



Humboldt Redwood
COMPANY, LLC

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February 27th, 2012

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

Subject: Enrollment of portions of THP 1-11-007 HUM in the Freshwater Creek WWDR, "Tier II"

Dear Ms. Kuhlman:

HRC is requesting Tier II enrollment under Watershed-Wide Waste Discharge Requirement (WWDR) Order No. R1-2006-0041 for units 1-8 (excluding 2 and 7a which have been enrolled as Tier 1) of THP 1-11-007 HUM. The enrollment is comprised of 283.5 acres of group selection/selection and 0.4 acres of right of way, (142.2 clear-cut equivalent acres). Total acres currently enrolled or proposed for enrollment under Order No. R1-2006-0041 Tier II is shown in the revised Attached Pre-Harvest Planning Report. The pre-harvest report had to be revised based upon delays in THP approval in Elk River. 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 Another Whiskey THP is located roughly central to the Freshwater Watershed and underlain by Rocks of the Coastal and Central Belt of the Franciscan Mélange and Quaternary Wildcat Group sediments. A Licensed professional geologist was employed during the layout of the THP. Tier II level review was included as part of their assessment and is documented in the THP Geology Report. Based on this level of review, it is HRC's opinion that the proposed units of Another Whiskey meet the requirements for Tier II enrollment.

The THP proposes an uneven-age silviculture retaining 75 sqft 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 ground based yarding is 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 R1-2006-0041 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. R1-2006-0041).

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

Another Whiskey

N Silviculture Map

T4N R1E Sec. 1, 2, 3, 10, 11, 12, 14, 15 HB&N



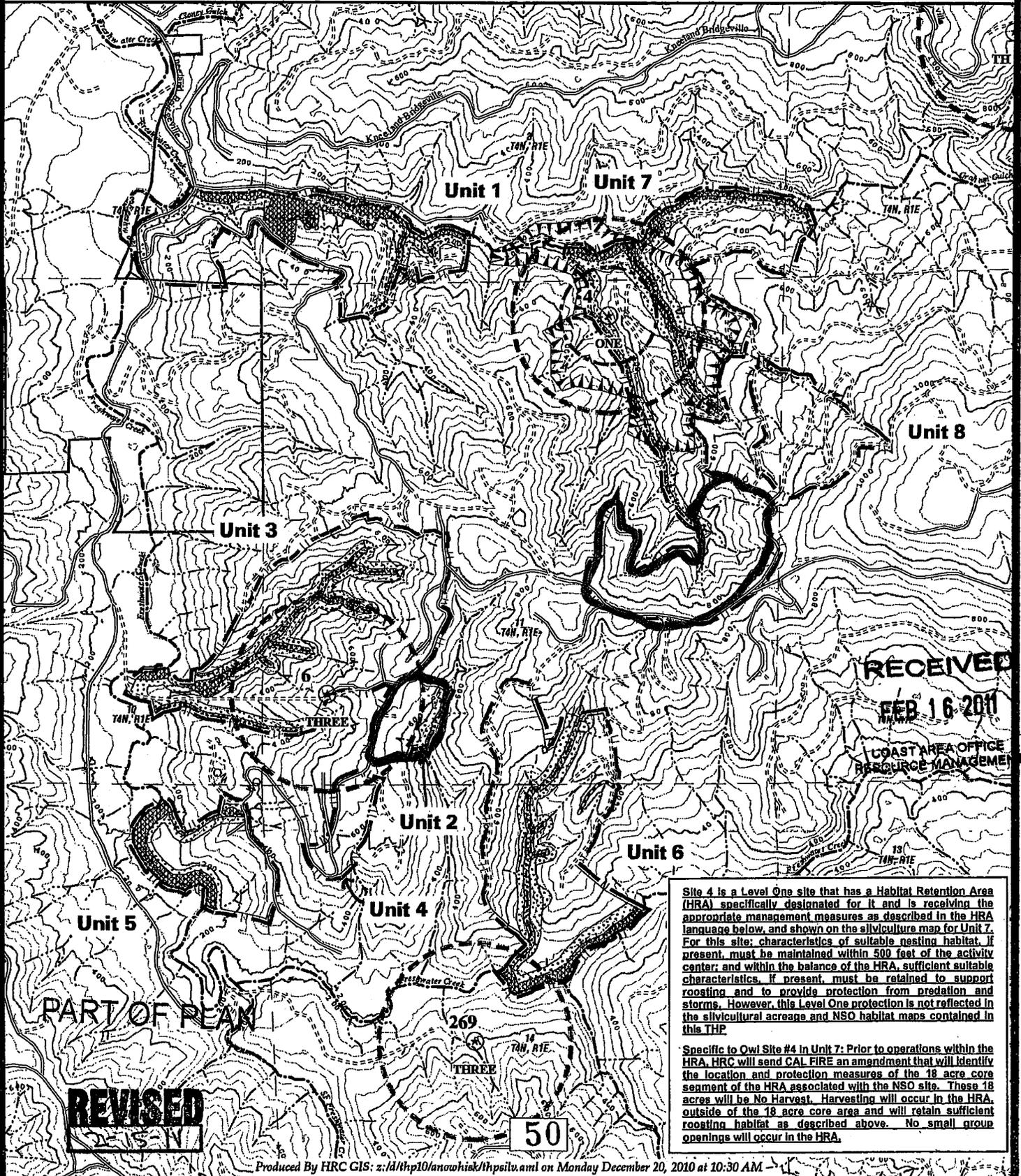
USGS Quad (s): ARCATY SOUTH, MCWHINNEY CREEK

Map Scale: 1 inch = 1320 feet

Contour Interval: 40 feet

- | | | | | | | | |
|-----|------------------------|---|-----------------------|---|------------------|---|-----------------|
| — | Property Line | ~ | Class I Watercourse | ☆ | NSO Site | ■ | No Harvest |
| | Harvest Boundary | ~ | Class II Watercourse | ☆ | 500' NSO Buffer | ■ | Selection |
| — | Permanent Road | ~ | Class III Watercourse | ☆ | 1000' NSO Buffer | ■ | Group Selection |
| --- | Seasonal Road | ~ | Class II Waters | ☆ | HRA | | |
| --- | Proposed Seasonal Road | | | | | | |

Tier I
All other = Tier II



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RESOURCE MANAGEMENT

Site 4 is a Level One site that has a Habitat Retention Area (HRA) specifically designated for it and is receiving the appropriate management measures as described in the HRA language below, and shown on the silviculture map for Unit 7. For this site, characteristics of suitable nesting habitat, if present, must be maintained within 500 feet of the activity center; and within the balance of the HRA, sufficient suitable characteristics, if present, must be retained to support roosting and to provide protection from predation and storms. However, this Level One protection is not reflected in the silvicultural acreage and NSO habitat maps contained in this THP.

