

**OFFICIAL RESPONSE TO SIGNIFICANT ENVIRONMENTAL  
POINTS RAISED DURING THE TIMBER HARVESTING PLAN  
EVALUATION PROCESS**

**FROM THE DIRECTOR OF THE CALIFORNIA DEPARTMENT OF  
FORESTRY AND FIRE PROTECTION**

TIMBER HARVESTING PLAN (THP) No.:	1-04-239 HUM
SUBMITTER:	Scotia Pacific Company LLC
COUNTY:	Humboldt
END OF PUBLIC COMMENT PERIOD:	December 10, 2004
DATE OF RESPONSE AND APPROVAL:	December 22, 2004

The California Department of Forestry and Fire Protection (CDF) serves as the lead agency in the review of Timber Harvesting Plans. These Plans are submitted to CDF, which directs a multidisciplinary review team of specialists from other governmental agencies to ensure compliance with environmental laws and regulations. As a part of this review process, CDF accepted and responded to comments which addressed significant environmental points raised during the evaluation of the plan referenced above. This document is the Director's official response to those significant environmental points which specifically address this timber harvesting plan. Comments which were made on like topics may have been grouped together and addressed in a single response. Remarks concerning the validity of the review process for timber operations, questions of law, or topics and concerns so remote or speculative that they could not be reasonably assessed or related to the outcome of a timber harvesting operation, have not been addressed.

Sincerely,

Ronald M. Pape  
Division Chief, Forest Practice  
RPF #1701

cc: Unit  
County Planning  
Fish and Game  
Parks and Recreation  
Water Quality

## COMMON FOREST PRACTICE ABBREVIATIONS

CDF	Calif. Department of Forestry & Fire Protection	LTO	Licensed Timber Operator
CEQA	Calif. Environmental Quality Act	LWD	Large Woody Debris
CGS	Calif. Geological Survey	MSP	Maximum Sustained Production
CMZ	Channel Migration Zone	MWAC	Mass Wasting Area of Concern
DFG	Calif. Department of Fish & Game	NMFS	National Marine Fisheries Service
DMG	Calif. Division of Mines & Geology	NTMP	Non-Industrial Timber Management Plan
EEZ	Equipment Exclusion Zone	PHI	Pre-Harvest Inspection
EHR	Erosion Hazard Rating	RMZ	Riparian Management Zone
ELZ	Equipment Limitation Zone	RPF	Registered Professional Forester
FEIS/EIR	Final Environmental Impact Statement/ Environmental Impact Report and Habitat Conservation Plan/Sustained Yield Plan for the Headwaters Forest Project	SYP	Sustained Yield Plan
FPA	Forest Practice Act	THP	Timber Harvesting Plan
FPR	Forest Practice Rules	TPZ	Timber Production Zone
HCP	Habitat Conservation Plan	USFWS	United States Fish and Wildlife Service
HU	Hydrologic Unit	WAA	Watershed Assessment Area
		WLPZ	Watercourse/Lake Protection Zone
		WQ	Regional Water Quality Control Board

## PUBLIC NOTIFICATION

To inform the public of this proposed Timber Harvesting Plan (THP) and determine if there were any concerns with the plan the following actions were taken:

- Notice of the receipt of a THP was sent to the adjacent landowner(s).
- Notice of the receipt of the plan was submitted to the county clerk for posting with other environmental notices.
- Notice of the plan was posted at the Department's local office and also at the regional office in Santa Rosa.
- Notice of the receipt of the THP was sent to those organizations and individuals on the Department's list for notification of plans in the county.
- Notice of the Intent to Harvest Timber was posted near the plan site if the plan is within 300 feet from other ownerships.

In addition, the Department determined that a pre-harvest inspection (PHI) was required to take place on the site of the proposed operation before a decision could be made on the proposed plan. The review of this plan resulted in site-specific measures being incorporated into the THP. With the addition of these protective measures, CDF determined there would be no significant adverse or cumulative impacts resulting from this plan.

## THP REVIEW PROCESS

The laws and regulations that govern the Timber Harvesting Plan review process are found in statute law in the form of the Forest Practice Act which is contained in the Public Resources Code (PRC), and administrative law in the rules of the Board of Forestry and Fire Protection (the Forest Practice Rules) which are contained in the California Code of Regulations (CCR).

The Forest Practice Rules are lengthy in scope and detail and provide explicit instructions for permissible and prohibited actions that govern the conduct of timber operations in the field. The major categories covered by the rules include the following:

- Timber Harvesting Plan contents and the Timber Harvesting Plan review process
- Silvicultural methods
- Harvesting practices and erosion control
- Site preparation
- Watercourse and lake protection
- Hazard reduction
- Fire protection
- Forest insect and disease protection practices
- Coastal Commission Special Treatment Areas
- Use, construction, and maintenance of logging roads and landings
- County-specific rules

When a THP is submitted to the California Department of Forestry and Fire Protection (CDF), a multidisciplinary review team conducts the first review team meeting to assess the THP. The review team normally consists of, but is not necessarily limited to, representatives of CDF, the Department of Fish and Game, and the Regional Water Quality Control Board. The Division of Mines and Geology also reviews each Timber Harvesting Plan for indications of potential slope instability. The purpose of the first review team meeting is to assess the proposed logging plan and determine on a preliminary basis whether it conforms to the rules of the Board of Forestry and Fire Protections. If it is found in conformance on this preliminary basis, questions are formulated which are to be answered by a field inspection (PHI) team.

Next, a PHI is normally conducted to examine the THP area and the logging plan. All review team members may attend, as well as other experts and agency personnel whom the Department may request. As a result of the PHI, additional recommendations may be formulated for site-specific conditions to ensure environmental protection.

After a PHI, a Second Review Team meeting is conducted to examine the field inspection reports and to finalize any additional recommendations or changes in the THP. The review team transmits these recommendations to the Registered Professional Forester (RPF) who developed the harvest plan. The RPF must address and respond to each recommendation. To reach a decision on acceptance or denial of a proposed THP, the Director's representative considers public comment, the adequacy of the RPF's response, and the recommendations of the review team chairperson before reaching a decision to approve or deny a THP. If a THP is approved, logging may commence.

The THP is valid for up to three years, and may be extended under special circumstances for a maximum of two years more, for a total of five years.

Before commencing operations, the plan submitter must notify CDF. During operations, CDF periodically inspects the logging area for compliance with the specifications of the THP and for compliance with the Forest Practice Rules (FPRs). The number of the inspections will depend upon the plan size, duration, complexity, regeneration method, and the potential for impacts. The contents of the THP and the FPRs provide the criteria CDF inspectors use to determine if violations exist. While CDF cannot guarantee that a violation will not occur, it is CDF's policy to pursue vigorously the prompt and positive enforcement of the Forest Practice Act, the FPRs, related laws and regulations, and environmental protection measures applying to timber operations on the non-federally owned lands in California. This enforcement policy is directed primarily at preventing and deterring forest practice violations, and secondarily a prompt and adequate

correction of violations when they occur. The mitigation measures required or incorporated in this THP will be monitored during the inspections conducted by CDF as authorized or required by the Forest Practice Act. The inspections include but are not limited to inspections during operations pursuant to section 4604, inspections of completed work pursuant to section 4586, stocking inspections pursuant to section 4588, and erosion control structure maintenance inspections pursuant to 14 CCR 1050.

Most forest practice violations are correctable and the Department's enforcement program assures correction. Where non-correctable violations occur, criminal action is usually taken against the offender. Depending on the outcome of the case and the court in which the case is heard some sort of environmental corrective work is usually done. This is intended to offset non-correctable adverse impacts. Once harvesting operations are finished, a completion report must be submitted certifying that the area meets the requirements of the rules. CDF inspects the area to verify that all aspects of the applicable rules and regulations have been followed, including erosion control work.

Depending on the silvicultural system used, the stocking standards of the rules must be met immediately or in certain cases within five years. A stocking report must be filed to certify that the requirements have been met.

## **PALCO FEIS/EIR AND HCP BACKGROUND**

The Pacific Lumber Company and its subsidiaries, Scotia Pacific Holding Company LLC and Salmon Creek Corporation, together referred to as PALCO, manage forest lands in Humboldt County, California. Because PALCO's timber harvesting would likely result in take of listed species, PALCO obtained an Incidental Take Permit (ITP) under Section 10 of the Endangered Species Act from the U. S. Fish and Wildlife Service (USFWS) for marbled murrelet and other wildlife and resident fish, and one from the NOAA Fisheries (formerly known as the National Marine Fisheries Service) for salmon and steelhead trout. To obtain an ITP, PALCO prepared a Habitat Conservation Plan (HCP) that, among other things, minimizes and mitigates take and avoids jeopardy to the covered species.

The HCP application and the Headwaters acquisition were the Proposed Action/Proposed Project, which was analyzed in the Final Environmental Impact Statement and Environmental Impact Report (FEIS/EIR). The FEIS/EIR was prepared by USFWS and CDF as lead agencies for the Headwaters Forest Acquisition and the PALCO HCP. Because the issuance of an ITP is a federal action, it must be reviewed under the National Environmental Policy Act (NEPA). The PALCO FEIS followed the Environmental Impact Statement format under NEPA. The HCP provides protection to both listed and unlisted fish and wildlife.

