Supplemental Response to Comments

on the

Proposed Watershed-Wide Waste Discharge Requirements For Pacific Lumber Company Lands In Freshwater Creek and Elk River

April 14, 2006

Note on Supplemental Comments

In order to keep the Response to Comments as a single package, the second iteration of comments and responses appear as a separate section. Any supplemental comments that were simply restatements of previously submitted comments were not repeated, since they were addressed in the September 2, 2005 document. Substantive supplemental comments that are different or are in addition to previously received comments are addressed below. Those comments relate to the following sections: Analysis of Existing Monitoring Data and Monitoring and Reporting Requirements, Economics, Landslide Reduction Model, Legal and Procedural Issues, Miscellaneous Subjects, Peak Flow Model, and PALCO's Proposed Alternative WWDRs.

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Analysis of Existing Monitoring Data and Monitoring and Reporting Requirements

Comment 1
(Quoted from Index #15)
"While the monitoring components for the WDRs have been significantly improved, EPIC continues to be concerned about the latitude given to PL for developing monitoring plans and reporting. EPIC is particularly concerned given PL's established record of unreliability and its willingness to lie to regulatory bodies to achieve its goal to log at unsustainable and damaging rates. A meaningful public process must be employed to ensure that the public not only has access to documents, but also has a meaningful role to play in reviewing and commenting on proposed monitoring plans and programs and accountability."

Response
The Monitoring and Reporting Program (MRP) has been modified since the draft Orders were released for the first round of public comments. Based on staff's experience with monitoring programs in natural systems, there should be sufficient room to ensure specific details can be developed by the Discharger that will meet the MRP requirements. The MRP requires these specifics to be detailed in Quality Assurance Project Plans (QAPPs) and Standard Operating Procedures (SOPs), which state exactly why, what, when, where, who and how the monitoring and data analyses are to be conducted as well as the reporting specifics. The Order specifies the requirements and schedule for the QAPPs and SOPs to be provided to the Executive Officer for review and comment, for the Discharge to revise accordingly and resubmit for the Executive Officer's approval. The Discharger will not be in compliance with MRP if they do not provide this documentation and necessary revisions. The approved QAPP and SOPs will necessarily provide more detail than the proposed MRP and will be tied to the MRP, and thus will be enforceable. The QAPPs, SOPs, and monitoring reports will be available for public review in the Regional Water Board's public files. Additionally, if warranted, the MRP can be modified by the Executive Officer.

Comment 2
(Quoted from Index #15)
"We continue to maintain that the annual estimates of clearcut-equivalent acres be provided for each timber unit or THP, so that as those individual projects are submitted, there is a standard for the Board to use to assess what is being proposed. PL maintains a database to provide, at least on an annual basis, where and how it intends to log on its ownership. This should be provided to the Board."

Response
Staff concurs. Section V.A. of the proposed WWDRs describes the reports required of the Discharger. Specifically, on an annual basis, they are required to project where and by which methods they <u>plan</u> to log which THP units. On a monthly basis, they are required to describe what <u>was</u> logged and by which methods. As part of the application coverage, they are required to specify this same information for the specific THP units for which they seek coverage.

These reports, which are required both in hardcopy and electronic form, will be available for public review in the Regional Water Board's public files.

Comment 3
(Paraphrased from Index # 9b)
Watershed conditions are improving in recent years based on monitoring data.

Response
Staff has determined that the record does not support the stated conclusion of this comment. As of 2003, the cross-sectional area of the Mainstem Elk River was 35% less than in 1965, as measured by the USGS, with a 60% reduction in channel capacity. While the data at this location indicates a 4% increase in cross-sectional area between 2000 and 2003, they must be viewed with caution and in context as: 1) these data represent a single cross-section at a bridge which can result in altered hydraulic conditions, and 2) other nearby cross-sections remain essentially unchanged between 1998 and 2003, according to the Discharger's data.

According to the 2003 Trend Monitoring Report, for four key sediment-related trend monitoring parameters, only one parameter, percent fines less than 0.85 mm, meets Properly Functioning Conditions (PFC) in most of the stations (71%). For the other three parameters, percent fines less than 6.35 mm, D_{50} (median particle size), and residual pool depth, only a few stations meet the PFC targets (5%, 14%, 10% of the stations meet the targets, respectively). We note that not one station meets all four PFC targets simultaneously.

As for trends in suspended sediment loads, it is inappropriate to deduce trends from three years of data. We note that the Discharger's expert agrees with this, stating that "Annual sediment yields have been monitored for the past 3 years at the mouth of the ER and FC watersheds but the data are not long enough to detect trends." (Megahan 2006, Index 9c). Furthermore, even if enough years of data had been collected, we believe it is inappropriate to "normalize" suspended sediment data between years by precipitation. It is well documented in the literature that the largest peak flows carry a disproportionate amount of the sediment (for example, see Figure 2 in Rice et al. 1979). Therefore, the Discharger inappropriately concludes that there is a reduction in suspended sediment loads, because the Discharger does not take into account how streamflow affects suspended sediment loads.

The Discharger's contention that sediment loads in Elk River are approaching EPA's TMDL target (1.25 times background) is contradicted by suspended sediment monitoring conducted in that watershed. Manka (2005) shows that suspended sediment loads are 10 to 20 times higher in harvested watersheds (Corrigan Creek and South Branch North Fork Elk River) than the nearly pristine watershed of Little South Fork Elk River.

It must be noted that, to date and to our knowledge, the *HCP Trend Monitoring 2004 Annual Report* has not been provided to the Regional Water Board or the HCP signatory agencies, though it was due on June 1, 2005. Additionally, staff have not received the turbidity, suspended sediment, and streamflow data for Hydrologic Year 2005, though PALCO staff have indicated that they are finalized. Those data were to be submitted under a cooperative agreement; the

proposed MRP reinstates the monitoring and reporting requirements associated with those stations.

Regarding landslide patterns, PALCO's landslide inventory data indicate that recent and current logging practices continue to result in sediment discharges. It is a fact that the subject watersheds have been managed for timber production for a century, which contributes to the sediment overwhelming the fluvial systems. However, based on PALCO's sediment source inventories, massive sediment discharges have occurred in contemporary times, particularly in the winters of 1997 and in 2002. Those discharges were markedly higher on areas recently harvested than those not recently harvested.

Regarding the current management program, staff recognizes the positive efforts of PALCO in addressing sediment sources in these two watersheds. However, compliance with the Regional Water Board's Cleanup and Abatement Orders has been unsatisfactory, resulting in the issuance of notices of violation. Add to that the relaxation of interim HCP prescriptions for unstable areas in these watersheds through the Watershed Analysis process, and staff remains concerned about the successful execution of sediment source cleanup.

Comment 4
(Paraphrased from Index #16)
The terms "natural carrying capacity" and "restored channel conveyance capacity" are used, but without any description of the relationship to the stage-discharge relationship. Additionally, no units of measurement are provided, nor any definition of "significant" in determining if the model should be adjusted for changes in the conveyance capacity or stage-discharge relationship.

Response
While this comment pertains to PALCO's proposed Alternative WWDRs submitted by the Discharger, it points to areas in the Issuance Team's proposed WWDRs that can benefit from further clarification and specificity. Such clarification and specificity has been included in the revised WWDRs and MRP documents.

