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Forest Practices
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COMMENTS ON APPLICANT RESPONSE TO COMMENTS - THP 1-04-030 SON Hansen/Whistler Timber Conversion Permit/Timber Harvest Plan (Brushy Ridge, Annapolis, Sonoma County)

December 20, 2004

To the California Department of Forestry:

Please consider the following comments the applicant and consultant responses to public comments THP 1-03-030 SON, TCP No. 539(Hansen/Whistler TCP/THP). I incorporate by reference my comments on the subject THP/TCP dated May 22, 2004.

1. **Runoff and percolation hypotheses, and hydrologic assessment**. The assumptions underlying Dr. Matt O'Connor's hypotheses and conclusions regarding the impacts of agricultural conversion are neither supported by either site-specific data and analyses, nor representative data and analyses from forest and perennial croplands in the region. Dr. O'Connor's assumption that "infiltration is not expected to decrease and that percolation to groundwater would probably increase owing to increased soil moisture" fails to consider the following soil conditions and processes:

> (i) Mixed evergreen forest and coniferous forest canopy intercepts direct rainfall impacts on Goldridge soils, and tilled/ripped Goldridge soils lacking continuous perennial/woody vegetation canopies are not likely to behave as mature soils and vegetation. Goldridge soils are sandy clay loams and fine sandy loams with clay fractions with moderate to low shrink-swell potential (Soil Conservation Service 1972) and have "moderately slow permeability" and "moderately slow intake rate" ranging from 0.63-2.0 inches/hour in sandy phases and as low as 0.2 to 0.63 inches/hour in sandy clay loam phases (Soil Conservation Service 1972). Surface conditions of Goldridge soils are in fact highly variable, with inclusions of clayey or sandy areas related to past erosion and uneven topography. Direct rainsplash impacts on agriculturally tilled or ripped Goldridge soils (disturbed soil profile, mixing of A and B horizons) may (and often does) result in packing of pore spaces in surface soils with reworked illuvated clay fractions. This is likely to result in significant and potentially persistent reduction of soil percolation rates compared with intact soil profiles and intact forest, scrub, or grassland vegetation.
>
> The interaction between direct rainfall impact on tilled or ripped, regraded Goldridge soils with augmented clay fractions (remixed from lower soil profile positions) is likely to result in decreased soil infiltration of precipitation, particularly in periods of heavy rainfall that exceed 0.63 inches/hour. Pacific storms routinely deliver higher rates of rainfall than this in

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Annapolis. Cover crops alone cannot compensate for the loss of soil profile structure and maturation that result from decades of forest development and continuous canopy.

The question of infiltration rate impacts of agricultural conversion on Goldridge soils are not adequately or soundly addressed by speculation. They should be analyzed with empirical data, given the potential significant impact on hydrology and sedimentation.

(ii) Dr. O'Connor's conclusions that "Effects on stream flow are likely to be modulated by subsurface hydrology, and would therefore by more likely to be realized as increased base flow and groundwater recharge rather than increased peak flow" depends on his (unsupported) assumptions regarding infiltration rates of agriculturally modified Goldridge soils. His assessment is particularly misleading, given the general reliance of new vineyards in Annapolis on irrigation derived from either groundwater (well) extraction or impoundments that are likely to decrease baseflow, particularly in critical drought years. His casual generalizations are inappropriate for a CEQA analysis of potentially significant cumulative impacts to baseflow. The assessment should be rigorously revised by more thorough analysis of (a) agriculturally modified Goldridge soil properties; (b) impacts of agricultural conversion, *including potential for augmented well use or water import (trucked from local streams or wells) in critical drought years*, on baseflow during above-average, normal, below-average, and critical drought years. This is needed to assess biological impacts of altered baseflows on aquatic organisms such as steelhead.

2. **Nitrogen flux and net N load in stream: impacts of agriculture versus timber harvest rotation**.

The responses to comments reflect an inadequate understanding of forest and agricultural soil nitrogen dynamics, and misunderstand the nature of nitrogen loading in streams. My comments did not concern "over-fertilization", but "normal" prescribed soil nitrogen management for vineyards in, sandy, acidic Goldridge soils with low cation exchange capacity, compared with immature forests in timber harvest rotation. Agricultural crops are inherently "leaky" in terms of soil nitrogen because they have low below-ground soil carbon pools relative to forests (weak nitrogen sinks), and because their capacity to assimilate N inputs (whether "organic", bacterial, or soluble salt) is low compared with extensive root systems of young forests. Moreover, the sandy Goldridge soils have lower pH and cation exchange capacity than any other Sonoma County agricultural soils (on the order of 0.7-0.8 meq/100g; Soil Conservation Service 1972), except perhaps for some related Sebastopol soils. Disruption of soil profiles, low surface root densities of grapes, net N production of nitrogen-fixing cover crops (proposed), low N assimilation capacity of acid pH, high rainfall (average near 60 inches/year) and low soil CEC indicate potential for relatively *high* rates of net N flux to baseflows compared with timber harvest rotation or maturing forests. The cumulative increases in N loads to Gualala tributaries due to conversion from forest to agriculture has not been adequately assessed, and is likely to be significant. Its impacts to in-stream habitat and water quality in summer are also likely to be cumulatively significant. <u>The responses to comments are entirely inadequate to address this issue</u>, and largely miss the point. It is nonsense to assert that "cover crops....will preclude leaching to ground water", especially if they are legume crops intentionally planted to supply nitrogen.

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3. **Cumulative impact assessment of forest reduction due to agricultural conversion**.

