sediment to the South Fork Elk River" and that "water quality monitoring is vital for early detection of problems and quick implementation of any needed corrective action." (Regional Board Exh. H, p. 4.)

As discussed in Section IV. A. above, the Elk River watershed is already classified as being impaired for sediment. The record before the SWRCB establishes that the most significant water quality impacts of THP 520 concern the potential increase in sediment due to timber operations. The Basin Plan identifies numerous beneficial uses for the Elk River watershed. The beneficial uses the Regional Board believes could be particularly affected due to increased sediment in the South Fork Elk River are domestic and agricultural water supplies for approximately eight residents adjacent to the stream; cold water fishery habitat (including spawning habitat) for coho salmon, chinook salmon steelhead, and cutthroat trout; and recreational uses. (Regional Board Exh. A, p. 4.)

Excess sediment affects domestic water supplies by making the water undrinkable. Excess sediment can also increase the maintenance needed to keep domestic and agricultural water systems in operable condition. (Regional Board 2, pp.1-3; EPIC Exh. E, pp. 2-5.) Fish can be adversely affected by excess sediment and turbidity in the following ways:

- (1) Pool habitat can be filled in and lost by sediment. (R.T. 352:8-352:10.)
- (2) Gravel areas that become embedded in excess sediment can adversely affect spawning. (Regional Board 31, pp. 3 and 6.)
- (3) Sediment can bury salmonid eggs and emergent fry. (R.T. 352:10-352:113.)
- (4) The ability of fish to forage for food is reduced due to increased turbidity. (Regional Board 33, p. 1.)

Potential adverse effects on fish in the South Fork Elk River are particularly important due to the fact that coho salmon, chinook salmon, and steelhead trout in that area are listed as threatened species pursuant to the federal Endangered Species Act. (See 62 Fed. Reg. 24588-24609; 64 Fed. Reg. 50394-50415; 65 Fed. Reg. 36074-36094.) A fishery biologist from Humboldt State University testified that chronic turbidity is probably the most important variable affecting salmonids on the West Coast. (R.T. 62:10-62:22.) The biologist's written testimony explained that chronic increased turbidity decreases the feeding ability of juvenile salmonids and that turbidity monitoring is ideally suited for identifying potential impacts of ongoing timber operations on water quality and salmonid habitat. In contrast to turbidity monitoring, monitoring of other stream characteristics may not register impacts to the stream until after timber operations have already impaired beneficial uses. The witness also testified that turbidity monitoring stations are needed immediately upstream and downstream of THP 520. Information from the monitoring station located below the confluence of the North Fork and South Fork of Elk River will not allow for distinguishing between sediment from timber operations in the two watersheds.

(Regional Board Exh. G, pp. 1-3.)²¹ In addition to the fishery biologist's testimony, the Regional Board submitted several studies addressing the adverse effects of turbidity on salmonids.

(Regional Board 43, 44, 45, 46, and 47.)

D. Monitoring Requirements Presently Applicable to THP 520

Pacific Lumber provided testimony about its present monitoring program and argued that no additional monitoring should be required. The evidence presented by Pacific Lumber addresses a wide variety of monitoring activities that the company is pursuing in the Elk River watershed and elsewhere. However, neither CDF's conditions of approval of THP 520 nor Pacific Lumber's previous commitments require it to undertake water quality monitoring in the immediate area of THP 520. Similarly, Pacific Lumber presented evidence about monitoring called for as part of the Habitat Conservation Plan (HCP) that it is required to undertake pursuant to agreements entered into in connection with purchase of the Headwaters Forest. At most, however, only some HCP requirements apply to actions taken as part of THP 520. The CDF response to environmental points raised during its review of Amendment No. 5 to THP 520 states that the amended timber harvesting plan is not subject to being brought up to HCP standards.

(Pacific Lumber 1, pp. 18 and 20.)

In contrast to the seven monitoring stations Pacific Lumber has now established on the North Fork Elk River, Pacific Lumber proposed only a single monitoring station on the South Fork Elk River prior to the hearing. That station is located approximately 3.5 miles downstream of THP 520 and downstream of several other tributary streams that enter the South Fork Elk River below the area of THP 520. (R.T. 454:16-454:22; 458:6-458:16.) Although data

²¹ The witness also recommended a turbidity monitoring station on the Little South Fork Elk River just above the confluence with the South Fork Elk River. (Regional Board Exh. G, p. 3.)

collected at that location could provide useful information about trends in the watershed, the station is not expected to promote timely identification and correction of adverse impacts to water quality resulting from THP 520. (R.T. 47:22-27-24.) At the hearing, Pacific Lumber submitted a new proposal for water quality monitoring at three watercourse crossing sites in the area of THP 520. (Pacific Lumber 64, pp.51 and 52, Attachment B.) The subject of water quality monitoring at watercourse crossings is addressed in Section V. below.

E. Conclusions Regarding Need for Additional Water Quality Monitoring

The record establishes that the waters of the South Fork Elk River serve a large number of beneficial uses, several of which could be adversely impacted by increased sediment. The river is already classified as impaired for sediment under section 303(d) of the Clean Water Act. There was extensive evidence that the large acreage and rapid rate of timber operations in the adjoining watershed of the North Fork Elk River have had major adverse effects on the beneficial uses of water. There was testimony that the timber harvesting methods to be utilized under THP 520 should have less adverse impacts than have occurred in the North Fork watershed. However, the size of the area to be harvested, Pacific Lumber's proposals for more timber operations in the same watershed in the near future, the erosive nature of the soils, the large number of watercourse crossings to be replaced or repaired in a short period of time, and the presence of three threatened species of fish are all factors that establish the need for ongoing water quality monitoring on the South Fork Elk River watershed before undertaking substantial

work, as well as, during, and after the timber harvesting and related activities proposed in THP 520.²²

Monitoring water quality conditions in the South Fork Elk River watershed in the area of THP 520 will help determine if any aspects of the project are adversely affecting water quality and will allow for prompt remedial action if the discharge of sediment into the streams increases. Development of baseline information on present water quality conditions prior to undertaking activities that could contribute increase sedimentation to the stream will help in determining the effects of project activities under THP 520 on water quality. Neither the limited monitoring required by CDF nor the minimal additional monitoring proposed at the hearing by Pacific Lumber is sufficient to protect the beneficial uses of water in the Elk River watershed as identified in the Basin Plan.

