



## Dennis Jackson - Hydrologist

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708 - 14th Avenue  
Santa Cruz, CA 95062-4002  
(831) 464-7580  
djackson@cruzio.com

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Andrea Tuttle  
Director  
California Department of Forestry and Fire Protection  
1416 Ninth Street  
Sacramento, CA 95814

Re: Negative Declaration for Campbell Timberland Conversion - Associated THP 1-00-147 SON

Dear Director Tuttle:

The proposed Campbell timberland conversion is located in Sonoma County, approximately one-mile northeast of Annapolis. The proposal is to replace 88 acres of coniferous forest with vineyards. The project straddles a ridge. The northern portion of the proposed conversion drains to two unnamed tributaries of Buckeye Creek. The southern portion of the conversion drains to Grasshopper Creek, which is a tributary to Buckeye Creek.

The proposed Negative Declaration for the Campbell timberland conversion is incomplete, flawed and based on unsupported statements. The initial study's environmental checklist lacks any substantive discussion regarding the significance of identified impacts. Furthermore, some important potential impacts from the proposed timberland conversion are not mentioned in the initial study. In addition, the cumulative effects analysis is very weak. Finally, the design of the vineyard's erosion control system is based on future studies. Therefore, an Environmental Impact Report (EIR) should have been required for this project.

### Unsupported Assumptions

The Erosion Control Plan (ECP) for the proposed vineyard is based on the unsupported assertion that (ECP page 4):

Conversion from poor quality second and third growth timber with abandoned skid roads to vineyard is believed to have limited impact on the surface water hydrology.

Dave Hope (North Coast Regional Water Quality Control Board) participated in the pre-harvest inspection for the neighboring Codorniu Napa, Inc timberland conversion (THP 1-01-171 SON). Mr. Hope's August 15, 2001 report finds that (page 3),

The clearing for vineyards and channeling of water via pipes to watercourses will certainly increase the peak flows...

In the absence of any evidence to the contrary, I have to agree with Mr. Hope that a conversion from coniferous timberland to vineyard has the potential to increase peak flows. In addition to increasing peak flows, the conversion from forest to vineyard may reduce summer flows in the adjacent Class I streams (Buckeye and Grasshopper Creeks) which are tributaries of the Gualala River. This is especially important since Stacy Martinelli, Department of Fish and Game, has observed steelhead in both Grasshopper and Buckeye Creeks. Steelhead is a "Threatened Species" under the Endangered Species Act (ESA) in the Gualala River watershed. Coho salmon is also a "Threatened Species" under the ESA. Ms. Martinelli did not report observing Coho salmon in Grasshopper or Buckeye Creeks. However, it is possible that Coho utilize or have in the past utilized these streams.

The potential for the proposed timberland conversion to reduce flows was not considered in the initial study. The installation of a network of drainage pipes may potentially hasten the movement of infiltrated rainwater to the stream system. In addition, replacing a conifer forest with a vineyard will certainly reduce the interception storage of the affected land. A reduction in the interception storage may result in an increase of storm runoff. An increase storm runoff implies that there will be less water available to supply streamflow later in the year. Irrigation of the vineyard may further reduce the contribution the affect land can make to non-storm runoff. Given the threatened status of steelhead and Coho salmon in the Gualala River watershed, the initial study should have fully investigated the potential affects of the proposed timberland conversion on steelhead. The potential impact on threatened fish species in the Gualala River watershed may be a sufficient cause to require an Environmental Impact Report for this project.

The potential for this project to increase peak flows and to diminish summer flows constitutes potentially significant impacts to the steelhead populations in Grasshopper and Buckeye Creeks. Therefore, item IV(b) of the Environmental Checklist should have been marked "Potentially Significant Impact" and an EIR should have been required.

## Future Studies

The purpose of the California Environmental Quality Act (CEQA) is to provide full disclosure of potential environmental impacts to regulatory agencies and the public. Allowing portions of a project to designed after project approval circumvents the full disclosure requirements of CEQA. In *Sundstrom v County of Mendocino* (1988) 202 Cal. App. 3d 296, the Court concluded that the effectiveness of mitigations based on a future study was uncertain, so the county could not have reasonably concluded that the project did not have the potential for significant environmental impacts. The court also found that the county's deferral of the analysis of significant environmental impacts to a future study was an inappropriate delegation of the its CEQA responsibilities.

The California Department of Forestry (CDF) is violating CEQA by allowing the applicant to delay final design of the drainage, erosion control and water supply plans until after the approval of the project. The Negative Declaration for the Campbell timberland conversion relies on conceptual drainage and erosion control plans to determine if impacts would occur. The ECP states (page 4) that:

Final drainage configurations will be determined on an individual subwatershed basis at the time of vineyard development to account for design variables including row layout and final grading that cannot be determined at this time.

