Humboldt Redwood
COMPANY, LLC

Main Office
P.O. Box 37
Scotia, CA 95565
(707) 764-4472

Timber Operations
P.O. Box 712
Scotia, CA 95565
(707) 764-4472

May 19th, 2010

Ms. Catherine Kuhlman
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403

Subject: Enrollment of THP 1-09-051 HUM in the Elk River WWDR, "Tier II"

Dear: Ms. Kuhlman

HRC is requesting Tier II enrollment under Watershed-Wide Waste Discharge Requirement (WWDR) Order No. R1-2006-0039 for THP 1-09-051 HUM. The portion of the unit proposed for enrollment is comprised of 114.9 acres of group selection and 1.3 acres of ROW (58.8 clear-cut equivalent acres). Total acres currently enrolled or proposed for enrollment under Order No. R1-2006-0039 Tier II is shown in the Attached Pre-Harvest Planning Report. The Erosion Control Plan (ECP), Form 200 and an annual waste discharge enrollment fee have already been submitted for this THP.

Landslide risks associated with this plan were evaluated in compliance with the Freshwater Creek and Elk River WWDR Permit Acreage Enrollment and Compliance Monitoring Program Quality Assurance Project Plan (Version 2.0, September 1, 2006) approved by the Executive Officer of the North Coast Regional Water Quality Control Board. This approach uses commonly accepted standards for geologic practices in forest management (Sidle et al. 1985, Soeters and Van Western 1996, and Sidle and Ochiai 2006) to assess factors known to contribute to landslides, such as steepness of slope, slope convergence, hydrology, geologic features, and visibly unstable areas. Overlapping and complementary scientific techniques combining state-of-the-art digital elevation model (DEM) slope stability models, field investigation, and terrain analysis were used in this assessment.

The Top Lake THP Unit 1 is underlain by undifferentiated Wildcat Group Sediments. These sediments are moderate to well consolidated fine grain sands and include silts and clays. Permeability rates are slow due to the tight packaging of the grains. The area was clearcut harvested in the 1950s. That harvest presented significant changes to the stability of the slopes in that a 1000+ year old stand if timber was removed and the slopes were carved up with bulldozers during yarding. From that point forward, the mass wasting response has been somewhat minimal considering the severity of the impacts generated by that harvest. This harvest proposes group selection silviculture throughout the unit. Yarding methods include ground based and cable, delineated by slope inclination and proximity to adjacent watercourses. Extensive buffers (HCP) encompass the watercourses that prohibit group clearings on steeply inclined slopes. The culmination of these mitigations and chosen activities results in a significantly lower potential for harvest activities to create a landslide and for sediment from that landslide to be delivered to watercourses. One small landslide is proposed for partial harvest. This will result in the harvest a few trees from within a failure that is likely road related and occurred

shortly following the initial harvest in the 1950s. Based on our review of the THP and the processes of Tier 2 enrollment, it is our opinion that this unit, as approved by CDF, meets the requirements for Tier 2 enrollment.

The THP proposes an uneven-age silviculture retaining 100 sq.ft. of basal area. Sub-merchantable trees and those with specific wildlife value characteristics (e.g., cavities, large limbs, broken tops, snags, etc.) will be retained within the harvest area to the extent feasible. Cable and tractor yarding are approved for the unit. Post-harvest no site preparation will occur.

Greater detail regarding this landslide hazard assessment is provided in the attached *THP Unit Review for Tier 2 Enrollment*. The licensed geologist involved with the Tier 2 landslide risk evaluation has concluded the proposed harvest operation, if implemented as planned and approved, will result in a negligible increase in potential for post-harvest landsliding; and thereby meets the applicable Zero Delivery of landslide related sediment performance standards of NCRWQCB Orders R1-2006-0039 and R1-2008-0071.

Please do not hesitate to contact me should you have any questions or comments regarding this application for enrollment into WWDR (Order No. R1-2006-0039).

Respectfully,

Jon Woessner,
Area Manager, RPF 2571
Humboldt Redwood Company, LLC

Attachments:
Professional Certification of Design
THP Unit Review for Tier II enrollment
Pre-harvest Planning Report
Maps

Professional Certification of Design

I, Tagg Nordstrom, P.G. 7950, 5/7/10,
Name license # Date

PROFESSIONAL GEOLOGIST
TAGG S. NORDSTROM
No. 7950
CALIFORNIA

Place licensed seal here

Signature

hereby certify, in accordance with North Coast Regional Water Quality Control Board (NCRWQCB) Order Nos. R1-2006-0039 and R1-2006-0041, that the attached application and the description of THP modifications, and the materials submitted along with:

THP No. 1-09-051 HUM (Top Lake) Unit # 1

a. are in accordance with accepted practices, and recognized professional standards;
b. comply with the requirements of the Monitoring and Reporting Program No. R1-2008-0071, approved by the Executive Officer of the North Coast Regional Water Quality Control Board; and
c. provided that the THP is properly implemented, operated, and maintained, are adequate for the THP to meet the applicable Zero Net Delivery performance standards of NCRWQCB Orders R1-2006-0039, R1-2006-0041, and R1-2006-0103, insofar as such performance can reasonably be predicted by accepted engineering geologic practices.

The opinions presented in the subject THP have been developed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineering geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional advice included in this report.

THP: North Ridge THP 09-051 Unit # 1 May 5, 2010

Tools Used in This Assessment	Figure Number
Elevation Map with 10 ft Contours (HRC LiDAR)	1
SHALSTAB (Montgomery and Dietrich, 1994 and Palco, 2006) / Slope Class / Hillshade Maps	2
CGS Geology and Geomorphic Features (CGS, 2005)	3
Mass Wasting Potential Map (HRC, 1999)	4
Aerial Photo Map (HRC, 2007)	5
HRC Elk River and Salmon Creek WA deep-seated LS inventory (HRC, 2004)	6
Road Condition Map	7

Please see back of enrollment for references

Summary of Changes to THP Prescriptions Based on Tier II Analysis in this Unit:

Geologic Review	Forestry Silviculture/Site Prep Plan	Operational Design Plan
1-1	THP approved silviculture is group selection with single tree selection within the outerbands watercourse protection zones. No site preparation will occur due to partial harvesting.	The approved THP contains both ground based yarding atop the ridges and cable yarding of the more steeply inclined slopes. No change to approved yarding methods.

Geology and Plan Summary (information presented from existing bodies of work):

The entire one-unit plan is proposed as Tier 2 acres. The unit essentially occupies the headwaters of Lake Creek. The unit includes moderate to steeply inclined slopes, several Class I, II and III watercourses and existing roads. Five short road spurs are proposed for construction on ridge tops to accommodate cable yarding access.

Figure 3 shows the unit to be predominately underlain by undifferentiated Wildcat group sediments. These sediments are composed of silts, sands, clays, and infrequent gravels that are moderately to well consolidated. A small portion of the unit and typically flanking the primary Class I watercourse is underlain by Yager terrane rocks. These sediments are typically well indurated sandstones.

Figure 3 also shows the unit to be underlain by five large dormant rock slides. CGS also mapped the flanking slopes to all of the well incised watercourses as debris slide slope / source areas.

Figure 6 mapping shows two of the five landslides identified by CGS. One in the north is identified as a rotational translational landlside, the other landlside to the south is interpreted as an earthflow. These features are considered dormant mature in age due to the lack morphology consistent with recent movement (i.e. fresh scarps and altered tree growth) and the deep incision of the watercourses.

Figure 2 review (Hillslope shade) shows a well dissected drainage network within an aerially small basin. Slopes appear moderate to steeply inclined with a generally smooth texture. Morphology consistent with deep seated mass wasting and earthflow (Figure 6) is marginally represented. The additional three landslides mapped in Figure 3 are not observable.

The THP included a geology disclosure that identifies four landslides within the unit. All four of the landslides are proposed as no harvest areas. The slides are small in area, associated with steep stream side slopes. The landslides are typically mitigated with the no harvest RMZ for the adjacent watercourse. Where these features extend outside the RMZ, no timber has been marked within them. CGS identified the southernmost Class II watercourse channel as an inner gorge. The feature is located entirely within the Class II RMZ. One additional fill failure was identified adjacent the harvest boundary, upslope of the Class I watercourse, and on the northern haul road. This feature includes a few trees proposed for harvest.

The silviculture is group selection that will be both cable and tractor yarded. Class I watercourses are mitigated with a two part RMZ. The in part, measuring 50 feet from the channel edge or CMZ is a no harvest. The outerband extends to 150 where 50% canopy closure must remain post harvest. The Typical Riparian Management Zones for the Class II watercourses includes a 30-foot no harvest inner band and a

selection buffer that extends the RMZ out to between 75 and 100 feet (slope dependent). The outerband may be harvested but must retain a minimum of 60% canopy closure.

The implemented THP mitigation for the Class III watercourses includes the retention of all trees growing within the active channel and all trees 8 inches and less within 15 feet of the channel. Where channel sideslopes are greater than 50%, a 50' RMZ has been established and maintaining 75 sq. ft (or the unit wide retention standard if greater) evenly distributed in the buffer. Where side slopes are less than 50% employ a 25' RMZ that maintains 75 sq. ft (or the unit wide retention standard if greater) evenly distributed in the buffer and no group opening greater than ¼ acre immediately above the terminus of class III with slopes greater than 40% or immediately above a headwall swale. Additionally sub-merchantable trees and those with specific wildlife value characteristics (e.g., cavities, large limbs, broken tops, snags, etc.) will be retained within the harvest area to the extent feasible.

The area has been previously clearcut and ground-based logged with bulldozers (1950s). Significant ground disturbance is observable throughout the unit in response to past harvest practices.

The unit has been addressed one polygon.

THP Unit: # 1
Polygon: 1-1

A) General Observations

The harvest unit is the polygon. The slopes are moderate to steeply inclined and predominantly face north or west. The unit includes a relatively high density of watercourses for the unit area. All of the watercourses are protected within Riparian Management Zones that prohibit excessive harvesting adjacent the channels.

SHALSTAB modeling (Figure 2) portrays a regionally uniform distribution of value 2 and 3 along the north-facing slopes. Value 2 is typically single pixel in modeling however continuous down the channel. One pixel of Value 1 is delineated in southeastern corner of the unit. The pixel is located upslope of a Class II confluence. This dispersed delineation of value 2 is consistent with the well entrenched stream network. Review of these sites found no indications of past or potential future instabilities when considering the harvest proposal for the areas. The areas will be single tree selected due to RMZ establishment.

A) General Observations

Mass Wasting Potential (MWP) modeling for the unit is predominantly low with patches of moderate flanking watercourses. The channel of the southwestern Class II watercourse is modeled as high. This entire area modeled as high is within the Class II RMZ. Harvest restrictions in these areas were not deemed necessary during THP layout. The modeled areas do not present conditions significantly differently than adjacent areas with low mwp modeling.