V. WATER QUALITY MONITORING REQUIRED FOR THP 520

A. Overview

Actions that may result in discharge of sediment to the South Fork Elk River and its tributaries due to THP 520 include timber operations resulting in increased erosion, road repair and construction, construction of helicopter landing areas, and repair or replacement of over 60 watercourse crossings within the THP 520 area. Although Pacific Lumber proposes mitigation measures to control erosion, there is no dispute that THP 520 will result in sediment discharge to

²² Although CDF presented testimony in opposition to the Regional Board order, our conclusion about the need for improved water quality monitoring of timber operations in the South Fork Elk River watershed is consistent with the conclusions expressed in a letter dated January 21, 1999, from the CDF Deputy Director of Forest Practice to the President of Pacific Lumber. The letter states that the Elk River watershed is experiencing an increased rate of flooding and sedimentation that corresponds to increased logging in the area, and that a "Level II watershed analysis" should be completed, including a plan for monitoring sediment. The letter lists several THPs in the Freshwater Creek and Elk River Basins that are affected by the need for further environmental analysis. THP 520 was not included among the listed plans, presumably because THP 520 had already been approved by CDF at the time of the letter. (Regional Board 52.) CDF's subsequent review of Amendment No. 5 to THP 520 focused on the changes to the plan specified in the amendment rather than an entirely new evaluation of the previously approved plan.

the streams.²³ Therefore, pursuant to the provisions of Water Code section 13267, Pacific Lumber may be required to provide water quality monitoring reports at the direction of the Regional Board, subject to the condition that the burden of the reports bears a reasonable relationship to the need for the reports and the benefits to be obtained. Although the record establishes the need for water quality monitoring reports for the proposed timber operations in the South Fork Elk River watershed, evidence in the record also establishes that changes to the monitoring program specified in the Regional Board order are appropriate.²⁴

B. Purposes of Water Quality Monitoring and Types of Data Collected

The Regional Board and Pacific Lumber agree on the desirability of monitoring long-term trends in water quality in the Elk River, although they differ on the type and extent of monitoring they propose for that purpose. In addition to long-term trend monitoring, the Regional Board order also requires monitoring intended to determine if the erosion control measures identified in THP 520 are effective at preventing erosion and maintaining compliance with the water quality standard for turbidity established in the Basin Plan. As discussed in Section V. C. below, the Regional Board order requires establishment of two new monitoring stations on the South Fork Elk River and three other monitoring stations within the area of THP 520.

²³ Pacific Lumber presented testimony that the amended THP is expected to produce an estimated 52 cubic yards of sediment discharge. (R.T. 141:21-141:25.) The evidence regarding changes in the North Fork Elk River watershed indicates that improperly conducted timber operations can result in production of much greater quantities of sediment. The water quality monitoring measures specified in this order will help to identify the effect of timber operations on sediment discharge to the South Fork Elk River and its tributaries.

²⁴ Issues regarding water quality monitoring requested by a Regional Board ordinarily can be addressed before a monitoring and reporting order is entered or through modification of the order at the Regional Board level based on discussions between the discharger and the Regional Board. In this instance, however, Pacific Lumber contends that the Regional Board lacks authority to require water quality monitoring and that no additional monitoring is needed. That position has precluded development of a cooperative monitoring approach of the type envisioned in the Regional Board comments on THP 520 when it was originally proposed.

Information on long-term water quality trends and effectiveness of water pollution control measures will help resolve future questions regarding water quality and provide important information to be considered in evaluating other proposed timber operations in the South Fork Elk River watershed and elsewhere. In the short-term, timely information on water quality immediately upstream and downstream of the specified timber harvesting area will assist in determining if the project is in compliance with the Basin Plan and will help identify the need for any necessary corrective measures on a timely basis.

The Regional Board order requires that the water quality monitoring reports include specified information on flow, turbidity, suspended sediments, and temperature. As discussed in Section IV. above, the evidence establishes that excess turbidity in the South Fork Elk River watershed can have adverse impacts upon the beneficial use of water for domestic use, agricultural use, and fish habitat. Monitoring the turbidity of streams in a timber harvesting area also serves as an indicator for suspended sediment that could have significant adverse effects on various beneficial uses of water. (Regional Board 49, pp. 104 and 105.) Extensive evidence was presented on the importance of turbidity monitoring as well as the relative ease with which turbidity can be monitored. The evidence shows that turbidity frequently increases with flow, particularly with the increased rates of flow associated with storm events. In this instance, the record provides a strong basis for monitoring turbidity and flow.

In contrast, monitoring suspended sediment is more difficult and there was little evidence presented on additional benefits of monitoring suspended sediment that are not provided

from monitoring of turbidity.²⁵ There was no evidence presented that THP 520 would cause water temperature problems in the South Fork Elk River watershed. Therefore, the water quality monitoring reports mandated under this order do not require Pacific Lumber to collect data on suspended sediment and water temperature.²⁶

C. Monitoring Station Locations

Pacific Lumber has an established long-term trend monitoring station on the Elk River downstream of the confluence of the north and south forks. Pacific Lumber also proposes to use a long-term trend monitoring station on the South Fork Elk River approximately 3.5 miles downstream of THP 520. The location of these stations is well suited for monitoring long-term water quality trends in the Elk River and South Fork Elk River. Monitoring streamflow and turbidity at these locations will provide useful information on water quality and will help identify water quality effects of timber operations within the South Fork Elk River watershed on water quality in the main stem of the Elk River. In addition, Pacific Lumber's trend monitoring station on the South Fork Elk River is located near several diversions of water for domestic use. Turbidity data from that monitoring station will be useful in identifying potential adverse impacts of activities under THP 520 on water quality for existing domestic uses.

The Regional Board order also would require Pacific Lumber to establish new monitoring stations on the South Fork Elk River immediately upstream and downstream of the THP 520 area. The new stations would allow for isolating the project and evaluating changes to water quality within the immediate project area. In contrast, Pacific Lumber's proposal to rely on

²⁵ Testimony from CDF and others addressed the relative merits of monitoring suspended sediment versus monitoring turbidity. (e.g., R.T. 178:5-178:20.)

²⁶ In other instances, the record may establish that it is reasonable and necessary to require measurement of suspended sediment, water temperature, or other factors affecting water quality.

its trend monitoring station located miles below the project, with no monitoring upstream of the THP 520, would not allow for isolating changes within the project area from other changes in the watershed. In addition, the presence of several tributaries that enter the South Fork Elk River between the THP 520 area and the Pacific Lumber's trend monitoring station would further obscure the source of any increase in turbidity detected at the downstream trend monitoring station. The SWRCB concludes that conducting flow and turbidity monitoring immediately upstream and downstream of the THP 520 area is reasonable and necessary to evaluate the effects of THP 520 on water quality. If further timber operations are conducted in the South Fork Elk River watershed as proposed by Pacific Lumber, the water quality data provided by these monitoring stations also will be useful in evaluating long-term trends in water quality in the South Fork Elk River upstream of the confluence with the Little South Fork Elk River.