Comment 5
(Quoted from Index #9(b))
"Staff's criticism fails to consider a number of post-activity monitoring projects on PALCO property and elsewhere which show, on average, 95% of the projected reduction in sediment input to streams at these sites is achieved. Our evaluations suggest that if PALCO's proposed WWDR permit is executed over the next ten years it would result in significant reductions in both legacy-related sediments locally and total sediment inputs at the watershed scale."

Response
While staff support the treatment of existing sediment sources, as demonstrated by our commitment to implement CAOs on a watershed scale, this approach alone is insufficient to ensure recovery if new sources, such as harvest-related landslides, are not prevented.

Monitoring reports indicate that treatment of crossings on PALCO lands on THP 1-97-520 HUM, the subject of the Supreme Court Case #S124464, indicate that the crossings "adjusted" following sediment removal (i.e. restoration) activities. The average adjustments were on the order of 17 yd^3 per crossing. While this input is less than if the crossing would have been left in place, it is a significant controllable source of sediment delivered directly to the fluvial system. It should be acknowledged that when other ownerships were considered, the volumes of the "adjustments" ranged up to 34 yd^3, indicating that, compared to other lands sampled, PALCO operators are doing better. We look forward to PALCO continuing to improve the treatment methods, including proper and diligent use of erosion control measures.

Comment 6
(Quoted from Index #9(b))
"Staff's claims ignores the large number of measures required by PALCO's HCP to limit harvest-related landsliding. These include mandatory no harvest areas where landsliding is at greatest risk, required studies of landslide occurrence and modeling of landslide hazard to identify at-risk areas, required geologic review of virtually all PALCO harvest plans by licensed geologists, and required monitoring of future landsliding to provide real time feedback on how to improve landslide avoidance.

Response
Staff recognizes the measures PALCO's HCP requires, and the proposed WWDRs build on those measures to ensure that the watershed cumulative effects are addressed in the near-term while TMDLs are developed. Specifically, ground-based surface observations by geologists are very important, especially for identifying areas that have already failed. According to the revised hillslope prescriptions in the subject watersheds, geologic review is required if the forester identifies characteristics indicative of unstable areas. However, the watershed analysis has resulted in relaxed hillslope prescriptions, as compared to the interim HCP, for example, by reducing the "no-cut" areas associated with unstable areas, and instead relying on geologic review. In reference to studies and monitoring of landslide occurrence, the Landslide Trend Monitoring required under the MRP is the same as that required under the Elk River Watershed Analysis. With regards to the landslide modeling reference, the HCP does not explicitly require modeling. There was an effort to use these models in the Freshwater Creek Watershed Analysis, which unfortunately was abandoned, resulting in the prescriptions not being improved by the use of such tools. Subsequent watershed analyses have not incorporated modeling either. Staff supported PALCO's earlier use of slope stability models as a tool to be used in combination with ground-based surface observations, and are pursuing their use under TMDL development.

Comment 7
(Quoted from Index #9(b))
"Sediment input to streams from landslides and roads has declined significantly since 1997 when large inputs occurred based on field and aerial photo assessment."

Response
Sediment inputs from landslides and roads were at an all time high in 1997, and a decline from that magnitude would be expected.

Comment 8
(Quoted from Index #9(b))
"There appears to be some evidence of a trend in declining fines in gravels and coarsening of streambeds in both watersheds, which would be an indicator of ongoing recovery."

Response
Observations of declining fines is a good sign, though submitted monitoring data do not reflect these changes. Unfortunately, the channels are still filled with sediment beyond pre-1995 conditions. If bed coarsening is occurring at the elevated bed level, there is a strong likelihood the channel armoring, if it is occurring, will not allow the accumulated material to flush out of the system, thus establishing a new base level which will result in no reduction of nuisance flooding as a result of channel changes.

Comment 9
(Quoted from Index #9(b))
"Most sites are showing accumulation of woody debris. Most streams are showing some or significant deepening of pools, probably in association with accumulation of woody debris."

Response
According to the Discharger's monitoring data, 90% of measured sites are not meeting the target of 3-feet for residual pool depth.

Economics

Process

Comment 10
(Quoted from Index #10)
"I want to make sure that the NCRWQCB fully considers it obligations under the Porter-Cologne clean water act to address the economic impacts of any WWDR chosen for adoption by the NCRWQCB."

Response
The Regional Water Board has and will continue to consider all available information regarding the potential economic impacts of the proposed WWDRs. See Section 5B of the September 2, 2005, Responses to Comments, which contains an extensive discussion and analysis of all available information, much of which was of necessity obtained by staff's independent research, in the face of an ongoing refusal by the Discharger to provide documentation regarding various claims of economic cause and effect.

Economic Impacts

Comment 11
(Quoted from Index #13)

"Landowners rely on the industry infrastructure provided by and supported by PALCO, if your decision threatens the economic viability of PALCO it also will threaten the economic viability of other local landowners. The Buckeye Conservancy asks that you carefully and explicitly consider the potential economic impact to the region should you decide to change harvest levels in Freshwater Creek and Elk River. This economic impact analysis is important to weigh against the "off chance" that an arbitrary harvest level might effect the flooding and water quality problems of Elk River and Freshwater."

Response
See the detailed analysis contained in two staff memoranda, one dated September 2, 2005, and one dated April 27, 2005, in the September 2, 2005, Responses to Comments, Section 5B.

Comment 12
(Quoted from Index # 5)
"Due to these numerous floods, which are substantially increased compared with historic levels, the Humboldt County Tax Assessor has reduced the value of my home,"

Response
Comment noted. This aspect of the economic considerations associated with the proposed watershed-wide WDRs was tangentially discussed in the staff's Response to Comments issued September 2, 2005, Section 5B, pages 4 and 5 of the staff memo on Economic Considerations. This comment appropriately adds to that discussion.

Comment 13
(Paraphrased from Index #20)
The attachment to Horner's late comment was entitled "A Guide to Consideration of Economics Under the Porter-Cologne Water Quality Act," that was prepared for the California Resource Management Institute, an industry-funded group. In summary, the report states that, while economics are required to be considered under Porter-Cologne, the legislature and courts have done little to "particularize" this consideration. It describes a procedure the Boards should follow, including a series of "economic impact tests" involving the economic evaluation of both the impacts and the benefits of regulation. It advocates this cost-benefit analysis while stating that such full analysis would not be the deciding factor.

Response
The industry guide to consideration of economics raises some interesting ideas, including the preparation of an industry-level analysis of economics relating to regulatory activities. If the time and data were available to pursue this level of evaluation, it might be worthy of the Board's consideration, but it is not required. The potential value of an industry-level study and analysis was previously discussed in staff's last response to comments, issued in September of last year. (See September 2, 2005, Responses to Comments, Section 5B.) The approach recommended by the industry guide is not, however, what current law requires and the time and data available do not permit such an approach. If the Board and the Discharger were to wish to pursue this option,

however, staff would take that direction and pursue it with whatever resources are allowed, though it would of necessity require further delays in adoption of WDRs for these watersheds.

Landslide Reduction Model

Comment 14
(Quoted from Index #9a, similar comments from Index #9c)
"The 'empirical approach' oversimplifies the temporally and spatially dependent processes of sediment production from various sources, sediment delivery from slopes to channels, and sediment routing into a naïve ratio of estimates of landslide area (using air photos) from recently harvested sites compared to unharvested sites."