Six landslides were identified during THP development and approval. From the THP, landslides 1-1, 1-3 and 1-4 are all located within watercourse RMZs. No harvest is proposed on any of the landslides. CGS expanded 1-1 to an inner gorge. One additional cutslope / translational failure was identified where a few trees growing within the feature are marked for harvest. The failure is older and likely occurred shortly after the initial harvest were toe slope were undercut.

The landslides identified in Figure 3 and Figure 6 are dormant mature in activity status. The typically smooth surface texture and very well entrenched drainage network suggest a long period of time of stability in which the features were developed. Legacy harvest activities have not resulted in reactivation of the large features. It unlikely that this harvest will have a significant impact on their stability in that it will be of less magnitude than the initial basin wide clearcut and ground yarded harvest.

B) Harvest Related Impacts and Hillslope Sensitivity

Significant surface disturbance has occurred within the unit in response to past logging activities. The disturbance is the culmination of road and layout construction. Following that impact, the area appears to have adjusted through minor slumping, settling and the infrequent failure of stresses slopes.

The degree of mass wasting placed sediment within the watercourses appears insignificant when compared to the construction of roads and crossings within the channels.

Current planned operations will result in less ground disturbance than previous operations and are unlikely to increase potential for mass wasting-related discharge.

The extensive RMZs were designed to provide sediment filtration bands adjacent the watercourses should extensive sediment be generated from the clearcut harvesting. The current method of harvest will retain both canopy closure and slash throughout the unit thereby reducing the potential to develop sediment and effectively increasing the width of the sediment filtration band.

B) Harvest Related Impacts and Hillslope Sensitivity
When comparing impacts to slope stability, the proposed operations of this plan are significantly lower than the initial old growth harvest. Using the Hillslope response to the initial harvest as a measure of the influence the forest has on slope stability, we find the slopes to be reasonably stable following complete denudation of the vegetation. This plan will retain a significant component of the current stand. Rather than rampant and extensive road construction which undercuts, overloads, and alters drainage patterns across the slope, ground based activities are constrained to gently inclined slopes away from watercourses. Areas previously ground based but occur on more steeply inclined slopes will be cable yarded. Overall hillslope sensitivity to harvest activities appears minimal with respect to mass wasting.

C) Forestry / Silviculture Plan
We have not changed the silviculture in response to this evaluation.

D) Operational Design Plan
THP approved yarding method is both cable and ground based. As delineated, the proposed yarding methods appear appropriate.

References:

CGS, 2005, Geologic and Geomorphic Features Related to Landsliding, Elk River Watershed, Humboldt County, California. Department of Conservation, now California Geological Survey (CGS) Watershed Mapping Series, Mapset 4, Plate 1. Available via the web at ftp://ftp.consrv.ca.gov/pub/dmg/thp/maps/elk/elk_color.pdf

Montgomery, D.R. and W.E. Dietrich, 1994. A physically based model for the topographic control on shallow landsliding. Wat. Resour. Res. 30: 1153-1171. For specific details regarding the model used in this evaluation, please see Palco, 2006. Additional information from the model authors is available at the following website: http://socrates.berkeley.edu/~geomorph/shalstab

HRC, 2007, Ortho-photo rectified aerial photographs flown by 3Di West, Eugene Oregon,

HRC, 2008. Freshwater Creek and Elk River WDR Permit Acreage Enrollment and Compliant Monitoring Program, NCRWQCB R1-2006—0039 and R1-2006-0041, Quality Assurance Project Plan, Version 3.0. Policy document submitted to NCRWQCB dated June 7, 2006.

HRC, 2004, Elk River / Salmon Creek Watershed Analysis, Scotia, California, prepared for Pacific Lumber Company (PALCO) dated 2004?, and acquired by Humboldt Redwood Company, LLC in 2008.

HRC, 2005, (Policy Acquired from The Pacific Lumber Company (PALCO)) Prescriptions Based on Watershed Analysis for Freshwater Creek, California, August 15, 2002.

HRC, 1999, The Pacific Lumber Company's Habitat Conservation Plan, Vol. 2 Part D, Landscape Assessment of Geomorphic Sensitivity, Public Review Draft.

SGD, 2008, Geologic Evaluation of the Moss Elk THP, Humboldt County, California, unpublished report to Wayne Rice RPF, Scotia Pacific Company LLC, dated April 30, 2008. Included within section V of the THP 1-08-072.

Brief descriptions of the models used in this evaluation:

SHALSTAB was first described in Dietrich and Montgomery (1994). SHALSTAB is a simple, physically-based model based on the Mohr-Coulomb failure law that can be used to map shallow landslide potential. The model calculates the potential for failure using gridded digital elevation data. The simplicity of the model lies in the formulation of slope stability parameters that allow the model to be run parameter-free using default values suggested by the authors or determined by local measurement. Because the model uses no field measurements of critical characteristics that determine slope stability, the evaluation of potential instability is only an approximation. In applying SHALSTAB for Tier 2 enrollment, HRC has run the model on a 10-m spatial grid using LiDAR elevation

data and applied the parameters as suggested by the model authors. HRC's application of the method and parameters is described in HRC (2008).

Mass Wasting Potential (MWP) modeling is a cursory regional assessment that numerically values soil, slope inclination, geology type, and geomorphology with respect to past mass wasting (HRC, 1999). The sums of the values specific to an area are measured against a set ranking system that extends from very low to extreme. The models intent is to highlight areas of high potential for instability at the planning level. The model's use at the site specific level is limited in that pedogenic soil types are used, not textures, the geologic formations utilized provide one value for all of the incorporated facies, and the model is heavily biased if past mass wasting has occurred or has been mapped as occurring in the area.

Humboldt Redwood Company LLC

Erosion Control Plan (ECP) for the "Top Lake" THP

This plan is being included in the THP to partially meet the requirements of the North Coast Regional Water Quality Control Board Watershed-wide Discharge Requirements. (**WWDRs**)

All operational portions of this ECP that are to be enforced through the Forest Practice Rules have been included in Section II of the THP.

Version **20080819**

In addition to the site specific measures detailed above, the general measures proposed in this project, either as required by another State or Federal regulating agency, or as a matter of Humboldt Redwood Company policy, will prevent or minimize future sediment delivery. These measures include, but are not limited to measures incorporated in the THP Section Items as follows:

THP Section II:

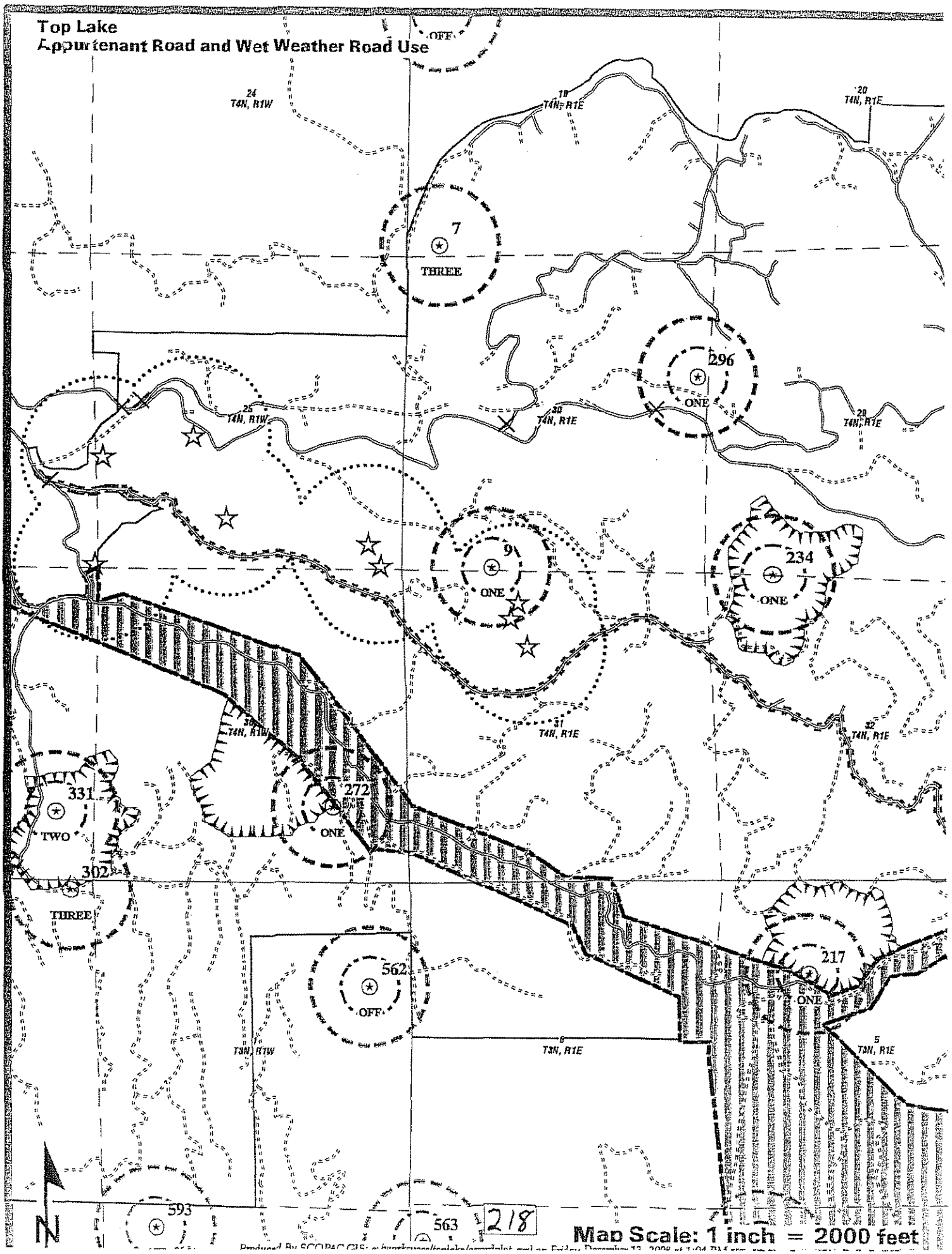
- Item 14 – Describes silvicultural prescriptions
  - (i) Site Preparation – Disclosure of selected site preparation treatments and mitigation measures
- Item 16 – Harvesting Practices – Describes yarding systems, equipment utilized, equipment limitations, and drainage facility installation timing
  - Inclusive through (m) – equipment use limitations and mitigation
- Item 18 – Soil Stabilization – waterbreak requirements, mitigation to minimize soil disturbance and sediment transport
- Item 20 – Ground Based Equipment Use Location
- Item 21 – Ground Based Equipment Use in Sensitive Areas – locations, descriptions of operations, limitations and mitigation measures
- Item 22 – Alternative Practices to Harvesting and Erosion Control
- Item 23 – Winter Operations – Provides descriptions of limitations and mitigation measures required during winter period operations and Winter Operating Plan
- Item 24 – Roads and Landings – Describes road and landing construction and re-construction operations, limitations, drainage relief structure installation, mitigation measures, road maintenance, inspections and wet weather road use restrictions
- Item 25 – Site Specific Measures to Reduce Adverse Impacts and Special Instructions to the LTO
- Item 26 – Watercourse and Lake Protection (WLPZ)
- Item 27 – "In Lieu" WLPZ Practice(s)
- Item 28 – Downstream Water Users Notification and Domestic Water Supply Protection Description of protection measures
- Item 29 – Sensitive Watershed – Identifies whether the plan is located in a designated sensitive watershed and mitigation measures
- Item 29 – 1 Hillslope Management (HCP 6.3.3.7) – Describes HCP hillslope management measures required as per watershed analysis