In addition to monitoring stations immediately upstream and downstream of the project area, the Regional Board order also would require that monitoring be conducted on tributary streams at three specified locations within the THP 520 area. In view of the shift to helicopter yarding and the increased stream protection zones included in THP 520 as amended, the proposed timber operations are expected to produce less sediment than would have occurred under the original plan. The data from the monitoring stations immediately upstream and downstream of THP 520 and the data from the long-term trend monitoring stations lower in the watershed will be useful in determining the overall effects of THP 520 on water quality.

Although the additional three monitoring stations specified by the Regional Board could provide timely information of water quality problems in a particular area, visual inspections of watercourse crossing repair sites required by this order should help provide the information

needed for timely corrective action at potential problem sites. Therefore, the SWRCB concludes that it is not necessary to establish water quality monitoring stations at the sites designated as WQM1, WQM2, and WQM3 in the Regional Board order.

D. Method of Data Collection

As discussed in Section V. B. above, this order does not require collection of suspended sediment data. Collection of turbidity and flow data, as required by this order, is well suited for use of automated monitoring equipment that can be checked and downloaded on a periodic basis. (R.T. 81:6-81:17.) Use of automated monitoring equipment would avoid potential safety or access problems that could result from on-site sampling during major storms. The Regional Board presented evidence that use of automated monitoring equipment also would reduce costs from what would be required using other methods. (R.T. 79:15-82:9.)²⁷ Finally, automated monitoring would allow for collecting data over a broad range of flows, may provide notice of any chronic erosion problems that may continue at relatively lower flows, and would avoid the problem of predicting when sampling must be done. Therefore, the SWRCB concludes that use of automated monitoring equipment provides the most reasonable method of collecting the water quality data required by this order.

The Regional Board order provided for collection of turbidity data at 15-minute intervals, and for collection of suspended sediment data during significant storms at 15 to 30 minute intervals during the rising and falling portion of the hydrograph. (Order No. R1-2001-19, pp. 1-6.) The Regional Board order defines significant storm events as the six largest storm events in a given year and goes on to state that a "significant storm" may be anticipated whenever

²⁷ Pacific Lumber's estimate of the cost of complying with the Regional Board order were based on the estimated cost of manual data collection rather than automated monitoring equipment.

the National Oceanic and Atmospheric Administration (NOAA) predicts that a storm will result in one inch or more precipitation in a 24-hour period. (Order No. R1-2001-19, p. 6.)

Use of automated monitoring equipment allows for recording data at specified intervals on an ongoing basis and eliminates the need to forecast when a significant storm will occur. The increased potential for erosion and increased turbidity due to increased flows, however, makes it reasonable to monitor flow and turbidity more closely during periods when substantial precipitation is likely to occur. Recording streamflow and turbidity data at 30-minute intervals during the period of September 15th of each year to May 15th of the following year will provide information on water quality during storm events and potential high flow periods. Recording streamflow and turbidity data at daily intervals for the period of May 15th to September 15th of each year should provide sufficient information to identify chronic water quality problems present during low flow periods.

Under the water quality monitoring program required by this order, the data collected at the long-term trend monitoring stations will be used primarily for identifying long-term changes in the watershed rather than for rapid detection of water quality problems due to THP 520. Therefore, it will be sufficient to download and analyze the streamflow and turbidity data from those monitoring stations on a monthly basis. In contrast, the data from the monitoring stations immediately upstream and downstream of THP 520 will be used to help identify water quality impacts of timber operations in the area of THP 520 in order to take timely remedial action where feasible. Therefore, the streamflow and turbidity data from those stations should be downloaded and analyzed at least once weekly for at least 5 years following submittal of the final completion report for THP 520 to CDF. During the next 5-year period, it is reasonable to expect fewer effects on water quality from THP 520, but the monitoring stations immediately upstream and downstream of the project will continue to provide useful information on water quality

effects of THP 520 and on long-term water quality trends in the watershed. This order provides that, based on review of water quality monitoring data and other relevant information, the Chief of the Division of Water Quality may direct Pacific Lumber to continue monitoring turbidity and flow at the stations immediately upstream and downstream of THP 520 during the second 5-year period following submittal of the final completion report to CDF. If the Chief of the Division of Water Quality determines that continued monitoring at those stations will be required, the streamflow and turbidity data from those stations should be downloaded and analyzed on a monthly basis during the second 5-year period following submittal of the final completion report to CDF unless the available information shows more frequent data review is appropriate. In view of Pacific Lumber's announced plans for additional timber operations in the South Fork Elk River watershed, the data from the monitoring stations immediately upstream and downstream of THP 520 should be helpful to evaluating potential water quality effects of future timber operations not covered by THP 520.

E. Pre-Project Monitoring

The Regional Board order requires pre-project water quality monitoring to establish "background conditions" and to establish pre-project ambient condition curves showing the relationship between rate of flow and turbidity.²⁸ The order provides for background conditions to be established on comparable sites having similar geology, hydrology, rainfall, slope, and no timber harvesting in the last 50 to 60 years. It then requires that data regarding present ambient conditions in the South Fork Elk River watershed will be compared to data on

²⁸ The Regional Board order refers to development of "turbidity-discharge curves" in which the word "discharge" means the rate of flow. Water Code section 13267 refers to reports required from those who discharge waste. In order to avoid possible confusion, this order uses the term "streamflow" instead of "discharge" when referring to the rate of flow of water in a watercourse.

“background conditions” to determine the extent of timber harvest-related impacts to water quality.

Information on “background conditions” from monitoring water quality in a similar watershed with no recent timber operations could help increase understanding of the effects of timber operations in the Elk River watershed. The more limited water quality monitoring required under this order, however, should be sufficient to allow for identification of changes in water quality due to timber operations under THP 520. The record does not establish sufficient reason for requiring Pacific Lumber to monitor background water quality conditions in a similar watershed as required by the Regional Board order concerning THP 520.²⁹

The Regional Board order also contains detailed provisions regarding collection of pre-project data to be used in determining ambient water quality conditions and developing curves showing the ambient (pre-project) relationships between turbidity and flow, and between suspended sediment and flow. There was considerable testimony presented by Pacific Lumber and CDF regarding the effect of non-flow dependent variables on turbidity and the difficulty in attempting to define “ambient” water quality conditions based on the limited measurements that might be obtained in a single year. Pacific Lumber cites language from a U.S. EPA manual that turbidity is highly variable and dependent upon a number of factors other than flow. The manual cited by Pacific Lumber goes on to state that difficulty in defining background levels of turbidity suggests that only continuing major violations of turbidity standards can be unambiguously defined. (Pacific Lumber brief, p. 7, citing Regional Board Exh. 49.) Citing testimony that the type of monitoring required by the Regional Board cannot reliably measure a 20 percent

²⁹ Although a paired watershed study of background water quality conditions is not required by this order, consideration of that type of study may be appropriate in connection with a comprehensive watershed analysis of the type addressed by several parties to the hearing.

difference in turbidity resulting from timber operations, Pacific Lumber argues that the monitoring cannot generate statistically valid and useful results. (Pacific Lumber brief, pp. 6-11.)