Implementation of the PALCO HCP began on March 1, 1999. PALCO THPs on "covered lands" are "tiered" to the environmental analysis within the HCP. Such THPs must also comply with the Forest Practice Rules and must incorporate the mitigation measures in the HCP. For each resource discussed in the FEIS, either the proposed activity is not expected to significantly impact the resource or additional mitigations have been added by the wildlife agencies to fully mitigate the impacts of take and to further reduce potential adverse effects. The wildlife agencies (DFG, NOAA Fisheries, and USFWS) thoroughly reviewed this plan and required a considerable number of changes and mitigation measures to reduce impacts to less than significant.

The mitigations set forth in the HCP were thoroughly analyzed in the FEIS, and this information is referenced where applicable in the proposed THP. The FEIS is referenced in the THP for its analysis of environmental effects. The complete package of minimization and mitigation measures of the HCP may be found in Appendix P of the FEIS. Environmental effects were addressed in the THP using the format of 14 CCR § 912.9 and Technical Rule Addendum No. 2. The FEIS is available on compact disc which, along

with paper copies of an FEIS summary, can be obtained from the USFWS, 1655 Heindon Road, Arcata, CA 95521, (707) 822-7201.

On August 29, 2002 the Superior Court of California, County of Humboldt, issued the following stay:

“A. There is stayed the operation of each of the following administrative actions pending the further order of the court:

1. Approval by the California Department of Forestry and Fire Protection of:

- a. Sustained Yield Plan No. 96-002, issued on or about March 3, 1999 upon the proposal of Pacific Lumber Company, Scotia Pacific Company, LLC, and Salmon Creek Corporation; and
- b. California Department of Forestry and Fire Protection findings and certification issued on or about February 25, 1999 entitled “CEQA Findings for Final Environmental Impact Report for the Pacific Lumber Company Habitat Conservation Plan/Sustained Yield Plan for the Headwaters Forest Project”, who purport to find that the Environmental Impact Report prepared for Sustained Yield Plan N. 96-002, issued on or about March 3, 1999, upon the proposal of Pacific Lumber Company, Scotia Pacific Company, L.L.C., and Salmon Creek Corporation, complies with the California Environmental Quality Act and the California Endangered Species Act; and

2. Approval by the California Department of Fish and Game of:

- a. Incidental Take Permit No. 2081-1998-63-1 issued to Pacific Lumber Company, Scotia Pacific Company, L.L.C., and Salmon Creek Corporation, or any of them on or about February 25, 1999, pursuant to Fish and Game Code § 2081 which purports to authorize them to incidentally take Marbled Murrelets, a species listed as threatened under the Federal Endangered Species Act and as endangered under the California Endangered Species Act, and the bank swallow listed as threatened under the California Endangered Species Act, as well as thirteen unlisted species; and
- b. Streambed Alteration Agreement, Notification No. 99-0075, approved on or about February 25, 1999, pursuant to Fish & Game Code § 1603, applicable to lands of Pacific Lumber Company, Scotia Pacific Company, L.L.C., and Salmon Creek Corporation or any of them; and
- c. California Department of Fish and Game findings and certification issued on or about March 1, 1999, entitled “Findings Related to the Environmental Impact Report for the Pacific Lumber Company Habitat Conservation Plan/Sustained Yield Plan for the Headwaters Forest Project in Compliance with the California Environmental Quality Act (“CEQA”) and the “CESA”; and,

B. No part to this proceeding shall take any action whose validity depends upon the validity of any of said approvals.”

The stay was issued due to the long delay in the certification of administrative records prior to proceeding with litigation, which began on March 24, 2003.

On September 27, 2002, the Judge hearing the case issued two orders, one of which exempted from the operation of the stay order the following six THPs: 1-02-071 HUM, 1-02-102 HUM, 1-02-150 HUM, 1-02-168 HUM, 1-02-169 HUM, and 1-02-191 HUM. On November 26, 2002, the Judge issued an order in response to a motion filed October 18, 2002 by real parties in interest that exempted from the operation of the stay a list of THPs subject to the approval process, which did not include THP 1-04-239 HUM.

In response to the stay, the landowner submitted THP 1-02-223 HUM as an 'Option A' plan as per 14 CCR § 913.11(a), which was filed on September 19, 2002, and has not been approved. The RPF submitted THP 1-04-239 HUM as an Option "C" (14 CCR § 913.11 (c)) method of achieving MSP. This THP is not subject to the court action outlined above, because the THP does not rely on the PALCO/SCOPAC SYP, or the State EIR.

In Case Nos. CV 990445 and CV 990452, Judge Golden ruled on October 31, 2003, that CDF should set aside its decisions of February 25, 1999, and March 1, 1999, which determined that PALCO's SYP No. 96-002 was found in conformance with the FPRs; set aside the Department's "CEQA Findings for the Final Environmental Impact Report for the Pacific Lumber Company Habitat Conservation Plan/Sustained Yield Plan for the Headwaters Project" dated February 25, 1999, with respect to the Sustained Yield Plan; and set aside the Department's "Certification of Final Environmental Impact Report for the Sustained Yield Plan for the Pacific Lumber Company" dated February 25, 1999. Judge Golden further ruled that the California Department of Fish and Game (DFG) should set aside the DFG decision approving Incidental Take Permit No. 2081-1998-63-1 dated March 1, 1999; set aside DFG's decision approving Streambed Alteration Agreement Notification No. 99-0075 dated February 26, 1999; and set aside DFG approval of "Findings Relating to the Environmental Impact Report For the Pacific Lumber Company Habitat Conservation Plan for the Headwaters Project in Compliance with the California Environmental Quality Act ("CEQA") and the CESA" dated February 26, 1999, with respect to the Incidental Take Permit and Streambed Alteration Agreement. The judgment and writ is subject to appeal. The State Court decision has no effect upon the Headwaters FEIS, Federal ITPs, or HCP.

The Department was informed in two separate letters in late December 2003 and early January 2004 that the Level II Watershed Analysis had resulted in established, site-specific prescriptions for the Van Duzen River watershed, pursuant to the process and requirements set forth in PALCO's HCP and the associated Implementation Agreement. A December 19, 2003 letter from Mr. Michael M. Long (USFWS) to Mr. Robert Manne (PALCO) and a January 14, 2004 letter from Mr. Joseph Blum (NOAA Fisheries) to Mr. Manne state with minor cosmetic differences,

"These prescriptions were unanimously agreed to by and among the Pacific Lumber Company [PALCO], NOAA Fisheries and the [FWS] Service. They are the result of a successful watershed analysis process that involved input from the public, and several State [advisory] agencies (California Department of Fish and Game [(CDFG)], North Coast Regional Water Quality Control Board, and California Geological Survey).

PALCO may immediately commence preparation of timber harvesting plans (THPs) or amend already approved THPs using the new prescriptions. However, there remain[s] two additional tasks that must be completed before timber operations may proceed using the new prescriptions. First, PALCO must develop a detailed set of monitoring procedures outlined in Section 6.3.5 of the Van Duzen River Prescriptions that [,which] must be approved by the Wildlife Agencies [NOAA Fisheries and FWS]. Second, PALCO must present to the public a final Van Duzen Watershed Analysis Report and a justification of the methods and prescriptions. The final monitoring plan will require individual written approval from each of the Wildlife Agencies and will specify the monitoring which must be in place and operational prior to any timber operations conducted under the new prescriptions."

The Department received notice on June 18, 2004, that the Van Duzen site-specific monitoring study and the Disturbance Index calculation methodology was approved. A June 18, 2004 letter from Mr. Michael M. Long (USFWS) to Mr. Robert Manne (PALCO) and a letter from Ms. Irma Lagomarsino (NOAA Fisheries) to Mr. Manne received the same day state with minor cosmetic differences,

“The National Marine Fisheries Service (NOAA Fisheries) [U. S. Fish and Wildlife Service (Service)] approves the enclosed Van Duzen site-specific monitoring study and Disturbance Index calculation methodology (enclosures 1 and 2) developed during the Van Duzen watershed analysis for the purpose of modifying the interim prescriptions within this watershed, pursuant to the requirements set forth in the Habitat Conservation Plan for the Properties of the Pacific Lumber Company, Scotia Pacific Holding Company, and Salmon Creek Corporation (PALCO HCP). With this approval, NOAA Fisheries Jan 14, 2004, [previous Service] approval of the Van Duzen site-specific prescriptions (enclosure 3), and concurrence of the U.S. Fish and Wildlife Service [NOAA Fisheries], PALCO may harvest within the Van Duzen watershed utilizing these new site-specific watershed prescriptions.”

The Van Duzen Watershed Analysis prescriptions generally provide for a slight moderation of the HCP’s interim measures. Some areas that formerly provided protection to riparian areas or unstable areas through no-harvest interim measures were found to be adequately protected with limited-harvest under the established prescriptions. The prescriptions are subject to re-visitation, owing to the dynamic nature of the timber resource and the scientific process.

This THP is not subject to the court action outlined above, because the THP does not rely on the PALCO/SCOPAC SYP, or the State EIR. In August 2004, during the review of submitted THPs, the Department issued an interpretation of the Variable Retention silvicultural method that required the preharvest stand age to meet the requirements of the even aged regeneration harvests described in 14 CCR § 913.1. In response, PALCO provided a *Variable Retention Option “A” Plan for Maximum Sustained Production* to the Department, which was dated August 30, 2004, for a limited number of THPs and future planning areas that proposed the use of Variable Retention silviculture. THP 1-04-239 HUM was not included in this Variable Retention Option “A” Plan. Furthermore, THP 1-04-239 HUM does not propose the Variable Retention silvicultural prescription. This THP was submitted as an Option “C” [14 CCR 913.11(c)] Plan since PALCO has submitted and the Department has filed an Option “A” [14 CCR 913.11(a)] Plan that covers their HCP lands. In the future, this document shall be referred to as the HCP Option “A” Plan as opposed to the Variable Retention Option “A” Plan which only covers a limited number of THPs that utilize Variable Retention as a silvicultural prescription. A revision to the HCP Option “A” Plan dated December 9, 2004 was received by the Department on December 10, 2004 and found acceptable for filing on December 20, 2004. This revision to the HCP Option “A” document is currently being reviewed by the Department. The HCP Option “A” plan is attached to THP 1-02-223 HUM (Uncle Jessie) which is pending 2<sup>nd</sup> review. The HCP Option “A” Plan must be approved by the Department prior to this plan proceeding to 2<sup>nd</sup> review.