THP Section V:

- Sediment Reduction from Roads and THP Sediment Production--Including Table 1 – "Sediment Delivery for Units and Roads for this THP," references, letter regarding Road related sediment assessment for this THP with the calculations of deliverable net cubic yards of sediment, calculations and PWA information related to the THP project area when available

Maps attached:

- **Appurtenant Road and Wet Weather Road Use map**
- **Road Construction Locations/ECP Site Locator Map**


Top Lake
Appurtenant Road and Wet Weather Road Use
OFF
24
T4N, R1W
19
T4N, R1E
20
T4N, R1E
7
THREE
296
ONE
25
T4N, R1W
30
T4N, R1E
29
T4N, R1E
9
ONE
234
ONE
30
T4N, R1W
31
T4N, R1E
32
T4N, R1E
331
TWO
272
ONE
302
THREE
562
OFF
217
ONE
T3N, R1W
6
T3N, R1E
5
T3N, R1E
593
563
218
N
Map Scale: 1 inch = 2000 feet

Top Lake

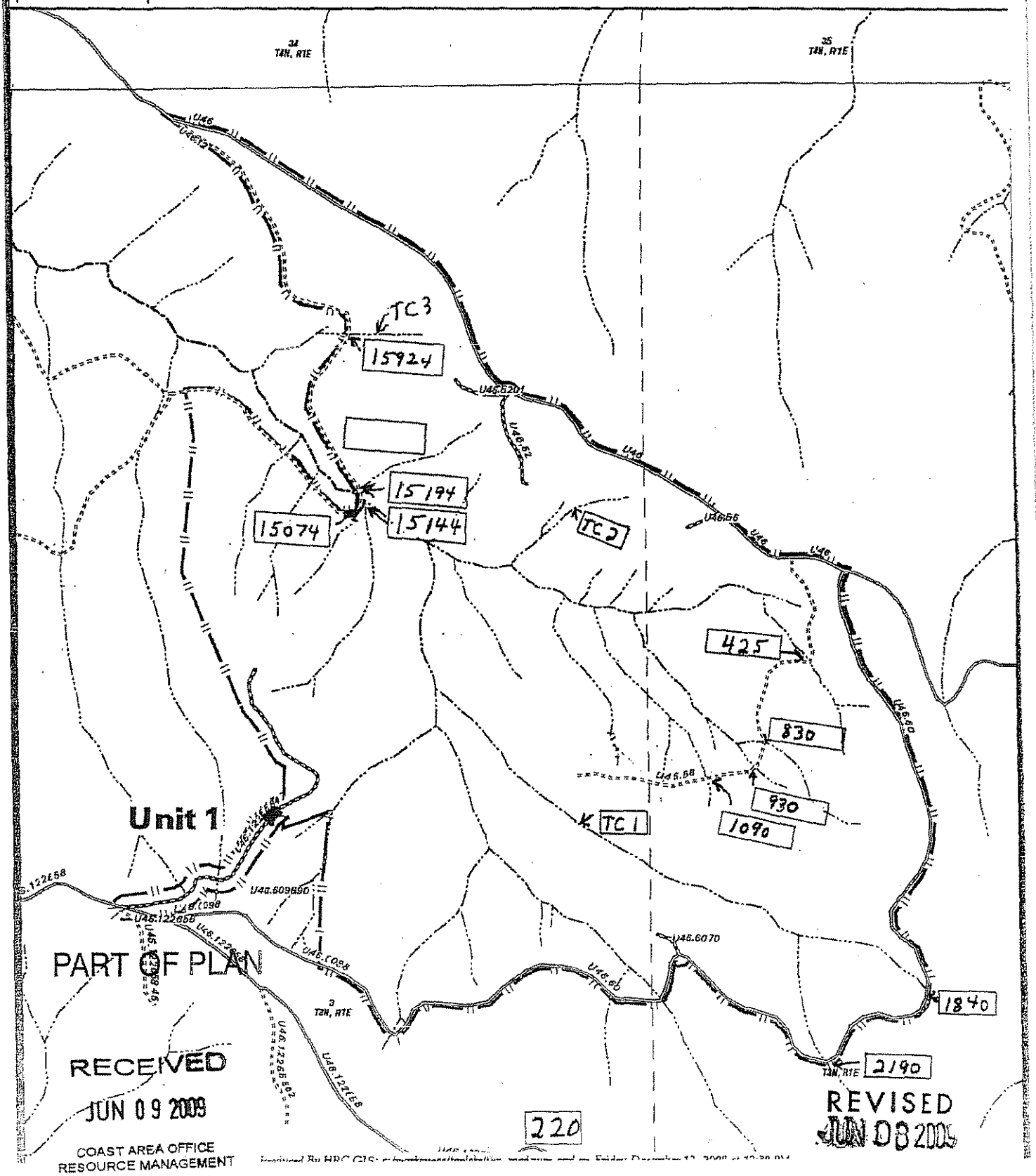
Road Construction Location Map

T3N R1E Sec. 2, 3 HBM

USGS Quad (s) : MCKINNEY CREEK

Map Scale: 1 inch = 500 feet

Harvest Boundary
Permanent Road
Seasonal Road
Proposed Seasonal Road
Class I Watercourse
Class II Watercourse
Class III Watercourse
Full Bench Construction
Cut and Fill Construction 1/2 Cut and 1/2 Fill


34 T4N, R1E
35 T4N, R1E
3 T3N, R1E
T3N, R1E
TC3
15924
15194
15144
15074
TC2
425
830
930
1090
TC1
1840
2190
220
Unit 1
U46
U46.5201
U46.52
U46.56
U46.58
U46.6070
U46.609850
U46.1228.58
U46.1228.58.62
U46.1228.58
U46.1228.58
U46.1228.58

6. photos of the site characterizing the violation;
7. the management measure(s) currently being implemented;
8. any maintenance or repair of management measures;
9. any additional management measures which will be implemented to prevent or reduce discharges that are causing or contributing to the violation or exceedence of applicable water quality requirements or WWDR prohibition violation; and,
10. the signature and title of the person preparing the report.
11. the report will include an implementation schedule for corrective actions and describe the actions taken to reduce the discharges causing or contributing to violation or exceedence of applicable water quality requirements or WWDR prohibition violation.

E. For other inspections conducted where violations are not discovered, a summary report will be submitted to Executive Officer by June 30th for each year of coverage under the WWDRs or upon termination of coverage. The summary report, at a minimum will include the date of inspections, the inspector's name, the location of each inspection, and the title and name of the person submitting the summary report.

If helicopter operations are proposed for this project, please find attached a Columbia Helicopters, Inc. (CHI) Fuel Spill Prevention and Cleanup Plan For Columbia Helicopters Field Operations.

Erosion Control Plan

Site	Site Type	Est. Potential Erosion (Cu.Yards)	Est. Potential Delivery (Cu.Yards & %)	Priority for Treatment	Implementation Schedule	Site Description	Treatment
Project Top Lake							
RD: Off Road STATION: SITE: TC 1 WOID: -356281093 SEDID: 3N1E03H401 REPAIRED: NO	Failing Crossing	300	300 100%	Med	Prior to Oct 15; SECOND year of operations.	failing old humboldt	Excavate top to bot. Lay side slopes back to 2:1 or natural slope. Access to this site is from the end of the U46.58. This is a large humboldt crossing that is currently failing with large cavities. This site is not deep 6-8' but is long approximately 180' with voids approximately 8-10' in size.
RD: Off Road STATION: SITE: TC 2 WOID: -1812286944 SEDID: 3N1E03H301 REPAIRED: NO	Failing Crossing	20	20 100%	Low	Prior to THP Final Completion.	failing fill crossing	Excatve fill crossing from top to bot. lay back side slopes 2:1 or natural slope
RD: Off Road STATION: SITE: TC 3 WOID: 1244478471 SEDID: 3N1E03G202 REPAIRED: NO	Humboldt	40	40 100%		Prior to THP Final Completion.	Old Humboldt crossing on skid trail	Pull humboldt crossing from top to bottom flags. Lay side slopes back to natural slope
RD: U46.12 STATION: 15074 SITE: NFE931 WOID: 5936 SEDID: 3N1E03G309 REPAIRED: NO	Crossing	20	20 100%	Low	Prior to THP Final Completion.	calss III watercourse flows out onto landing asd is dispersed	ESTABLISHING CHANNEL TO CONNCT WITH 15144 (site #930) APPROX. 100' AWAY. Once the vegetation has been cleared by heavy equipment at sites #15074, 15144, and 15194 an RPF or licensed geologist shall determine the appropriate watercourse alignment, earthwork plan, and debris storage.
RD: U46.12 STATION: 15194 SITE: c2 WOID: -772784915 SEDID: 3N1E03G307 REPAIRED: NO	Crossing	80	80 100%	Low	Prior to THP Final Completion.	watercourse is currently flowing across road and back into cahnnel	Excavate channel from top to bot lay side slopes back 2:1 or natural slope. Bottom of this site is the same as the bottom of site 15144. Once the vegetation has been cleared by heavy equipment at sites #15074, 15144, and 15194 an RPF or licensed geologist shall determine the appropriate watercourse alignment, earthwork plan, and debris storage.
RD: U46.12 STATION: 15924 SITE: c1 WOID: -1657974756 SEDID: 3N1E03G203 REPAIRED: NO	Crossing	30	30 100%	Low	Prior to THP Final Completion.	Humboldt crossing on a small class III watercourse. Humboldt is currently functioning, but has one small sink hole starting to develop.	Excavate humboldt from top to bot and lay side slopes back 2:1 or natural slope
RD: U46.58 STATION: 425 SITE: c1 WOID: -1264615681 SEDID: 3N1E02B402 REPAIRED: NO	Failing Crossing	40	40 100%		Prior to Oct 15; FIRST year of operations.	Failing humboldt crossing	Pull humboldt from top flag to bot flag. Install pipe large enough to handle flow if it exists.