Specific to Owl Site #4 in Unit 7: Prior to operations within the HRA, HRC will send CAL FIRE an amendment that will identify the location and protection measures of the 18 acre core segment of the HRA associated with the NSO site. These 18 acres will be No Harvest. Harvesting will occur in the HRA, outside of the 18 acre core area and will retain sufficient roosting habitat as described above. No small group openings will occur in the HRA.

REVISED

Table 1. Proposed 2012 Harvest in Freshwater Creek.

THP Name	THP Number	Unit Number	Silviculture			Hazard			
			CC	ROW	shr	SEL	CC Equivalent	Low	High*
Another Whiskey	11-007	1	0.4			36.3	18.2	20	62.6
Another Whiskey	11-007	2				8.7	4.4	8.7	0.0
Another Whiskey	11-007	3				77.9	39.0	41.7	139.0
Another Whiskey	11-007	4				6.7	3.4	6.7	0.0
Another Whiskey	11-007	5				18.2	9.1	18.1	0.4
Another Whiskey	11-007	6				61.7	31.3	48.8	49.5
Another Whiskey	11-007	7a	34.1	17.1	34.1	0.0			
Another Whiskey	11-007	7b	61.6	30.8	50.1	44.2			
Another Whiskey	11-007	8	21.1	10.6	21.1	0.0			
Morton Ridge	11-090	1	0.6			11.3	6.1	9.24	7.9
Morton Ridge	11-090	5				18.9	9.5	8.7	39.2
Whiskey	08-041	4				32	16.0	32	0.0
Whiskey	08-041	5				11.3	5.7	9.5	6.9
Morton ridge	11-090	2				8.6	4.3	8.6	0.0
Morton ridge	11-090	3				41.4	20.7	38	13.1
Morton ridge	11-090	4	27.6	13.8	24.9	10.4			
						239.6			

*The acres represented here have been converted to High Hazard Acres by multiplying by 3.8404.

TBD - Planning is either in the approval or preparation stage. Acreages are not finalized yet. They will be finalized prior to enrollment

Highlight indicates a THP and Specific Unit to be enrolled prior to establishing an enforceable Zero Discharge Monitoring Plan (Tier I). Weighted Acreage Totals are listed below to demonstrate compliance with the Staff Landslide Model limit of 144 Harvest Acres in Freshwater Creek. Other THP Units will be enrolled after approval of the aforementioned Monitoring Plan

No Highlight Indicates a THP and Specific Unit to be enrolled after establishment of an enforceable Zero Discharge Monitoring Plan (Tier II).

Total Clear Cut Equivalent Acres enrolled or submitted for enrollment	239.6
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Table 3. Summary of THPs by Yarding System and Site Preparation for Freshwater Creek

THP Name	THP Number	Unit Number	Yarding System		Site Preparation	
			Ground Based	Yarder	Helicopter	Mechanical
Another Whiskey	11-007	1	11.8	14.9		
Another Whiskey	11-007	2	7.6	1.1	0	0
Another Whiskey	11-007	3	7.2	70.7		
Another Whiskey	11-007	4	6.7			
Another Whiskey	11-007	5	0	18.2		
Another Whiskey	11-007	6	16.3	45.8		
Another Whiskey	11-007	7a	0	34.1		
Another Whiskey	11-007	7b	1.3	54.9		
Another Whiskey	11-007	8	5.5	15.6		
Morton Ridge	11-090	1				
Morton Ridge	11-090	5	0	18.9	0	0
Whiskey	08-041	4	19	13		
Whiskey	08-041	5	0	11.3		
Morton ridge	11-090	2	0	8.6		
Morton ridge	11-090	3	0.4	41		
Morton ridge	11-090	4	0	27.6		

THP: Another Whiskey THP #: 11-007 Unit # 1, 3, 4, 5, 6, 7b, 8 February 16, 2012

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, 1999b)	3
Mass Wasting Potential Map (Palco, 1999)	4
Aerial Photo Map (HRC, 2007)	5
Palco Freshwater Creek WA deep-seated LS inventory (WPN, 2001)	6
Road Condition Map	7

Please see back of enrollment for references

Geological Summary (information presented from existing bodies of work):

The harvest units occupy predominantly convex to concave slope forms adjacent Class II and Class III tributaries to Freshwater Creek. Undifferentiated Wildcat Group sediments composed of silts, sands, and infrequent gravels, underlay the majority of the plan area. The Central Belt of the Franciscan Complex is mapped adjacent Freshwater Creek and within portions of Units 1, 6, 7, and 8. Yager terrane is also mapped adjacent Freshwater Creek and within portions of Units 5, 6, and 7. The bedrock is compact and predominantly held together by consolidation.

Geologic review was conducted for the THP using guidelines established under Note 50 (CGS, 1997), Note 45 (CGS, 1999a), and Tier 2 enrollment. The reviewing Geologist compared the maps provided for Tier 2 enrollment with mapping conducted during field evaluations. An excellent discussion of the findings is provided in the Geologic Evaluation found in Section 5 of the THP. This is a public document and can be found on the internet at ftp://thp.fire.ca.gov/THPLibrary/North_Coast_Region/THPs2011/1-11-007HUM/. The reviewing Geologist identified several landslides within the units and found the Foresters' proposed operations appropriate. The THP was reviewed by various agencies during PHI and found to be compliant with the Forest Practice Rules and the HCP regulations with respect to disclosure of all known unstable areas.

The harvest units were evaluated at the THP level with respect to partial harvest (selection) silviculture. Retention of timber on the slopes reduces the potential for harvest related mass wasting.

