SYMBOLS

Solid line where well located, long dash where approximately located, short dash where inferred, dotted where concealed; query indicates additional uncertainty.

Fault; solid line where well located, long dash where approximately located, short dash where inferred, dotted where concealed; query indicates additional uncertainty. Arrow and number indicate direction and amount of dip in degrees. Whether or not the fault is active or poses any hazard to man is generally unknown. Only crosscutting faults are shown within KJFs, although most contacts therein probably are faults.

Strike and dip of bedding inclined.

EXPLANATION

Sonoma Volcanics Group
(not necessarily in stratigraphic sequence.)

Tsa Andesitic to basaltic lava flows
Tsl Pumiceous ash-flow tuff, locally welded or partly welded with intercalated bedded agglomeric tuff, andesitic or basaltic lava flows, tuff breccia, breccia tuff, and pumiceous tuff
Tss Sedimentary deposits; unconsolidated interbedded and intertonguing tuffaceous sand, silt, volcanic gravel; bedded tuff, clay, diatomite

Franciscan Assemblage
(not necessarily in correct time sequence.)

KJFs Sheared shale and sandstone that contains generally resistant masses of chert, "high grade" metamorphic rock, variable shattered sandstone and greenstone, metagreenschist, and generally less resistant serpentinite; masses range in length from less than one foot to greater than 5 miles, and constitute a variable, generally unknown proportion of the unit. Potassium feldspar generally absent. Parts of unit correspond to mélangé unit described by Hau (1969).

Rock types that occur co diorite masses, chiefly within KJFs.

sp Serpentinite, including relatively fresh ultramafic masses. Occurs as lenses, sheets, and irregularly shaped masses, largely within and along boundaries of KJFs.

gs Greenstone, including pillow lava, tuff, minor intrusive varieties, and minor fossiliferous limestone, and metagreenschist ranging from rock containing incipient blueschist minerals to completely reconstituted blueschist. Masses range to longer than 5 miles.

Winery Site (Enlarged to show location)

Reference: Huffman and Armstrong (1980), "Geology for Planning in Sonoma County," CDMG Special Report 120, Plate 3A.

Scale: 1:62,500

CGS GEOLOGIC MAP
Cornell Winery
245 Wapio Road
Santa Rosa, California
LANDSLIDE ZONE:
Slide area consisting of numerous coalesced and superposed landslides of various sizes, types of movement, and degrees of activity. Because of spatial complexity, it is generally not feasible to delineate individual slides composing these zones. Meaning of symbols: D, P, and A are the same as of LARGE LANDSLIDE DEPOSITS (see below). The following symbols are used only for the LANDSLIDE ZONES: D-DA, landslide zone consist of primarily DEFINITE TO DEFINITE and ACTIVE landslide deposits; P-?, landslide zone consists of primarily PROBABLE to QUESTIONABLE landslide deposits.

LARGE LANDSLIDE DEPOSITS:
Landslide which is 50 feet or more in maximum dimension. Arrows indicate general direction of downslope movement (omitted for lack of space on some landslides and on all questionable landslides). Single barbed arrows indicate primarily flow movement. Capital letters shown on each landslide have the following designations: D, DEFINITE landslide deposits; P, PROBABLE landslide deposits. Hachured lines show the approximate position of inferred landslide scarps. Topographic features whose outlines are subdued by weathering and/or largely obscured by vegetation but whose overall form is suggestive of landslide origin are called questionable landslides (? On map).

SMALL LANDSLIDE DEPOSITS:
100 to 500 feet in maximum dimension. Arrows indicate general direction of downslope movement and are centered over the location of deposits. Meaning of symbols: arrows, D, P, ? are the same as for LARGE LANDSLIDE DEPOSITS (see above).

Reference: Dwyer, Noguchi, and O'Rourke (1976), "Reconnaissance Photo-Interpretation Map of Landslides in 24 Selected 7.5-Minute Quadrangles in Lake, Napa, Solano, and Sonoma Counties," USGS, OFR 76-74.

Scale: 1:24,000

R G H Consultants, Inc.