Response
The commenter criticizes staff's application of the Landslide Reduction Model for the oversimplification of processes that we have not claimed to address with the model. Staff has not and will not use the Landslide Reduction Model to explain the complexities of sediment production or sediment routing. Rather, our application is merely concerned with the amount of sediment that crosses the threshold between hillslopes and watercourses (i.e., sediment delivery). Landslide dynamics and sediment routing are topics to be considered during the development of Total Maximum Daily Loads (TMDLs).

By use of the word "oversimplification", we assume that the commenter means that the application of the Landslide Reduction Model in the watershed-wide Waste Discharge Requirements (WWDRs) will not "solve the problems" of sediment production, delivery and routing in Elk River and Freshwater Creek. We agree. In fact, we concur with many of the commenter's remarks about the importance and relevance of process-based approaches for the development of watershed-wide sediment control strategies. However, application of the model will reduce harvest-related landsliding and the potential for delivery of sediment to the waterbodies. Approaches to deal with the complexities mentioned above are currently being pursued through the TMDL development process, will take time to complete; and the data needed to support them will take time to gather.

We therefore remind the commenter that the WWDRs currently under consideration are a near term solution for allowing Pacific Lumber Company (PALCO, or the Discharger) to discharge waste into the sediment impaired receiving waters of Elk River and Freshwater Creek, until TMDLs can be established and implemented. Lacking the availability of a more simplified approach (such as we have recommended in the WWDRs), the Discharger would find itself without an available permitting option for new discharges in these watersheds until the TMDL process is completed.

Comment 15
(Quoted from Index #9a)
"Few of the valuable field data being collected by PALCO and others can even be used in this 'empirical approach'."

Response
Presumably, the commenter is referring to instream monitoring data, and other data collected by the Discharger under its Watershed Analysis and other processes. Previous responses to comments explain how data collected by the Discharger have been used to empirically develop receiving water limitation for the WWDRs, and will be used in the process-based TMDL development process. For further explanation of the role of process-based approaches (and the data needed to support them) in the ongoing regulation of sediment discharges in Elk River and Freshwater Creek, please refer to the response to Comment 14 above.

We note for the record that, while the commenter may have total access to data collected by his client (i.e., the Discharger) Regional Water Board staff do not necessarily enjoy such access. Consequently, it is likely that the commenter has seen data not made available to staff and to which we cannot respond. In fact, the Discharger filed suit against the Regional Water Board, challenging its authority to require the Discharger to submit data for purposes of TMDL development under section 13267 of the Porter-Cologne Water Quality Control Act. (*Pacific Lumber Company and Scotia Pacific Company, LLC v. North Coast Regional Water Quality Control Board and California State Water Resources Control Board*, Humboldt Co. Sup. Court, Case No. CV-030650; challenging 13267 orders.) The outcome of the litigation is still pending. Therefore, our direct access to PALCO's valuable data remains constrained, and we must alternatively rely on data use agreements with third-party contractors to conduct analyses and to meet our obligations under TMDL administrative record requirements.

Comment 16
(Quoted from Index #9a)
"The several pages of equations presented in Attachment C are nothing more than a 'smoke and mirrors' manipulation to make the 'model' appear more complex than it really is."

Response
A clear definition of the Landslide Reduction Model is imperative to a transparent process by which the model may be reviewed by the interested public and resource professionals. In this case, one must make several algebraic manipulations to produce the final, usable form of the model. Staff elected not to skip steps in its model documentation as a matter of professional courtesy and disclosure, and to assist readers interested in reviewing the model equations.

We assure the commenter that staff did not apply algebra with malicious intent, as the commenter suggests. Furthermore, we have made no attempts to cast the model as something more complex than it truly is. In fact, we view the model's simplicity as one of its favorable attributes, making it ideal for use as an interim permitting tool, until more complex, process-based tools are readily available.

Comment 17
(Quoted from Index #9a)
"In reading through the Water Quality Board Staff's responses to comments on the 'empirical harvest-related landslide sediment delivery reduction model' (hereafter referred to as the

"empirical procedure"), I note that most of the specific comments that I provided in my previous report to the Board (dated July 28, 2005) were not answered satisfactorily and were not adequately addressed in Attachment C prepared by Staff (dated September 2, 2005). Instead, only some of my comments were addressed in semi-specific terms, lumped together with other responses; many of the issues that I raised were simply not addressed at all. Given my standing in the scientific community on forest practices – landslide interactions, I find this oversight by Staff disturbing and inappropriate."

Response
The commenter attached a copy of his previous comment letter to his latest submittal, highlighting certain comments that he felt had not been provided sufficient responses. The large majority of these comments are not germane to the WWDRs under consideration, and that is why responses were not provided.

For instance, several comments appear to be based on the commenter's misperception that the WWDRs receiving water limitation, and the Landslide Reduction Model application from which it is derived, is somehow based on measurements of, or increases in, instream turbidity and/or suspended sediment. A careful read of the Landslide Reduction Model report reveals that this is not the case. In fact, neither term "turbidity" nor "suspended sediment" even appears in the report text.

Other comments regarding the Humboldt Watersheds Independent Scientific Review Panel (ISRP) process are similarly not germane to the WWDRs. As we explained in the first round of responses to comments on the WWDRs, both phases of the ISRP's work took place in a highly transparent and public environment over the period of approximately 18 months. Several well-documented Regional Water Board hearings and workshops were held during this time, each of which allowed for consideration of input by the Board and the public. Specific comments and complaints about the ISRP process, the panel's recommendations, and the Regional Water Board's subsequent directives to staff (including its December 2003 motions) are beyond the scope of the permitting action now under consideration.

Comment 18
(Quoted from Index #9a)
"The main flaw is that the approach attempts to directly link harvest-related landslide increases (actually ratios) to sediment in streams. On all scientific accounts, this justification fails. I have never found a suitable procedure to directly link timber harvesting to in-stream sediment in such a simple manner as proposed in the "empirical procedure". Thus, I must conclude that Staff's motive in selecting this 'empirical model' was largely attributable to the fact that it could be applied to the regulation of allowable timber harvest, not based on its scientific and predictive credibility, not focused on water quality, and certainly not taking advantage of the rich field data being collected. The 'empirical procedure' would not have a remote chance of passing rigorous independent peer review by experts in forest practices – landslide interactions, let alone being called a 'model' that is suitable for regulatory purposes in the Elk River and Freshwater Creek catchments, or any other catchments for that matter. Based on these evaluations, it should be rejected outright."

Response
This comment appears to be based on the commenter's misperception that the WWDRs receiving water limitation, and the Landslide Reduction Model application from which it is derived, is somehow based on measurements of, or increases in, instream turbidity and/or suspended sediment. As explained in the response to Comment 17 above, this is not the case.

Regarding the topic of expert peer review of the proposed WWDRs, we note that the standard of review that applies to published material in research journals, such as those to which this commenter is a regular contributor, is not a required standard in the development of discharge permits in California. Nevertheless, the Landslide Reduction Model, since it's original inception (Reid, 1998) has been the subject of reviews and subsequent refinements by well over two dozen PhDs and California licensed professionals. Furthermore, we note that none of the designated parties in the WWDRs proceedings are asking for additional expert review of the models upon which the proposed WWDRs are based.