RECEIVED
JUN 09 2009
COAST AREA OFFICE
RESOURCE MANAGEMENT

PART OF PLAN

REVISED
JUN 08 2009

227

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

I. FACILITY INFORMATION

A. Facility:

Name: THP 1-09-051 "Top Lake"			
Address:			
City:	County:	State:	Zip Code:
Contact Person: Jon Woessner		Telephone Number: 707-764-4376	

B. Facility Owner: (timber owner)

Name: Humboldt Redwood Company LLC			Owner Type (Check One): 1. ☐ Individual 2. ☒ Corporation 3. ☐ Governmental Agency 4. ☐ Partnership 5. ☐ Other
Address: P.O. Box 712			
City: Scotia	State: CA	Zip: 95565	
Contact Person: Jon Woessner		Telephone Number: 707-764-4376	Federal Tax ID:

C. Facility Operator (The agency or business, not the person): (plan submitter)

Name: Humboldt Redwood Company LLC			Owner Type (Check One): 1. ☐ Individual 2. ☒ Corporation 3. ☐ Governmental Agency 4. ☐ Partnership 5. ☐ Other
Address: P.O. Box 712			
City: Scotia	State: CA	Zip: 95565	
Contact Person: Jon Woessner		Telephone Number: 707-764-4376	Federal Tax ID:

D. Owner of the Land:

Name: Humboldt Redwood Company LLC			Owner Type (Check One): 1. ☐ Individual 2. ☒ Corporation 3. ☐ Governmental Agency 4. ☐ Partnership
Address: P.O. Box 712			
City: Scotia	State: CA	City: Scotia	State: CA
Contact Person: Jon Woessner		Telephone Number: 707-764-4376	Federal tax ID:

E. Address Where Legal Notice May Be Served:

Address: 125 Main Street		
City: Scotia	State: CA	Zip: 95565
Contact Person: Mike Jani		Telephone Number: 707-764-4403

F. Billing Address:

Address: P.O. Box 712		
City: Scotia	State: CA	Zip: 95565
Contact Person: Jon Woessner		Telephone Number: 707-764-4376

CALIFORNIA ENVIRONMENTAL
PROTECTION AGENCY

State of California
Regional Water Quality Control Board
APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

II. TYPE OF DISCHARGE

Check Type of Discharge(s) Described in this Application (A or B):

☒ **A. WASTE DISCHARGE TO LAND** ☐ **B. WASTE DISCHARGE TO SURFACE WATER**

Check all that apply:

☐ Domestic/Municipal Wastewater Treatment and Disposal	☐ Animal Waste Solids	☐ Animal or Aquacultural Wastewater
☐ Cooling Water	☐ Land Treatment Unit	☐ Biosolids/Residual
☐ Mining	☐ Dredge Material Disposal	☐ Hazardous Waste (see instructions)
☐ Waste Pile	☐ Surface Impoundment	☐ Landfill (see instructions)
☐ Wastewater Reclamation	☐ Industrial Process Wastewater	☐ Storm Water

☒ Other, please describe: Timber harvest activities

III. LOCATION OF THE FACILITY

Describe the physical location of the facility.

1. Assessor's Parcel Number(s)	2. Latitude	3. Longitude
Facility:	**Facility:**	**Facility:**
Discharge Point:	**Discharge Point:**	**Discharge Point:**

IV. REASON FOR FILING

☒ New Discharge or Facility	☐ Changes in Ownership/Operator (see instructions)
☐ Change in Design or Operation	☐ Waste Discharge Requirements Update or NPDES Permit Reissuance
☐ Change in Quantity/Type of Discharge	☐ Other:

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Name of Lead Agency: California Department of Forestry and Fire Protection

Has a public agency determined that the proposed project is exempt from CEQA? ☐ Yes ☒ No

If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.

Basis for Exemption/Agency:

Has a "Notice of Determination" been filed under CEQA? ☐ Yes ☒ No

If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.

Expected CEQA Documents:

☐ **EIR** ☐ **Negative Declaration** **Expected CEQA Completion Date:**

CALIFORNIA ENVIRONMENTAL
PROTECTION AGENCY

State of California
Regional Water Quality Control Board
APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

_____

_____

_____

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name: Jon Woessner	Title: Northern Area Manager
Signature:	Date: ~~6/22/09~~ 5/4/10

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger:	Fee Amount Received:	Check #:

Table 1. Proposed 2010 Harvest in North Fork Elk River.

			Silviculture						Hazard	
THP Name	THP Number	Unit Number	CC	ROW	CT	SHR	SEL	CC Equivalent	Low	High*
S. Lake View	07-183	2					13.7	6.9	11.6	26.9
S. Lake View	07-183	3					32.9	16.5	27.6	67.9
S. Lake View	07-183	4					17.9	9.0	11.7	79.4
Moss Elk	08-072	1					14.1	7.1	11.9	28.2
Moss Elk	08-072	2					13.5	6.8	10.5	38.4
Moss Elk	08-072	3		0.3			17.6	9.1	13	62.8
Moss Elk	08-072	4		0.3			18.2	9.4	10.9	97.3
North Ridge***	09-018	1					36.5	18.3	30.3	79.4
North Ridge	09-018	2					21.6	10.8	6.6	192.1
North Ridge	09-018	3		1.8			83.1	43.4	53.5	402.2
North Ridge	09-018	4		7			72.5	43.3	62.9	212.6
								0.0		0.0
North Ridge	09-018	1a		1.8			10.2	6.9	10.7	16.7
North Ridge	09-018	3a		3.4			26.7	16.8	24.4	73.0
Top Lake	09-051	All acres		1.3			114.9	58.8	102.1	180.6
								0.0		
							Total	262.6		

Table 3. Summary of THPs by Yarding System and Site Preparation for North Fork Elk River.

THP Name	THP Number	Unit Number	Yarding System			Site Preparation	
			Ground Based	Yarder	Helicopter	Mechanical	Broadcast
S. Lake View	07-183	2	0	13.7			
S. Lake View	07-183	3	8.1	24.8			
S. Lake View	07-183	4	1.8	16.1			
Moss Elk	08-072	1	14.1	0			
Moss Elk	08-072	2	13.5	0			
Moss Elk	08-072	3	15	2.6			
Moss Elk	08-072	4	1.9	16.3			
North Ridge	09-018	1	23	17.9			
North Ridge	09-018	2		21.5			
North Ridge	09-018	3	8.3	76.6			
North Ridge	09-018	4	30.7	48.8			
North Ridge	09-018	1a	6.2	5.8			
North Ridge	09-018	3a	5.4	24.7			
Top Lake	09-051	all	24.1	90.8			

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
135 Ridgway Ave.
Santa Rosa, CA 95401
Website: www.fire.ca.gov
(707) 576-2959

Date: August 4, 2009
THP#: 1-09-051 HUM

Mr. Wayne D. Rice, RPF
PO Box 712
Scotia, CA 95565

NOTICE OF CONFORMANCE

Enclosed is a true copy of your Timber Harvesting Plan (THP) identified by the number shown above. The Director of Forestry and Fire Protection finds that the plan conforms with the Rules and Regulations of the Board of Forestry pursuant to the provisions of the Z'Berg-Nejedly Forest Practice Act of 1973. Conformance is indicated by the facsimile signature of her duly constituted representative being shown on the attached copy of the plan.

You may begin the timber operations proposed in the plan according to the conditions specified therein, and subject to the Forest Practice Act, Forest Practice Rules of the Forest District in which the operations will take place, related Board of Forestry regulations and other applicable laws, regulations and ordinances.

The Forest Practice Act requires the filing of the two reports listed below for each timber harvesting operation undertaken:

1. Timber Operations Work Completion Report: Within one month after completion of work described in a Timber Harvesting Plan, excluding work for stocking, a report shall be filed by the timber owner or his agent with the Director that all work, except stocking, has been completed.

2. Report of Stocking:

   a) X Within six months after completion of timber operations covered by this THP, a Report of Stocking shall be filed by the timber owner or his agent with the Director.

   b) NA Within five years after completion of timber operations covered by this THP, a Report of Stocking shall be filed by the timber owner or his agent with the Director.

   c) Stocking obligations do not apply because:
   NA Timberland Conversion Permit is in effect.
   NA The THP is for road right-of-way construction only.
   NA The THP is for a one-time, minor conversion.

In future correspondence, please refer to the THP number in the upper right corner of the attached plan.

Sincerely,

Alleah S. Middling

ALLEAH S MIDDLING
Division Chief, Forest Practice
RPF #2420
Enclosures
cc: TO/TLO/Subm. Humboldt Redwood Company, LLC
File, Unit, ftp://thp.fire.ca.gov/THPLibrary/North_Coast_Region

August 4, 2009
Date of Director's Decision

OFFICIAL NOTICE OF THE DIRECTOR OF FORESTRY'S DETERMINATION OF CONFORMANCE OF TIMBER HARVESTING PLAN OR AMENDMENT TO TIMBER HARVESTING PLAN WITH THE FOREST PRACTICE ACT AND BOARD OF FORESTRY REGULATIONS

The Director of Forestry found, on the date shown above, that the Timber Harvesting Plan, Non-Industrial Timber Management Plan (NTMP), or amendment (AM) listed below is in conformance with the Forest Practice Act, and Board of Forestry regulations pursuant thereto. This notice is posted in compliance with sections 1037.1 and 1037.8, Title 14, California Code of Regulations.

Copies of this Harvest Document and related documents are available for inspection at: 118 Fortuna Blvd., Fortuna, CA 95440 (707) 725-4413.

Plan number County	Submitter	Acres	Location	Waterway	Silviculture or Proposed Amendment
1-09-051 HUM HUMBOLDT	HUMBOLDT REDWOOD COMPANY, LLC	134	SECTIONS 2, 3 T3N, R1E HBM	LAKE CREEK FLOWS THROUGH	GROUP SELECTION, ROAD RIGHT OF WAY

TO POSTING AGENCY: Please post this Notice at the place where official notices concerning Environmental Quality Act compliance are usually posted. If there are questions concerning posting, please contact: Forest Practice Office, California Department of Forestry and Fire Protection, 135 Ridgway Avenue, Santa Rosa, CA 95401
Telephone : (707) 576-2959

cc: RPF, TO/TLO/SUBMITTER, HUM, CC, SAG, EQ, HUU, POST, FILE, ftp://thp.fire.ca.gov/THPLibrary/North_Coast_Region/

Posting Period is 30 Days

Humboldt Redwood
COMPANY, LLC

Main Office
P.O. Box 37
Scotia, CA 95565
(707) 764-4472

Timber Operations
P.O. Box 712
Scotia, CA 95565
(707) 764-4472

June 9th, 2010

Ms. Catherine Kuhlman
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403

Subject: Enrollment of THP 1-09—051 ECP Update

Dear: Ms. Kuhlman

The ECP for the above mentioned plan is up to date. No new sites pertinent to 09-051 have been noted. None of the existing sites have significantly changed. Adjacent to this THP, put pertinent to ECP for THP 1-08-084 the attached discharge notification was sent. The corrective action has already taken place. I do not believe that would require a change to the ECP.