References:

CGS, 1997, *Note 50: Factors Affecting Landslides In Forested Terrain*. Sacramento: CDMG

CGS 1999a, *Note 45, Guidelines for Engineering Geologic Reports for Timber Harvesting Plans*. Sacramento: CDMG

CGS, 1999b, North Coast Watersheds Mapping, DMG CD-ROM 99-002.

http://redirect.conservation.ca.gov/CGS/information/publications/database/Publications_year.asp

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

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>

Palco, 2006. 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.

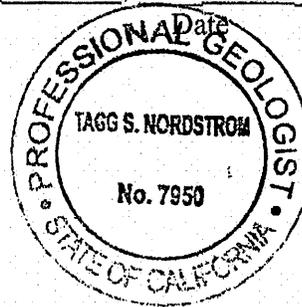
Palco (The Pacific Lumber Company), 2005, The Pacific Lumber Company (PALCO) Prescriptions Based on Watershed Analysis for Freshwater Creek, California, August 15, 2002.

PALCO, 1999, Habitat Conservation Plan, Vol. 2 Part D, Landscape Assessment of Geomorphic Sensitivity, Public Review Draft.

Watershed Professionals Network (WPN), 2001, Freshwater Creek Watershed Analysis, Appendix A, Map A-5

Professional Certification of Design

I, Tagg Nordstrom, P.G. 7950, 2/27/12,
Name license # Date



Tagg Nordstrom
Signature

Place licensed seal here

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. 1-11-007 HUM (Another Whiskey)

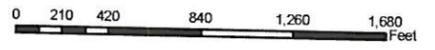
Units: All but 2 and 7a

- 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.

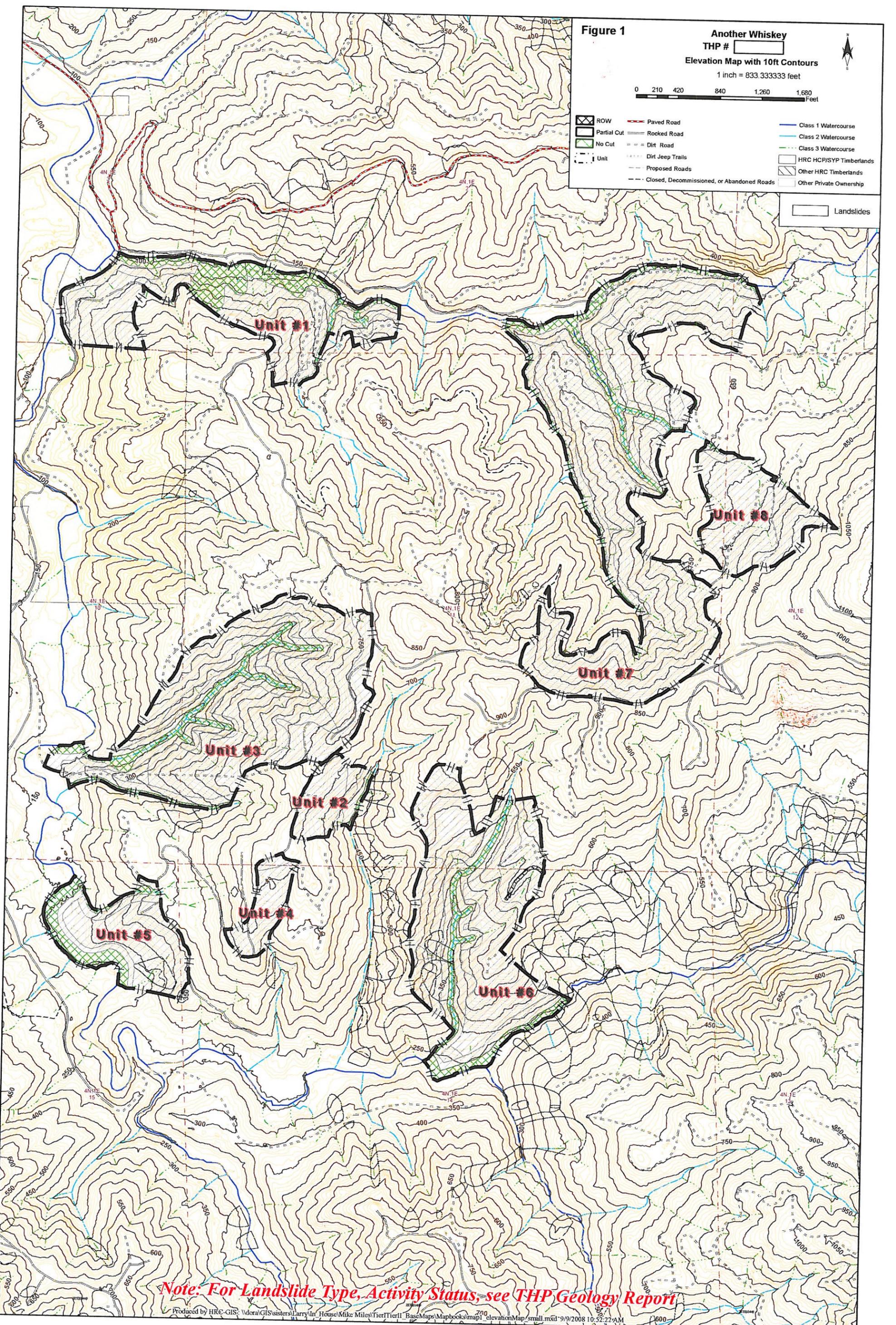
Figure 1

Another Whiskey
THP # []
Elevation Map with 10ft Contours
1 inch = 833.333333 feet