Comment 19
(Quoted from Index #9a)
"The report by Staff purportedly addresses all sediment sources, but then conveniently dismisses all sources except for those associated with timber harvesting, placing the entire burden of the sediment issues disproportionately on harvesting (and thus justifying the recommendation of the 'empirical approach')."

Response
The primary water quality issues in these two watersheds are associated with sediment discharges from land disturbance. The fact is that the primary land-disturbing activity in these watersheds is timber harvesting and associated road building and other construction activities. Since the Discharger owns and operates on the majority of the land area in these two watersheds, they are responsible for the majority of land disturbance through timber harvesting plan activities.

We assume that the commenter's definition of "burden" in this case is some required (and potentially costly) action by the Discharger to provide adequate water quality protection. If so, we disagree with the commenter's claim that staff's approach places the entire burden of protecting water quality on timber harvesting alone. As the Discharger can no doubt attest to, it already bears the inconvenient "burden" of addressing other sediment sources in Elk River and Freshwater Creek, such as road-related erosion and landslides, through its HCP, geologic, monitoring, and cleanup and abatement order requirements. Thus, staff's rationale for focusing on ostensibly the last of the significant, uncontrolled sediment source categories in these watersheds under the WWDRs is both logical and appropriate.

Comment 20
(Quoted from Index #9a)

"The Staff states that the "final recommended [enforceable receiving water] limitation must adequately address cumulative effects" without ever defining what cumulative effects consist of… It is my expert opinion that the term cumulative effects must be articulated rather than casually used as in Attachment C. Many notions of cumulative effects proliferate and various special interest groups have chosen to use this term to their advantage."

Response
According to California Environmental Quality Act (CEQA) guidelines (14 CCR §15355), "cumulative impacts," which staff have used interchangeably with the term "cumulative effects," refers to "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

Comment 21
(Quoted from Index #9a, similar comments from Index #9c)
"The approach assumes (without any justification) the rate of sediment production per unit area is higher from recently harvested areas compared to 'reference' areas. While 'on average' this may be the case if the reference areas are carefully selected, for particular areas, this may not be true (Sidle et al., 1985; Sidle and Ochiai, 2006). This is an important flaw in the assumptions of the 'empirical procedure' and could introduce significant errors at specific sites and depending on the scale of resolution. Also, the assumption that "all areas have been and will continue to respond similarly when tested by natural and management-related influences" can never be fully understood and represents a weak point of the 'empirical approach'."

Response
The commenter accurately points out two of the stated assumptions inherent in the Landslide Reduction Model.

We assume that the average rate of landslide sediment production per unit area is higher from recently harvested areas than from unharvested areas, because PALCO's data for these watersheds tells us so. With regard to the extrapolation of average observations across the watersheds, we cannot currently recommend receiving water limitations for the WWDRs at smaller spatial scales (i.e., for sub-watersheds) because we currently lack data of sufficient detail and density to do so. If monitoring data collected by PALCO in the future suggest that there are substantial local differences in landslide patterns and sediment delivery rates between sub-watersheds, then we would agree that the receiving water limitations should be revisited to incorporate additional sub-watershed constraints.

The assumption that all areas have been and will continue to respond similarly when tested by natural and management-related influences is a conservative one. We agree that models that use past observed data to predict future performance (such as the Landslide Reduction Model) capture the benefits of improved practices only after those benefits have been demonstrated. As a result, our use of such a model in the WWDRs carries with it a built-in margin of safety, the cost of which is a delay between the recognition of improved practices and the next model-testing event.

Comment 22
(Paraphrased from Index #9a)
Staff's statement that they wish to "validate" Palco's data is the height of arrogance. Any attempt by staff to do so is inappropriate. "Necessary decisions [made by staff] associated with [PALCO's] parameters and datasets" are pure and simple, data manipulation.

Response
Without more specific context, we struggle to understand the commenter's chastisement of staff for their use of the word "validate" in the technical reports and responses to comments on the proposed WWDRs. We presume that the commenter is referring to staff's expressed intention or need to "validate" data received by the Discharger, and are happy to clarify.

When using the term "data validation," we refer to the act of determining the veracity or quality of data we receive. Given that staff, in this case, must rely on data it did not collect to develop discharge permits (i.e., the proposed WWDRs), it is necessary and appropriate, indeed our responsibility as a public trust agency, to check the validity and quality of the data we intend to use, whenever possible.

In this case, such validation revealed several significant errors and discrepancies in the Discharger's ROWD data during the months-long course of data exchange leading up to the finalization of the draft WWDRs. In fact, we detected many of these errors and discrepancies even after the Discharger's ROWD was deemed complete in January 2005. We credit caution, rather than arrogance, for the successful discovery and resolution of questionable data submitted by the Discharger in its ROWDs.

Comment 23
(Quoted from Index #9a)
"While it is noted that the 'model results cannot be easily quantified without yearly data for landslide volumes delivered during each storm of each year in each photoperiod', the report goes on to say that 'Staff expect the effect to be modest, because the Landslide Reduction Model is indifferent to whether the "events" considered are individual storm events, entire winters, or collections of winters'. Of course this is true, but the statement points out a distinct weakness in the 'empirical procedure' – it does not consider important temporal components of the landslide triggering process. There is absolutely no mention or realization of the importance of the temporal sequence of events…"

Response
It is important to note that staff has not used the Landslide Reduction Model to assess slope stability, or to explain the spatial and temporal complexities of landslide dynamics on the managed landscape. Rather, we have used the model simply to examine the relationship between measured discharges and observed harvest-related landslides, and to establish a receiving water limitation that will likely prevent such discharges in the future beyond levels critical to water quality protection in Elk River and Freshwater Creek. The temporal sequence of landslide trigger events, and landscape responses to those events, are issues that will be considered during TMDL development.

Comment 24
(Quoted from Index #15)
"The allowance of a discharge at 25% above background can mean that background sediment calculation increases when very large storm events and increased landsliding occurs. EPIC commented that allowing such a high level can also invite violation of the 20% limitation imposed by the Basin Plan. The response, which attempts to justify the 25% threshold, ignores the relevant history of these watersheds, their dramatically impaired conditions and need for recovery, and the documented pattern of abuse by PL. (Item 9, pp.4-5.)"

Response
It is possible that a 25% (over background) increase in sediment delivery to Elk River and Freshwater Creek could result in a corresponding increase in turbidity of more than 20%, thus violating Basin Plan water quality objectives. However, we currently lack the data and support necessary to develop watershed-specific relationships between increases in sediment delivery (a volumetric measurement), sediment transport (both bedload and in suspension), and increases in turbidity (an optical property most closely correlated with suspended sediment) to justify a receiving water limitation of 20%.

As described in Attachment C to the WWDRs, until watershed-specific relationships between sediment delivery and turbidity are available for Elk River and Freshwater Creek, we have at our disposal a number of completed sediment TMDLs for basins in the North Coast Region. Two-thirds of those TMDLs assign total load allocations at or around 25% over background, despite the applicability of the Basin Plan's 20% turbidity objective in each case. We have determined that our selection of a critical receiving water limitation of 25% over background is the most appropriate choice until further watershed-specific data become available through monitoring and/or the TMDL development process.