The Variable Retention Option “A” Plan identified how MSP would be achieved in the list of THPs and future planning areas, and provided the basis for a determination that the THPs that use the document are in fact in compliance with 14 CCR § 913.11(a). The Variable Retention Option “A” plan covers a 100-year period and projects inventory, growth, and harvest levels in 10-year (or larger if harvest is proposed in periods that exceed ten years) increments. The Variable Retention Option “A” considered all activities related to growth, management, and harvest of timber, including site preparation, slash control, tree planting, vegetation management, thinning, fertilization, fire prevention, and use, construction, and maintenance of roads and landings. The Department approved the PALCO Variable Retention Option “A” in association with the approval of THP 1-04-099 HUM on October 1, 2004.

## OVERVIEW OF THP-SPECIFIC INFORMATION

The “Cummings Around the Mountain Amendment THP” Timber Harvesting Plan, THP 1-04-239 HUM, was filed on October 22, 2004. The THP was originally filed as a major amendment to THP 1-02-240 HUM, which was denied by the Department. The plan was later submitted as a new plan bearing the ‘Amendment’ name, but is treated as a totally separate THP. The plan includes a total of approximately 200.1 acres within the Cummings Creek Planning Watershed, located within the Van Duzen WAA Hydrologic Unit. The THP consists of five harvesting units. The operating area of this THP prescribes approximately 114.8 acres of Commercial Thinning silviculture, 52.3 acres of limited harvest in riparian bands and Hillslope Management areas most similar to single-tree Selection, and 33 acres of riparian no-harvest areas. New road and landings construction are proposed; no road or landing reconstruction is prescribed.

For this THP there is an estimated 40 cubic yards of sediment that may be delivered to watercourses as a result of timber operations. Two road mitigation sites were selected that were calculated to result in a reduction of sediment delivery of approximately 65 cubic yards, for a net reduction of approximately 25 cubic yards.

A preharvest inspection (PHI) was conducted on the THP site on November 10, 2004. Members present included CDF Forest Practice Inspector Ernie Rohl; John Williams (RPF); Jason Woodward (John Coyle & Associates, Inc. geologists); Mitch Hunt (PALCO); and Dave Jansen (Environmental Resource Solutions). A PHI report was prepared by the Department’s Inspector, and the RPF responded to the report’s recommendations in a letter dated November 15, 2004.

The plan proceeded to Second Review on November 18, 2004, with Second Review Team Chairperson Kathy McGrath presiding. The Review Team Chairperson recommended the plan be found in conformance with the rules of the Board of Forestry and Fire Protection if the concerns and suggestions (seven recommendations) of the Chairperson or the intent of them, were addressed by the plan submitter before the close of the comment period. The seven recommendations were addressed by the RPF in a letter dated November 29, 2004, and revisions were made to the THP. The RPF responses to the Second Review Team recommendations were determined to be sufficient.

The agency reports and other correspondence which have been included in the THP file indicate that serious consideration was given to the potential for impacts related to the concerns expressed by the public, as well as to concerns expressed by the reviewing agencies. During the period allowed for public comment on THP 1-04-239 HUM, which ultimately closed on December 10, 2004, the Department received one letter of concern from Mr. Sal Steinberg addressed to eight Van Duzen River THPs (1-02-157 HUM Amendment # 12, 1-04-169 HUM, 1-04-229 HUM, 1-04-230 HUM, 1-04-231 HUM, 1-04-238 HUM, 1-04-239 HUM, and 1-04-240 HUM). In general, the letter pertained to concerns regarding cumulative impacts to impaired watersheds, rate of harvest, accuracy of information in the THP, concentration of harvesting, sedimentation of watercourses, protection of aquatic species, Water Quality waste discharge requirements, demonstration of MSP, and silvicultural prescription. Those concerns are addressed below.

## PUBLIC CONCERNS AND RESPONSES

**1. Concern:** (typed as received, in part) *The cumulative impact from the accelerated rates of harvest as proposed by these THP’s [1-02-157 HUM Amendment # 12, 1-04-169 HUM, 1-04-229 HUM, 1-04-230 HUM, 1-04-231 HUM, 1-04-238 HUM, 1-04-239 HUM, and 1-04-240 HUM] in the Hely Creek Planning Watershed will cause negative impact to biological life, increase sedimentation , will be detrimental to the*



*beneficial uses of water, and will cause significant adverse effects in the Hely Creek Planning Watershed. The Hely Creek Planning Watershed contains 6612 acres. Pacific Lumber Company owns 90.5% of the watershed or 5985 acres. 1994-2004: 3780.1 acres harvested or proposed for harvest; 63% over Palco's holdings in the Hely Creek Panning [sic] Watershed. 1999-2004: 3461.4 acres harvested or proposed for harvest; 58% over Palco's holdings in the Hely Creek Planning Watershed. 2004: 1,257 acres approved or proposed; 21% over Palco's holdings in the Hely Creek Planning Watershed. In 2004, Pacific Lumber Company proposed timber harvesting over 4200 acres in the Van Duzen Watershed. Most of these plans have been approved by the California Dept. of Forestry over this period of time without regard for the cumulative effects to the watershed. The majority of plans proposed and approved are in a narrow corridor representing the Hely and Cummings Planning Sheds [sic].*

*There is a serious concern that many of these plans rest in the same range/township area within T2N, R2E. There is a serious concern that many of these new plans for 2004 are situated in the same township representing the Hely and Cummings Creek Headwaters. Many of the parcels proposed for harvest are adjacent to each other. Approval of all these plans will have significant adverse affect and represent a substantial deviation as defined in FPR 895.1 because combined they potentially have a significant adverse effect on timber productivity, or values related to soil, water quality, watershed, wildlife, fisheries, range and forage, recreational and aesthetic enjoyment of the Van Duzen River Basin.*

*The public review draft of the VDR watershed analysis defines the Van Duzen Watershed Analysis Unit (WAU) as an area comprised of all or a portion of 7 contiguous CALWATER Planning Watersheds. The WAU encompasses 71.3 square miles (45,632 acres). Palco's ownership is 53% of this area (24,185 acres). 8843 acres have been harvested or proposed since 1998. Are these statistics indicative of a 100 year plan, a 50 year plan, or a 20-25 year plan?*

*The Head of Hely THP Page 126 shows the 1<sup>st</sup> decade Sustained Yield Estimates Balance Sheet. There are inaccuracies in this document: 04-113 No Harvest Acres listed; 04-130 Inaccurate; 04-169 No Harvest Acres Listed; 04-189 No Harvest Acres Listed. This accounting is low compared to statistics gathered from Water Quality Control Board, and Friends of the Van Duzen statistics. These discrepancies appear over all the recent Timber Harvest Plans filed by Pacific Lumber Company. Friends of the Van Duzen chose the Head of Hely plan ...to emphasize the tremendous impact to the Hely Creek Watershed and its effect on biological life.*

*Friends of the Van Duzen is extremely concerned about the cumulative impacts affecting biological life and the negative effect on the life of residents in the community. The accelerated timber harvesting in the Van Duzen is a violation of the Clean Water Act. As a Wild and Scenic River..., the Van Duzen deserves the highest level of protection. The Van Duzen watershed has exceptional recreation and ecological significance, and the cumulative impact from excessive harvesting is causing irreparable harm to the watershed.*

**Response:** The Concern Writer appears to be primarily concerned for the rate of harvest from the eight listed THPs, and for potential cumulative impacts from this harvesting on beneficial uses of the Hely Creek Planning Watershed, and secondarily the greater Van Duzen River. THP 1-04-239 is not found within the Hely Creek Planning Watershed, but rather is in the Cummings Creek Planning Watershed. The plan-preparing RPF provided a Cumulative Impacts Assessment on THP pages 121 through 186. Included in this assessment is an acknowledgement on THP page 129 that the Van Duzen River is listed under Section 303(d) of the Clean Water Act as being impaired by sediment. Further, the RPF notes that the Van Duzen River is tributary to the Eel River, which is similarly listed for sediment and temperature. The RPF also provided a *Cumulative Logging Activities Report* on THP pages 185 and 186 showing the timber harvesting history by all landowners in the Cummings Creek Planning Watershed for the past ten years.

The Concern Writer states that the Department appears to approve THPs “without regard for the cumulative effects to the watershed.” As per Division 4, Chapter 8 PRC Article 1 §§ 4512 (a) through (d) and 4513 (a) and (b):

**“4512. Findings and declarations.**

- (a) The Legislature hereby finds and declares that the forest resources and timberlands of the state are among the most valuable of the natural resources of the state and that there is great concern throughout the state relating to their utilization, restoration, and protection.
- (b) The Legislature further finds and declares that the forest resources and timberlands of the state furnish high-quality timber, recreational opportunities, and aesthetic enjoyment while providing watershed protection and maintaining fisheries and wildlife.
- (c) The Legislature thus declares that it is the policy of this state to encourage prudent and responsible forest resource management calculated to serve the public's need for timber and other forest products, while giving consideration to the public's need for watershed protection, fisheries and wildlife, and recreational opportunities alike in this and future generations.
- (d) It is not the intent of the Legislature by the enactment of this chapter to take private property for public use without payment of just compensation in violation of the California and United States Constitutions.