I certify under penalty of law that is document and all attachments were prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information is, to the best of my knowledge and belief true, accurate and complete.

Respectfully,

Jon Woessner,
Area Forester, RPF 2571
Humboldt Redwood Company, LLC

Humboldt Redwood
COMPANY, LLC

Main Office
P.O. Box 37
Scotia, CA 95565
(707) 764-2222

Forest Operations
P.O. Box 712
Scotia, CA 95565
(707) 764-2330

Discharge Notification Report

Written Notification as required by the North Coast Regional Water Quality Control Board (NCRWQCB) in the Erosion Control Plan for THP **South Lake 1-08-084** WWDR. The following bullet items are required:

1. The date the discharge was discovered;
   - **1/8/10**
2. The name and title of the person(s) discovering the discharge;
   - **Dave Rogers- Forester**
3. Road and site number related to the discharge location;
   - **U46.60 3270**
4. A map showing the location of the discharge site;
   - **See attached map provided by Tracy Watkins**
5. An estimate of the volume and a description of the type of material discharged;
   - **Less than 1 cubic yard of sediment delivered to the watercourse**
6. A description of the nature and cause of the discharge, including a description of any failed management measure(s) that appear(s) to have contributed;
   - **Bank slumping, possibly caused by unstable soil type and oversteepened banks.**
7. A description of recent weather conditions prior to discovering the discharge;
   - **A significant storm moved through the area 1 week prior to discovery of the discharge, depositing over 2 inches of rain. During the week and day of the discharge discovery, there were periods of rainfall.**
8. Photos of the discharge site and affected downstream areas;
   - **See attached photos provided by Dave Rogers**
9. A description of corrective measures implemented at the site during the time of discovery of the discharge;
   - **None**
10. An implementation schedule and accompanying description of further corrective measures that will be implemented in the future;
    - **The site will be dug out with a shovel to remove deposited material. Straw bales will be placed as erosion control measures.**
11. The signature and title of the person preparing the report.
    - **Tracy Watkins- Water Quality Stewardship Coordinator**

Tracy Watk

2009 CAO Annual Work Plan

NorthForkElk

MAP LOCATOR

Shaded area shows map extent.

Nov 25, 2009

Legend

CAO Sites

Class I Stream
Class II Stream
Class III Stream

Paved Road
Rocked Road
Dirt Road
Proposed Road

0 660 1,320 2,640 3,960 Feet

4N,1E 33
4N,1E 34
4N,1E 35
4N,1E 36
3N,1E 1
3N,1E 2
3N,1E 3
3N,1E 4
3N,1E 9
3N,1E 10
3N,1E 11
3N,1E 12

SFE102
SFE104
SFE100.1
NFE1005

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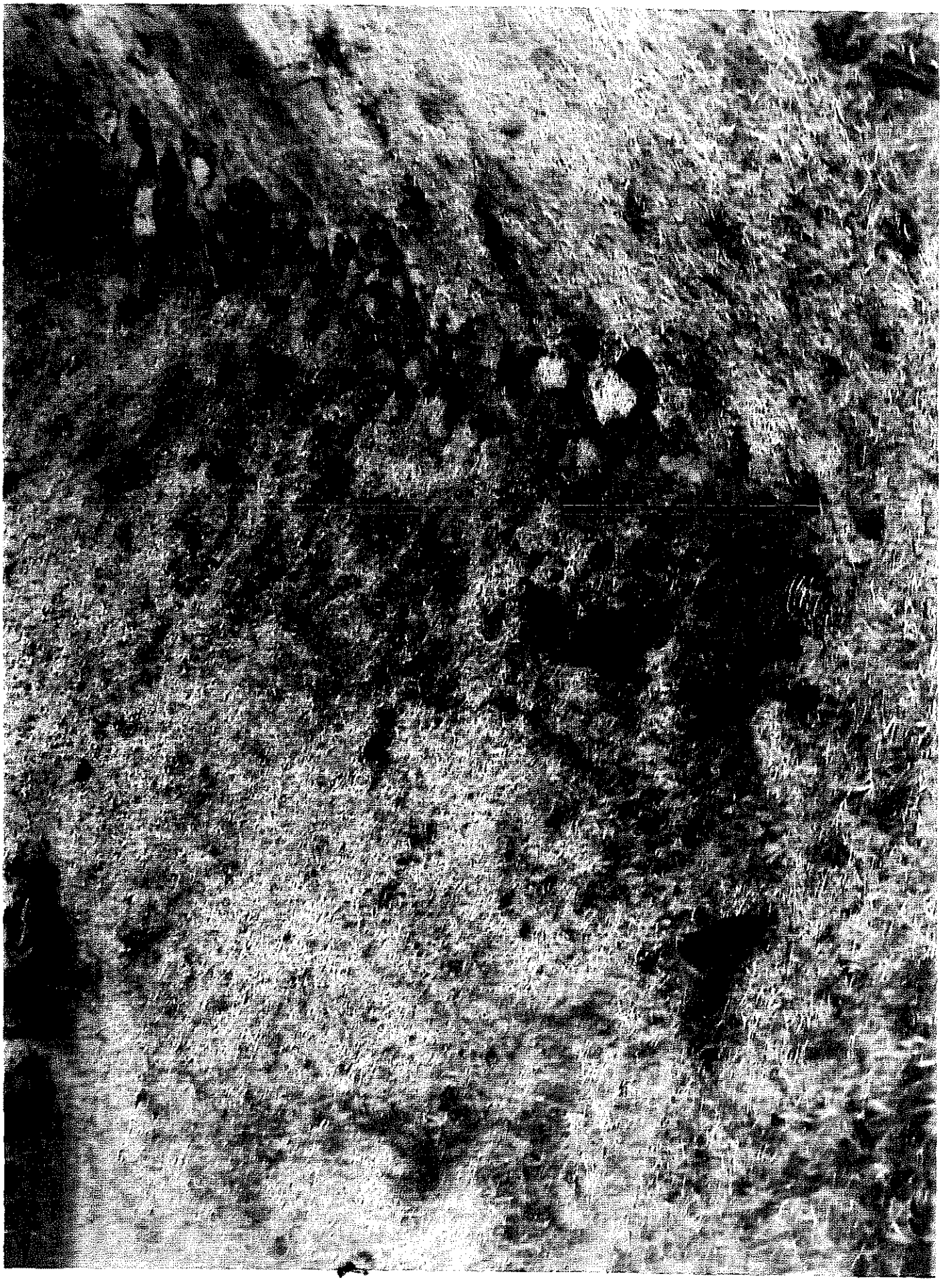