Comment 25
(Quoted from Index # 9b)
"PALCO contends that the Staff WWDR permit is narrowly focused on a landslide problem that doesn't exist in these particular watersheds…Yet available data show that too little sediment is derived from [harvest related landsliding] over the last 30 years to warrant such an approach. [PALCO's] analysis shows that less than 1% of the landslide sediment delivered to Elk River in the 50 years since the photo history began in 1954 has clearly been associated with tree removal

alone, as best can be determined from aerial photographs. A total of 13% o the landslide sediment delivered the Freshwater Creek in the 60+ years since 1942 is associated with tree removal."

Response
Based on data and analysis that were not provided to Issuance Team staff alongside the above assertions, the commenter reports numbers apparently based on landslides on recent clearcuts, with no history of ground disturbance, which do not lie in high hazard zones, which are not reactivated slides, and which are not associated with roads. The Landslide Reduction Model is designed to address landslides far beyond this narrow definition, as is fully explained in Attachment C to the WWDRs. According to the Discharger's own sediment budget data, non-road related landsliding (the focus of our application of the Landslide Reduction Model) accounts for 12-23 percent of the overall sediment load to Freshwater Creek, and 23-51 percent of the overall load to Elk River, for recent time periods.

Legal and Procedural Issues

Applicability to Other Landowners

Comment 26
(Quoted from Index 6, similar comments from Index #13 and Index #14)
"As landowners in the watersheds, we are concerned that the permits being proposed and the methodology used will apply not only to PALCO, but to other landowners in the watersheds as well. Staff has said on numerous occasions that the proposed permits will only apply to PALCO. We find that hard to understand and difficult to believe when you consider that the *entire premise* for the proposed permits is based on the amount of canopy removal and ground disturbing activity a *watershed* can handle while allowing for "recovery." The staff-proposed permit is very clear in that it states a maximum annual harvest amount for *the watersheds* on many occasions. No where does it say within the permit that this watershed-wide maximum annual harvest amount only applies to property owned by PALCO. To argue otherwise is simply disingenuous."

Response
This permit applies only to discharges arising from timber harvesting plan activities on lands owned or operated by PALCO. When or if other landowners in this watershed apply for permit coverage for discharges arising from their timber harvesting plan activities, the most appropriate mechanism for regulating those discharges will be subject to policy discretion by the Regional Water Board, based on the specific factual circumstances and available data relating to the application.

Comment 27
(Quoted from Index 6, similar comment from Index 13)
"We are concerned that this permit is, in essence, a Trojan horse. If the staff is truly convinced that harvest limitations must be imposed on PALCO because the watershed can only handle a certain level of harvest, and that they, as opposed to CDF, are the anointed chosen ones who

must ascertain and ordain this harvest rate, we find it hard to believe that staff at some point will not apply this same concept to any other permit, requiring similar language and watershed-wide maximum limits on harvest levels to all property owners within these watersheds. Staff's assurances to the contrary make absolutely no sense. We find them inconsistent, unsupported and incredible."

Response
See response to comment above.

Method and Manner of Compliance

Comment 28
(Paraphrased from Index #14)
The Issuance Team has incorrectly portrayed and quoted out of context the Supreme Court decision in *Pacific Lumber Co., et al v. State Water Resources Control Board, Cal. Supreme Court Case No. S124464 (2006).* While the Court affirmed the Regional Water Board's authority to regulate *discharge* from timber harvesting, the Regional Water Board does not have the authority to regulate timber harvesting itself. The WWDRs are in violation of California Water Code section 13360 in specifying the "method and manner" of compliance with water quality standards, particularly in imposing receiving water limitations that limit timber harvesting activities.

Response
Please see September 2, 2005, Responses to Comments, Section 10, specifically: comment group 5 at page 3, and in more detail, responses to comments 16-23 at pages 8-15.

Procedural Issues

Comment 29
(Quoted from Index #16)
"Pacific Lumber Company recently won a court ruling that omission or misrepresentation of significant data in the course of lobbying government agencies such as this Regional Water Board is the company's constitutionally-protected privilege… Given this, the Board must regard any submissions by the Pacific Lumber Company as nothing more than lobbying and advocacy, and not as accepted science."

Response
Comment noted.

Comment 30
(Quoted from Index # 9b)
"While the Issuance Team's Supplemental Staff Report does not address whether the Regional Board can adopt PALCO's proposed WWDRs, or the Issuance Team proposal as modified by

PALCO's proposal, PALCO wants to again emphasize that neither Water Code section 13167.5 nor CEQA prevent it from doing so. No CEQA review is required at all for adoption.

Response
Comment noted.

Comment 31
(Quoted from Index # 9b)
"PALCO does not believe the Issuance Team's analysis of the economic impacts of its proposed WWDRs satisfies the requirements of the Water Code as interpreted by the California Supreme Court in City of Burbank v. State Water Resources Control Board (2005)."

Response
Issuance Team staff respectfully disagrees with this legal opinion.

Comment 32
(Quoted from Index # 9b, similar comment for Index #21)
"The Issuance Team purports to set forth a rational basis for the proposed disparate treatment of PALCO by the Regional Board in the Elk River and Freshwater Creek watersheds. PALCO believes the alleged reasons are pretexts for illegal differential treatment of PALCO. There is nothing unique about PALCO's harvesting practices in those watersheds relative to other landowners in those watershed, or anywhere else in the North Coast region."

Response
It is not the harvesting practices, but history of intensity of harvest and harvest-related disturbance over the last 18 years by this particular Discharger in this particular watershed leading to the specific severe cumulatively impacted conditions and downstream impacts that form the rational basis for this particular approach to setting effluents limits tailored to these circumstances. No comparable circumstances have been cited by the commenter, and if they occur, similar treatment may in fact be appropriate.

Comment 33
(Paraphrased from Index #21)
"The decisionmaking body has been improperly influenced" by staff to the Regional Water Board, since staff have been involved in previous situations with PALCO, or improper communications have occurred between the Advisory Team and Issuance Team members, or the staff seem pre-disposed or prejudiced against PALCO. The commenter also contends that staff are advocates for the WWDRs, and that the separation of functions between the Advisory Team and the Issuance Team was put into place too late in the process.

Response
No separation of functions was required, but was offered solely to provide an additional comfort level for PALCO, to reassure the company that the Regional Water Board would get its guidance

and feedback from the staff that have not been involved in the development of these WWDRs. That is exactly what has happened. Please refer to the declarations filed by the Advisory Team on this matter for fuller details.

Permit

Comment 34
(Quoted from Index #15)
"We understand that harvest acres are included as the measurable quantity for measuring compliance for effluent limitations. While such levels are provided for the North Fork Elk River and Freshwater Creek, no such quantities are defined for the South Fork Elk River. A measurable quantity is needed for this subwatershed, and no adequate justification has been provided for why one is lacking."

Response
There are receiving water limitations for South Fork Elk River associated with harvest related landslide reduction. No receiving water limitation for that watershed is being proposed for peak flows, since the current flow conditions do not constitute nuisance flooding. More detail is provided in the technical report on the peak flow model (Attachment B to the WWDRs.)