The SWRCB recognizes that numerous factors can affect turbidity and that data from a single wet season necessarily provides less information than could be provided by monitoring pre-project conditions over a long period of time. Nevertheless, some information on pre-project water quality is better than no information, and monitoring turbidity and flow upstream and downstream of the project site through one wet season will provide significantly more information than what is now available. The focus of this order is on obtaining specified water quality monitoring information. This order makes no pronouncements tying a specific increase in turbidity to a violation of the Basin Plan.³⁰ Conclusions regarding potential future violations of the Basin Plan can await receipt and analysis of future monitoring data and other relevant evidence. In the absence of that data and other relevant evidence, it is premature to make any pronouncements about the statistical validity of conclusions that may be based on future information.³¹

Pacific Lumber advised the SWRCB that, unless the Regional Board order was vacated by September 15, 2001, Pacific Lumber "will be unable to harvest pursuant to THP 520 this year because of restrictions in the THP." (Pacific Lumber brief, p. 2.) Pursuant to the terms of the DFG Streambed Alteration Agreement applicable to THP 520, no work in or near a watercourse is permitted between October 15th and April 1st. (Regional Board 28, p. 262.) In

³⁰ Regional Board staff acknowledged that not every increase of more than 20 percent over the ambient turbidity level would necessarily constitute a violation of the Basin Plan. (R.T. 535:4-535:22.)

³¹ In discussing problems concerning enforcement of turbidity standards, the U.S. EPA manual cited by Pacific Lumber nevertheless acknowledges that continuing major violations can be identified. (Regional Board 49, p. 104.)

view of the conditions in THP 520 and the Streambed Alteration Agreement, it is unlikely that Pacific Lumber will undertake any timber operations that have the potential to significantly impact water quality until after April 1, 2002. Therefore, conducting the water quality monitoring required by this order will provide useful information on differences in water quality between the upstream and downstream locations prior to undertaking substantial work on the THP that could result in the discharge of waste. This type of monitoring is clearly authorized pursuant to Water Code section 13267.

F. Watercourse Crossing Monitoring

Although the repair, replacement, and decommissioning of watercourse crossings is intended to reduce long-term erosion of sediment into watercourses, the watercourse crossing work involves disturbance and disposal of a tremendous amount of sediment at the time of decommissioning. A consultant for Pacific Lumber testified that each of the approximately 15 stream crossings to be decommissioned (as distinguished from those that are to be repaired or replaced) will involve disposal of an average of 270 cubic yards of sediment. Pacific Lumber intends to dispose of that sediment in stable locations without access to the watercourse, but the location of the disposal sites had not yet been determined at the time of the hearing.

(R.T. 380:16-381:23.) Testimony from a registered professional forester with experience in watercourse crossing removal stressed that even “under the best possible circumstances there are many needs for monitoring and remediation.” (R.T. 350:10-350:23.)

The Regional Board order requires Pacific Lumber to monitor turbidity upstream and downstream of 10 specified watercourse crossing sites during the six largest storms of the year. If the turbidity at the downstream location exceeds the turbidity at the upstream location, the order directs Pacific Lumber to determine the cause of the increased turbidity and to “institute

measures to correct the problem.” Although the large number of watercourse crossings would make it difficult to undertake turbidity monitoring on an ongoing basis at each site, monitoring the 10 sites required by the Regional Board would address only a relatively small percentage of the potential problem. Unless automated monitoring equipment were installed at each location, there could also be access and safety problems associated with monitoring turbidity during major storms.

CDF presented testimony stressing the benefits of on-site evaluation of forestry operations, particularly along roads and watercourse crossings. The benefits of on-site inspections include the ability to locate and map problem areas and take rapid corrective actions. (R.T. 177:5-178:5.) Pacific Lumber also presented testimony that stressed the benefits of on-site inspections as opposed to monitoring of downstream water quality data. (R.T. 498:1-498:12.)

This order requires Pacific Lumber to monitor turbidity and flow in the South Fork Elk River immediately upstream and downstream of THP 520. The large number of watercourse crossing sites within THP 520 makes it impractical to monitor turbidity upstream and downstream of each site. In this case, the SWRCB concludes that it is more reasonable and more effective to conduct visual inspections of watercourse crossing sites on a monthly basis than to monitor turbidity upstream and downstream of the 10 sites specified in the Regional Board order. Conducting monthly inspections of all altered watercourse crossing sites during the period of September 15th to May 15th will provide a practical means of identifying any water quality problems or potential problems on a relatively frequent basis during the period when high flows and erosion are most likely to occur.

Therefore, this order requires that Pacific Lumber conduct visual inspections of all sites in the THP 520 area where it has repaired, replaced, or removed a watercourse crossing. The inspections shall be conducted to determine if there are any conditions that are causing or are

likely to cause a significant increase in turbidity. Due to ongoing erosion and sedimentation problems associated with watercourse crossings, this order requires that Pacific Lumber continue the visual inspections for a period of at least 5 years after submittal of the final work completion report to CDF for THP 520. Use of CDF protocols and forms for evaluating implementation and effectiveness of best management practices at watercourse crossing sites will promote consistency in conducting the inspections and maintaining appropriate records of inspection observations.

The inspections required by this order shall also include visual inspections immediately upstream and downstream of the watercourse crossing sites in accordance with specified U.S. Forest Service stream evaluation protocols.

G. Notification of Regional Board and Maintenance of Monthly Water Quality Reports

The Regional Board order requires Pacific Lumber to notify Regional Board staff "within 24 hours of detection of any Basin Plan violation" and to submit a written report to Regional Board staff describing the nature of the violation, the cause of the violation, and corrective measures taken. Due to the potential difficulty of establishing the ambient level of turbidity at a particular rate of flow in this instance, it would be difficult to conclusively establish a violation of the Basin Plan based solely on a single increase in turbidity of 20 percent or more from an assumed baseline level. In addition, at very low levels of turbidity, a temporary increase of 20 percent above baseline levels may not be harmful.³²

Although an increase in turbidity of 20 percent does not necessarily indicate a violation of the Basin Plan, a significant increase in turbidity that could adversely affect beneficial uses is cause for requiring Pacific Lumber to notify the Regional Board and to conduct

³² The limited testimony on the level at which turbidity begins to interfere with beneficial uses of water indicates that turbidity levels above approximately 10 NTUs may begin to interfere with domestic uses and fish habitat.

a visual inspection to locate the cause of the turbidity increase and determine if corrective action is appropriate. Therefore, this order requires that Pacific Lumber notify the Regional Board within 48 hours, and conduct a visual inspection of the THP 520 area, if the monitoring data show that the turbidity at the station immediately downstream of THP 520 exceeds 10 nephelometric turbidity units (NTUs) and also exceeds the measured level of turbidity at the station upstream of THP 520 by 20 percent or more for a period of at least 5 hours. Notification of the Regional Board is also appropriate if the monthly inspections of watercourse crossing sites discussed above identify any existing or potential discharges of sediment to the stream.