**4513. Intent of Legislature.** It is the intent of the Legislature to create and maintain an effective and comprehensive system of regulation and use of all timberlands so as to assure that:

- (a) Where feasible, the productivity of timberlands is restored, enhanced, and maintained.
- (b) The goal of maximum sustained production of high-quality timber products is achieved while giving consideration to values relating to recreation, watershed, wildlife, range and forage, fisheries, regional economic vitality, employment, and aesthetic enjoyment.”

The Department strives to satisfy the mandate from the legislature, which includes the protection of timberlands and watersheds from adverse cumulative effects.

The Concern Writer notes that the majority of plans proposed and approved are in a narrow corridor in the Hely and Cummings Creek Planning Watersheds. The *Watershed Analysis Sub-Basins* map on THP page 184 shows the Cummings and Hely [to the southeast] sub-basins. The sub-basins are virtually identical to the Cummings Creek and Hely Creek Planning Watersheds (PWs). Both of these PWs follow one primary watercourse (i.e. Cummings Creek and Hely Creek), which results in a PW that is naturally a narrow corridor. It is only logical, therefore, that a map of the plans found within those PWs would be arranged in a narrow corridor. As previously mentioned, THP 1-04-239 HUM is located in the Cummings Creek PW. The *Watershed Analysis Sub-Basins* map also shows that the Cummings and Hely sub-basins (and, therefore the PWs) are located within four USGS townships: T2N, R1E; T2N, R2E; T1N, R1E; and T1N, R2E. The Department acknowledges that the majority of Cummings Creek and Hely Creek proper fall within T2N, R2E. A township is a square area that is approximately six miles distant on each side, or 36 square miles. One township is approximately 23,040 acres. Again, because the Cummings Creek and Hely Creek PWs are primarily located within one township, it is logical that a map would show all of the plans within the one township.

The Concern Writer states that all of these plans will “represent a substantial deviation as defined in FPR 895.1.” As stated in 14 CCR § 895.1, Substantial Deviation,

**“Substantial Deviation** means changes that are not “minor deviations” as defined in 895.1 and are presumed to be substantial deviations because they could significantly affect the conduct of timber operations and potentially could have a significant adverse [effect] on timber

productivity or values relating to soil, water quality, watershed, wildlife, fisheries, range and forage, recreation and aesthetic enjoyment. Such actions include, but are not limited to:

- (1) Change in location of timber harvesting operations or enlargement of the area to be cut.
- (2) Change in the silvicultural method and cutting system on any portion of the plan area.
- (3) Change in type or location of logging (yarding) system or basic type of equipment.
- (4) Change in location, nature or increase in length of proposed logging roads incorporating one or more of the following criteria:
  - (A) Any road in the Watercourse and Lake Protection Zone or where sidecast will extend into the Watercourse and Lake Protection Zone.
  - (B) Any road located in an extreme Erosion Hazard Rating area in the Coast Forest District, extreme Estimated Erosion Potential area in the Northern Forest District, or a high Erosion Potential area in the Southern Forest District.
  - (C) Any road where the average side slope exceeds 50%.
  - (D) Any road where unstable areas, active soil movement, or slide areas must be traversed.
  - (E) Any increase in gradient allowed by the District Rules as an exception and not provided for in the original plan.
  - (F) Any road extension of more than 600 feet (182.9 m).
- (5) Any use of existing roads not shown in the original plan when reconstruction work to allow for vehicle travel will be substantial. Substantial work on an existing road means more than minor repair and dressing of the travel surface and removal of vegetation to allow for vehicle passage.
- (6) Use of any roads not shown in the plan which would affect the key habitat of rare or endangered species or other critical wildlife habitat.
- (7) Enlargement of landings where such enlargement was not justified in the original plan.
- (8) Any change of operation in, or designation of, the Watercourse and Lake Protection Zone.
- (9) Any downgrading of stream classification.
- (10) A change to winter operation where summer operations was previously specified.”

To clarify the definition, above, as per 14 CCR § 895.1, Minor Deviations, states:

“**Minor Deviations** means any change, minor in scope, in a plan which can reasonably be presumed not to make a significant change in the conduct of timber operations and which can reasonably be expected not to significantly adversely affect timberland productivity or values relating to soil, water quality, watershed, wildlife, fisheries, range and forage, recreation, and aesthetic enjoyment.”

When a Substantial Deviation from an approved THP exists, therefore, an action is required. This is the Official Response to THP 1-04-239 HUM. The Concern Writer may find Responses to Concerns of the other listed THPs in their respective Official Responses

As described within the Van Duzen River Watershed Analysis Public Review Draft (Tetra Tech, Inc. 2002), the analysis was aimed at identifying existing conditions and physical and biological processes at work within the Van Duzen watershed portion owned by PALCO. The analysis was particularly concerned with land management practices that could impact aquatic resources. The methods used were developed by a joint Agency-PALCO-Consultant team with significant public input as well as outside scientific peer review, and required approximately 10 months. The analysis process itself was science driven, and technically complex. The eight major assessments involved in the Van Duzen Watershed Analysis included cumulative

watershed effects, mass wasting, surface erosion, hydrologic change, riparian function, stream channels, fish habitat, and amphibians and reptiles.

The watershed analysis results were used by PALCO and the agencies to develop a scientific understanding of how wood, water, and energy enters streams in the portion of the Van Duzen basin they studied. In particular, this PALCO-agency team assembled a “sediment budget” that showed the sources and amounts of sediment entering streams from both natural and manmade sources, and they studied the distance from which trees and sediment enter streams, which in turn informs how wide stream buffers need to be. With these and other results in hand, the PALCO-agency team then developed site specific prescriptions that were designed to insure that the environmental goals of the HCP would still be achieved over time, while allowing the maximum amount of economic and operational flexibility to PALCO. The HCP is designed to balance both conservation goals and PALCO’s economic needs using science-based information to make decisions.

The Concern Writer poses the question regarding the term of the statistics. The Department does not find the context of the question adequate to provide an answer. The Van Duzen Watershed Analysis (Tetra Tech, Inc. 2002) was conducted in association with the landowner’s HCP, which required the analysis be completed within eight years of the signing of the HCP. The analysis is subject to revisitations over the 50-year life of the HCP, which will expire in the year 2049.

The Concern Writer refers to page 126 of the Head of Hely THP [1-04-238 HUM], and uses this individual THP to “emphasize the tremendous impact to the Hely Creek Watershed.” THP 1-04-238 HUM was rejected for filing, and returned to the RPF for revisions before being re-submitted. Revisions to this THP are expected to occur before it will be found acceptable for filing. Please see the “PALCO FEIS/EIR and HCP Background” section, above. Judge Golden ruled on October 31, 2003, that CDF should set aside its decisions of February 25, 1999, and March 1, 1999, which determined that PALCO’s SYP No. 96-002 was found in conformance with the FPRs. THP 1-04-238 HUM may not rely upon SYP No. 96-002. Contrary to the Concern Writer’s statement regarding similar discrepancies appearing in recent PALCO THPs, THP 1-04-239 HUM does not contain a Sustained Yield Balance Sheet, and it does not rely upon SYP No. 96-002.

The landowner’s Habitat Conservation Plan exceeds the requirements of the Forest Practice Rules, providing even greater protection to resource values including water quality. The goals of the Habitat Conservation Plan are stated on page 3 of the document:

“Consistent with the objectives of the FESA and California Fish and Game Code (FGC), the Plan is a long-term comprehensive program to ensure the continued health of the biological communities on PALCO’s property and to minimize and mitigate impacts of PALCO activities on individual species. In this regard, the Plan has both a multi-species and habitat focus; it also has a specific legal purpose with regard to impacts to species and habitats.

Similar to other habitat-based multi-species HCPs (e.g., Plum Creek and plans approved in southern California under the Natural Community Conservation Planning [NCCP] Act), this Plan was developed by focusing on the requirements of selected species (focus species) while also addressing the needs of other species in the same habitat. This tiered approach is an essential feature of the Plan’s terrestrial and aquatic conservation strategies. ... The Plan’s aquatic habitat conservation strategy functions in a similar way. In this case, the focus species are four fish (coho salmon in the southern Oregon/northern California coastal evolutionary significant unit [ESU], *Oncorhynchus kisutch*; chinook salmon in the southern Oregon/California coastal ESU, *Oncorhynchus tshawytscha*; cutthroat trout in the southern Oregon/California coast ESU, *Oncorhynchus clarki*; and steelhead trout in the northern California ESU, *Oncorhynchus mykiss*). Measures for these species focus on habitat conditions in fish-bearing streams and extend outward to encompass riparian zones and entire watersheds.”

This HCP was evaluated by many agencies including the U.S. Fish and Wildlife (USFWS), NOAA Fisheries (formerly known as the National Marine Fisheries Service) and the California Department of Fish and Game (DFG). The opinions of these agencies support the Department's conclusion that the HCP provides adequate protection of the beneficial uses of water under the Basin Plan, and likely an acceleration in improvement of conditions in the Van Duzen River system.