USGS LANDSLIDE MAP
Cornell Winery
245 Wappo Road
Santa Rosa, California

PLATE 3B

Job No: 2096.02.01.1
Appr: 9
Drwn: T
Date: April 2008
To: Christine Wright-Shacklett, SEG
   Leslie Markham, CDF, Review Team
   Glenn Edwards, RPF
   File

From: Cherie Blatt, SEA

Date: August 10, 2001

Subject: Preharvest Inspection Report, THP 1-01-215 SON, Henry Cornell, landowner,
   Guy Davis/Davis Family Vineyards, Plan Submitter, Mark West Creek Watershed,
   Russian River Basin

On July 19, 2001, I attended a preharvest inspection (PHI) for Timber Harvest Plan (THP)
1-01-215 SON, a nine acre vineyard conversion project. Also in attendance were Chuck Joiner
and Ken Margiott, California Department of Forestry (CDF), Stacy Martinelli, California
Department of Fish and Game (CDFG), Glenn Edwards, Registered Professional Forester (RPF),
Guy Davis, Plan Submitter and Brian Gephardt, Vineyard Operator. The weather was warm and
clear.

General THP Summary

The property was previously under THP 1-00-411 SON until the THP was withdrawn. A
Regional Water Board staff PHI report for THP 1-00-411 SON was submitted to CDF on
February 28, 2001 recommending denial of approval due to significant changes and information
needed to assure THP compliance with state and federal regulations. The RPF changed much of
the old THP by redraw the boundaries and editing environmental protection described in the
THP. THP 1-01-215 SON was submitted on June 21, 2001.

This THP is located on Wappo Road off St. Helena Road approximately nine miles northeast of
Santa Rosa. Unnamed watercourses drain the THP area to Mark West Creek, a major tributary
containing anadromous fish in the Russian River Basin. Both Coho Salmon and Steelhead Trout,
listed as "Threatened" under the Endangered Species Act, are present in the Russian River Basin.

The Russian River has been listed by the U.S. Environmental Protection Agency as an impaired
waterbody under Section 303(d) of the Clean Water Act. High sediment loads in the Russian
River necessitated the impairment listing.

The THP proposes to convert approximately 9 acres of timberland to vineyard over a total of
seven units. Some units are adjacent to cleared vineyard plots within the property ownership.
Yarding is proposed to be accomplished using tractor and skidder systems.
Item 26 on THP page 13 states no watercourses are on or adjacent to the plan area. During the PHI, it was found that the THP unit boundaries are less than 60 feet from Class III watercourses and less than 150 feet from Class II watercourses. The RPF should state the minimum distances that the unit boundaries are from Class I, II and III watercourses and springs and list the associated slopes (in percent) to ensure watercourses are protected under the Forest Practice Rule (FPR) 916.5. (Recommendation 1)

A watercourse is shown on THP 1-00-411 SON map at map point WQ-5. This watercourse was observed at the December 18, 2000 PHI and was classified as a Class II. This watercourse was not shown on THP 1-01-215 SON map page 21. This watercourse shall be added to the new THP map. (Recommendation 2)

The THP contains moderate Erosion Hazard Rating (E.H.R.). The E.H.R. worksheet on THP page 13 lists the two-year, one-hour rainfall intensity as extreme with a moderate soil permeability and moderate detachability within the THP boundary. The Estimated Surface Soil Erosion Hazard worksheet on THP page 58 lists five areas with separate erosion hazard ratings. Areas A, B and C are not in the current THP boundaries and are from THP 1-00-411 SON. These areas should be deleted from the worksheet except for areas included for road construction between units. (Recommendation 3)

THP page 11 states that no ground based equipment is proposed on unstable areas, slopes over 65 percent or slopes over 50 percent with high or extreme E.H.R. In addition, no in-lieu practices are to standard WLPZ protection are proposed (THP page 13).

Roads and landings are proposed to be constructed away from watercourses. No winter operations are proposed. THP page 12 states that all clearing operations associated with the conversion areas will take place during the non-winter period between May 1 and October 15 of the year of operations. THP page 11 contains the non-winter wet weather plan.

An erosion and Sediment Control Plan (ESCP), dated July 20, 2000, was designed for the Davis Family Vineyards by Atchbury Associates Civil Engineering and has been reviewed by Regional Water Board staff. No link is listed in the THP to the ESCP, however, it is expected CDF Second Review Team Chairman’s recommendations will bind the final THP to the ESCP and the necessary county and state permits.