The Regional Board order requires submittal of monitoring reports to the Regional Board by the 15th day of the month following the end of the previous monthly monitoring period. The SWRCB finds that, in this instance, preparation of monthly water quality monitoring reports is a reasonable requirement under Water Code section 13267. Although this order provides for maintenance of more detailed records of streamflow and turbidity data, the monthly reports need not include all the recorded data. For purposes of the monthly reports, streamflow and turbidity data should be reported at daily intervals for each of the monitoring stations required in this order. In order to show the effect of elevated flow on water quality, the reports should also include streamflow and turbidity data at 30-minute intervals reported during the rising and falling limbs of the hydrograph for those periods in which precipitation of one inch or more occurs within a 24-hour period.³³ In addition to providing the specified streamflow and turbidity data, the monthly reports should also identify any instances in which increased turbidity

³³ This order specifies the Eureka National Weather Service Station as the location for measurement of precipitation of one inch or more that triggers reporting of streamflow and turbidity data at 30-minute intervals. The SWRCB recognizes that precipitation in the area of THP 520 will often be higher than at Eureka.

caused Pacific Lumber to conduct a visual inspection of the THP 520 area and should include information on the results of all visual inspections required under this order.

Preparation of the monthly reports specified in this order will provide useful information to assist Pacific Lumber in carrying out its timber operations in a manner that minimizes adverse effects on water quality. The information in the monthly reports will also be useful to the Regional Board in evaluating the water quality effects of THP 520 and any remedial measures taken in response to water quality problems or potential problems. This order requires that Pacific Lumber shall inform the Regional Board and SWRCB of the location of the reports and shall provide copies to staff of the Regional Board and SWRCB upon request.

H. Cost of Monitoring

Pacific Lumber and the Regional Board both introduced evidence of estimated costs of complying with the Regional Board order. (Pacific Lumber 65, pp.2-3; Regional Board 22.) Pacific Lumber's estimate of \$380,878.50 exceeds the Regional Board's estimate of \$171,150, in part due to different assumptions regarding how the required water quality data would be collected. In contrast to data collection using automated continuous water sampling equipment, Pacific Lumber's cost estimates were based on extensive use of labor-intensive manual sampling. The turbidity and flow data that Pacific Lumber is required to provide by this order can be collected through use of continuous monitoring equipment, thereby reducing the labor costs associated with manual sampling. In addition, this order requires Pacific Lumber to install less monitoring stations than would have been required under the Regional Board's order and, therefore, the annual cost of conducting the required monitoring is expected to be significantly less. The monthly visual inspections of watercourse crossing sites required by this order were not required by the Regional Board and, therefore, were not addressed in the hearing testimony. It is reasonable to assume, however, that monthly visual inspections could be

conducted for considerably less than the manual sampling of water quality at numerous locations during storm conditions that was included in Pacific Lumber's cost estimates. During the second 5-year period following completion of work on THP 520, the monitoring required by this order will largely consist of downloading and analyzing water quality data from automated monitoring stations on a periodic basis.

The person who developed the cost estimates presented by Pacific Lumber did not testify at the hearing and was not available for cross-examination.³⁴ However, Pacific Lumber's estimated cost of a one-year delay in the timber harvest does not appear to account for additional growth of the trees during a pre-project monitoring period and the resultant increase in the value of timber harvested. In addition, the cost attributed to the delay in harvesting in order to develop pre-project water quality information could have been avoided through development of a cooperative monitoring program and collection of pre-project data much earlier. Pacific Lumber has advised the SWRCB that delay in the proposed timber harvest beyond September 15, 2001, means the timber harvest cannot begin until next year due to seasonal restrictions in THP 520. The monitoring required under this order will provide a limited amount of pre-project data on water quality, but should not result in any significant delay of timber harvesting.

Determination of the reasonableness of monitoring costs necessarily involves consideration of the beneficial uses to be protected and the potential harm to those uses that may be reduced through appropriate monitoring. The record establishes that timber operations in the North Fork Elk River watershed, much of which was carried out by Pacific Lumber, have had major adverse impacts on water quality and beneficial uses of water. The South Fork Elk River

³⁴ The Regional Board objected to admission of Pacific Lumber's evidence on estimated costs of complying with the Regional Board order based on its status as hearsay evidence. Although relevant hearsay is admissible in hearings before the SWRCB, its use is subject to restrictions pursuant to Government Code section 11513(d).

provides water for domestic and agricultural uses, habitat for three threatened species of fish, and important recreational uses. In view of the beneficial uses to be protected, and the potential harm to those uses that can be avoided or reduced by appropriate water quality monitoring, we conclude that the burden of complying with this order bears a reasonable relationship to the need for the monitoring reports and the benefits that the monitoring information will provide.

I. Summary of Water Quality Monitoring and Reporting Required by this Order

This order requires installation of water quality monitoring stations on the South Fork Elk River immediately upstream and downstream of THP 520.³⁵ The order requires Pacific Lumber to monitor streamflow and turbidity at those stations and at two downstream stations that Pacific Lumber operates to evaluate long-term trends in the watershed. The monitoring data from the stations immediately upstream and downstream of THP 520 will help identify changes in water quality in the intervening reach of the river and will promote rapid detection and timely correction of sediment discharges in the area of THP 520. The monitoring data from all four stations will be useful in evaluating the effects of timber operations on downstream water quality and on long-term water quality trends in the South Fork Elk River and main stem of the Elk River.

This order also requires monthly visual inspections of watercourse crossing sites that are repaired, removed, or replaced by Pacific Lumber and visual inspections to identify the cause of substantial increases in turbidity within the area of THP 520 as shown in water quality monitoring data. The visual inspections will help to identify sources or potential sources of sediment discharges to the South Fork Elk River or its tributaries and will promote timely

³⁵ In contrast to the Regional Board order, this order does not require monitoring stations on three tributaries to the South Fork Elk River, and it does not require turbidity monitoring at 10 watercourse crossing sites.

corrective actions. In addition, the order also requires Pacific Lumber to notify the Regional Board of specified conditions that adversely affect or may adversely affect water quality and to prepare monthly water quality reports.