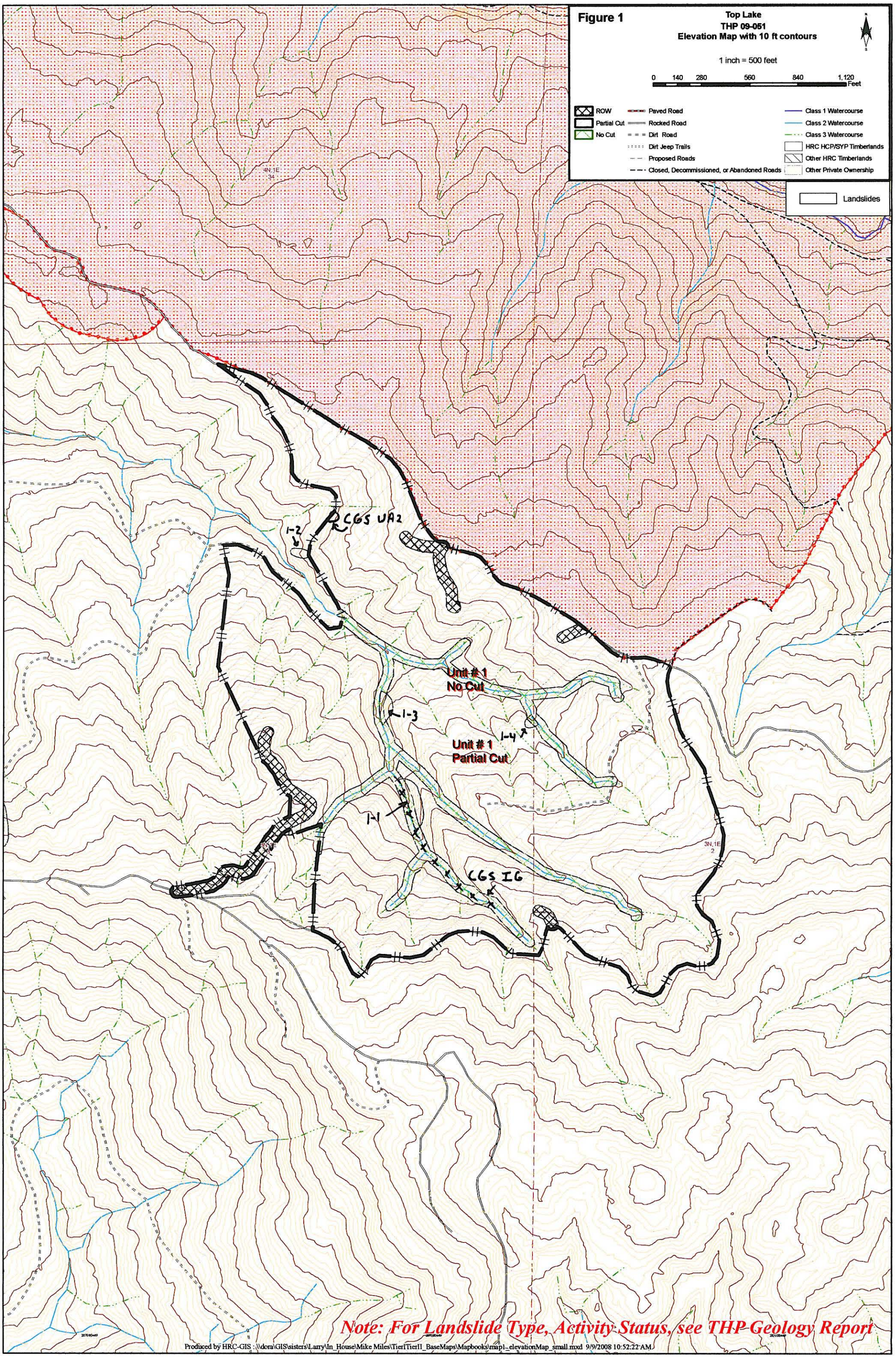
Figure 1
Top Lake
THP 09-051
Elevation Map with 10 ft contours
1 inch = 500 feet
0 140 280 560 840 1,120 Feet
ROW
Partial Cut
No Cut
Paved Road
Rocked Road
Dirt Road
Dirt Jeep Trails
Proposed Roads
Closed, Decommissioned, or Abandoned Roads
Class 1 Watercourse
Class 2 Watercourse
Class 3 Watercourse
HRC HCP/SYP Timberlands
Other HRC Timberlands
Other Private Ownership
Landslides
4N,1E
34
CGS UA2
1-2
Unit # 1
No Cut
1-3
1-4
Unit # 1
Partial Cut
1-1
CGS IG
3N,1E
2
Note: For Landslide Type, Activity Status, see THP Geology Report
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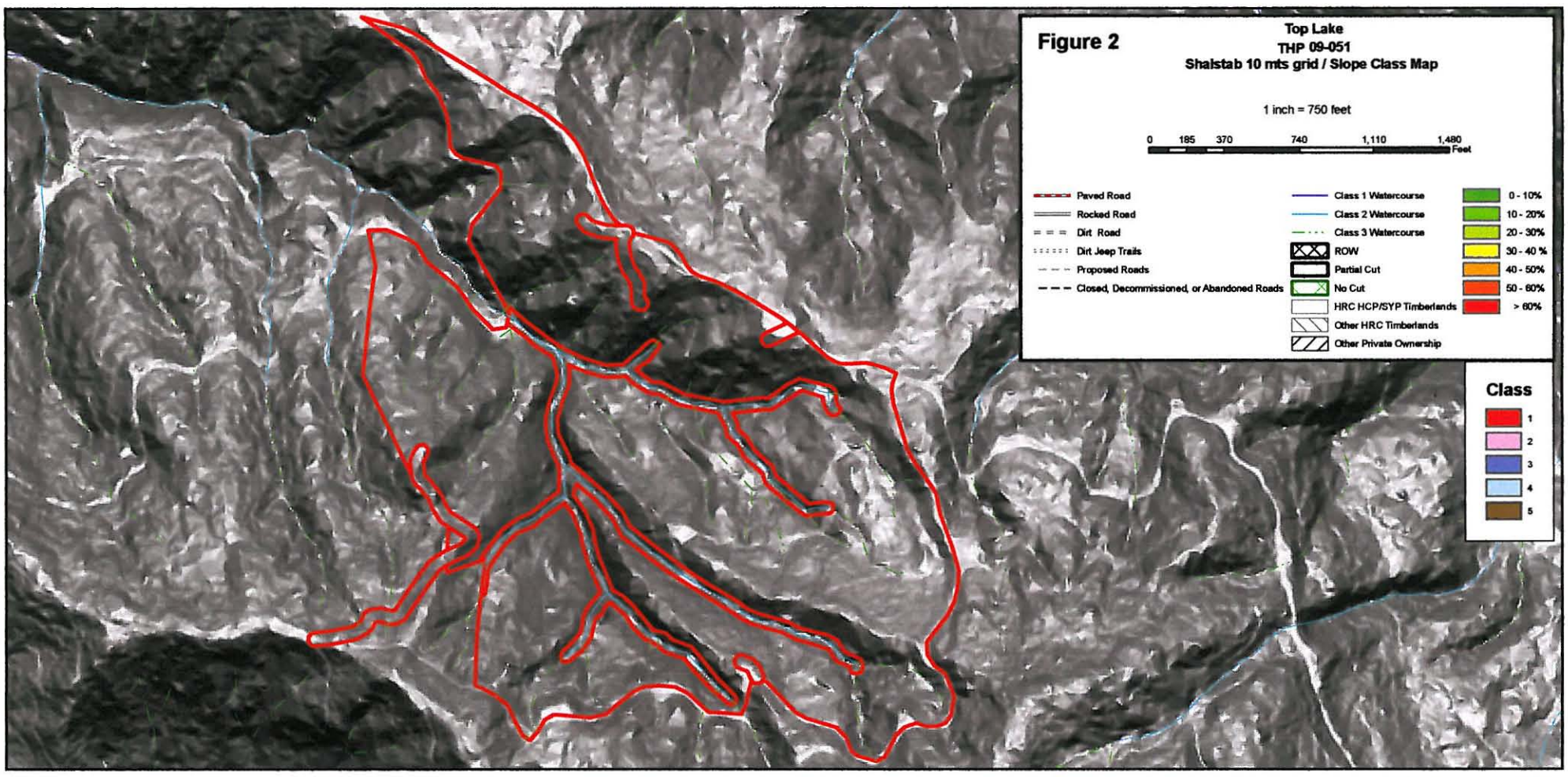
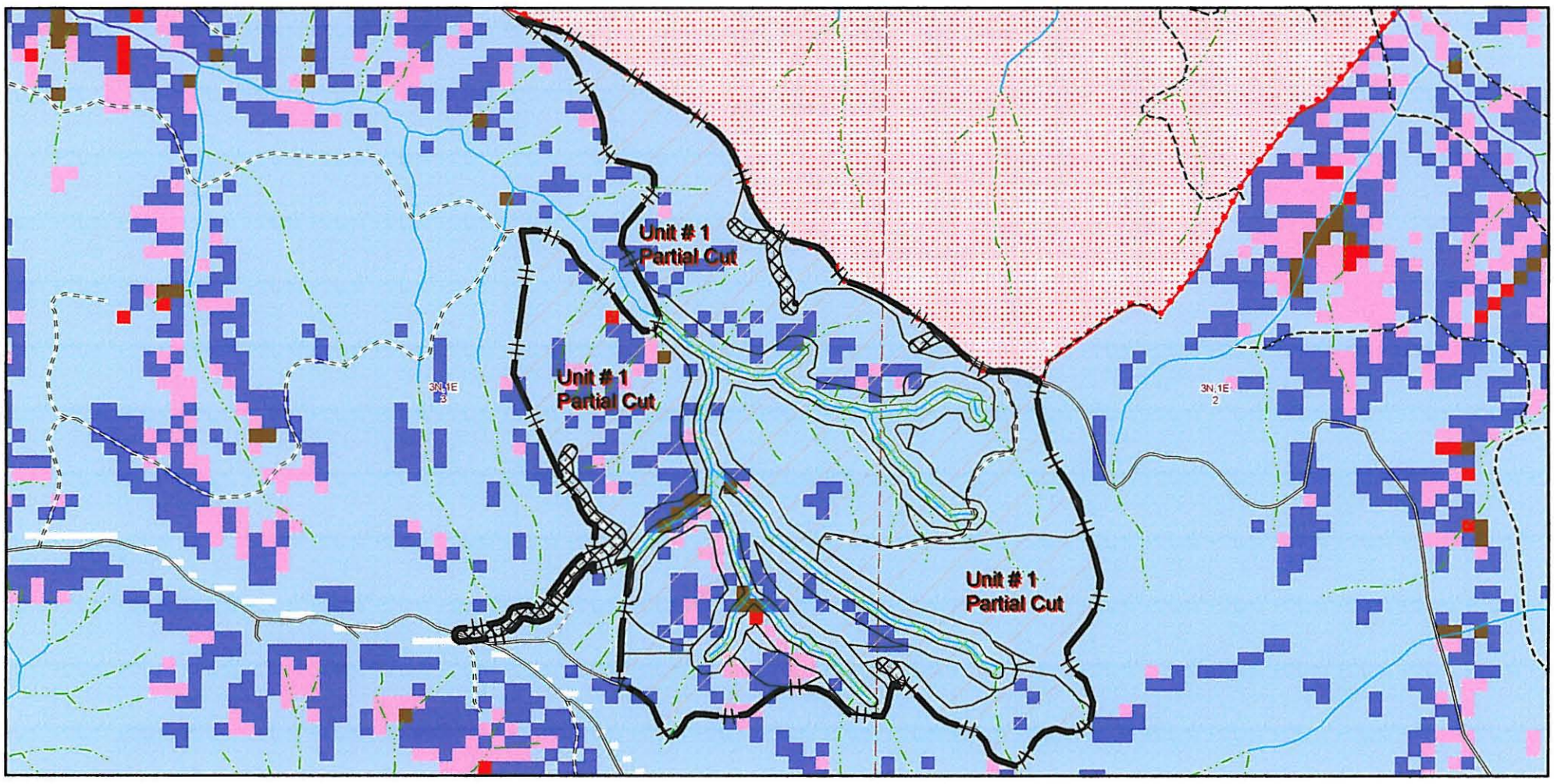
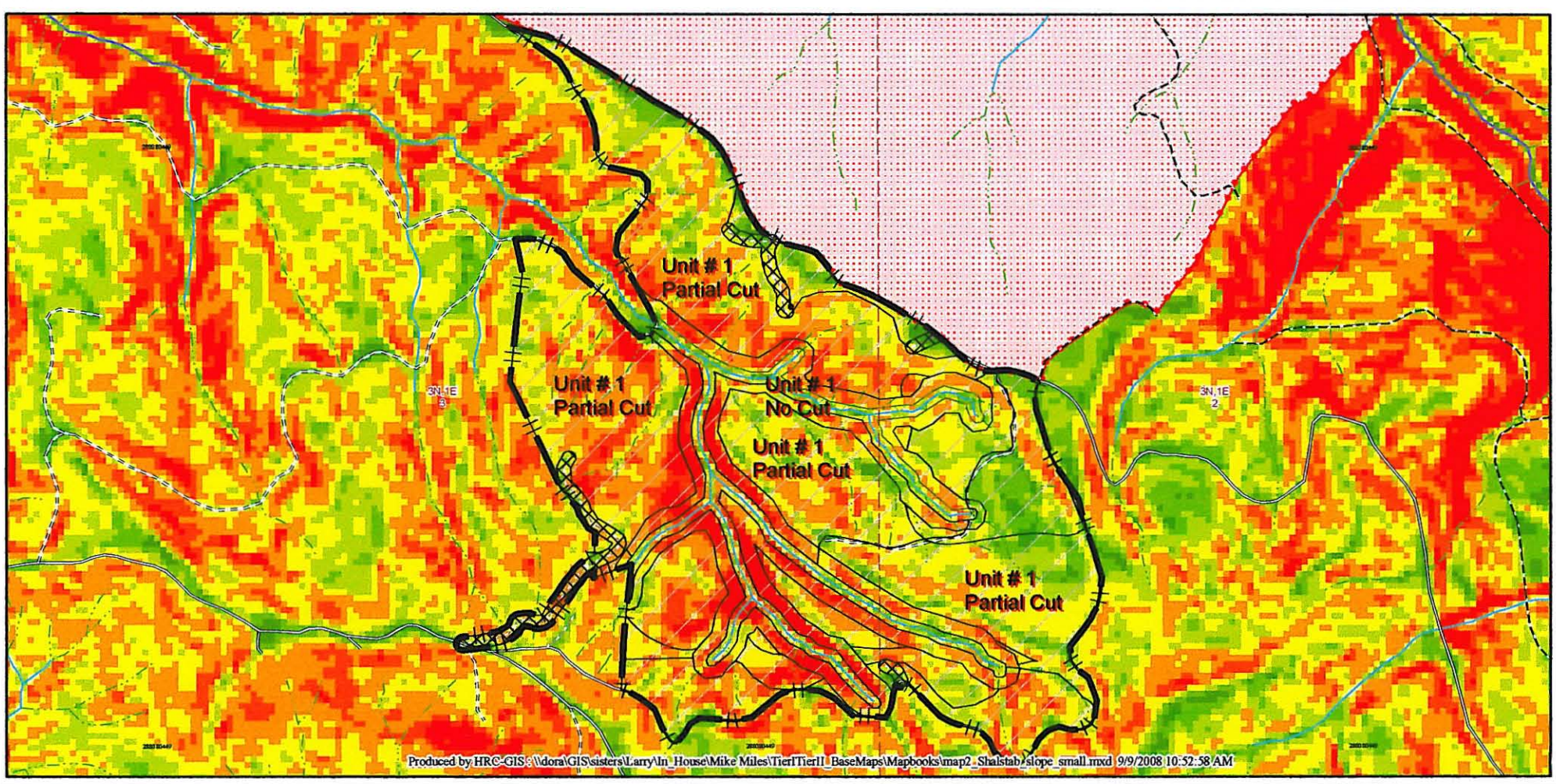