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

Landslides



Note: For Landslide Type, Activity Status, see THP Geology Report

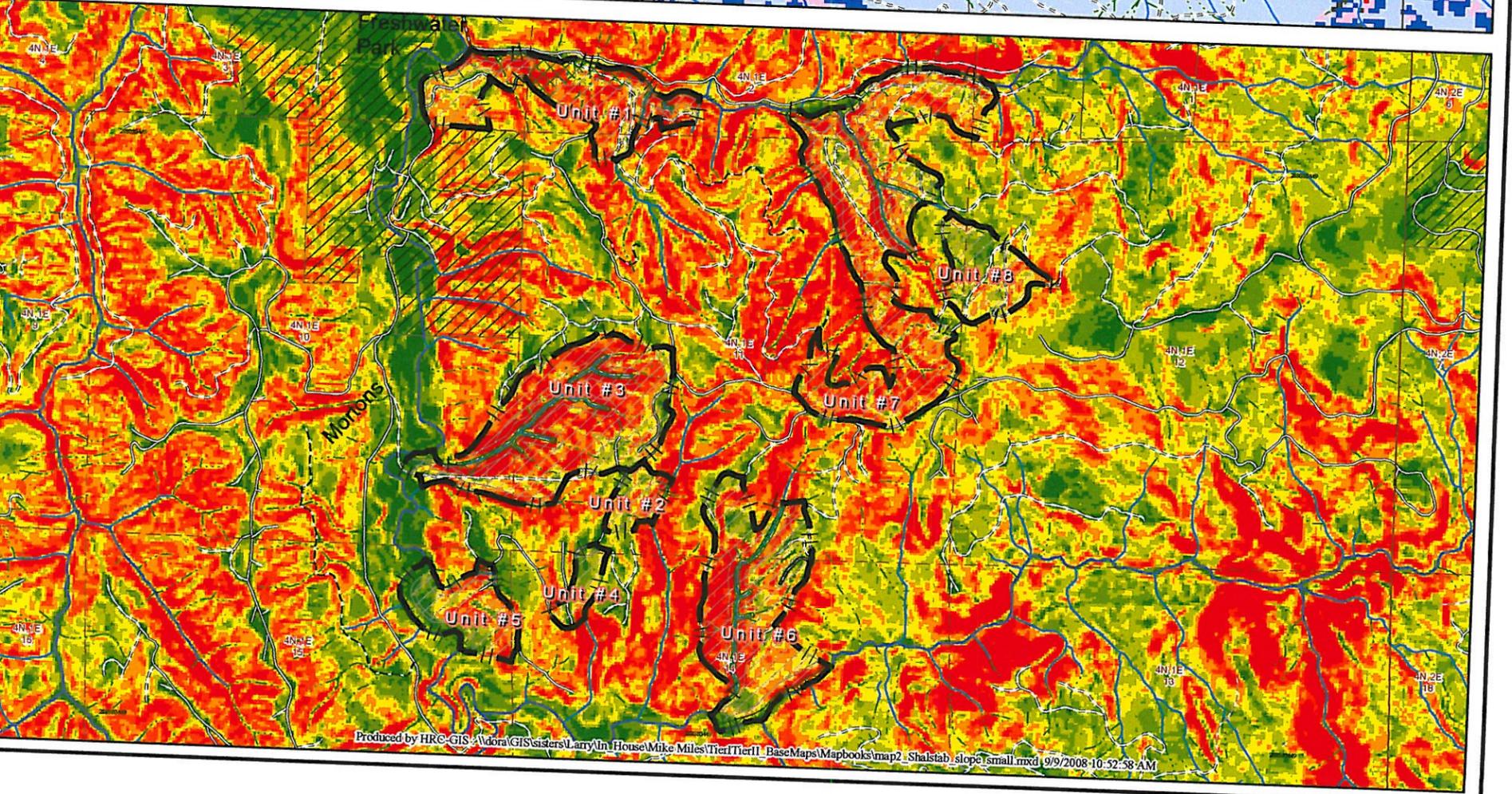
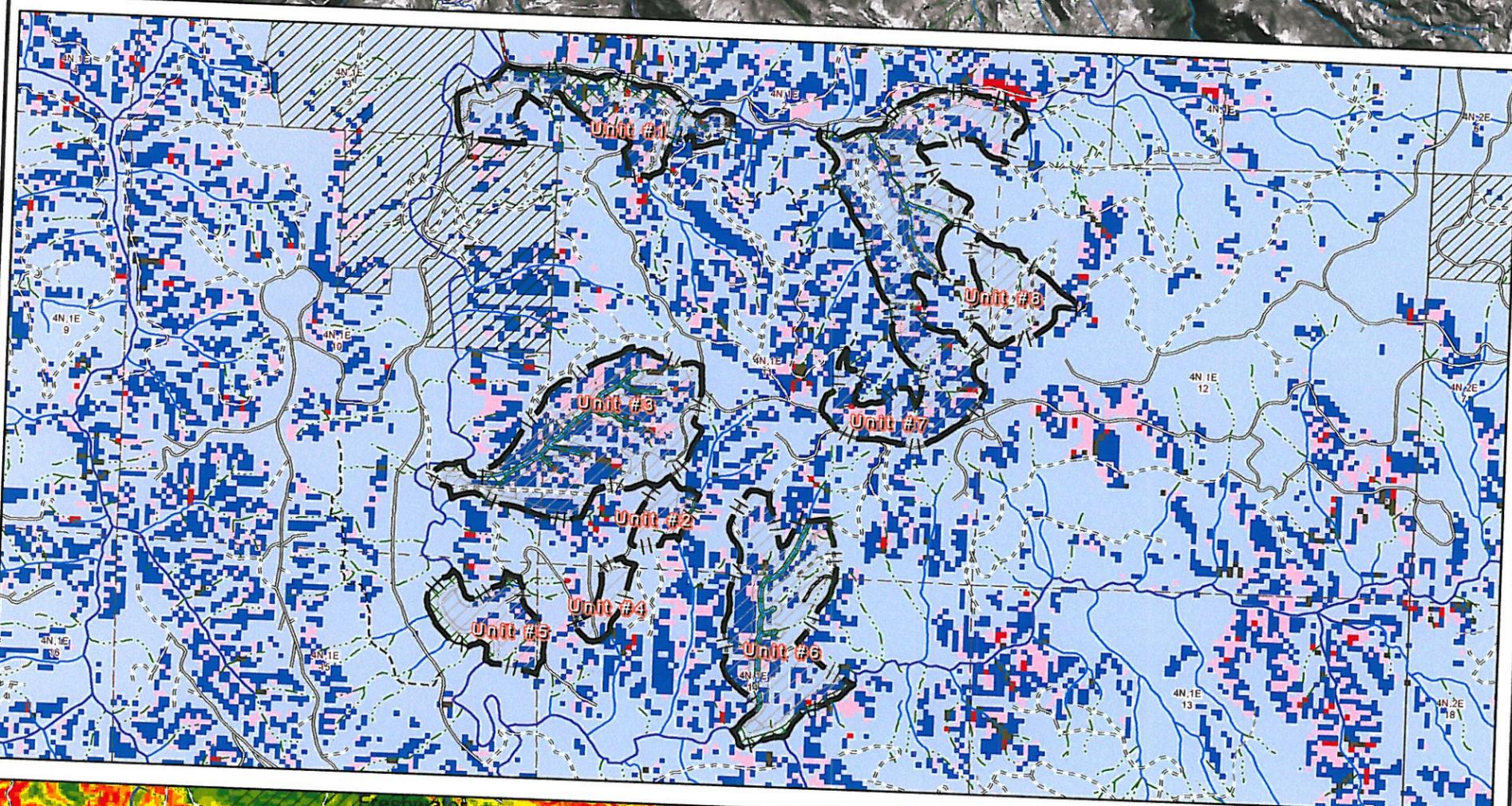
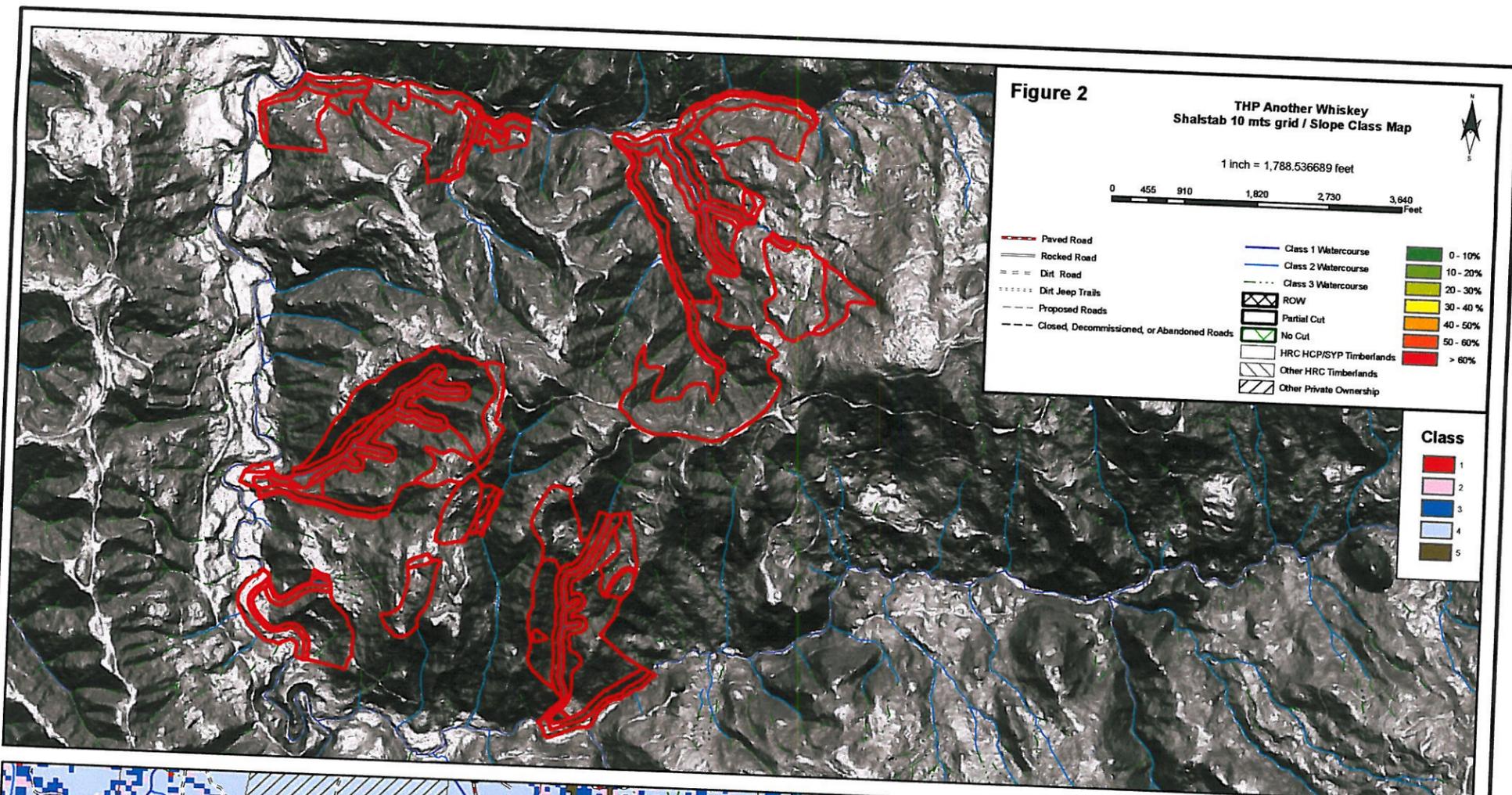
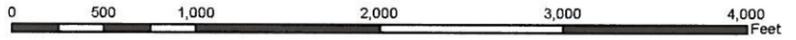