In the *Biological and Conference Opinions Regarding Issuance of an Incidental Take Permit to the Pacific Lumber Company, Scotia Pacific Company LLC and Salmon Creek Corporation* (Biological Opinion), the NOAA Fisheries (formerly known as the National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS) analyzed impacts to wildlife, including anadromous fish species, associated with the proposed Incidental Take Permit (ITP). References to the ITPs may be found in this THP on page 114.

The Biological Opinion describes the assessment approach to the analysis as follows, beginning on page 256 of the document:

“In recent years, the decline and extinction of Pacific salmon populations most commonly results from habitat loss and degradation in their spawning and rearing streams (Nihlsen et al. 1991). As a result this assessment of the effects of action associated with the proposed ITP for PALCO on four salmonids and proposed critical habitat is habitat-based. To conduct our assessment, we used the best scientific and commercial data available to estimate changes to water quality conditions, channel condition and dynamics, flow, hydrology, physical barriers to migration, and the general condition of watersheds that support the biological and ecological requirements of -populations of these salmonids. An underlying assumption of this analytical approach is that these species will experience demographic changes (that is, changes in vital rates, population size, and distribution) commensurate with the changes in these habitat-related variables. As a result, these habitat-related variables are used as surrogates or indices of population trends for the purposes of this assessment. This approach is consistent with the approach used in the EIS.

The relationship between changes in habitat quantity, quality, and connectivity and the status and trends of fish and wildlife populations has been the subject of extensive scientific research and publication, and the assumptions underlying our assessment are consistent with this extensive scientific base of knowledge. For more extensive discussion of and data supporting the relationship between changes in habitat variables and the status and trends of fish and wildlife populations, readers should refer to the work of Fiedler and Jain (1992), Gentry (1986), Gilpin and Soule (1986), Nicholson (1954), Odum (1971, 1989), and Soule (1986, 1987). For detailed discussions of the relationship between habitat variables and the status and trends of salmon populations, readers should refer to the work of FEMAT (USDA Forest Service et al. 1993), Gregory and Bisson (1997), Hicks et al. (1991), Murphy (1995), National Research Council (1996), Nehlsen et al. (1991), Spence et al. (1996), Thomas et al. (1993), The Wilderness Society (1993), and any of the numerous references contained in this rich body of literature.

The relationship between habitat and populations is embodied in the concept of carrying capacity. The concept of carrying capacity recognizes that a specific area of land or water can support a finite population of a particular species because food and other resources in that area are finite (Odum 1971). By extension, increasing the carrying capacity of an area (that is, increasing the quality or quantity of resources available to a population within that area) increases the number of individuals the area can sustain over time. By the same reasoning, decreasing the carrying capacity of an area (that is, decreasing the quality or quantity of resources available to a population) decreases the number of individuals the area can support over time. Restoring habitat that had been previously

destroyed or degraded can increase the size of a population the habitat can support; conversely, habitat destruction and alteration can reduce the size of a population the habitat can support. In either case, there is a corresponding, but non-linear relationship between changes in the quality and quantity of resources available to a species in an area and the number of individuals that area can support.

The approach used in this assessment is intended to determine if the proposed action is likely to destroy or degrade the quantity and quality of natural resources necessary to support populations of the four salmonid species in the action area. Finally, the assessment approach is intended to determine if any changes are likely to decrease the size, number, dynamics, or distribution of listed salmonid populations in the action area in ways that appreciably reduce the likelihood of both the survival and recovery of listed species in the wild.”

After a lengthy discussion of salmonids and potential impacts, the Biological Opinion was able to draw the following conclusions:

“The NMFS [NOAA Fisheries] concludes that implementation of the aquatic conservation plan and its interrelated strategies will maintain or achieve, over time, properly functioning aquatic habitat conditions, thereby resulting in the long term survival of Chinook salmon in the SOCC ESU.” (page 374)

“The NMFS [NOAA Fisheries] concludes that implementation of the Aquatic Conservation Plan and its interrelated strategies will maintain or achieve, over time, properly functioning aquatic habitat conditions, thereby resulting in the long term survival of steelhead in the ESU.” (page 391)

“The NMFS [NOAA Fisheries] concludes that implementation of the Aquatic Conservation Plan and its interrelated strategies will maintain or achieve, over time, properly functioning aquatic habitat conditions, thereby resulting in the long term survival of coastal cutthroat trout in the SOCC ESU.” (pages 391 and 392)

“After reviewing the current status of each covered species, the environmental baseline for the action area, the effects of the proposed action (i.e., Headwaters Forest Acquisition and the PALCO SYP/HCP), and the cumulative effects, it is the Services’ biological and conference opinion that the action as proposed, is not likely to jeopardize the continued existence of any covered species...” (page 398)

The conclusions of the NOAA Fisheries in the Biological Opinion are clear that implementation of the Aquatic Conservation Plan is not likely to jeopardize the continued existence of anadromous fish. No *significant* adverse impacts are expected. No *significant* behavioral impairment or mortality to salmonids is expected. There can never be total assurance that no additional mortality, harm, or behavioral impairments will occur to any life stage or individual member of anadromous fish species, since mortality and harm are inherent in any living environment.

The landowner’s HCP puts a limit on the rate of harvest through exclusion of many areas and severe limitations on the volume that can be removed in others. For the regeneration cut on even-aged management there are also the limitations of the Forest Practice Rules regarding adjacency. The level of harvest within the Van Duzen drainage is self-limiting with respect to the restrictions of the Habitat Conservation Plan combined with the Forest Practice Rules. Rate of harvest is a poor indicator of cumulative impacts. A harvest of 10% of a watershed confined to steep slopes adjacent to watercourses would not have the same impact as an equivalent acreage of harvest confined to flat ridge-top areas with no watercourses in any of the harvest units. By recognizing and avoiding sensitive areas, or mitigating the harvest that is proposed in areas

that are most likely to produce adverse impacts (e.g. unstable areas, areas adjacent to perennial watercourses, etc.), the impacts are minimized. Impacts associated with sediment delivery can also be offset by reduction of potential sediment delivery from existing sources, reducing impacts to zero or providing for beneficial impacts, particularly in the long term. The Department has carefully considered the issue of harvest levels within the watershed and has not found that there is a violation of the Forest Practice Rules.

The Department has examined the maps and data within and attached to the letter of concern regarding rate of timber harvesting. The Concern Writer's accounting does not necessarily appear to account for potential differences in the silvicultural prescription or the yarding method. The previously mentioned *Cumulative Logging Activities* report provides details of these variables. For instance, THP 1-04-239 HUM prescribes Commercial Thinning. Commercial Thinning results in evenly spaced leave trees that represent the dominant and co-dominant trees, leaving improved access for increased growth, thereby enhancing MSP. Each of the THPs listed by the Concern Writer follows the measures in the HCP, with increased buffers to watercourses, improved roads, and substantial set-asides for wildlife protection. In short, the impact from harvesting may not be as great as the Concern Writer perceives.

The Concern Writer states that "the Van Duzen deserves the highest level of protection." The *Van Duzen River and Yager Creek Total Maximum Daily Load for Sediment* report by the Environmental Protection Agency (EPA, 1999) concluded that,

"A Scientific Review Panel (SRP) conducted an independent review of the California Forest Practice Rules (FPRs) with regard to their adequacy for the protection of salmonid species, as required by the March 1998 Memorandum of Agreement (MOA) between the National Marine Fisheries Service [NOAA Fisheries] and the Resources Agency of California. The SRP provided recommendations for changes to specific rule sections addressing: watercourse and lake protection zones and large woody debris recruitment, geologic review and maps, road construction and maintenance, watercourse crossings, winter operations, and THP preparations, review and implementation (Ligon et al 1999). The SRP also emphasized the need for a watershed analysis approach capable of assessing cumulative effects attributable to timber harvesting and other non-forestry activities on a watershed scale (Ligon et al 1999).

The Pacific Lumber Company, the largest landowner in the lower basin, recently has entered into an agreement with the National Marine and Fisheries Service (NMFS) and the Fish and Wildlife Service (FWS) to implement a HCP for their ownership including lands in the Yager Creek and VDR. The HCP contains several provisions that, if properly implemented, could address source categories in the TMDL as well as the concerns expressed by the SRP:

- Timber harvest restrictions on steep or unstable slopes including high, very high and extreme mass wasting zones such as inner gorge areas;
- Riparian management zones on Class I, II and III streams that provide large tree retention for recruitment as large woody debris and bank stabilization.
- Road storm-proofing process of assessing the road network to identify controllable sources, such as stream crossings, and assigning implementation priorities, according to principles described in the Handbook for Ranch and Forest Roads (Weaver and Hagans 1994);
- Watershed Analysis including assessments of fisheries, stream channel conditions, mass wasting, surface erosion, riparian conditions, and cumulative effects. The schedule for watershed analysis completion is: Van Duzen 2001, Lawrence Creek 2002, Lower Yager Creek 2002, North Fork Yager 2003.
- Monitoring program consisting of aquatic stations as well as compliance and effectiveness monitoring of management measures.

The successful and timely implementation of these provisions on PL's land is critical to the achievement of sediment allocations in the lower basin. EPA encourages PL to cooperate with other landowners, agencies and the public to conduct watershed analyses for Lower VDR, Lawrence Creek and Yager Creek, according to the process set forth in PL's HCP and further modified in the Freshwater Creek example. The watershed analysis process will provide a scientifically-based mechanism to aggregate all existing data, assess unstable areas, prioritize areas for restoration and pool resources for implementation actions."