**Onsite Observations**

All units were inspected to identify proximity to watercourses and potential erosion problems. The non-appurtenant haul road (Wappo Road) that passes by adjacent landowner’s homes was also observed. The road is partially rocked with some inside ditches and ditch outlets draining down gradient toward watercourses. No large gullies nor direct sediment discharge points to watercourses were observed.
The THP map page 21 shows a skid trail outside the THP boundary in the northeast quarter of the property. The map shows the skid trail as crossing an existing vineyard. During the PHI, the RPF explained this skid trail route would not be used and an alternative skid trail route had been flagged. Flagging should also be updated to clearly mark skid trails and THP unit boundaries. The THP map page 21 should be updated to show all changes to skid trail locations. (Recommendation 4)

At the December 18, 2000 PHI for THP 1-00-411 SON, an unstable area was found at WQ-7 on a Class III watercourse just down gradient of large vineyard conversion areas. Regional Water Board staff's PHI report recommended mitigation for the unstable area by increasing vineyard erosion control up gradient. THP 1-01-215 SON includes timber land conversion areas to be cleared up gradient of the unstable area. The unstable area should be added to THP map page 21 and a description of the unstable area. Proposed protection measures should be added to THP Item 18, Soil Stabilization, to reduce the potential for adverse impacts to the Class III watercourse, the unstable area and subsequently the down gradient Class I watercourse. This is required under FPR 916.7 Reduction of Soil Loss.

It should be noted that vineyard conversion activities were observed to have already begun at the time of the PHI on July 19, 2001. For instance, a portion of the western end of the northeastern most unit had already been cleared and tilled. Also, the long, narrow unit in the southwestern quarter of the property boundary had approximately 75 hardwoods removed as was counted by the fresh stumps measuring approximately 2 inches to 16 inches in diameter. These two areas were altered prior to the PHI and make evaluation of potential threats to the environment more difficult to assess. These actions are in violation of FPR 1103, Conversion of Timberland and associated requirements, and a CDF violation should be issued.

There is a difference in the length and quantity of Class III watercourses along the northern vineyard conversion areas if THP 1-01-215 SON map page 21 is compared to the THP 1-00-411 SON map. Although these watercourses are not within the proposed vineyard conversion units for THP 1-01-215 SON, skid crossings should be properly mapped and full ELZ protection should be given. THP 1-00-411 SON contained longer Class III watercourses extending closer to the vineyard areas. Also, the Regional Water Board PHI report dated February 28, 2001 recommended the discrepancy at map point WQ10 be corrected. The head of the Class III watercourse at WQ10 had been incorrectly mapped and was not being protected from vineyard construction. During the July 19, 2001 inspection, a soil berm was observed within three feet of the Class III watercourse at WQ10 just below a large boulder in the center of the watercourse. Although WQ10 is out of the project area for THP 1-01-215 SON, heavy machinery must pass within just a few feet of the watercourse to remove trees and till the soil for vineyard planting. The ESCP does not appear to contain any requirements for keeping equipment away from watercourses nor does it protect native vegetation within the 25 to 50 foot ELZ distance from the Class III watercourse. The RPF shall resolve mapping discrepancies of these Class III watercourses along the northern half of the property boundary and state how these watercourses will be protected from the vineyard conversion. Some link to the ESCP and other documents such as the Sonoma County Grading Ordinance should be stated in the THP to assure water quality protection and for guidance to the LTO if necessary. Any areas not protected by the documents cited in the THP, such as the perimeters of the Class III ELZs, should be protected by the addition of the appropriate language.
to the THP. Example: "Equipment exclusion stakes shall be placed along the perimeter of Class III ELZs and straw wattles or other effective erosion control shall be placed along the down gradient edge of all disturbed soil areas." (Recommendation 5)

**Recommendations:**

1. The RPF shall state the minimum distances that the unit boundaries are from Class I, II and III watercourses and springs and list the associated slopes (in percent) to ensure watercourses are protected under the Forest Practice Rule (FPR) 916.5.

2. The Class II watercourse as shown on the attached map at map point WQ5 shall be added to THP 1-01-215 SON map page 21.

3. Areas A, B and C shall be deleted from the E.H.R. worksheet except for areas included for road construction between units.

4. The THP map page 21 shall be updated to show all changes to skid trail locations. Flagging shall also be updated to clearly mark skid trails and THP unit boundaries.

5. The RPF shall resolve mapping discrepancies of the Class III watercourses along the northern half of the property boundary and state how these watercourses will be protected from the vineyard conversion. A link to the ESCP and other documents such as the Sonoma County Grading Ordinance shall be stated in the THP to assure water quality protection. Any areas such as the perimeters of the Class III ELZs not protected by the documents cited in the THP shall be protected by the addition of the appropriate language to the THP. An example of language needed is: "Equipment exclusion stakes shall placed along the perimeter of Class III ELZs and straw wattles or other effective erosion control shall be placed along the down gradient edge of all disturbed soil areas."