Figure 3

Another Whiskey
THP #
CGS Map

1 inch = 1,000 feet



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

Q Recent Alluvium: Holocene (less than 10,000 years old). Interbedded gravel, sand, silt and clay within active stream channel and adjoining flood plain. Dike-protected pastures may be underlain by bay mud at northwestern end of flood plain.

Qfa Falor Formation (Knudsen, 1993): Late Pleistocene to late Pliocene (approximately 0.4 to 1.6 m.y.). Reddish-yellow pebbly conglomerate, sandstone and silt. Contains abundant animal and plant remains locally. May lie in gradational contact with Wildcat Group Upper Unit of Knudsen (1993). Fluvial and shallow marine depositional environment.

Qrt Alluvial Terrace Deposits: Probably late Pleistocene (more than 10,000 years old). Poorly consolidated flat-lying deposits of gravel, sand, silt and clay elevated above present streams.

TWu Wildcat Group- Upper Unit (Knudsen, 1993): Late Pleistocene to Late Pliocene (approximately 0.4 to 1.6 m.y.). Reddish-yellow fine- to medium-grained sandstone containing scattered pebbly layers (<10%). Previously mapped as Hokton Formation in the southwest portion of the drainage and Falor Formation in the northeast. Depositional environment is generally shallow marine.

Twl Wildcat Group-Lower Unit (Knudsen, 1993): Middle Miocene to Late Pliocene (approximately 1.6 to 13 m.y.). Interbedded mudstone, silt, very fine sandstone and sandy siltstone. Upper portions of the unit are typically reddish-yellow, lower portions are gray to dark gray. Lower portions sandier and contain occasional pebble and conglomerate lenses.