Comment 35
(Quoted from Index #15)
"The proposed WDRs still do not provide an adequate mechanism to address cumulative effects, and instead continue the THP-by-THP review for discharges. The staff relies upon cleanup and abatement orders to address past impacts and the WDRs for present and future discharges. However, no assurance is provided that the WDRs indeed will prevent cumulative effects from discharges, which by definition require consideration of those past discharges which have plagued these watersheds. (Item 15, pp.6-7.)"

Response
Issuance Team respectfully disagrees with the conclusions of the commenter. As noted in the draft WWDR findings, cumulative impacts are addressed by application of the Peak Flow Model by reducing peak flows and related flooding impacts, and the landslide reduction model by addressing the up-to-now inadequately addressed increased frequency of mass-wasting associated with intensity of land disturbing activities. These components, when combined with the other terms and provisions of the WWDRs, the Habitat Conservation Plan, and the Forest Practices Act and Rules, as well as the concurrently administered cleanup and abatement efforts, will fully address cumulative impacts, protect beneficial uses and achieve compliance with the applicable Basin Plan provisions.

Miscellaneous Subjects

Comment 36
(Quoted from Index #17)

Pacific Lumber Company activities in Elk River and Freshwater have been identified as threatened violations of basin plan prohibitions since the early 1990's (Andrew Baker, WQ staff) and Elk River and Freshwater were declared impaired in 1997. Despite the impairment and the hundreds of violations found on PL's timber operations, the NCRWQCB did not ratchet up enforcement penalties as required by the Enforcement Policy of the State Water Quality Control Board for repeat offenders. The failure to appreciate the likelihood of damages, nuisance and threats to safety is on the part of the North Coast Regional Water Quality Control Board (NCRWQCB) and is a result of the general principles by which the NCRWQCB has conducted its affairs.

Response
Comment noted.

Comment 37
(Quoted from Index #17)
"Sediment is affecting flooding and water quality in unacknowledged ways. The excessive amount of sediment on the banks becomes waterlogged and when the water recedes the bank slumps and the sediment is re-deposited in the river. There are hundreds of large slumps, 30 to 50 [sic] across, continually depositing and bleeding sediment into the river. This source of sediment is not adequately addressed by the Permit as written and definitely needs to be addressed therein."

Response
Staff recognizes that loss of channel capacity, caused primarily by sediment aggradation is the primary cause of the nuisance flooding. The sediment described above is a remobilization of previously discharged sediment. The Monitoring and Reporting Program will monitor channel cross-sections to determine its ongoing affects on nuisance flooding.

Comment 38
(Quoted from Index 17)
"The North Coast Regional Water Quality Control Board has determined but not implemented the full suite of appropriate remedial actions to halt, stabilize or abate such harm. While the NCRWQCB has extensive documentation that vegetative cover dramatically slows rates of erosion, most existing harvest unit landslides have not been stabilized using available bio-remediation techniques that are commonly employed by CalTrans."

Response
Staff has urged the Discharger to address many locations throughout their property, including these two watersheds, to carry out such things as landslide scar remediation using vegetative methods, but they have often been unwilling to do so. This effort is also hampered by the Discharger's stated position that they will not do remediation activities in areas where they do not have timber harvest plans, which obviously greatly reduces the universe of available remediation sites.

Peak Flow Model

Comment 39
(Quoted from Index 16, similar comments from 3, 5, 17, and 19)
"…Freshwater and Elk River experienced one of the worst flood years of all time, with a record 10 floods in Elk River so far, and the year is not over yet. The Humboldt Watershed Council has attached a number of photographs of the December 28th flood."

Commenters 5 and 16 also provided included information on the number and occurrence of nuisance flood events in their submission.

Response
Thank you for the updated information on nuisance flooding and turbidity. This information shows that Regional Water Board staff overestimated the recurrence interval in the application of the peak flow model. For example, in Freshwater Creek, the new information shows 10 more flood events have occurred in the last two years even though the second year is not complete. This would indicate that the recurrence interval in Freshwater Creek is 0.31 (more than 3 nuisance flood events per year), instead of the 0.4 recurrence interval we used in the application of the model. This would indicate that the increases in peak flow are larger than those predicted by the Regional Water Board staff's application of the peak flow model.

Comment 40
(Quoted from Index # 9b)
"Staff and PALCO are in agreement that the only way to reduce flooding in the short-term is to conduct infrastructure improvements and stream cleaning. PALCO has already funded studies for these remedies, and is prepared to work with the Board to implement these improvements now, to reduce flooding now. Staff ignore this, claiming that they have a limited authority, and so cannot require such approaches to limit flooding in the WWDRs in lieu of ineffective approaches like limiting rate of harvest."

Response
That Regional Water Board "staff ignore this" is untrue. A full year has passed since PALCO's promise to the Board to conduct the studies. Staff are aware peripherally through anecdotal evidence, that PALCO has let out bids for a feasibility study. We have received no status reports on the progress of those studies, nor any courtesy copies of the bid materials, scope of work, or planning documents. It appears that PALCO has forgotten our interest in this matter.

Furthermore, we would also like to note that PALCO and their consultants have been "studying" the effects and causes of flooding in Freshwater Creek and Elk River for years. A few of the larger submittals by PALCO on this subject include "An Analysis of Flooding in Elk River and Freshwater Creek Watersheds, Humboldt County, California" (1999), and Freshwater Creek Watershed Analysis (2001), while more recent analysis include "Flooding conditions and potential remedies for the Elk River and Freshwater Creek watersheds: A solution oriented assessment" (2005). Staff notes that none of these studies have resulted in any changes to the nuisance flooding conditions in the watersheds.

Comment 41
(Quoted from Index # 9b, similar comment from 9c)
"To the date, no study exists that shows increase in bankfull peak flow for harvest area (or equivalent cut area) < 25 % of the watershed (see Figure 3 in Guillemette et al., 2005). Importantly, Caspar Creek data also do not support that the increase in peak flow occurred for harvest area < 30 % of the watershed. The CC model predicts increase in peak flow for harvest area < 30 % only because Lewis et al. (2001) chose the form of the model assuming that the increase in peak flow in that range existed without validating such an assumption with the data."

Response
Although Guillemette et al. 2005 was not included in the submission, we note that only three studies reported results for less than 30% cut area. We do not know if these three studies detected no increase or if they failed to detect a significant increase and therefore reported no increase. However, the current conditions in Freshwater Creek and Elk River indicate that the nuisance flooding occurs at much higher frequencies than normal bankfull events, thereby making this comparison extraneous. It is important to note that the literature is in agreement that smaller events have larger increases (see Jones and Grant 1996, Thomas and Megahan 1998 and Beschta et al. 2000).

However, the commenter is incorrect about the Caspar Creek model and the results from that watershed. As noted in the previous response to comments, because the harvesting was phased over several years in the North Fork Caspar Creek watershed, there are results from watershed areas that have less than 30% harvest areas. In fact, a review of the data from Caspar Creek show that there are 48 data points within the 0 to 30% range of cut area for the watershed. An examination of pre-treatment and post-treatment residuals shows that the data are consistent with the Caspar Creek model and that there is a linear response of peak flow even at lower harvest levels (Lewis, 2006).

The commenter also suggests that there is some physical threshold that must be exceeded before there is an increase in peak flow due to canopy removal. Or, in other words, that there is a curved response in increases in peak flow due to canopy removal instead of a linear response. A literature review shows that a curved response has been neither hypothesized, nor shown to exist.