CB/

Enclosure:  Map

CC:  Chuck Joiner & Ken Margiott, CDF
     Stacy Martinelli, CDFG
All THP Areas Site Class III Timberland
All THP Areas Moderate EHR

Scale: 1 inch = ± 500 feet
Contour Interval = 40 feet
Portions of Sections 24 & 25, T8N, R7W, MDBM
Calistoga Quad, Dated 1993

GTE & Associates
California Regional Water Quality Control Board
North Coast Region
Preharvest Inspection Report

To: Christine Wright-Shacklett, SEG
Leslie Markham, CDF, Review Team
Glenn Edwards, RPF
File

From: Cherie Blatt, SEA C B
Dave Hope, ES III
Andrew Baker, AEG

Date: February 28, 2001

Subject: Preharvest Inspection Report, Recommendation for Denial of Approval, THP 1-00-411 SON, Henry Cornell, landowner, John Waithman, timber owner, Guy Davis/Davis Family Vineyards, Plan Submitter, Mark West Creek Watershed, Russian River Basin

On December 18, 2000, we attended a preharvest inspection (PHI) for Timber Harvest Plan 1-00-411 SON. Also in attendance were Chuck Joiner and Ken Margiott, California Department of Forestry (CDF), Stacy Martinelli, California Department of Fish and Game (CDF), Glenn Edwards, Registered Professional Forester (RPF), Roy Flatt, California Department of Parks and Recreation and Galen Bullock, a licensed timber operator. The weather was cool and clear.

General THP Summary

This THP is located on Wappo Road off St. Helena Road approximately nine miles northeast of Santa Rosa. Unnamed watercourses drain the THP area to Mark West Creek, a major tributary containing anadromous fish in the Russian River Basin. The Russian River has been listed by the U.S. Environmental Protection Agency as an impaired waterbody under Section 303(d) of the Clean Water Act. High sediment loads in the Russian River necessitated the impairment listing. Both Coho Salmon and Steelhead Trout, listed as “Threatened” under the Endangered Species Act, are present in the Russian River Basin.

The THP states that Class II and III watercourses are within the THP boundary. THP page 14 states that Class II watercourses will be given 100 foot watercourse and lake protection zones (WLPZs), and Class III watercourses will be given 25 foot wide equipment limitation zones (ELZs) on slopes less than 30 percent and 50 foot ELZs on slopes over 30 percent. All spring/wet areas delineated on THP maps are stated to have 50 foot ELZ protection.
The THP, dated November 15, 2000, proposes to log a total of 38 acres within several units. Some units are adjacent to cleared, seeded and mulched vineyard plots within the property ownership but outside of the THP harvest boundaries. Silvicultural methods for the THP include 4 acres of Seed Tree Seed Step, 14 acres of Seed Tree Removal Step, 9 acres of Selection, 2 acres of Commercial Thinning and 9 acres of Conversion. Yarding is proposed to be accomplished using tractor and skidder systems. The THP contains Moderate Erosion Hazard Ratings (E.H.R.). No ground based equipment is proposed for slopes over 50 percent with high or extreme EHR and no in-lieu practices are proposed. Slopes within the THP boundary range from 15 to 65 percent with a mean annual precipitation of 59 inches per year (THP page 23). Permeability in the subsoil is listed as moderate with runoff ranging from medium to rapid.

Winter operations are limited to felling during dry periods in non-WLPZ areas with pickup truck access.

Onsite Observations

Class II Watercourses

The THP identifies two watercourses as Class II: the unnamed watercourse bordering the THP to the north (WQ1) and a small portion of a watercourse (WQ2) tributary to WQ1. No flagging was found marking the Class II WLPZ during the PHI. The THP states that Class II WLPZs are 100 feet wide (page 14). During the PHI, watercourse WQ1 appeared to contain fish habitat with no barriers to fish passage. Since the California Department of Fish and Game surveys for the Mark West area, as attached to the THP, do not show any fish barriers between Mark West Creek and the northern portion of the THP area, it is recommended that WQ1 be classified as Class I. This recommendation is further supported by the CFG memo “Restorable Habitat for Anadromous Fish” dated October 6, 2000 (attached). The memo states that future land use planning decisions should not preclude potential for steelhead restoration or reintroduction. The WLPZ should be flagged as Class I and harvest trees appropriately marked in accordance with the Forest Practice Rules (FPRs). Details describing Class I protection for WQ1 should be added to the THP in accordance with the FPRs, Section 916.9 (c) and (g).

(Recommendation 1)

If the RPF identifies a barrier to fish passage to watercourse WQ1, then a description and mapped location of the barrier should be sent to the NCRWQCB and the CFG for review.