Ty Yager Formation: Early Tertiary (approximately 50 to 60 m.y.) Interbedded well-consolidated silty shale, siltstone, sandstone, mudstone and conglomerate. Clasts of the shale and mudstone disaggregate over the course of several seasons by repeated wetting and drying cycles. Sandstone units are generally massive (no visible bedding) and contain detrital muscovite. Medium gray where fresh. Finer grained materials are often well bedded. The unit in this locality is mapped as dipping steeply to the northeast.

Kjfs Central Belt of the Franciscan Complex, Sedimentary Rocks: Cretaceous/Jurassic (approximately 145 m.y.). Well consolidated sandstone, siltstone, and shale with minor amounts of conglomerate. Medium to dark gray where fresh. This unit is described as moderately to highly deformed and highly sheared locally.

Kjfm Melange: Highly sheared shale matrix containing individual blocks of graywacke, mudstone, conglomerate, greenstone, chert, blueschist, greenschist, actinolite, talc and serpentinite.

- Legend**
- tmcn polygon**
- SILV**
- Partial Cut; THIN; STAS
 - No Cut
 - ROW
- CGS Freshwater structure**
- FEATURE**
- anticline, approx. loc.
 - fault, approx. loc.
 - fault, concealed
 - thrust fault, approx. loc.
 - thrust fault, concealed
 - thrust fault, queried
 - lineament
- CGS Freshwater lines**
- TYPE**
- ig
 - t
- CGS Freshwater LS**
- INIT_TYPE, ACTIVITY**
- df, h
 - ds, d
 - ds, h
 - ef, d
 - ef, h
 - rs, d
 - rs, h
 - ds,
- CGS Freshwater symbols**
- <all other values>
- ACTIVITY**
- ah
 - d
- CGS Freshwater geology**
- UNIT**
- Q
 - Qfa?
 - Qrt
 - Twu
 - Twl
 - Ty
 - Kjfs
 - Kjfm
- CGS Freshwater contacts**
- CONTACT**
- approximately located
 - certain location
 - queried location