PALCO's Proposed Alternative WWDRs

Comment 42
(Paraphrased from a compilation of comments from Index #9b and #22)
PALCO believes that it is in the best interest of the Board, the watersheds, the landowners, residents, and PALCO to simply recognize our disagreements and make available to the Regional Water Board members PALCO's proposed Alternative WWDRs.

Furthermore, PALCO strongly believes that its proposed Alternative WWDRs can not only protect water quality, prevent flooding, and allow PALCO to operate in an economically sound

matter, but they will put us all on the path to TMDLs in both watersheds, which has been stated numerous times as the Board's ultimate goal.

PALCO urges the Regional Water Board to consider adopting PALCO's proposed Alternative WWDRs, instead of the WWDRs proposed by Regional Water Board staff (i.e., the Issuance Team), at the upcoming April 24-25 hearing.

Response
As part of its March 8, 2006 WWDRs public review package, and as directed by the Advisory Team in its Second Interim Order After Status Conference, dated March 1, 2006, the Issuance Team included a full and complete copy of the latest version of PALCO's (the Discharger's) proposed Alternative WWDRs, dated January 23, 2006, along with the original cover letter and summary sheet prepared by the Company.

As directed by the Advisory Team, the Issuance Team is treating the Discharger's proposed Alternative WWDRs as a timely comment received before the end of the second public comment period, which ended March 24, 2006. The extended discussion below constitutes the Issuance Team's response to that "comment."

Presumably, the Discharger wishes to append its Alternative WWDRs with the Issuance Team's proposed Resolutions (i.e., the findings to support the WWDRs) and Monitoring and Reporting Programs (MRPs), in order to make them eligible for adoption at the April 24-25 or the May 8, 2006 Regional Water Board hearings. Furthermore, the Discharger presumably wishes to employ a Class 7 Exemption under CEQA to allow the Alternative WWDRs to be adopted without a Negative Declaration and without an additional round of public comment and response.

<u>Overview</u>
The Discharger's proposed Alternative WWDRs allow new timber harvest related discharges of sediment into the sediment-impaired waters of Elk River and Freshwater Creek (prior to the development and implementation of TMDLs) through four primary requirements, including:

1. An annual limit on canopy removal, designed to maintain current nuisance conditions;
2. Mitigation credit for treating active and potential sediment delivery sites, which are already required for treatment under existing Cleanup and Abatement Orders (CAOs)[1];
3. Three feasibility studies to identify options for nuisance flooding reduction, two of which are already underway without Regional Water Board staff participation or oversight, and none of which are required to be implemented upon completion;
4. Monitoring already being conducted and/or already included in the Issuance Team's proposed WWDRs.

Each of these requirements is discussed in further detail in separate sections below. The Discharger also proposes a special provision that renders the proposed Alternative WWDRs invalid if water quality impacts do not improve, as evidenced by "continued high levels of

[1] Specifically, Cleanup and Abatement Order Nos. R1-2002-0114 (for North Fork Elk River), R1-2004-0028 (for South Fork and Mainstem Elk River), and R1-2006-0046 (for Freshwater Creek).

flooding" after three years of coverage (i.e., after 3,300 clearcut equivalent acres of further harvesting is conducted in these watersheds.)

Beyond the requirements mentioned above, the balance of specific and general provisions in the Discharger's proposal largely agrees (in content and in format) with provisions in the Issuance Team's proposed WWDRs.

Annual Limit on Canopy Removal

The Discharger proposes to incorporate annual limits on canopy removal in its Alternative WWDRs, based on CDF's applications of the Empirical Peak Flow Reduction Model.[2] By doing so, the Discharger has placed itself in a position of self-contradiction:

- On one hand, the Discharger roundly criticizes staff's application of the Empirical Peak Flow Reduction Model, suggesting that the model itself is "not appropriate for use in Elk River and Freshwater Creek" and that staff's application of the model "will not lead to any appreciable improvement in frequent flooding."

- On the other hand, the Discharger proposes to use a less conservative (i.e., less protective) application of the very same model in its Alternative WWDRs, claiming that this application (CDF's application) was designed to "prevent adverse impacts on peak flows."

In fact, CDF's application of the Empirical Peak Flow Reduction Model is designed to not worsen (i.e., to maintain) current conditions. By incorporating a limit on canopy removal based on this application into its Alternative WWDRs, the Discharger has essentially proposed to maintain the status quo.

By contrast, the Issuance Team's application of the Empirical Peak Flow Reduction Model is designed to allow for some recovery from current conditions while the WWDRs are in place.

Given that the Regional Water Board directed its staff in December 2003 to develop watershed-wide WWDRs, based on a finding that additional actions beyond the status quo are necessary to address existing water quality impacts in Elk River and Freshwater Creek, it is clear that the Discharger's proposed annual limit on canopy removal, at a minimum, does not constitute a sufficient strategy for controlling the impacts of new discharges.

Further discussion regarding the differences between the Issuance Team's and the Discharger's proposed applications of the Empirical Peak Flow Reduction Model is available in Attachment B to the Issuance Team's proposed WWDRs, and in Responses to Comments pertaining to the model from both rounds of public comment on the WWDRs.

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[2] We note that these are the same limits (imposed by CDF) that have been in place in Freshwater Creek and Elk River since 2001 and 2002, respectively. Based on CDF's limits, 500 clearcut equivalent acres per year are allowed in Freshwater Creek, and 600 clearcut equivalent acres per year are allowed in Elk River.

Mitigation Credit for Cleanup Sites

The Discharger proposes to "mitigate" for new discharges associated with each Timber Harvesting Plan (THP) by incorporating corrective actions at active and potential discharge sources in the watersheds. Benefits from proposed corrective actions in each THP will be estimated in terms of yards of sediment "saved." These benefits will be used to "offset," at a ratio of 5:1, estimates of yards expected to be delivered from each proposed THP.

While the Discharger's expressed intentions to conduct corrective work at failing roads, watercourse crossings, and other active and potential sediment delivery sites are commendable and appropriate, this concession in the Alternative WWDRs amounts to no change in the status quo.

In fact, due to the level of existing impacts in the Elk River and Freshwater Creek watersheds, the Regional Water Board has already found it necessary and legally justified to issue CAOs for the inventory, prioritization, and correction of controllable sediment discharge sites. These are the same sites for which the Discharger proposes to give itself a credit toward allowing for new discharges under its Alternative WWDRs. Given that this corrective work is already required of the Discharger, it is clear that the Discharger's proposed mitigation strategy does not constitute a reasonable basis for allowing new discharges into the sediment impaired waters of Elk River and Freshwater Creek.

Further detailed discussion regarding the inadequacies of the proposed mitigation requirements in the Discharger's Alternative WWDRs is available in our April 13, 2005 staff report to the Regional Water Board, which was provided as part of the March 8, 2006 public review package for the WWDRs.

Feasibility Studies

The Discharger proposes to conduct three feasibility studies as a requirement under its Alternative WWDRs. The studies will evaluate options for nuisance flooding relief through vegetation removal in riparian areas, infrastructure improvements at key locations, and dredging in depositional areas in Elk River and Freshwater Creek.