Class III Watercourses

The THP map (page 22) shows approximately 13 Class III watercourses as within or directly adjacent to the THP unit boundaries. These watercourses were inspected during the PHI. Four were found to contain Class II pool formations for aquatic habitat. These four watercourses (WQ3, WQ4, WQ5 and WQ6) should be designated as Class II watercourses and given a minimum WLPZ of 100 feet. Harvest trees should be appropriately marked according to FPR 916.9 (c). (Recommendation 2)
Unstable Area

An unstable area was found during the PHI at point WQ7. Hummocky soil was present over the extent of the unstable area with soil piles over three feet high up slope and against the large conifer trunks. A Class III watercourse flows through the center of the unstable area and several pistol butt trees were present on the area indicating possible soil movement during the lifetime of the trees. The unstable area is located directly above the reclassified Class I watercourse (WQ1) and below cleared vineyard land. The unstable area has the potential to discharge sediment to the Class I watercourse if disturbed by timber harvest and vineyard activities. Mitigation for this unstable area should be added to the THP such as flagging a heavy equipment exclusion zone around the perimeter, marking appropriate trees for retention to transpire groundwater and reduce pore water pressure and increasing vineyard erosion control up gradient. THP page 11 should be updated to describe the unstable area, harvesting prescriptions, heavy equipment exclusions and mitigations. The THP map on page 22 should show the location and size of the unstable area. (Recommendation 3)

THP Watercourse and Boundary Flagging

There appeared to be at least three THP boundary flagging discrepancies between THP map page 22 and what was found in the field during the inspection:

East of the green house, the map shows the distance from the green house to the THP unit boundary (WQ8) as approximately 250 feet. In the field, the THP boundary orange flagging was only a few feet from the house.

There was a discrepancy between the THP map page 22 and what was found in the field at point WQ9. The watercourses, unit boundary and skid trail marked on the THP map were changed by the RPF during the PHI. The THP map should be resubmitted reflecting the conditions found in the field.

There was also a discrepancy in mapping the head of the Class III watercourse at WQ10. During the PHI, it appeared as if the head of the Class III watercourse had been tilled for the vineyard. The THP map should correctly map all Class III watercourses including those previously tilled for vineyards. Additional mitigation measures should be added to restore the Class III watercourses. Expansion of THP boundaries for inclusion of headwalls of previously tilled Class III watercourses is recommended.

The THP text, maps and field flagging should be corrected as listed above. (Recommendation 4)
Vineyard

The areas proposed for clearcut under the Conversion silvicultural method were inspected. Some of the areas appeared quite steep for vineyard conversion which raises concern for water quality. On November 12, 1999, the NCRWQCB sent a letter to the Sonoma County Board of Supervisors regarding the Proposed Vineyard and Sediment Control Ordinance. Specific comments were submitted to increase water quality protection in accordance with the Porter Cologne Water Quality Control Act and the Water Quality Control Plan for the North Coast Region. The letter proposed the following: "Vineyards should not be developed on slopes greater than 30 percent unless sound documentation is developed to demonstrate that a proposed vineyard project is in a location where vineyard runoff will not impact waters of the State. Significant increased erosion potential and sediment delivery to streams can occur with vineyard development on slopes greater than 30%." An Erosion and Sediment Control Plan (ESCP), dated July 20, 2000, was designed for the Davis Family Vineyards by Atterbury Associates Civil Engineering. The project description on page 1 states: "This project will add approximately 24.0 acres of new vineyards with an average slope of approximately 27%. In addition to the concern for water quality degradation from vineyard development on steep slopes, we were unable to evaluate cumulative impacts to resources. The Cumulative Impacts Assessment, Section IV, states that "Low" or "No" impacts are expected from past, present or future projects. Vineyard development on slopes over 30 percent should be mapped separately in the THP (page 22), evaluated separately in the THP in the Cumulative Impacts Assessment section (page 30-49) and evaluated separately on the Erosion Hazard Rating sheet (page 54) (soil detachability is of special interest in these areas). Timing of specific mitigations to reduce soil loss and adverse water quality impacts on these high disturbance areas should be detailed in the THP. (Recommendation 5)

We are concerned about the water quality effects from the increase in flows due to vineyard clearing and timber harvesting. The THP does not address the potential change in runoff from the project. It has been documented that reductions in vegetative cover reduces evapotranspiration, rainfall interception, and fog interception. (Ziemer, 1998) This in turn, may cause bank and channel instabilities resulting from increased runoff. We are also concerned about potential changes in summer flows in the Class 1 and 2 watercourses. The THP lacks information regarding well development or surface water drafting from the creeks and the quantities needed for vineyard supply. Overdrafting of groundwater or surface waters may affect down stream summer flows. Changes in stream flow volume, increased storm flow discharges and changes to stream channel morphology along with the resulting adverse impacts to beneficial uses should be addressed. In addition, the THP should mitigate these changes to protect the beneficial uses of water. (Recommendation 6)