With the notable exception of the timing of the Watershed Analyses in the greater Yager-Lawrence Creek areas, the desires of the EPA have been achieved. Therefore, the Department concludes that satisfactory consideration has been afforded by this landowner to meet with Water Quality and EPA standards.

The Concern Writer refers to the Van Duzen as a designated Wild and Scenic River. As classified per PRC 5093.545 (g) (1) and (2), "The Van Duzen River from the Dinsmore Bridge to the powerline crossing above Little Larabee Creek" is a "Scenic" river; "The Van Duzen River from the powerline crossing above Little Larabee Creek to the confluence with Eel River" is a "Recreational" River. As per 14 CCR § 895.1, Special Treatment Areas are defined as, "...specific locations which contain one or more of the following significant resource features which may be at risk during timber operations: a. Within 200 feet of the watercourse transition line of federal or state designated wild and scenic rivers; ..." Therefore, as per 14 CCR § 913.4 (a),

"Special consideration in Special Treatment Areas shall be given to selection of a regeneration method or intermediate treatment compatible with the objectives for which the special area was established. Such areas shall be identified in the plan. To assure the integrity of legally designated historical and archaeological sites and legally designated ecological reserves, and that the objectives of the special treatment areas are met, the RPF and the Director may agree, after on-the-ground inspection, if requested by either party, on specific silvicultural and logging practices to protect such areas. The Director shall notify affected agencies or groups with expertise in the resource involved in the special treatment area of any such areas located during the THP review process."

As shown on the *Cummings Around the Mountain Amendment THP Map* on page 56, the THP is approximately 1.2 air miles (or 2.5 stream miles) distant from the Van Duzen River at the nearest point, significantly further than 200 feet. The plan-preparing RPF has not noted any Special Treatment Areas associated with this THP in Item 7, on page 2. As previously described, the use of Commercial Thinning silviculture leaves a fully stocked stand of the dominant and co-dominant trees immediately following harvest. Therefore, the potential for significant adverse impact to the recreational value of the Van Duzen River has been minimized to a level of insignificance.

The Department has considered the information provided in this Concern and has not reached the conclusion that the current level of timber harvesting plan submission is having an adverse impact on fish or wildlife, or will violate the Basin Plan, the Clean Water Act, the Endangered Species Act, or the FPRs. The Concern Writer does not appear to provide substantial evidence regarding a "...negative effect on the life of residents in the community." The Department does not find the rate of timber harvesting to be "excessive." The Department finds THP 1-04-239 HUM in conformance with the FPRs and the landowner's HCP. Please see the Responses to other Concerns.

**2. Concern:** (typed as received, in part) *In... THP 04-238 page 136 Section 2 of the Cumulative Impacts Assessment Checklist, the forester responds Yes, stating there are ...continuing, significant adverse impacts from past land use activities that may add to the impact of the proposed project. In...plan 04-238, page 197 of the Cumulative Logging Reports, many discrepancies can be found including the following: 1) 01-217*



*states that only 1 acres was used for Right of Way; 2) 03-140 states that only 1.4 acres was cut using select silvaculture [sic]; 3) 04-104 states Row [sic] 0.1, Select 9.6, No Cut 0.8; 4) 04-128 No Data; and 5) 04-169 No Cut 8.6.*

**Response:** The Concern Writer appears to be primarily concerned for errors or discrepancies in the Cumulative Logging Activities report for THP 1-04-238 HUM. This is the Official Response for THP 1-04-239 HUM. The Concern Writer may find Responses to Concerns for THP 1-04-238 HUM in its respective Official Response. The Cumulative Logging Activities report for THP 1-04-239 HUM is found on THP pages 185 and 186.

**3. Concern:** (typed as received, in part) *There is a serious concern that four of these plans of these plans [sic] (Small Tree Cable 04-103, Head of Hely 04-238, Redwood House 04-231, Achilles Hely Amendment 02-157) are adjacent to each other in the Hely Planning Shed [sic], and that the California Dept of Forestry is approving plans on an individual basis, and not taking into account the negative cumulative impact of these plans.*

*The four plans in this compact section of T2NR2E [sic] shows Total Acres – 981.9, No Cut – 237.6, and Harvest Acres – 744.3. Present plans 2004 sections 27,28, 33, 34 of T2NR2E represents ...16.4% of Palco's holdings in the Hely Creek Watershed. Combining these 4 new plans with the original Achilles Hely approved in 2002 gives us past and present statistics of section 27,28 33,34 [sic] of the T2NR2E area, with Total Acres – 1247.9, No Cut – 252.3, and Harvest Area 995.6, which ...now represents ... 20.8% of Palco's holdings in the Hely Creek Watershed (Total acres) or ...16.6% of Palco's holdings in Hely Creek Planning Shed. (Harvest Acres).*

*These plans will have an adverse effect on downstream salmon, sedimentation, and increased turbidity throughout the system.*

**Response:** The Concern Writer appears to be primarily concerned for the relative proximity of four THPs (1-02-157 HUM Amendment # 12, 1-04-103 HUM, 1-04-231 HUM, and 1-04-238), and for cumulative impacts of these plans in the Hely Creek watershed. This is THP 1-04-239 HUM, which is not included in the list of four plans by the Concern Writer, and is not found in Hely Creek or the Hely Creek Planning Watershed. The *Cumulative Logging Activities* report on THP pages 185 and 186 shows the primary silvicultural prescription for plans in the Cummings Creek Planning Watershed, which does not include THPs 1-02-157 HUM Amendment # 12, 1-04-103 HUM, 1-04-231 HUM, and 1-04-238. Therefore, THP 1-04-239 HUM will have no impact on the Hely Creek, or for adverse effect on salmon, sedimentation, or increased turbidity in that watercourse.

Please see the “Overview of THP-Specific Information” section, above. THP 1-04-239 HUM will result in a net reduction of approximately 25 cubic yards of sediment from ultimately entering the Van Duzen River drainage. The proposed mitigation and protection measures of the landowner's HCP are likely to provide a reduction in turbidity and improvement to the Cummings Creek Planning Watershed and the Van Duzen watershed over time. Please see the Response to Concern # 1. The HCP was evaluated by many agencies, who concluded that the HCP provides adequate protection of the beneficial uses of water. The conclusions of the NOAA Fisheries in the Biological Opinion are clear that implementation of the Aquatic Conservation Plan is not likely to jeopardize the continued existence of anadromous fish. The Department found THP 1-04-239 HUM in conformance with the FPRs and the landowner's HCP, and that the rate of timber harvesting was not excessive or having an adverse impact on fish or wildlife.

**4. Concern:** (typed as received, in part) *Individual timber harvest plans are misleading. Where are the maps in the PALCO foresters [sic] report showing the past 10 years of harvest surrounding the harvest area? Is Palco misleading the California Dept of Forestry by not inserting these maps, or is CDF failing to take into account cumulative impact of adjacent plans. What is the cumulative impact of harvesting all these plans simultaneously? Note that Achilles Hely Amendment enters previously protected areas prior to the Watershed Analysis. How does additional harvesting in surrounding areas impact this critical headwaters of Hely Creek?*

**Response:** The Concern Writer appears to be primarily concerned for the lack of maps showing the past 10-year harvest history. The Forest Practice Rules require a full spectrum of information, including description of past projects. While the current Technical Rule Addendum #2 requires description of geographic assessment area and the past and future projects, along with identifiable significant environmental impacts, it does not require a map of the projects or known problem. Creation of such a map, which professionals and the public can use to evaluate potential watershed impacts, was determined by the California legislature to be an important component for watershed assessments and is required as part of a THP beginning January 1, 2005. The proposed amendment is statutorily required by enactment of California Assembly Bill (AB) 47, which adds Section 4551.9 to the Public Resource Code.

In accordance with AB 47, the proposed subsections of the regulation provide creation of a new/additional map of past, present and reasonably foreseeable future timber harvesting projects on land owned or controlled by the timberland owner within the planning watershed of the proposed project. The regulation subsections strive to encourage informative, non-redundant presentation by plan submitters and be a useful resource for review. No more than one Planning Watershed per page will be depicted, at a map scale sufficiently large to clearly represent the Planning Watershed and achieve clarity. The maps will be reproducible on black and white copiers, and submitted on 8-1/2 x 11 inch paper.

The Concern Writer asks how harvesting in surrounding areas impacts the “critical headwaters of Hely Creek.” THP 1-04-239 HUM is not located in the Hely Creek watershed proper or the Hely Creek Planning Watershed, but rather it is located in the Cummings Creek Planning Watershed. Therefore, THP 1-04-239 HUM will not have any impact on the headwaters of Hely Creek.

Please see the Response to Concern # 1. The Department has considered the information provided in this Concern and has not reached the conclusion that the current level of timber harvesting plan submission is having an adverse impact on fish or wildlife, or will violate the Basin Plan, the Clean Water Act, the Endangered Species Act, or the FPRs. The HCP that governs operations on this ownership was evaluated by many agencies that concluded the HCP provides adequate protection of the beneficial uses of water under the Basin Plan, and likely an acceleration in improvement of conditions in the Van Duzen River system. The RPF has provided a Cumulative Impacts Assessment that has been found in conformance with the FPRs. The mitigation methods and protections provided in this and other plans in the Van Duzen River area on this ownership have been found to reduce impacts to the level of insignificance.