The water quality monitoring required by this order is less extensive than what was specified in the Regional Board order, but will provide necessary information for identifying adverse effects on water quality and taking appropriate corrective action. In view of the lengthy and continuing disputes over the effect of Pacific Lumber's past and present timber harvest activities in the Elk River watershed, it is in the public interest and the interest of all parties to this proceeding to obtain accurate information on the effects of Pacific Lumber's timber operations on water quality and the associated beneficial uses of water.

IV. OTHER LEGAL ISSUES RAISED IN PETITION

In addition to the issues addressed above, the petition includes several other legal arguments in support of Pacific Lumber's objections to the Regional Board order. The water quality monitoring required under this order differs in several respects from the monitoring program specified by the Regional Board. However, the nature of the Pacific Lumber's objections to the Regional Board order indicates that the company may raise similar objections to any substantial water quality monitoring that it has not previously committed to undertake. Several legal issues raised in Pacific Lumber's petition that have not been previously discussed are addressed below.³⁶

³⁶ The major issues raised by the petition are addressed in this order. Pacific Lumber's legal brief raises a number of other non-substantial issues that need not be discussed in this order. (See *People v. Barry* (1987) 194 Cal.App.3d 158 [239 Cal.Rptr. 349]; Cal. Code Regs., tit. 23, § 2052.)

A. Due Process Considerations

Pacific Lumber plans to undertake numerous activities that will result in discharge of large amounts of sediment into the South Fork Elk River. Proposed or existing discharges of waste into State waters ordinarily require the discharger to obtain a waste discharge requirement pursuant to Water Code section 13263. Waste discharge requirements have not been issued for timber operations in recent years due to attempts to address water quality protection under the procedures established by the Forest Practice Act. In any event, California law is clear that no one has a right to discharge waste into the waters of the state. (Wat. Code § 13263(g).)

Requiring Pacific Lumber to provide water quality monitoring reports in connection with activities that will result in discharge of waste into state waters is not a denial of due process.

Rather, as discussed previously, the monitoring reports are specifically authorized by subdivision (b) of Water Code section 13267, and the monitoring required under this order is rationally related to protecting the beneficial uses of water that the SWRCB is charged with protecting.

Pacific Lumber objects to the Regional Board order based on the contention that the turbidity standard the order is intended to enforce is too vague.³⁷ Pacific Lumber's argument is based upon the assumption that the sole purpose of the Regional Board order is to allow imposition of sanctions for violation of the turbidity standard. In fact, a major purpose of both the Regional Board order and this order is to obtain water quality information to promote timely remedial action in cases of correctable problems. Moreover, compliance with the monitoring requirements of this order is not dependent upon determining the natural background level of

³⁷ The turbidity objective specified in the Basin Plan states: "Turbidity shall not be increased more than 20 % above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon issuance of discharge permits or waiver thereof." Pacific Lumber argues that the difficulty in establishing background turbidity levels makes the turbidity standard in the Basin Plan too vague to be enforced.

turbidity as defined in the Basin Plan. Thus, this order does not involve the issue raised by Pacific Lumber regarding enforcement of the Basin Plan turbidity objective.³⁸

Pacific Lumber also objected to the Regional Board order based on the contention that it lacked notice and opportunity to be heard prior to imposition of the order. The record shows, however, that the water quality monitoring required by the Regional Board had been the subject of repeated requests to Pacific Lumber and CDF in the timber harvesting plan review process, and that Pacific Lumber's predecessor had agreed to implement a cooperative water quality monitoring program. Only when it became apparent that the necessary monitoring would not be required by CDF, and not otherwise conducted by Pacific Lumber, did the Regional Board enter its order under Water Code section 13267. Pacific Lumber chose to petition for review of that order to the SWRCB as authorized by the applicable regulations. (Cal. Code Regs., tit. 23 §§ 2050 et seq.) Prior to adoption of this order, the SWRCB held an evidentiary hearing, followed by submission of legal briefs. Both the substance of this order and the procedure leading to its adoption are in full compliance with due process requirements.

B. Equal Protection

Pacific Lumber contends that the Regional Board order violates its rights to equal protection because the order treats it differently from others who are similarly situated where there is no rational basis for different treatment. The Regional Board responds that it routinely requires dischargers and proposed dischargers to submit water quality monitoring reports. There was also testimony that the Regional Board has recently required at least three other timber companies to submit monitoring reports. (R.T. 5/17/01, 47:4-47:6; R. T. 533:9-533:15.)

³⁸ Determining if the Basin Plan turbidity objective has been violated may be difficult in some instances as alleged by Pacific Lumber. In other cases, however, the available information may clearly establish a violation even if background turbidity levels can only be established within a specified range. In any event, this order is not based on establishing that Pacific Lumber has violated the Basin Plan turbidity objective.

Although monitoring reports are not required for all timber operations, the record shows that they are required in some instances.

The essence of equal protection is that there must be a rational basis for different treatment. As discussed in Section IV., the record in this case shows that logging in the North Fork Elk River watershed has had major adverse impacts on beneficial uses of water for agricultural and domestic use, that the adverse impacts in that watershed correspond with the increased rate of logging by Pacific Lumber, and that Pacific Lumber received numerous citations for violations from CDF. The record also shows that Pacific Lumber plans additional timber operations in the South Fork Elk River watershed after THP 520, and that Pacific Lumber's proposed actions have the potential to produce a large amount of sediment in a watercourse already classified as impaired for sediment. In short, the record establishes compelling reasons for requiring Pacific Lumber to submit water quality monitoring reports pursuant to the provisions of this order. Requiring the monitoring reports specified in this order does not violate the equal protection provisions of the State and Federal Constitutions.

C. Alleged Impairment of Headwaters Agreement

Pacific Lumber argues that the Regional Board order is an unconstitutional impairment of contract because the order impairs Pacific Lumber's ability to harvest timber under THP 520 on property that was conveyed to Pacific Lumber as part of the Headwaters Forest Agreement.³⁹ Pacific Lumber cites no provision of the agreement that restricts authority of the SWRCB and Regional Boards to carry out their statutory duty to protect water quality, including the authority to require monitoring under Water Code section 13267. In any event, the state

³⁹ Pacific Lumber agreed to transfer the 4,500 acre Headwaters Forest Reserve and 1,125 acre Elk Head Forest to the United States and California in exchange for 9,600 acres of property formerly held by Elk River Timber Company and other consideration, including cash.

cannot contract away its police powers. (*Santa Margarita Area Residents Together v. San Luis Obispo County* (2000) 84 Cal. App. 4th 221; *United States Trust Co. of New York v. New Jersey* (1977) 431 U.S. 1, 22.) In addition, the state and federal constitutional prohibitions on the impairment of contracts prohibit legislative acts but do not apply to decisions of the courts or acts of administrative agencies. (*Ross v. State of Oregon* (1913) 227 U.S. 150, 162.) Even in situations in which the impairment of contract clauses apply, the courts have held that minor impairments that serve a legitimate governmental purpose are not constitutionally invalid. (*Board of Administration v. Wilson* (1997) 52 Cal.App. 4th 1109, 1153-1154.) In summary, the impairment of contract clauses under the state and federal constitutions provide no basis for concluding that the SWRCB or the Regional Board is prohibited from requiring monitoring information under Water Code section 13267.