The response to comments persists in the invalid, fallacious "ratio approach" to cumulative impact assessment that is disallowed in CEQA documents. Stating "Removal of forest canopy is not mitigated, but amounts to less than 2.5% of the planning watershed....constitutes small, isolated islands within primarily forested habitat" inverts the perspective of cumulative impacts, which necessitates assessment of the additive, incremental and synergistic effect of the project in relation to past, present, and reasonably forecast impacts, considering trends. Even since the first round of public comments, a large new vineyard proposal on the Wheatfield Fork of the Gualala River (water source) has appeared at the Hedgepeth Ranch on Skaggs Springs Road.

4. **Inconsistent annual average rainfall assumptions**.

The response to comments persist in using the erroneous 70 inch/year average rainfall estimates in some responses (e.g. estimate of increase in rainfall reaching the soil survace), and the (correct) 60 inch/year average rainfall estimate in other responses. This is arbitrary and capricious.

5. **Non-equivalence of mitigation for individual project and cumulative impacts that may be potentially significant**.

The responses to comments repeatedly state that "by incorporating the proposed mitigations, this conversion will have been mitigated so that its significant impacts are not likely to occur, or that potential impacts will have been reduced to a level of insignificance; therefore an EIR is not required". This argument is invalid and unsound because (a) it generally fails to provide substantive justification for the site-specific adequacy or efficacy of the proposed mitigations; (b) it fails to quantitatively estimate the reasonable range of magnitudes of impacts, and compare them with the degree of efficacy, efficiency, or capacity of mitigation to offset or avoid impacts; (c) most importantly, it fails to distinguish individual and cumulative impacts. Some individual impacts that may be mitigated below the threshold of "significance" in terms of local, on-site impact, may nonetheless cause or contribute to significant cumulative impacts. This is particularly true of impacts to baseflow, sedimentation, and nutrient export from the site during peak rainfall or critical drought conditions.

6. **Alternatives analysis in CEQA**.

The "response" to my comments on CEQA alternatives analysis either misses or avoids the very emphatic point of my critique: the alternatives analysis fails to consider off-site alternatives that may inherently lessen impacts of the project, reduced-project alternatives, and a rationale for a geographic scope of alternatives; in failing to do so, it provides a mere rationalization of the proposed project and sites selection. The response that "the Analysis is approximately 5 pages long" obviously a non-argument (and a rather blatantly ineffective attempt to defend appearances of professionalism), and does nothing to rebut the critique or justify the original scope and method of analysis.

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7. **Criteria for significance**.

The response to comments simply does not address the specific issue of criteria for CEQA significance (justification for non-arbitrary thresholds, or lack thereof), and instead provides weak and vague defense of the general approach to impact analysis: "the plan preparer used established accepted methodologies.....included database queries...as well as reviewing other project proposals". First, a database query does not and cannot establish a threshold of significance, and there is no express policy in CEQA, CDF, or other agencies that a database "hit" or "non-hit" is a threshold of significance. The most important potential significant impacts identified for this project have nothing to do with databases or other proposals. Furthermore, copying flawed or incorrect information and analyses from other reports or databases does not establish thresholds for CEQA significance, nor does it establish adequacy of CEQA review. Similarly, repeated reference to "professional" contributors to the morass of deficient CEQA analysis does not satisfy the substantive issue of whether the criteria of significance are presented, or whether they are adequately analyzed. I am also a professional with expertise in CEQA and NEPA documents, and disciplinary and interdisciplinary expertise. The response, therefore, is a red herring, and is entirely inadequate.

8. **Wetlands**.

The response to comments on wetlands is just as contradictory as the original THP/TCP. The same evidence it presents to argue that "there are no wetlands on the property" ("wet area"..."water in this wet area is stagnant...." with obligate wetland plants present) all support the opposite conclusion. The assertion that the wetlands "does not drain into any watercourse" is not only unsupported, it is physically impossible in an area with average of 60 inches of rainfall. This is a transparent, fallacious attempt to portray the wetlands as not part of a tributary system, and it has absolutely no credibility. It does not matter that the wetlands in question have their origin partly in past forestry or agriculture, because almost all wetlands in the U.S. occur on past or present agricultural or forestry land with human modification, and the current definitions and criteria for wetlands do not exclude those with human-influenced hydrology.

9. **Organic certification**.

The only ways to resolve the "organic" comments and replies would be (a) to assert a condition of authorization that the current landowners place an easement on the property restricting future agricultural use to organic certified methods; or (b) strike all reference to "organic" methods in impacts and mitigation because it is speculative and unenforceable.

10. "**Pristine" forest red herring**.

The proponents refer to comments concerning removal of "pristine" forest. This is misleading, because no comments refer to "pristine" forest. More importantly, the effects of regenerating second or third growth forest are quite different than those of old-growth or mature "pristine" forest, particularly in terms of nitrogen dynamics.

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Conclusions

I repeat my recommendation for CDF to temporarily suspend the processing of this and other pending timber conversions in the Annapolis area, and initiate an area-wide programmatic EIR that focuses on a proper scope of cumulative impact assessment, analyzed with appropriate methods (GIS, aerial photography analysis). The PEIR should include advance identification of sensitive resources so that alternative site analysis can be achieved at a meaningful, broader geographic scale, and deforestation can be minimized as vineyards are developed. I further recommend that CDF review other area-wide resource studies, and EIRs with legally sound alternatives analyses, from the central and north coast region. CDF must require objective monitoring and reporting for mitigation measures it assumes will be sufficient to reduce impacts to less-than-significant levels. Otherwise, inaccurate and unverified assumptions will be repeatedly misused in additional THP and TCP reviews.

The responses to comments are insufficient to rebut the overwhelming evidence and analysis that supports the recommendation to require an EIR for this the significant cumulative impacts of this proposal.

Respectfully submitted,

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Copies furnished: Friends of the Gualala River
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