Figure 2
Top Lake
THP 09-051
Shalstab 10 mts grid / Slope Class Map
1 inch = 750 feet
0 185 370 740 1,110 1,480 Feet
Paved Road
Rocked Road
Dirt Road
Dirt Jeep Trails
Proposed Roads
Closed, Decommissioned, or Abandoned Roads
Class 1 Watercourse
Class 2 Watercourse
Class 3 Watercourse
ROW
Partial Cut
No Cut
HRC HCP/SYP Timberlands
Other HRC Timberlands
Other Private Ownership
0 - 10%
10 - 20%
20 - 30%
30 - 40 %
40 - 50%
50 - 60%
> 60%
Class
1
2
3
4
5


Unit # 1
Partial Cut
Unit # 1
Partial Cut
Unit # 1
Partial Cut
3N,1E
3
3N,1E
2


Unit # 1
Partial Cut
Unit # 1
Partial Cut
Unit # 1
No Cut
Unit # 1
Partial Cut
Unit # 1
Partial Cut
3N,1E
3
3N,1E
2
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Geologic Units

Q (Qal of McLaughlin and others, 2000) Alluvium consisting of sands, silt, clays, and gravel along major stream channels. Because of the location of this material mass wasting is typically not an issue, but in certain locations, in streams alluvium can be incorporated into debris torrents traveling the channel.

Qrt (included in Qt of McLaughlin and others, 2000) Quaternary river terrace deposits. Unconsolidated generally poorly sorted pebble sands and sandy pebble-to boulder-conglomerates with silt interbeds. Generally flat-laying but can be susceptible to debris sliding on steep slopes and small-scale rotational landsliding where adjacent to streams.

Qh (Included in Qt of McLaughlin and others, 2000) Hookton Formation. Wrapped and folded unconsolidated marine and non marine sands, gravel and silt. Fossiliferous. Contains rare thin beds of volcanic ash. This formation is prone to erosion and debris sliding. Can be subject to shallow and deep-seated bedding plane failures resulting in translation and earthflow landslides where out of slope bedding occurs.

Qtwu(Included in Qtw of McLaughlin and others, 2000) Marine and non-marine sedimentary rocks of the Wildcat Group. Typically consists of poorly to moderately consolidated siltstone and fine-grained silty sandstone with some lenses of pebble conglomerate. These deposits are moderately susceptible to deep-seated landsliding, with rotational displacements in massive units and translation along planar weaknesses such as bedding planes, joints and fractures.

Ty(y1 of McLaughlin and others, 2000) Yager terrane of the Franciscan Complex Coastal Belt. In the Elk River Watershed it typically consists of well-indurated and highly folded arkosic sandstone and argillite. The sandstone is typically very strong and often forms cliffs. The argillite is prone to slaking, and deep weathering and is often very sheared. Slopes underlain by this material are often irregular and lack well developed sidehill drainages. The slaking, shearing and deep weathering results in deep-seated flow type failures on moderate slopes.

Kjfs (cm2 of McLaughlin and others, 2000) Melange of the Franciscan Complex Central Belt. Deeply sheared meta-sandstone and meta-argillite with chert and carbonates. Includes large rock block with diverse lithologies. Where the unit deeply sheared, particularly within the argillite, the rock of the regolith may fail as earthflows. Because this unit may contain large deep-seated earthflow failures with large inclusions of well indurated sandstone, areas underlain by this unit may appear hummocky and may lack well-defined drainages. Because of the pervasive shearing that limits internal cohesion of the sliding mass, relatively deep-seated translational sliding occurring on steeper slopes underlain by this material can develop into debris flows and occasionally torrents. Soils developed from this sheared rock are typically plastic sandy clays and clayey sands. Large block of massive sandstone present in the central belt are typically well indurated and support steep slopes. The soils and colluvium developed from the sandstone are sandy silts to silty to sand that have relatively low cohesion and are susceptible to debris flows.

Figure 3

Top Lake
THP 09-051
CGS Map

1 inch = 500 feet

0 260 520 1,040 1,560 2,080 Feet

HRC HCP/SYP Timberlands
Other HRC Timberlands
Other Private Ownership
ROW
Partial Cut
No Cut
Unit
Paved Road
Rocked Road
Dirt Road
Dirt Jeep Trails
Proposed Roads
Closed, Decommissioned, or Abandoned Roads
Class 1 Watercourse
Class 2 Watercourse
Class 3 Watercourse

Legend

dss
a
df
ph
tb
y
contact, approx. located
contact, approx. located,
contact, approx. located, concealed
f.a., anticline, approx. located
f.a., anticline, approx. located, concealed
f.a., anticline, certain
fault, approx. located
fault, certain
thrust fault, approx. located
thrust fault, concealed
thrust fault, concealed, queried
thrust fault, inferred
tt
df, h
ds, dm
ds, dy
ds, h
ef, dm
ef, do
ef, dy
ef, h
rs, dm
rs, do
rs, dy
rs, h
u,
Q
Qrt
Qh
Qtwu
Ty
Kjfs