Pacific Lumber also contends that the Regional Board order breaches an implied covenant of good faith and fair dealing that attaches to the Headwater Agreement. Requiring water quality monitoring information does not undermine the Headwaters Agreement in any way. Rather, the requirement to provide that information is aimed simply at protecting the previously recognized beneficial uses of water recognized in the Basin Plan. Pacific Lumber cannot support its contention that the SWRCB and Regional Board are precluded from carrying out their statutory obligations to protect water quality on the South Fork Elk River.

VII. CONCLUSION

Pacific Lumber's activities in conducting THP 520 will involve the discharge of sediment from numerous sources. Regional Water Quality Control Boards and the SWRCB may require monitoring reports from anyone who has discharged, is discharging, is suspected of discharging, or who proposes to discharge waste. The South Fork Elk River has been classified as impaired for sediment under section 303(d) of the Clean Water Act. Additional sediment will

increase the turbidity of the water and can adversely impact beneficial uses of the watercourse identified in the Basin Plan. Extensive evidence relevant to water quality monitoring in the Elk River watershed was presented at the hearing before the SWRCB. The record establishes a definite need for water quality monitoring of timber operations in the South Fork Elk River watershed, but does not support all of the requirements specified in Regional Board Order No. R1-2002-19. Based on the evidentiary record and the findings above, the SWRCB concludes that Pacific Lumber should be required to conduct water quality monitoring and reporting as specified in the order below. The SWRCB further concludes that the burden and cost of preparing the monitoring reports required under this order bear a reasonable relationship to the need for the reports and the benefits that the information will provide.

Revisions to the water quality monitoring and reporting requirements specified in this order may be appropriate based on information that becomes available in the future. This order delegates to the Chief of the Division of Water Quality the authority to revise applicable water quality monitoring and reporting requirements based on new information that becomes available. While concluding that in this case monitoring is appropriate, the Board encourages all interested persons to work cooperatively through existing processes to establish consistent monitoring requirements.

ORDER

IT IS HEREBY ORDERED that Pacific Lumber shall conduct water quality monitoring and reporting in accordance with the requirements specified below:

1. Monitoring Stations: By no later than December 1, 2001, Pacific Lumber shall establish or maintain continuous monitoring of streamflow and turbidity at monitoring stations at the following locations:

a. Pacific Lumber's existing long-term trend monitoring station on the Elk River downstream of the confluence of the North Fork and South Fork of the Elk River.

b. Pacific Lumber's long-term trend monitoring station on the South Fork Elk River located approximately 3.5 miles downstream of Timber Harvesting Planning 520 (THP 520).

c. A new monitoring station to be located on the South Fork Elk River, upstream of the confluence with the Little South Fork Elk River, at a site as immediately downstream of THP 520 as is feasible. The location and installation of the monitoring station shall take into account considerations of worker safety, site accessibility, and suitability of the site for establishment of a monitoring station.

d. A new monitoring station to be located on the South Fork Elk River at a site as immediately upstream of THP 520 as is feasible taking into account considerations of worker safety, accessibility and suitability of the site for establishment of a monitoring station.

2. Monitoring Equipment: The monitoring stations specified by this order shall be capable of monitoring streamflow and turbidity using equipment that can automatically record and measure turbidity to a resolution of 0.1 NTUs with at least 95 percent accuracy and that can record and measure flow on a continuous basis.⁴⁰ If the monitoring equipment ceases to perform properly, Pacific Lumber shall make a good faith effort to provide the needed maintenance, repair, or replacement within 48 hours of discovering that there is a problem with the equipment.

3. Monitoring at Long-term Trend Monitoring Stations: Beginning no later than December 1, 2001, and for at least 10 years following submittal of the final completion report for

⁴⁰ For purposes of this order, monitoring that provides the required streamflow and turbidity data at 30-minute intervals or more frequently shall be considered to be continuous monitoring.

THP 520 to the California Department of Forestry and Fire Protection (CDF), Pacific Lumber shall monitor streamflow and turbidity at the two long-term trend monitoring stations identified above and shall download and analyze the monitoring data at least once monthly. The required monitoring and analysis shall be conducted in accordance with a quality assurance and quality control program approved by the Chief of the Division of Water Quality of the State Water Resources Control Board (SWRCB).

4. Monitoring at Project Monitoring Stations: Beginning no later than December 1, 2001, and for at least 5 years following submittal of the final completion report for THP 520 to CDF, Pacific Lumber shall monitor streamflow and turbidity at the two stations immediately upstream and downstream from THP 520 and shall download and analyze the monitoring data at least once weekly to ensure rapid detection of significant increases in turbidity or problems with the monitoring equipment. Based on review of past water quality monitoring reports and other relevant information, the Chief of the Division of Water Quality may direct Pacific Lumber to continue monitoring turbidity and flow at these two stations for an additional 5 years. If monitoring is continued, Pacific Lumber shall download and analyze the monitoring data from these two stations at least once monthly during the second 5-year period to assist in identifying water quality problems and evaluating long-term trends in water quality that may occur as a result of actions under THP 520 or subsequent timber harvesting plans in the South Fork Elk River watershed. The required monitoring and analysis shall be conducted in accordance with a quality assurance and quality control program approved by the Chief of the Division of Water Quality of the SWRCB.

5. Visual Inspection Based on Increase in Turbidity: If the monitoring data show that, for a period of at least 5 hours, the turbidity measured at the station immediately downstream of THP 520 has exceeded 10 NTUs and has also exceeded the turbidity measured at the station

immediately upstream of THP 520 by at least 20 percent, Pacific Lumber shall conduct a thorough visual inspection of the THP 520 area within 48 hours of downloading monitoring data to locate the cause of the increased turbidity, paying particular attention to watercourse crossing sites. The visual inspection shall be conducted to determine if the source of the turbidity increase is located within the THP 520 area and the feasibility of actions to correct conditions causing the increase in turbidity.