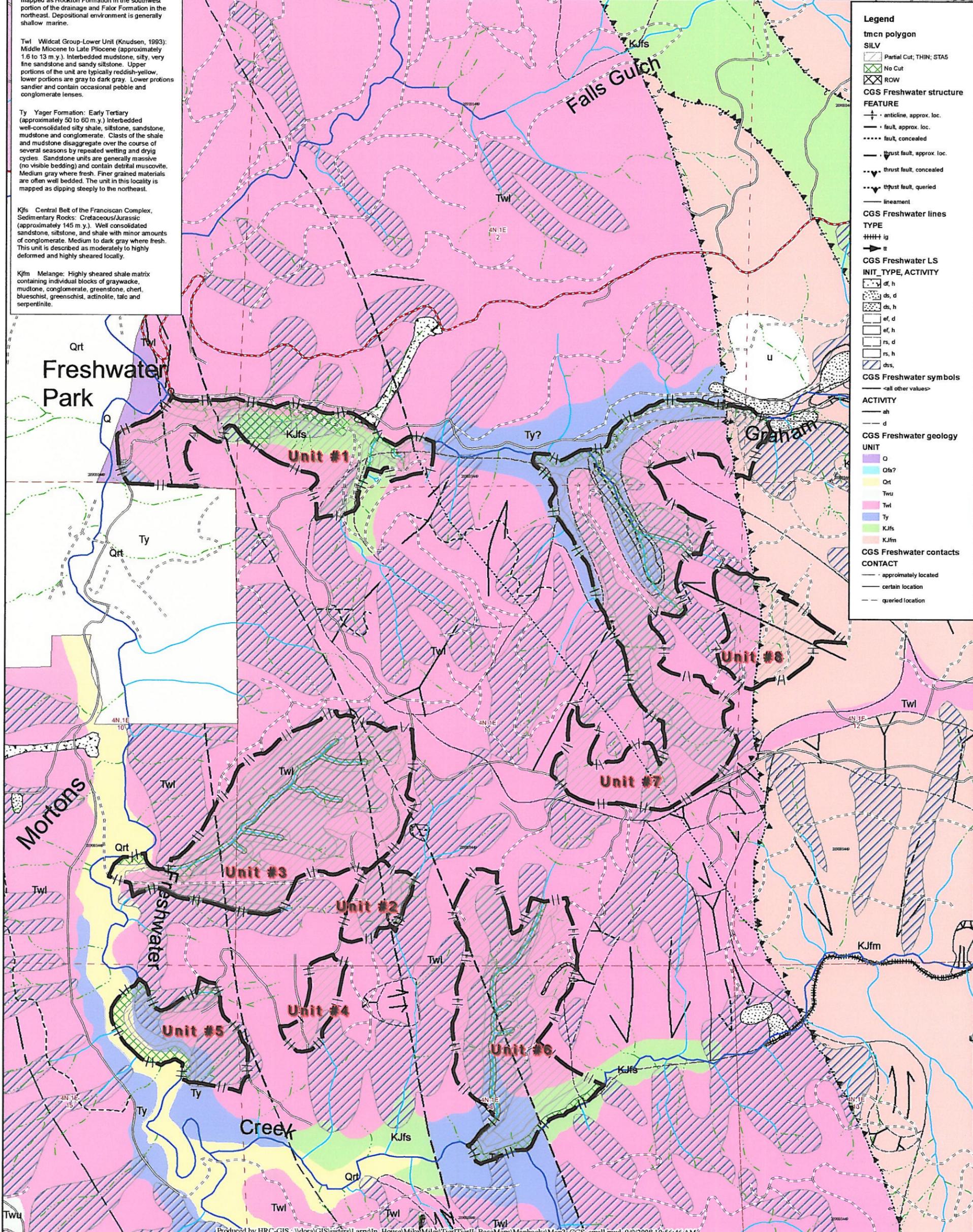


Figure 4

THP Another Whiskey
Mass Wasting Potential

1 inch = 1,000 feet



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

Potential

	Very Low
	Low
	Moderate
	High
	Very High
	Extreme

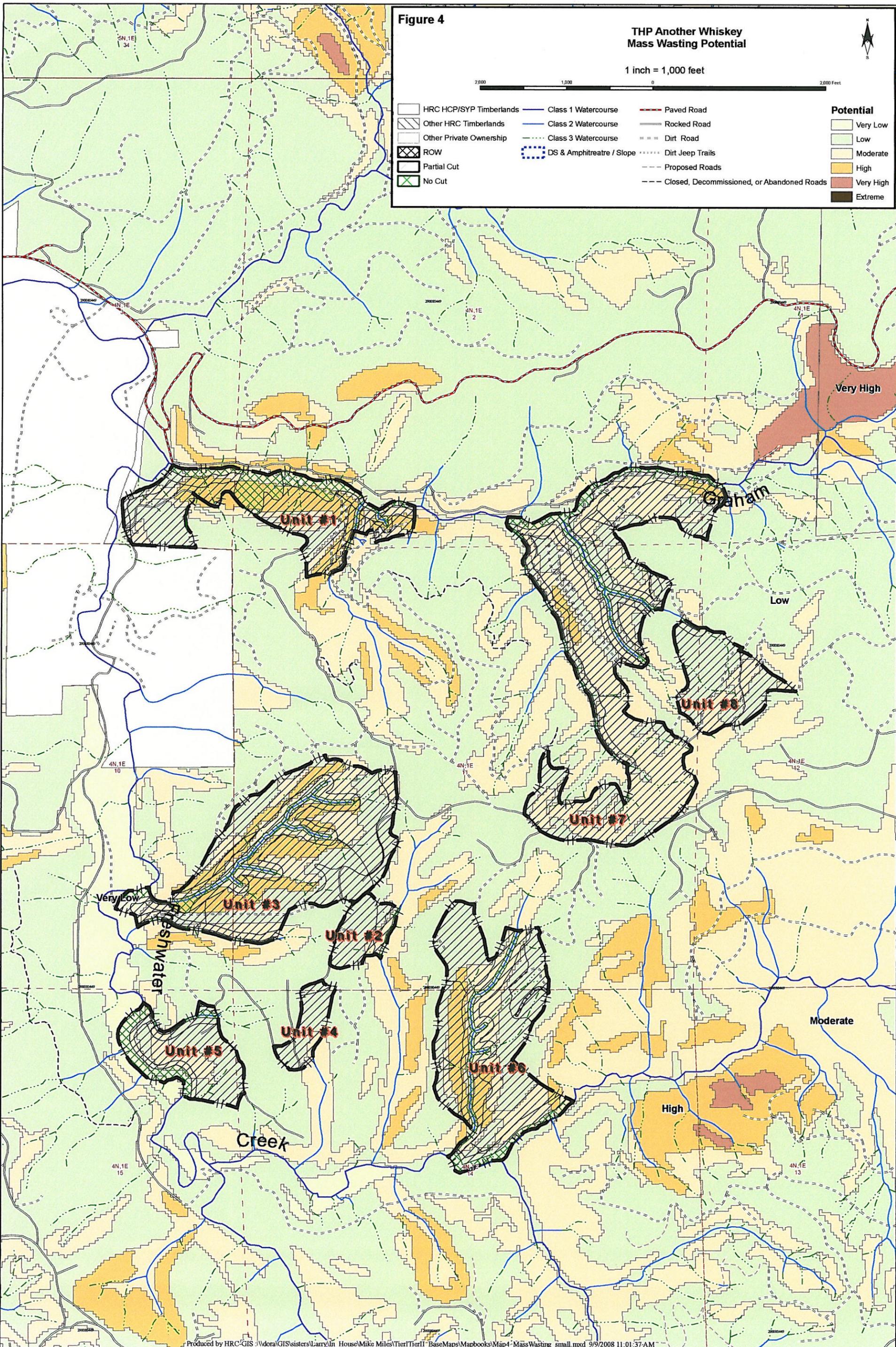
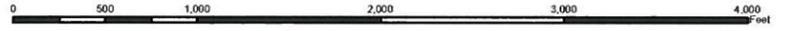


Figure 5

THP Another Whiskey
Aerial Photo Map

1 inch = 1,000 feet



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

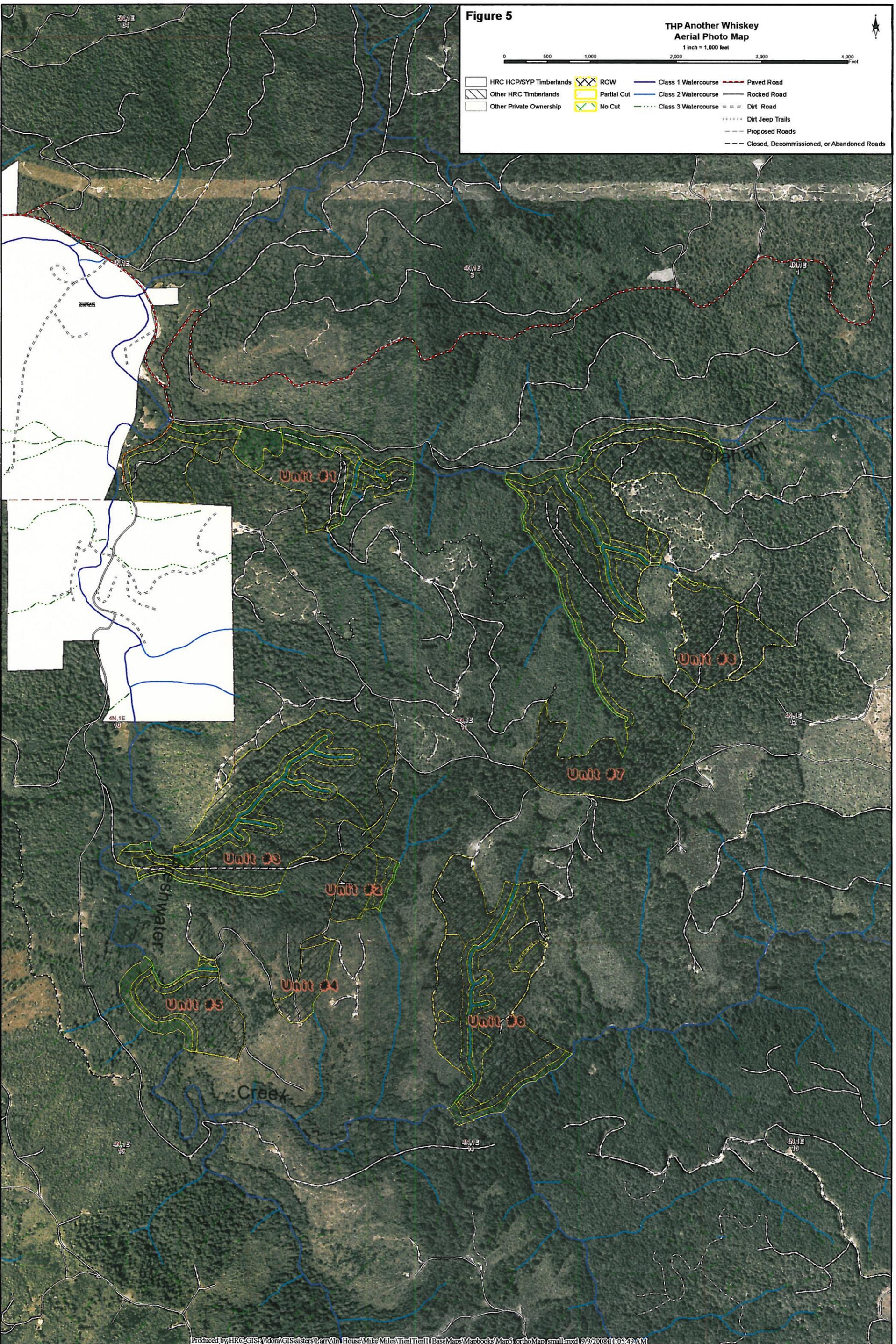
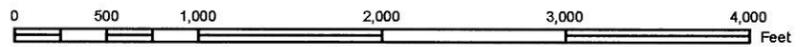