The discussion of Site Hydrology also states (ECP page 4):

Mitigation for any potential increased runoff rate in vineyards includes measures to limit flow velocity and exposure to unprotected soil as discussed in the Erosion Control Methods section below.

The Erosion Control Methods section (ECP page 6-8) is a list of design specifications. Final site-specific design specifications are not provided. Therefore, the effectiveness of the mitigations to control the magnitude of the peak flow cannot be judged. This is particularly troubling since the potentially increased storm runoff from the proposed timberland conversion would enter into either Grasshopper Creek or Buckeye Creek, both of which are known to be used by steelhead. Increased peak runoff has the potential to damage salmonid habitat through increased erosion and sedimentation and to scour eggs from their redds.

The *Estimated Sediment Yields* of the ECP asserts that the pre-construction and post-construction erosion rates will be similar. A USDA Forest Service study of a 450 acre Marin County forested mountainside watershed is mentioned to have found an average natural sediment transport rate of 0.8 tons/acre/year under average conditions and 6 tons/acre/year under relatively wet conditions. However, no quantitative estimate of the sediment production rate for vineyards is offered. Thus, there is no way to assess the potential impact of a change in the rate of sediment production resulting from the proposed timberland conversion. Given the presence of steelhead, an ESA "Threatened Species", in Grasshopper and Buckeye Creeks, it is imperative that a sound estimate of the sediment production rate from the proposed timberland conversion and resulting vineyard be made. Otherwise, it may not be possible to ensure that the proposed mitigations will effectively protect the steelhead.

ECP does suggest that (page 9) that a geomorphologist could provide better estimates of sediment yields. To meet its CEQA responsibilities, CDF should require a qualified geomorphologist to assess the potential sediment yield of the timberland conversion and the vineyard. Furthermore, the erosion control plan must be finalized with site-specific detail prior to determination of whether a Negative Declaration or EIR is required for the project.

## Water Supply

The ECP says that the final water supply configuration and/or reservoir design have not been completed. Average rainfall is used to calculate the amount of water falling on the surface of the reservoir. Average rainfall and a runoff factor of 50% are used to estimate the size of the watershed required to meet the estimated water demand of the vineyard. No provision is made for dry years. This will be especially important during the first year or two when the vines are being established. S. E. Rantz, United States Geological Survey, created a contour map of mean annual runoff for the San Francisco Bay region in 1974. The Rantz map shows that the average annual total runoff is about 24" at Annapolis. The ECP states that the Sonoma County Water Agency estimates the long term average annual rainfall to be 75" in the vicinity of the Campbell plan. Thus, the average annual runoff is about 32% of the average annual precipitation. In drier than normal years the runoff will probably be significantly less than 32%.

The Smith's submitted 18 years of rainfall data collected at 34440 Annapolis Road with their comments on the Artesa-Fairfax timberland conversion (THP 1-01-171 SON). They report a minimum annual rainfall of 34.64 inches in 1990-91. Applying the 32% runoff factor from Rantz yields an estimate of 11.1" of runoff for 1990-91. This is equivalent to 0.92 acre-feet per acre, which is only 30% of the figure used by the ECP to determine the watershed size required to fill the reservoir.

The ECP states that a 20 acre-foot reservoir is required for irrigation of the vineyard. I estimate that about 17 acres of watershed area would have been required to fill the 20 acre-foot reservoir during 1990-91, which had 34.64" or 2.88 feet of rainfall. The ECP estimated the area of the reservoir to be 1.33 acres. So the precipitation directly on the reservoir surface in 1990-91 would have been 3.84 acre-feet (= 1.33 acres x 2.88 feet of rainfall). Thus, the watershed would need to provide about 16 acre-feet (= 20 acre-feet - 3.84 acre-feet). Using a runoff factor of 32% suggested by the Rantz map, 34.64" of rainfall is expected to generate about 0.92 acre-feet of runoff. So, the a rough estimate of the required watershed area to fill the 20 acre-foot reservoir is (16 acre-feet)/(0.92 acre-feet/acre) = 17.4 acres. The ECP states that the watershed above the reservoir site is about 15 acres (page 5). Thus, in a year with rainfall similar to 1990-91 the reservoir may not completely fill.

The actual watershed area is probably larger than the 17.4 acres estimated above since the runoff factor of 32% applies to average rainfall. During below average rainfall years a smaller portion of the rainfall will be converted to runoff. Also, during a dry year the volume of water required to irrigate the vineyard may be higher than the presented in the ECP.

The conversion proposal does not appear to provide enough water for dry years. Where will the irrigation water come from during a dry year? This demonstrates that the water supply plan is incomplete.