6. Visual Inspections of Watercourse Crossings: Pacific Lumber shall conduct visual inspections of all sites in the THP 520 area where it has repaired, replaced, or removed watercourse crossings to determine if there are any conditions present that are causing or appear likely to cause significant increases in turbidity. The inspections shall begin as soon as Pacific Lumber begins work at any watercourse crossing site and shall continue for a period of at least 5 years after submittal of the final work completion report to CDF for THP 520. The inspections of watercourse crossing sites shall be conducted on a monthly basis between September 15th of each year and May 15th of the following year in accordance with a quality assurance and quality control program approved by the Chief of the Division of Water Quality of the SWRCB. The inspections shall utilize protocols and forms adapted from the CDF protocols and forms for evaluating implementation and effectiveness of best management practices at watercourse crossings. The inspections also shall include visual inspection of watercourse conditions immediately upstream and downstream of each watercourse crossing in accordance with protocols based upon the U.S. Forest Service stream evaluation protocols as set forth in the document titled "Stream Reach Inventory and Channel Stability Evaluation," USDA Forest Service, R1-75-002.⁴¹

⁴¹ U.S. Government Printing Office, Document 696-260/200, 1975.

7. Notification of Regional Board: Beginning no later than December 1, 2001, and for at least 5 years following submittal of the final work completion report for THP 520 to CDF, Pacific Lumber shall notify Regional Board staff by telephone within 48 hours of discovering the source of an increase or potential increase in turbidity discovered during monthly watercourse crossing inspections. Pacific Lumber shall also notify the Regional Board of the inspection results within 48 hours of any inspections undertaken in response to an increase in turbidity pursuant to the requirements of Order Paragraph 5. above. The notification shall include a description of any corrective work that has been taken or is planned to improve the conditions causing the existing or potential increase in turbidity.

8. Monitoring and Inspection Records: Beginning no later than December 1, 2001, and for at least 10 years following submittal of the final work completion report for THP 520 to CDF, Pacific Lumber shall maintain records showing turbidity and streamflow at the four monitoring stations specified in this order. The records shall include turbidity and streamflow data for each of the specified monitoring stations at 30-minute intervals for the period of September 15th of each year to May 15th of the following year. The records for the period of May 16th to September 14th of each year shall include turbidity and streamflow data for each of the specified monitoring stations at daily intervals. Pacific Lumber shall also maintain records of all visual inspections conducted pursuant to the provisions of this order. Pacific Lumber shall advise the North Coast Regional Water Quality Control Board (Regional Board) staff of the location of the monitoring and inspection records and shall make the records available to Regional Board staff upon request during regular business hours. The records shall be made available in electronic form if requested by the Regional Board.

9. Monthly Reports: Pacific Lumber shall prepare monthly water quality monitoring program reports by the 15th day of each month for the previous monthly monitoring

period. The reports shall be based on the turbidity and streamflow data from each of the four monitoring stations specified in this order, information obtained during visual inspections of sites within the area of THP 520, and Pacific Lumber's analysis of the monitoring data as required under paragraphs 3 and 4 of this order. Pacific Lumber shall inform the Regional Board and the SWRCB of the location where the monthly reports are maintained and shall provide copies of the reports to staff of the Regional Board or the SWRCB upon request. The monthly reports need not include all of the streamflow and turbidity data maintained in Pacific Lumber's records, but shall include the following information for the month involved:

a. Streamflow and turbidity data reported at daily intervals for each of the monitoring stations specified in this order and analysis of any increases in turbidity meeting the criteria specified in part c below.

b. Streamflow and turbidity data at 30-minute intervals across the rising and falling limbs of the hydrograph for any period in which precipitation of 1 inch or more occurs within any 24-hour period as measured at the Eureka National Weather Service Station.

c. Identification of any periods of at least 5 hours during which the turbidity measured at the monitoring station located immediately downstream of THP 520 has exceeded 10 NTUs and has also exceeded the turbidity measured at the monitoring station located immediately upstream of THP 520 by at least 20 percent.

d. The results of any visual inspections undertaken in response to a measured increase in turbidity. If an inspection reveals an actual or potential source of sediment discharge, the monthly report shall describe the location and nature of the sediment source, the corrective action that was taken, if any, and the results of that corrective action.

e. The results of any monthly inspections of watercourse crossings. If an inspection reveals an actual or potential source of sediment discharge, the monthly report shall describe the corrective action that was taken, if any, and the results of that corrective action.

f. A description of Pacific Lumber's proposed instrumentation.

g. A description of Pacific Lumber's monitoring station installation, location, and design plan.

10. Quality Assurance and Quality Control Program: Pacific Lumber shall submit a written quality assurance and quality control plan to the Chief of the Division of Water Quality for review and approval on or before November 3, 2001. The plan shall also be submitted to the Regional Board for comment by the same date. Following receipt of the plan, the Chief of the Division of Water Quality shall review the plan and notify Pacific Lumber of any necessary revisions within 10 days. The plan shall include the following information:

a. Pacific Lumber's proposed quality assurance measures for implementing the provisions of this order including a description of objectives, reference materials to be used, and a description of personnel qualifications and training to ensure that the monitoring required by this order is conducted with reasonable accuracy and completeness;

b. A description of the database and data storage and retrieval system to be used for reporting and storing the required information;

c. Details regarding the evaluation procedures, criteria, forms, and schedule to be used for monitoring and evaluating streamflow and turbidity and for visually evaluating implementation, effectiveness, and stream reach stability at watercourse crossings;

d. Procedures for timely forwarding of field reports, filing of forms, data entry, database management and reporting; and

e. A description of Pacific Lumber's proposed quality control measures including the procedures to be used to detect and correct data errors and omissions.

11. Compliance with Monitoring and Reporting Requirements: Pacific Lumber shall not undertake any work on repair, replacement, or removal of watercourse crossings in the area of THP 520 prior to complying with the flow and turbidity monitoring requirements of this order. If Pacific Lumber is not in compliance with the flow and turbidity monitoring requirements of this order by December 1, 2001, it shall cease all work within the area of THP 520 that could contribute to an increase in turbidity in the South Fork Elk River or its tributaries, and it shall not resume any such work until it is in compliance with those requirements.

12. Delegation to Division Chief: Questions regarding implementation of the water quality monitoring and reporting requirements of this order, including installation of monitoring equipment, shall be resolved by the Chief of the Division of Water Quality of the SWRCB. The Chief of the Division of Water Quality shall have the authority to revise the requirements of this order as appropriate based on information that becomes available in the future.

13. Access by Regional Board: Upon reasonable notice, Pacific Lumber shall grant access to Regional Board staff to inspect the area of THP 520 during normal business hours.

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14. Regional Board Order: North Coast Regional Water Quality Control Board

Monitoring and Reporting Program Order No. R1-2001-19 is vacated.

CERTIFICATION

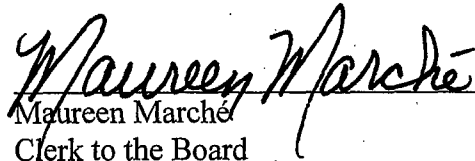
The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 18, 2001.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz

NO: None

ABSENT: None

ABSTAIN: None


Maureen Marché
Clerk to the Board