**5. Concern:** (typed as received, in part) *Actions taken in the upper reaches of Hely Creek have a direct effect to the lower salmon bearing reaches of Hely Creek. Sediment run off from harvesting over 60% of the Timber Area have caused increased turbidity in the system negatively affecting the biological life. Turbidity readings from the 1<sup>st</sup> flush on October taken by Sal Steinberg 10/19/04 under the bridge by Redwood House Road in Hely Creek, was tested by Clark Fenton at Salmon Forever, and revealed a very high 435 NTU's.*

*Actions taken in the upper reaches of Hely Creek have a direct effect to the lower salmon bearing reaches of Hely Creek. Sediment run off from harvesting over 60% of the Timber Area have caused increased turbidity in the system negatively affecting the biological life. From 2001- 2003, Friends of the Van Duzen's*

*monitoring station two and a half feet of sediment was deposited at our water quality monitoring station in the County Park near the mouth of Hely Creek [sic]. For a long time Hely creek was a prime Chinook spawning grounds but their numbers have seriously diminished in the last 15 years, and without serious intervention and restoration, we may be moving toward the extinction of salmon in this creek. Enclosed is a picture from December 2001 during the year that the Chinook came up to Hely to spawn. This was the last year that anyone reported salmon coming up Hely Creek.*

*Results of the first three years of our 50 year study show high turbidity readings, which have a negative impact on salmonids. Change in turbidity level shows a general influence from fluctuations in flow volume. Turbidity values remain at very dangerous levels, even when flow is lower. Turbidity sample values in the area of the lower Van Duzen watershed consistently show exceedence of levels shown to impair the lifecycle and survival of the coho and Chinook salmon species. This sediment load could be controlled by decreasing the impact from management related input, which has been shown in the previous Pacific Watershed and Tetra-Tech reports to account from 36% to 29% respectively. Waste discharges are significantly causing and or contributing to the impairment of water quality and beneficial use. Streamside landslides accounted for 20% of the management related input. Increasing size and density of riparian buffer zones until this input is reduced.*

*If, CDF and Palco find it necessary to harvest this sensitive area of Hely Creek, its headwaters and surroundings, and since Palco no longer has a waste discharge waiver, the magnitude of this new harvesting would necessitate a monitoring station to be established by Water Quality to record sediment discharge into Hely Creek. An additional monitoring station should be set up within the T2NR2E township and range.*

**Response:** The Concern Writer appears to be primarily concerned for actions taken in the upper reaches of Hely Creek having an adverse impact on anadromous salmonids in the lower reaches of the same watercourse. Please see the Response to Concern # 4. THP 1-04-239 HUM is not located in the Hely Creek watershed proper or the Hely Creek Planning Watershed, but rather it is located in the Cummings Creek Planning Watershed. Therefore, THP 1-04-239 HUM will not have any impact on the headwaters or lower reaches of Hely Creek.

Please see the Response to Concern # 1. The Van Duzen River Watershed Analysis was particularly concerned with land management practices that could impact aquatic resources. The eight major assessments involved in the Van Duzen Watershed Analysis included cumulative watershed effects, mass wasting, surface erosion, hydrologic change, riparian function, stream channels, fish habitat, and amphibians and reptiles. The PALCO-agency team assembled a "sediment budget" that showed the sources and amounts of sediment entering streams from both natural and manmade sources, and they studied the distance from which trees and sediment enter streams, which in turn informs how wide stream buffers need to be. With these and other results in hand, the PALCO-agency team then developed site specific prescriptions that were designed to insure that the environmental goals of the HCP would still be achieved over time. The Environmental Protection Agency concluded in the Van Duzen River TMDL report that the watershed analysis process would provide a scientifically-based mechanism to aggregate all existing data, assess unstable areas, prioritize areas for restoration and pool resources for implementation actions, and that successful and timely implementation of these provisions on PL's land is critical to the achievement of sediment allocations in the lower basin.

The Concern Writer refers to his collection and testing of presumably a grab sample of water under the Redwood House Road Bridge on October 19, 2004. The data is used for a 50-year Van Duzen Water Quality Monitoring Project monitoring study conducted by the Friends of the Van Duzen River. The Department acknowledges Attachments # 2 and # 3 showing turbidity readings and a summary of the first three years of the 50-year Project. The Department is not aware of peer review or validation of the methodology used by the Friends of the Van Duzen River. Further, the one turbidity sample is not adequate

to provide impact. Rather, a series of collections over time and relatively similar rainfall and flow levels are required before drawing conclusions of impact.

The Concern Writer provides photographs and discusses sedimentation at a monitoring station near the mouth of Hely Creek. The Concern Writer states that December 2001 "...was the last year that anyone reported salmon coming up Hely Creek." The Department is confused by the statement, as it is not clear if the Concern Writer is referring to the findings of the Friends of the Van Duzen, or reporting by any entity. Furthermore, the Department is not aware of any or all entities that may be conducting specific surveys for the presence of salmonids specifically in Hely Creek. The Department does, however, have a copy of *The Pacific Lumber Company's 2002 Aquatic & Amphibian/Reptile Annual Report*, which shows the results of salmonid electrofishing collection results for Station 112 in Hely Creek in Table 25. Collections made at Station 112 on September 5, 6, and 7 in 2002 showed the presence of anadromous steelhead, Coho Salmon, and Cutthroat trout. Appendix 8 of the same document provided longitudinal and cross-sectional profiles of a selected number of Stations across the PALCO ownership. In the Van Duzen, no measurement was taken at Station 112. Measurements provided at Station 003 (Root Creek), Station 108 (Cummings Creek), and Station 111 (Grizzly Creek), all within the Van Duzen River Watershed, demonstrate longitudinal profiles showing some annual horizontal and vertical variation (i.e., pools and riffles did not always line up annually). Such variation shows the dynamic nature of a stream, and may account for the sedimentation stated by the Concern Writer. As stated on page 27 of the 2002 Annual Report, "Deviations observed in annual cross-sections were deemed inconsequential, and were most likely the result of minor surveying inconsistencies."

The Concern Writer states that sediment load from management-related inputs could be controlled. Please see the Response to Concern # 3. THP 1-04-239 HUM will result in a net reduction of approximately 25 cubic yards of sediment from ultimately entering the Van Duzen River drainage. The Department found that the proposed mitigation and protection measures of the landowner's HCP are likely to provide a reduction in sedimentation and turbidity, and improvement to the Cummings Creek and Van Duzen watershed over time. The Concern Writer states that increasing the size and density of riparian buffer zones will assist in reducing sediment input. The watershed-specific prescriptions from the Van Duzen Watershed Analysis resulted in increased buffer widths and Special Hillslope Prescriptions for steep streamside areas. These restrictions are found in the THP in Section II, Item 26 (page 28) and Item 29.1 (page 38), and represent protection to the riparian area in excess of that found in the standard FPRs.

The Concern Writer concludes that timber harvesting in the headwaters of Hely Creek "...would necessitate a monitoring station to be established by Water Quality to record sediment discharge into Hely Creek." As previously stated, THP 1-04-239 HUM is not located in the Hely Creek watershed proper or the Hely Creek Planning Watershed, and will not have any impact on Hely Creek. The Department does not have the authority to require the Regional Water Quality Control Board to establish and record sediment discharge into a watercourse. The Concern Writer would be better served to express this concern directly to WQ.

**6. Concern:** (typed as received, in part) *In a letter to Pacific Lumber Company dated September 9<sup>th</sup> denying waste discharge waivers in the Van Duzen, Mrs. Catherine Kuhlman, Director of Water Quality Control Board expressed concerns for ...ongoing and unresolved concerns regarding cumulative impacts to the beneficial uses of water in the sediment-impaired Van Duzen River watershed. These concerns ... are based on ...the rate and scale of land-disturbing activities and high-impact silvicultural practices proposed in PALCO's Van Duzen THPs. Since 2001, Water Quality Control Board Region 1 has filed 14 Non-Concurrences in the Van Duzen.*

**Response:** The Concern Writer appears to continue expressing concern for cumulative impacts based upon the denial of a waste discharge waiver by WQ. The Concern Writer refers to the California North Coast

Regional Water Quality Control Board (WQ) Order No. R1-2004-0016 (*Categorical Waiver of Waste Discharge Requirements for Discharges Related to Timber Harvest Activities on Non-Federal Lands in the North Coast Region*) and Order No. R1-2004-0030 (*General Waste Discharge Requirements for Discharges Related to Timber Harvest Activities on Non-Federal Lands in the North Coast Region*).

On June 23, 2004, the WQ adopted Order No. R1-2004-0016. This waiver exempted timber activities conducted on Non-Federal lands from the waste discharge requirements of Article 4 (commencing with Section 13260) of Chapter 4, Division 7 of the California Water Code, except as provided within the waiver. This Order rescinded WQ Order No. R1-2003-0116, except for application to THPs that were accepted for filing by CDF prior to June 23, 2004, and obtain coverage under R1-2003-0116 by October 15, 2004.

WQ may determine that discharges for THPs where the applicant proposes to obtain coverage under general WDRs would be better regulated under individual waivers, other general WDRs, watershed WDRs, ownership WDRs, or individual WDRs. It is anticipated that THPs submitted on industrial forestlands, such as this landowner, will require the General WDRs.

As described in a letter dated September 9, 2004, from Ms. Catherine Kuhlman (WQ) to Brian Anderson (PALCO), all plans submitted by PALCO in the Van Duzen River watershed were deemed ineligible for waivers of waste discharge requirements as per WQ Order No. R1-2003-0116 (Kuhlman, 2004). In response to the WQ letter, the RPF provided an Erosion Control Plan (see THP page 201) and applied for coverage under the General Waste Discharge Requirements, Order R1-2004-0030, for timber harvest activities on non-federal lands in the North Coast Region.