Figure 6

THP Another Whiskey Watershed Analysis Deep-Seated Landslide Inventory

1 inch = 1,000 feet



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

- Crown of Deep-Seated Landslides
- #### Hazard for Reactivation or Acceleration of Movement
- REACT_HAZARD**
- N/A (landslides in grassland areas)
 - Very Low
 - Low
 - Low to Moderate
 - Moderate
 - High

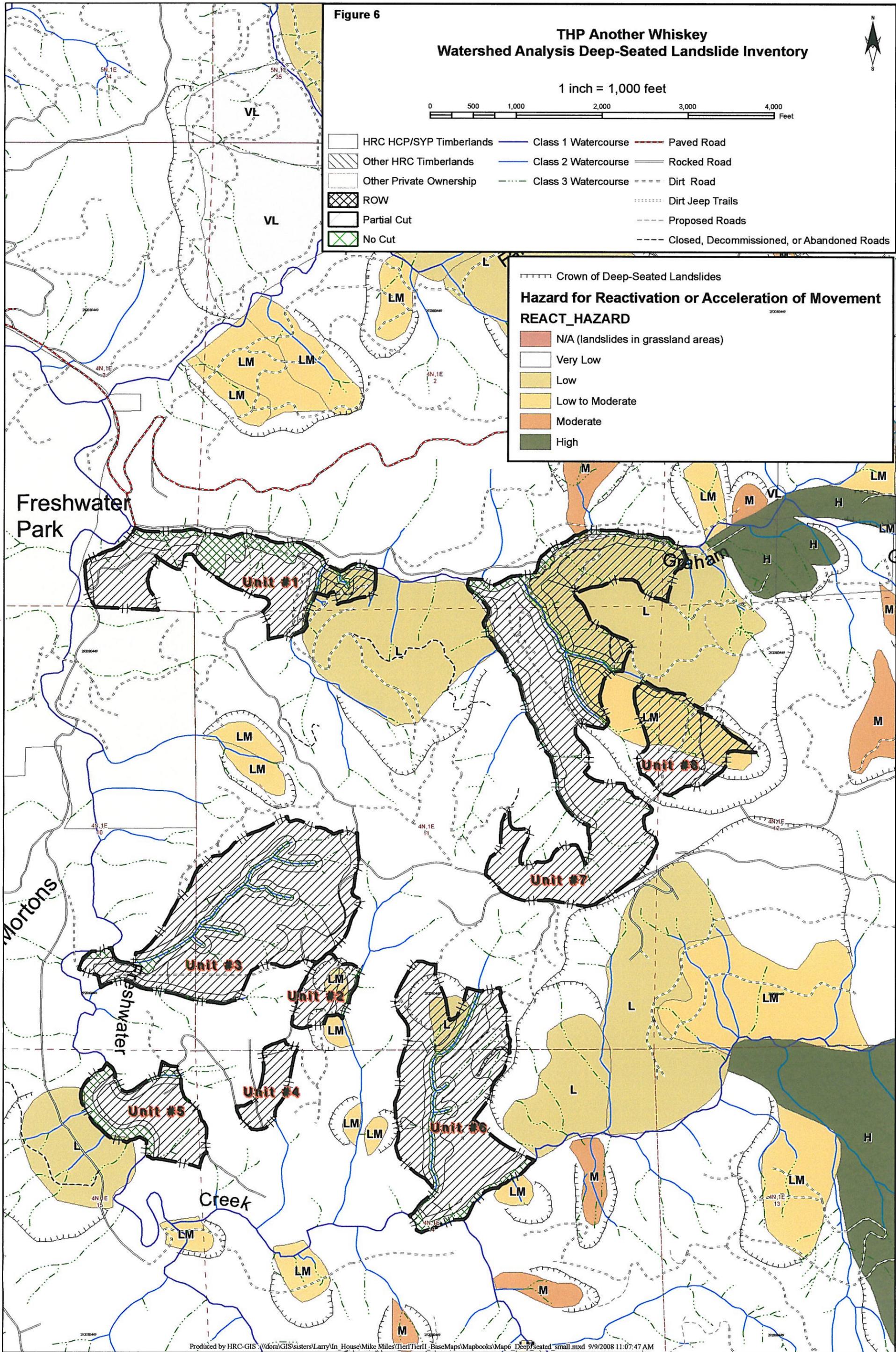
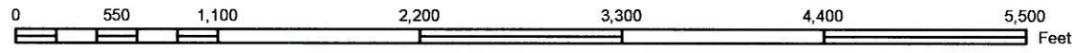


Figure 7

THP Another Whiskey Road Map



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