THP Wording Concerns

Springs and Wet Areas
THP page 14 states that: “All spring/wet areas delineated on the THP maps will have a 50 foot Equipment Exclusion Zone (EEZ) flagged around it. No heavy equipment will operate within this zone.” Based upon the observance of several misclassified watercourses, we recommend that any springs or wet areas within the THP ownership be re-checked for Class II aquatic habitat. Springs and wet areas containing potential aquatic habitat should be given Class II WLPZ protection. Wording on THP page 14 should be updated to reflect this protection measure. (Recommendation 7)

Haül Route

The non-appurtenant road haul route (Wappo Road, see THP map, page 22) was inspected. Several erosion problems such as bare inside ditches and gullies were evident and have the potential to discharge sediment to the Mark West Creek watershed. THP page 18 under “LTO Instructions” states: “The non-appurtenant road that will be used for log transport from the THP site is shown on the THP maps. The LTO will be responsible for all necessary road surface blading, installation of erosion control measures and the maintenance of all erosion control structures associated with the use of the road until the Work Completion Report is signed off by CDF.” The RPF should include site specific measures in the THP for erosion control and maintenance on this road to ensure a sediment discharge to the Mark West Creek watershed is avoided. (Recommendation 8)

Skid Trail Crossings

Page 19 of the THP contains a prescription for temporary skid trail crossings, however these crossings are not marked on the THP maps. Due to the potential for sediment discharge to watercourses from timber harvest activities and vineyard management, it is recommended that the location of all skid trail crossings be added to the THP map. (Recommendation 9)

Boundary of THP Conversion Area

Several discrepancies were found in comparing the ESCP map page 2 to the THP map page 22. The RPF should explain the discrepancies between the THP and the ESCP. It appears the ESCP shows vineyards in current timbered areas not proposed for timber conversion. All present and future land cleared for vineyards must be discussed in the THP. All maps must accurately reflect those areas proposed for timberland conversion. The THP section describing erosion control, habitat loss, water quality effects and cumulative impacts must be revised to accurately reflect proposed projects on the property. All maps must accurately show the project boundary as proposed in accordance with FPR Section 1034(x)(1). (Recommendation 10)

Cumulative Watershed Effects

The THP, as proposed on November 15, 2000, does not adequately reflect conditions found during the PHI, and as such, the Cumulative Watershed Assessment section is
inadequate in evaluating cumulative watershed effects. For instance, the effect on biological resources may be significant if reevaluated using the results of stream reclassification, unstable area assessment, mapping corrections and consideration of changes in stream flow and sediment discharge conditions. All recommendations in this report should be addressed such as erosion control mitigation on roads and skid trails including the non-appurtenant road; mapping discrepancies, and total vegetation removal on the property before cumulative watershed effects can be evaluated. (Recommendation 11)

Agency First Review Questions:

14. The THP states that the effect on biological resources will not be significant after mitigation, what is the mitigation? (WQ)

Answer: Due to misclassification of watercourses, incorrect mapping, clearing of steep slopes, lack of adequate mitigation measures, discrepancies with the ESCP and lack of adequate evaluation of cumulative watershed effects, the THP is recommended for denial of CDF approval.

Recommendations

We recommend denial or approval of THP 1-00-411 SON. The following recommendations significantly change the original THP as proposed on November 15, 2000. A new THP may be submitted but must contain the following changes to reflect onsite conditions and adequate mitigations prior to CDF first review:

1. Watercourse WQ1 shall be reclassified as Class I. The watercourse shall be flagged with a Class I WLPZ and harvest trees appropriately marked in accordance with the Forest Practice Rules (FPRs). Details describing Class I protection for WQ1 shall be added to the THP in accordance with the FPRs, Section 916.9 (c) and (g).

2. Watercourses WQ3, WQ4, WQ5 and WQ6 shall be designated as Class II watercourses and shall be given a minimum 100 foot flagged WLPZ with trees appropriately marked according to FPR 916.9 (c).

3. Mitigation for the unstable area at WQ7 shall be added to the THP such as flagging a heavy equipment exclusion zone around the perimeter, marking appropriate trees for retention to transpire groundwater and reduce pore water pressure and increasing vineyard erosion control up gradient. THP page 11 shall be updated to describe the unstable area, harvesting prescriptions, heavy equipment exclusions and mitigations. The THP map on page 22 shall show the location and size of the unstable area.