The Concern Writer notes the use of land-disturbing activities and “high-impact” silvicultural practices. Please see the Response to Concern # 3. THP 1-04-239 HUM will result in a net reduction of approximately 25 cubic yards of sediment from ultimately entering the Van Duzen River drainage. Please see the “Overview of THP-Specific Information” section, above. New road and landings construction is prescribed in this THP. The *Work Order for Road Repair/Construction* report on THP page 71 shows 1,754 feet of new road construction proposed in this plan. The *Road Construction Specifications* map on THP page 70 shows this ridge-top road extension at the southern boundary of the THP Unit 4, and will allow for cable yarder settings. The *Yarding System* Map on THP page 60 shows primary use of cable yarding, with some ground-based on relatively flat areas, and helicopter-option on the entire plan. Please see the Response to Concern # 1. THP 1-04-239 HUM proposes Commercial Thinning silviculture, resulting in evenly spaced leave trees that represent the dominant and co-dominant trees, leaving improved access for increased growth, thereby enhancing MSP. The Department considered the information provided did not reach the conclusion that the current level of timber harvesting plan submission is having an adverse impact on fish or wildlife, or will violate the Basin Plan, the Clean Water Act, the Endangered Species Act, or the FPRs. The Department did not find the rate of timber harvesting to be excessive, but rather found THP 1-04-239 HUM in conformance with the FPRs and the landowner’s HCP.

The Department is aware of the non-concurrences filed by WQ, as well as the non-concurrences that have been withdrawn by that agency. The Department and WQ have a Memo of Understanding wherein reasonable measures are taken to avoid a non-concurrence, or consideration is given to satisfy the initial reason for a non-concurrence.

**7. Concern:** (typed as received, in part) *On September 3, 2004, four of these new plans: Helyum 04-229, Head of Hely 04-238, Foxy Flanders 04-240, 04-169 Ricotta were placed on a list of 15 plans designated as MiniOption A [sic]. Mini Option A is neither valid nor legal for a range of reasons. Pacific Lumber Company is not eligible for an “Option A” plans [sic] under §913.11(a.) [sic] A mini Option A such as this*

*was never contemplated by the Board of Forestry and does not comply with the Forest Practice Rules or Forest Practice Act. The mini OptionA [sic] violates CEQA.*

**Response:** The Concern Writer does not appear to express concern for a new, significant adverse impact to the environment, but rather expresses a legal opinion towards the use of the “Option A” method of demonstrating maximum sustainable production (MSP) of high quality timber products on THPs 1-04-169 HUM, 1-04-229 HUM, 1-04-238 HUM, and 1-04-240 HUM, in conformance with 14 CCR § 913.11 (a). Please see the “PALCO FEIS/EIR and HCP Background” section, above. This is the Official Response for THP 1-04-239 HUM. The Concern Writer may find Responses to Concerns for THPs 1-04-169 HUM, 1-04-229 HUM, 1-04-238 HUM, and 1-04-240 HUM in their respective Official Responses. As indicated on page 7 of THP 1-04-239 HUM, MSP is attained through compliance with 14 CCR § 913.11 (c). THP 1-04-239 HUM does not propose the Variable Retention silvicultural prescription, but rather proposes use of the Commercial Thinning.

**8. Concern:** (typed as received, in part) *MiniOption A [sic] plans account for an additional partial cut of 604 timber harvest acres and an additional 1139 acres of variable retention for a combined total of 1743 acres in the Van Duzen River Basin. Almost all of these plans are in the already impacted Cummings Creek and Hely creek subbasins with many plans adjacent to each other. The impact of further cutting in the Van Duzen using the silvicultural [sic] method of variable retention in young stands 35-50 years old does not establish maximum sustainable production over time. Mini Option A adds an additional [?? sentence not completed].*

*Mini Option A attempts to create a mechanism to illegally circumvent Maximum Sustainable Production. There is no way the company can genuinely demonstrate that the proposed THP's [sic] would achieve MSP. The mini Option A is an obvious “shell game” designed to submerge these and related environmental, economic, and socioeconomic issues, and an attempt to circumvent the spirit and intent of the FPRs, FPA, and CEQA. Section 913.11 of the FPRs was enacted after it became painfully apparent that too much had been cut much too fast throughout the North Coast region, which wreaked [sic] not only fish and wildlife habitat, but also the economies of local communities.*

*The Board of Forestry intended that corporations with large holdings, such as PL, would demonstrate MSP through a Sustained Yield Plan as described in § 913.11 (b). The Board of Forestry never authorized or contemplated a “mini Option A.” The rules for such a plan were apparently entirely constructed by (or for) PL. Here it has arbitrarily taken a subset of THPs and fashioned a mini-master plan around them, with no purpose for doing so aside from the fact that it allows PL to “fudge” the facts and feign MSP, and also effectively shut out the public from required review under CEQA.*

*All plans filed under MiniOptionA [sic] should be denied by the California Dept. of Forestry as they fail to maintain maximum sustainable production. Many of the plans in Option A were originally files under Option C. Now many of the plans are being refilled [sic] under Option A. Option B, or the Sustained Yield Plan, was ruled invalid by Judge Golden. How can CDF and PALCO be allowed to “monkey jump” from option to option?*

*There is an ongoing disregard on the part of Pacific Lumber Company and the California Dept. of Forestry to fully evaluate the cumulative impacts of plans in our region. These THPs would contribute to significant adverse cumulative effects, and the information contained in the plans is insufficient to evaluate and/or mitigate these impacts. The THPs are contrary to the objectives of the Forest Practice Act, with silvicultural systems that would fail to achieve maximum sustained production of high quality timber products. As such, each of these THP's [sic] must be denied pursuant to CEQA, 14 CCR §§ 898.2(c)(g) and (h) and 913, and the Porter-Cologne Act.*

**Response:** The Concern Writer appears to express concern for the maximum sustained productivity of the forests in the Van Duzen River drainage, the “Mini Option A” plan, and for the use of Variable Retention silviculture. Please see the “PALCO FEIS/EIR and HCP Background” and the “Overview of THP-Specific Information” sections, above. THP 1-04-239 HUM was not included in the limited number of plans submitted in the PALCO “*Option A*” Plan for Maximum Sustained Production, dated August 30, 2004, and first approved in association with THP 1-04-099 HUM on October 1, 2004. THP 1-04-239 HUM does not rely upon the PALCO Variable Retention Option A, but rather relies upon Option C, as per 14 CCR § 913.11(c). THP 1-04-239 HUM does not propose the use of the Variable Retention silvicultural prescription, but rather proposes Commercial Thinning, where the post harvest area will be fully stocked immediately upon completion of operations. THP 1-04-239 HUM was submitted as an “Option C” plan, and has not proposed a change in the method of demonstrating MSP as per the FPRs. As such, the majority of the Concern Writer’s concerns do not apply to THP 1-04-239 HUM, and shall not be addressed.

The Concern Writer concludes that there is “ongoing disregard” by the Department regarding the evaluation of cumulative impacts. Please see the Response to Concern # 1. The Department found the information provided in the record of this plan sufficient to reasonably conclude that no significant, adverse environmental effects will occur in association with the operations of THP 1-04-239 HUM, and that MSP would be maintained. The Department, therefore, finds no grounds for disapproval of THP 1-04-239 HUM pursuant to 14 CCR §§ 898.2 or 913. The Department has considered the information provided in this Concern and has not reached the conclusion that the current level of timber harvesting plan submission is having an adverse impact on fish or wildlife, range and forage, recreational and aesthetic enjoyment, or will violate the Porter-Cologne Act, the Clean Water Act, the Endangered Species Act, or the FPRs.

## REFERENCES

- California Code of Regulations, Title 14, Division 1.5. Forest Practice Regulation.
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- EPA. 1999. Van Duzen River and Yager Creek Total Maximum Daily Load for Sediment. 65 pages.
- Habitat Conservation Plan and Associated Documents for PALCO Lands. March 1999.
- Kuhlman, Catherine, 2004. Letter from Ms. Catherine Kuhlman (WQ) to Brian Anderson (PALCO), *Notification of Waiver Ineligibility for Timber Harvesting Plans in the Van Duzen River Watershed*, September 9, 2004. 3 pages.
- PALCO Science Team. 2003. Habitat Conservation Plan 2002 Aquatic & Amphibian/Reptile Annual Monitoring Report. The Pacific Lumber Company, Scotia, CA. June 1, 2003.
- PALCO Science Team. 2004. Habitat Conservation Plan 2003 Aquatic Conservation Plan Annual Report. The Pacific Lumber Company, Scotia, CA. June 15, 2004.
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- USDI Bureau of Land Management, consultation with US Dept. of Commerce, NOAA, National Marine Fisheries, February 24, 1999. Endangered Species Act- Section 7 Consultation, *Biological and Conference Opinions Regarding Issuance of an Incidental Take Permit to the Pacific Lumber Company, Scotia Pacific Company LLC and Salmon Creek Corporation*, 537 pages.
- USDI Fish and Wildlife Service, Bureau of Land Management, US Dept. of Commerce, NOAA, National Marine Fisheries Service, February 25, 1999. Record of Decision. Purchase of the Headwaters Forest and Elk River Property and Issuance of Permits to Allow Incidental Take of Threatened and Endangered Species to the Pacific Lumber Company and its wholly-owned subsidiaries, Scotia Pacific Company, LLC, and Salmon Creek Corporation. 79 pages.