Unit # 1 Partial Cut
Unit # 1 No Cut
rs dy
rs dm
ef dy

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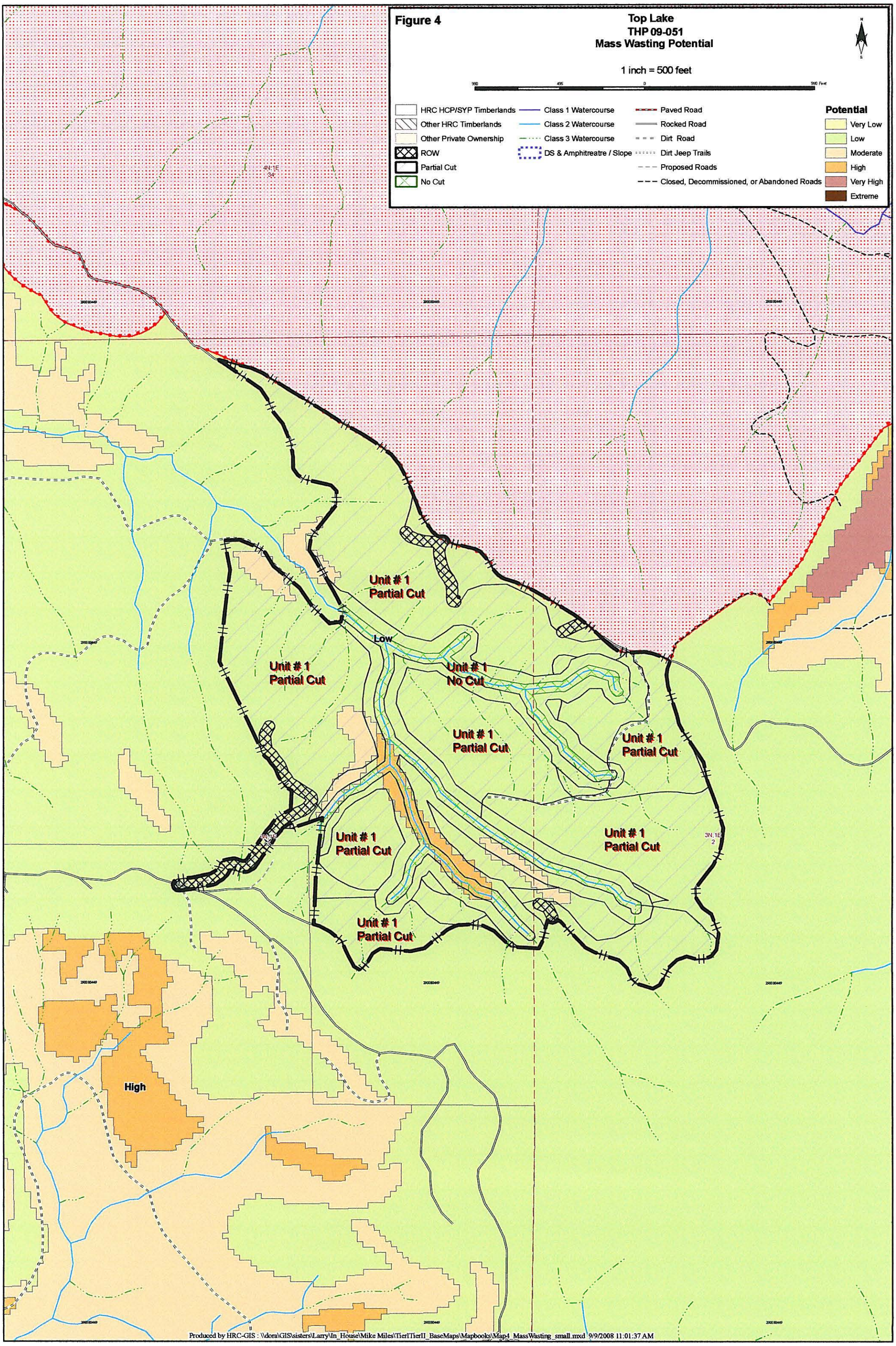
Figure 4
Top Lake
THP 09-051
Mass Wasting Potential
1 inch = 500 feet
HRC HCP/SYP Timberlands
Other HRC Timberlands
Other Private Ownership
ROW
Partial Cut
No Cut
Class 1 Watercourse
Class 2 Watercourse
Class 3 Watercourse
DS & Amphitreatre / Slope
Paved Road
Rocked Road
Dirt Road
Dirt Jeep Trails
Proposed Roads
Closed, Decommissioned, or Abandoned Roads
Potential
Very Low
Low
Moderate
High
Very High
Extreme
4N,1E
34
Unit # 1
Partial Cut
Low
Unit # 1
Partial Cut
Unit # 1
No Cut
Unit # 1
Partial Cut
Unit # 1
Partial Cut
Unit # 1
Partial Cut
Unit # 1
Partial Cut
3N,1E
2
Unit # 1
Partial Cut
High
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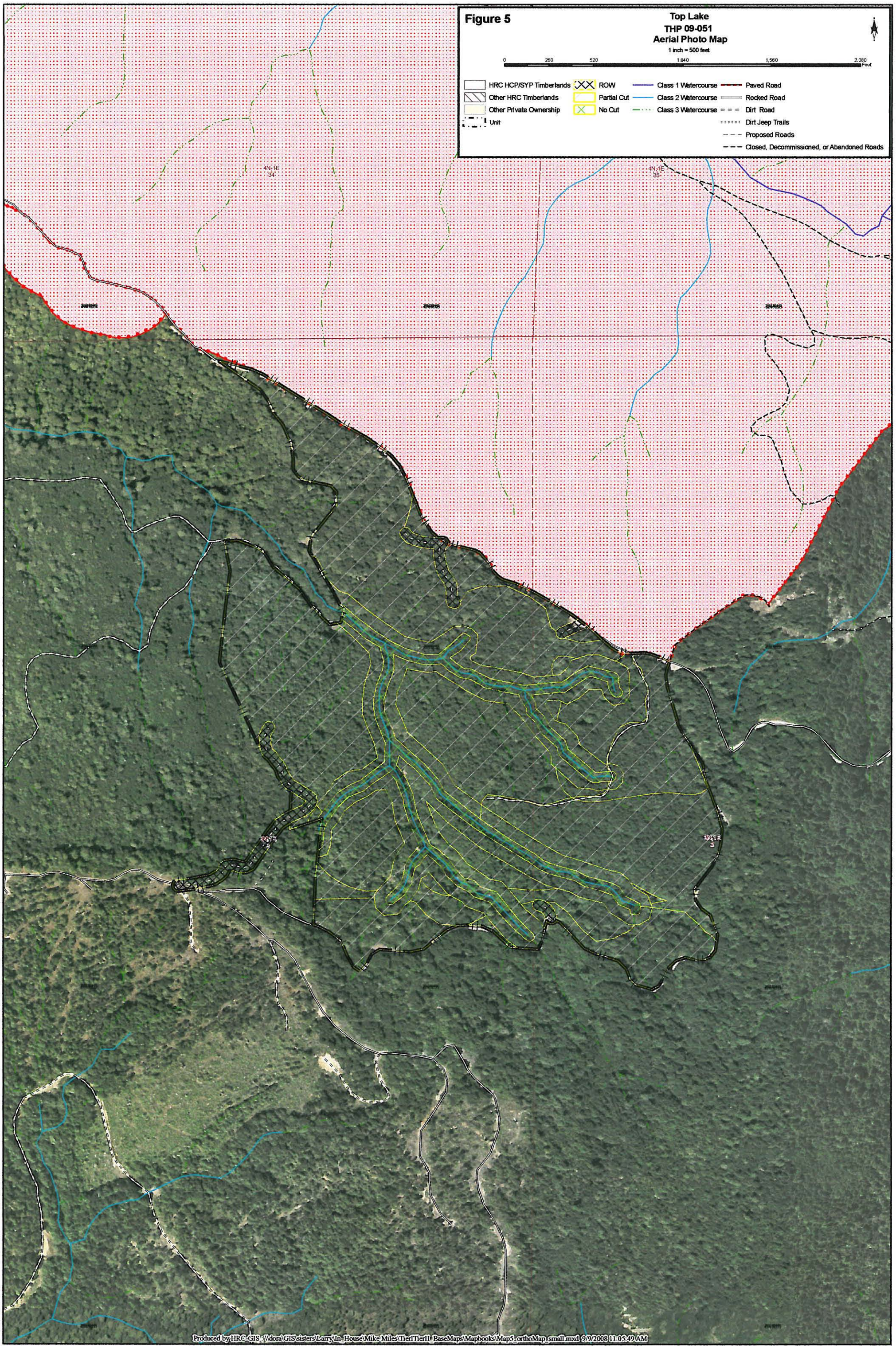
Figure 5
Top Lake
THP 09-051
Aerial Photo Map
1 inch = 500 feet
0
260
520
1,040
1,560
2,080
Feet
HRC HCP/SYP Timberlands
Other HRC Timberlands
Other Private Ownership
Unit
ROW
Partial Cut
No Cut
Class 1 Watercourse
Class 2 Watercourse
Class 3 Watercourse
Paved Road
Rocked Road
Dirt Road
Dirt Jeep Trails
Proposed Roads
Closed, Decommissioned, or Abandoned Roads
4N-1E
34
4N-1E
35
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Figure 6

Top Lake

THP 09-051
Watershed Analysis Deep-Seated Landslide Inventory

1 inch = 500 feet

0 260 520 1,040 1,560 2,080 Feet

HRC HCP/SYP Timberlands
Other HRC Timberlands
Other Private Ownership
ROW
Partial Cut
No Cut

Class 1 Watercourse
Class 2 Watercourse
Class 3 Watercourse

Paved Road
Rocked Road
Dirt Road
Dirt Jeep Trails
Proposed Roads
Closed, Decommissioned, or Abandoned Roads

Legend

Scarp
Earthflow
Rotational/ Translational/ Earthflow
Rotational/ Translational

Unit # 1 Partial Cut
Unit # 1 Partial Cut
Unit # 1 No Cut
Unit # 1 Partial Cut
Unit # 1 Partial Cut
Unit # 1 Partial Cut
Unit # 1 Partial Cut
Unit # 1 Partial Cut

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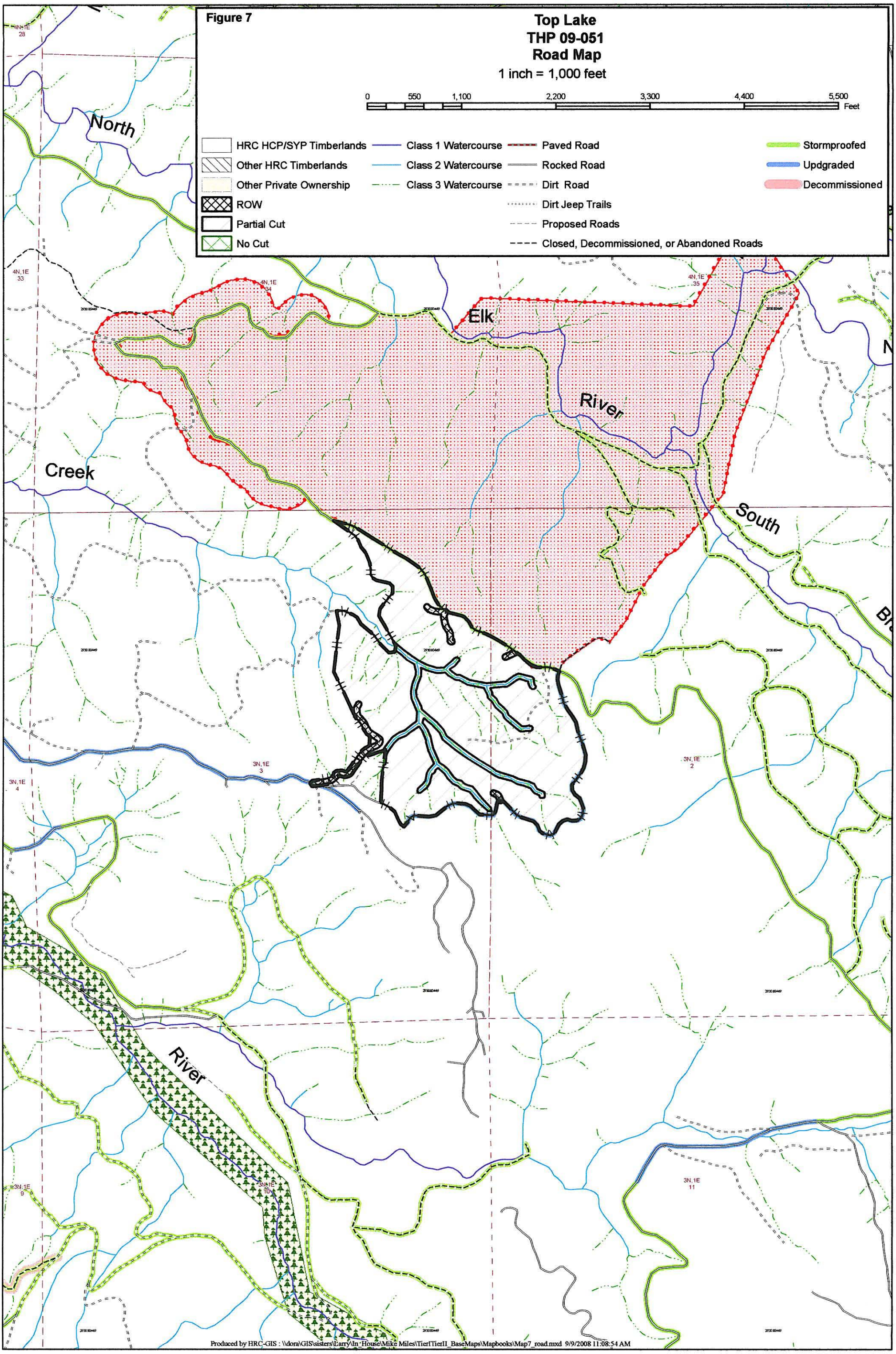
Figure 7
Top Lake
THP 09-051
Road Map
1 inch = 1,000 feet
0
550
1,100
2,200
3,300
4,400
5,500
Feet
HRC HCP/SYP Timberlands
Other HRC Timberlands
Other Private Ownership
ROW
Partial Cut
No Cut
Class 1 Watercourse
Class 2 Watercourse
Class 3 Watercourse
Paved Road
Rocked Road
Dirt Road
Dirt Jeep Trails
Proposed Roads
Closed, Decommissioned, or Abandoned Roads
Stormproofed
Updgraded
Decommissioned
North
Elk
River
Creek
South
River
4N,1E
28
4N,1E
33
4N,1E
34
4N,1E
35
3N,1E
3
3N,1E
2
3N,1E
4
3N,1E
9
3N,1E
10
3N,1E
11
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