4. There appeared to be at least three THP boundary flagging discrepancies between THP map page 22 and what was found in the field during the inspection. The THP text, maps and field flagging shall be corrected as follows: a.) East of the green house, the map shows the distance from the green house to the THP unit boundary.
(WQ8) as approximately 250 feet. In the field, the THP boundary orange flagging was only a few feet from the house. b.) There was a discrepancy between the THP map page 22 and what was found in the field at point WQ9. The watercourses, unit boundary and skid trail marked on the THP map were changed by the RPF during the PHI. The THP map shall be resubmitted reflecting the conditions found in the field. c.) There was also a discrepancy in mapping the head of the Class III watercourse at WQ10. During the PHI, it appeared as if the head of the Class III watercourse had been tilled for the vineyard. The THP map shall correctly map all Class III watercourses including those previously tilled for vineyards. Inclusion of these Class III watercourse headwalls into the THP area for reforestation and protection from vineyard development is recommended. Additional mitigation measures shall be added to restore these damaged Class III watercourses.

5. So that water quality impacts, soil loss and cumulative impacts can be evaluated, vineyards proposed on slopes over 30 percent shall be mapped separately in the THP (page 22), evaluated separately in the Cumulative Impacts Assessment section (page 30-49) and evaluated separately on the Erosion Hazard Rating sheet (page 54). Timing of specific mitigations to reduce soil loss and adverse water quality impacts on these high disturbance/high risk areas shall be detailed in the THP.

6. Seasonal changes in stream flow volume, increased storm flow discharges and changes to stream channel morphology along with the resulting adverse impacts to beneficial uses shall be addressed. Information on the intake location and quantity of irrigation water needed for the vineyard shall be included. The RPF shall add mitigation measures to the THP to address the above concerns and ensure water quality protection during storm events. Timing of installation of mitigation measures shall also be specified.

7. All springs or wet areas within the THP ownership shall be re-checked for Class II aquatic habitat. Springs and wet areas with Class II habitat shall be given Class II WLPZ protection. Wording on THP page 14 shall be updated to reflect this protection measure.

8. The RPF shall include site specific measures in the THP for erosion control and maintenance on the seasonal haul road to ensure a sediment discharge to the Mark West Creek watershed is avoided.

9. Due to the potential for sediment discharge to watercourses from timber harvest activities and vineyard management, the location of all skid trail crossings shall be added to the THP map.

10. The RPF shall explain the mapping discrepancies between the THP and the ESCP. All present and future land cleared for vineyards shall be discussed in the THP under the sections describing erosion control, habitat loss, water quality effects and cumulative watershed effects. All maps must accurately show the project as proposed.
in accordance with FPR Section "1034(x)(1) Boundaries of logging area (shall be shown on quadrangle map or its equivalent)."

11. Since the THP does not adequately reflect conditions found during the PHI the Cumulative Watershed Assessment section is inadequate in evaluating cumulative watershed effects. All recommendations in this report shall be addressed and the Cumulative Watershed Assessment shall be reevaluated.

We recommend the THP be denied approval according to FPR Section "898.2, Special Conditions Requiring Disapproval of Plans: The Director shall disapprove a plan as not conforming to the rules of the Board if any one of the following conditions exist: c) There is evidence that the information contained in the plan is incorrect, incomplete or misleading in a material way, or is insufficient to evaluate significant environmental effects. The sufficiency of the information provided in a THP to evaluate significant environmental effects shall be judged in light of what is reasonable and necessary." Due to the misclassification of watercourses, incorrect mapping, clearing of steep slopes, lack of adequate mitigation measures, discrepancies with the ESCP and lack of adequate evaluation of cumulative watershed effects, the THP is considered incorrect, incomplete and misleading in a material way and therefore requires denial of approval. If another THP is submitted in place of 1-00-411 SON, it shall include the changes and clarifications described in the recommendations above so that the agencies can adequately evaluate how the THP will be administered as a California Environmental Quality Act (CEQA) equivalent document to the Environmental Impact Report (EIR) process under the FPRs.