As previously mentioned, it is our understanding that the riparian and infrastructure improvement studies are already underway, without any participation or oversight by the Regional Water Board staff. Based on language in the proposed Alternative WWDRs, the Discharger intends to invite the Regional Water Board staff to participate in the dredging study.

While many parties familiar with the current flooding conditions in Elk River and Freshwater Creek appear to agree that direct, mechanical improvements to the watercourses and riparian areas will ultimately be necessary to improve channel capacity and flood routing in flood affected areas, the Discharger's Alternative WWDRs requires only studies.

Of course, studies are necessary to correctly identify the problems and solutions to existing flooding problems. However, studies do not reduce those problems. The Discharger's proposed Alternative WWDRs do not (and cannot) require the results of the proposed studies to be implemented. By its own admission, the Discharger cannot implement instream improvements

without permission from its neighbors, without permits from its regulators, and without money from anybody.

The Issuance Team is fully supportive of studying and implementing riparian, infrastructure, and dredging options, and believes such activities hold some promise for eventual flooding relief. However, until such relief is actually realized in the affected reaches of Elk River and Freshwater Creek, it is inappropriate to use its future promise as a basis for allowing new discharges that will contribute to present impacts, as suggested in the Discharger's proposed Alternative WWDRs.

Further detailed discussion regarding the realities of implementing channel modification options in Elk River and Freshwater Creek is available in our January 23, 2004 report to the Regional Water Board, which was prepared in direct response to motions adopted by the Board at its November and December 2003 meetings.

Monitoring Requirements

The Discharger proposes to conduct certain implementation and forensic monitoring activities under its Alternative WWDRs. Additionally, we presume that the Discharger intends to have the Issuance Team's MRPs adopted alongside the proposed Alternative WWDRs. If this is the case, we are generally supportive of the Discharger's proposed monitoring requirements, although some details would need to be clarified prior to the Regional Water Board's adoption of the Alternative WWDRs.

Under both proposals, the Discharger is required to continue monitoring activities it is already conducting, through a combination of voluntary and required efforts. While monitoring alone does not protect water quality, the data collected are crucial for evaluating the success of an adopted discharge permit strategy, and for guiding changes to that strategy, whether it be the proposed WWDRs, or an adopted TMDL implementation plan.

Staff Recommendations for the Adoption of PALCO's Alternative WWDRs

Should the Regional Water Board wish to adopt the Discharger's proposed Alternative WWDRs, despite the arguments presented above, the Issuance Team strongly recommends that, at a minimum, the following issues be addressed prior to adoption to improve their enforceability and legal standing:

- Requirements in the WWDRs should be evaluated against the Regional Water Board's authority to issue such requirements, and appropriate changes to the WWDRs should be made accordingly;
- Findings in the Resolutions accompanying the WWDRs should be updated to be made consistent with and supportive of the WWDRs;
- Requirements in the MRPs accompanying the WWDRs should be updated to be made consistent with the WWDRs;
- Non-enforceable language in the WWDRs should be removed and/or made enforceable;
- Extraneous editorial comments and public relations statements should be removed from the WWDRs text;
- The WWDRs should be re-organized for clarity, and ease of implementation;

- All data and/or findings referenced in the WWDRs language should be made available in total to Regional Water Board, or removed from the WWDRs text; and
- Public review and the preparation of an Initial Study and Negative Declaration under CEQA (although not required) should be considered for the WWDRs, out of an abundance of caution, and knowing the controversial nature of the permitted activities.

Conclusion

The Issuance Team cannot recommend the Discharger's proposed Alternative WWDRs to the Regional Water Board for adoption because, they do not allow for adequate water quality protection, as discussed above; and furthermore, they are not supported by the administrative record. Should the Regional Water Board wish to adopt the Alternative WWDRs, the Issuance Team strongly recommends that certain changes and improvements be made to WWDRs prior to adoption, to improve their enforceability and legal standing.

Comments in Support of Palco's Proposed Alternative WWDRs

Comment 43

(Quoted from Index #14)

"PALCO's alternative WWDRs not only address the issues of water quality, sediment delivery, and flooding directly but also offer short and long-term solutions that will ultimately lead to recovery in both watersheds. Moreover, PALCO now has three years of data that already indicate positive trends. For these reasons, the Board should adopt PALCO's alternative WWDR."

(Quoted from Index #6)

"We ask that the board not approve the permits as proposed by staff, but rather consider amending the proposed WWDRs to more accurately reflect the ROWDs deemed complete by your staff and to encourage more collaborative efforts between PALCO, the Regional Water Board, and local residents and landowners. Such an effort will continue the great work already underway in connection with and funded by the applicants' super-mitigated operations and would ensure that these efforts continue well into the future. Only then will the Elk River and Freshwater Creek Watersheds have a real chance of returning to their "natural state."

Response

Comments noted.

Comments in Opposition to Palco's Proposed Alternative WWDRs

Comment 44

(Quoted from Index #15)

"EPIC objects to the consideration of PL's proposed WDR as a valid alternative. There was open discussion at the recent status conference about the need to properly circulate PL's proposed version if it were to be put forth as an option. EPIC believes that PL will argue that its alternative is entitled to equal consideration as the Issuance Team version. L's version essentially

permits status quo operations. It is undisputable that the status quo has caused and will continue to cause watershed degradation and discharges harmful to beneficial uses… If the Board is to give any consideration to PL's proposed alternative, it must be properly circulated and subject to adequate environmental review. As operations under PL's alternative would not protect the watersheds, would impede recovery, and would cause harm, PL's alternative cannot be covered by the negative declaration issued for the WDRs circulated for review, and an environmental impact report would be required."

(Quoted from Index #16)
"The lack of specificity, no lack of tunnel vision, ill-defined (or no) definition of critical terminology having highly relevant policy implications, no stated quantitative thresholds, a strategic avoidance of CWE effects other than flooding, reliance on models that have been soundly criticized, unsubstantiated assumptions, and a water quality order that doesn't include measures of water quality are a few reasons why [PALCO's] proposed order cannot be endorsed by the Regional Board."

(Quoted from Index #17)
"While road improvements might temporarily ease access problems for Howard Heights residents, it would provide absolutely no relief for the Freshwater residents whose property and homes are actually being threatened, damaged, and destroyed by the ever-increasing sediment and flood levels caused by Palco's excessive logging. Taken to its limit, this ridiculous 'theory' says that if Howard Heights Road didn't exist, there would be no flooding in Freshwater."

"If there are infrastructure issues in Humboldt County, then they are a concern for Humboldt County government and not this Board. Palco's assertions, studies and press releases to the contrary should be recognized as yet another attempt to undermine the WWDRs and avoid responsibility for the destructive impact their excessive rate of cut has had on the watershed in general and their downstream neighbors in particular."

(Paraphrased from numerous commenters)
Numerous commenters criticized Palco's proposed alternative WWDRs on the following bases: that it is "business as usual" for the discharger; the issue of a discharger writing their own permit to allow the "status quo"; the lack of public review of their draft permit; that an environmental impact report, rather than a negative declaration, would be needed to meet CEQA requirements; that the discharger's permit's goals are to "not inhibit recovery" and "not increase flooding" instead of reducing cumulative watershed effects and trending toward watershed recovery.

Response
Comments noted. Many of these issues are addressed elsewhere in the response to comments.

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