References


Enclosure: Map
CFG Memo "Restorable" Habitat for Anadromous Fish

CC: Chuck Joiner & Ken Margiott, CDF
Stacy Martinelli, CDFG
From: "Chuck Rich" <CRICH@waterboards.ca.gov>
Date: October 27, 2008 5:14:32 PM PDT
To: "Betty Doerksen" <betdoe6@yahoo.com>
Cc: <cmalan@myoneearth.org>
Subject: Re: Help in Fish Kill in Mark West Creek

Dear Mr. Doerksen:

I'm not sure if I can do anything to help you. The Division of Water Rights has investigated at least 5 complaints within the watershed of Mark West Creek with the latest two being filed by Casey Caplinger against Henry Cornell/Guy Davis Vineyard and the Pride Vineyards. Both of these complaints raised concerns of adverse impacts to public trust resources. Both were closed without sufficient evidence being found to justify enforcement action.

Another Division staff member and I visited the area most recently on September 9th. We observed the water truck that hauls water from the stables at the intersection of Calistoga Road and St. Helena Road to the Pride Vineyards. We were informed the next day by a neighbor of the stable that the truck hauls about 10 to 11 loads of water a day or an average diversion from the groundwater of about 30 gallons per minute. This is about the same amount of water that would be needed to irrigate 5.4 acres of lawn or garden. We noted a relatively large number of homes in the area,

EXHIBIT "D" (1 of 3)
some of which had fairly extensive landscaping. Flow in the creek above the stables was visually estimated to be on the order of 0.5 to 0.75 cubic feet per second (cfs) and flow below the stables was visually estimated to be on the order of 0.25 to 0.5 cfs.

The problem you describe appears to be related to a lack of base flows to maintain adequate temperatures in the creek during the late summer and early fall period. Flows during this time of the year in creeks such as Mark West Creek are generally dominated by "base flows" that are derived from percolating groundwater that seeps into the stream channel. While Pride Vineyards was relying upon a percolating groundwater source that could, over a longer period of time, impact base flows, most vineyards collect winter runoff and hold this water in storage reservoirs for later use and do not have a significant impacts on late summer/early fall base flows. Even with the use of the stable's well by Pride Vineyards, flows in the creek should not have changed sufficiently to make a major difference in temperature or available spatial habitat. There just wasn't much water in the creek above the stables period.

Domestic wells, of which there appears to be a great number within the watershed, generally rely upon percolating groundwater for a potable supply of water and can, in a cumulative fashion, produce significant adverse impacts to the percolating groundwater body that probably generates the base flow in the creek. Based on the large number of residences we observed, I suspect that the late summer and early fall low flows are caused by a combination of factors including:

1. a recent period of dry years,
2. diversion of water by domestic residences for both inside water supply as well as outside landscape, dust control, or limited use (e.g., horse pasture, etc.) uses; and
3. diversion of water by vineyards or other commercial agricultural users.

All three of these factors are probably important and a solution to the current fisheries problems may very well require that all three factors be addressed at the same time. The State Water Resources Control Board, Division of Water Rights can undertake statutory adjudications to define and limit diversions from surface water bodies. However, this authority does not extend to percolating groundwater. Only the courts have the authority to adjudicate such sources of water unless the Legislature takes specific action to identify a groundwater body that would be included along with a surface water adjudication. To date, the only such action taken was in relation to the Scott River in Siskiyou County almost 30 years ago.

In summary, I think you will find that the public trust resources are being impacted by all three factors listed above which includes drought and ALL of the diverters in the watershed including individual home owners and all other surface water diverters or groundwater pumpers. I would expect that conditions will continue to deteriorate as more people move into the watershed.

If I owned an undeveloped parcel of land and was denied the right to develop this land even though all of the existing residents had already developed theirs, I would be very upset and might consider pursuit of an eminent domain or unlawful takings action. Consequently, finding a solution to the current problem will be
difficult at best.

One method of resolving the problem would be to find a "deep pocket" source of money to either buy property outright and terminate all use of water or purchase conservation (i.e., no development) easements on undeveloped property. Finding such a source of money and implementing this type of solution will be difficult if not impossible; especially since some existing development may also need to be removed to provide adequate base flows. An alternative might be to construct a reservoir to collect winter runoff that would be metered out during the late summer/early fall period to help maintain adequate habitat. However, there are all sorts of limitations and concerns with this type of approach as well.

Quoting an old comic strip, I suspect that the real answer to the problem is: "We have met the enemy and they is US (all of us)!"

You might want to see if a CRMP (Coordinated Resource Management Planning) group could be established to look at various solutions. See http://www.crmp.org/ for more information. My experience has been that CRMP groups work well when identifying the "win - win" options but tend to get bogged down when these options are exhausted and some "win - lose" options must be implemented in order to reach the desired solution.

Hope this information helps!

Charles Rich, Chief
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