FOR ADMIN. USE ONLY
Amendments-date & S or M

1. SHU 7. RT
Stanish + 2. FG / Fallscheer 8.
Boone 3. WQS 9. Brook Barley
4. LNF 10.
5. PW-SHA 11.
6. CGS 12.

TIMBER HARVESTING PLAN

STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY
AND FIRE PROTECTION
RM-63 (02-03)

THP Name: **Rim Road**

(In the CDF FPS, this is "THP Description")

If this is a Modified THP, check box: [ ]

FOR ADMIN. USE ONLY

THP No. 2-09-084-SHA (4)

Dates Rec'd OCT 07 2009

Date Filed OCT 17 2009

Date Approved DEC 1 1 2009

Date Expires DEC 1 0 2012

Extensions 1) [ ] 2) [ ]

This Timber Harvesting Plan (THP) form, when properly completed, is designed to comply with the Forest Practice Act (FPA) and Board of Forestry and Fire Protection rules. See separate instructions for information on completing this form. NOTE: The form must be printed legibly in ink or typewritten. The THP is divided into six sections. If more space is necessary to answer a question, continue the answer at the end of the appropriate section of your THP. If writing an electronic version, insert additional space for your answer. Please distinguish answers from questions by *font change*, **bold** or underline.

SECTION I - GENERAL INFORMATION

This THP conforms to my/our plan and upon approval, I/we agree to conduct harvesting in accordance therewith. Consent is hereby given to the Director of Forestry and Fire Protection, and his or her agents and employees, to enter the premises to inspect timber operations for compliance with the Forest Practice Act and Forest Practice Rules.

1. TIMBER OWNER(S) OF RECORD: Name: **California Department of Forestry and Fire Protection**

Address **875 Cypress Avenue**

City **Redding** State **CA** Zip **96001** Phone **(530) 225-2505**

Signature Bruce W Beck 10-6-09 Date

NOTE: The timber owner is responsible for payment of a yield tax. Timber Yield Tax information may be obtained at the Timber Tax Section, MIC: 60, State Board of Equalization, P.O. Box 942879, Sacramento, California 94279-0060; phone 1-800-400-7115; BOE Web Page at http:// www.boe.ca.gov.

2. TIMBERLAND OWNER(S) OF RECORD: Name: **California Department of Forestry and Fire Protection**

Address **875 Cypress Avenue**

City **Redding** State **CA** Zip **96001** Phone **(530) 225-2505**

Signature Bruce W Beck 10-6-09 Date

TIMBERLAND OWNER(S) OF RECORD: **Brooks Walker et al. C/O W. M. Beaty & Associates *(Water drafting only)***

Address: **P.O. Box 990898**

City **Redding** State **CA** Zip **96099-0898** Phone **(530) 243-2783**

Signature: **See attached letter Section V** Date:

RECEIVED
OCT 07 2009
REDDING
FOREST PRACTICE

^ TIMBERLAND OWNER(S) OF RECORD: **Carl J. & Jo Ann Davis** ***(Water drafting only)***

Address: **P.O. Box 142**

City **Whitmore** State **CA** Zip **96069** Phone **none**

Signature: See attached letter Section V Date:

3. LICENSED TIMBER OPERATOR(S): Name **California Department of Forestry and Fire Protection** Lic. No. C1275
(If unknown, so state. You must notify CDF of LTO prior to start of operations)

Address **875 Cypress Avenue**

City **Redding** State **CA** Zip **96001** Phone **(530) 225-2505**

Signature Bruce W Beck 10-6-09 Date

4. PLAN SUBMITTER(S): Name: **California Department of Forestry and Fire Protection**

Address **875 Cypress Avenue**

City **Redding** State **CA** Zip **96001** Phone **(530) 225-2505**
(Submitter must be from 1, 2, or 3 above. He/she must sign below. Ref. Title 14 CCR 1032.7 (a))

Signature Bruce W Beck 10-6-09. Date

5. a. List person to contact on-site who is responsible for the conduct of the operation. If unknown, so state and name must be provided for inclusion in the THP prior to start of timber operations.

Name **The Plan Submitter or designated RPF will notify CAL FIRE of responsible person prior to start of operations.**

Address

City State Zip Phone

b. ☒ Yes ☐ No Will the timber operator be employed for the construction and maintenance of roads and landings during conduct of timber operations? If no, who is responsible?

c. Who is responsible for erosion control maintenance after timber operations have ceased and until certification of the Work Completion Report? If not the LTO, then a written agreement must be provided per 14 CCR 1050 (c).

The Licensed Timber Operator. Pursuant to 14 CCR 936.9(p), "The erosion control maintenance period on permanent and seasonal roads and associated landings that are not abandoned in accordance with 14 CCR 923.8 shall be three years."

6. a. Expected date of commencement of timber operations:

☒ date of THP conformance, or ☐ (date)

b. Expected date of completion of timber operations:

☒ 3 years from date of THP conformance, or ☐ (date)

7. The timber operation will occur within the:

☐ COAST FOREST DISTRICT
☐ Southern Subdistrict of the Coast F. D.

☐ SOUTHERN FOREST DISTRICT
☐ High use subdistrict of the Southern F. D.

☒ NORTHERN FOREST DISTRICT

☐ The Tahoe Regional Planning Authority Jurisdiction
☐ A County with Special Regulations, identify:

☐ Coastal Zone, no Special Treatment Area
☐ Special Treatment Area(s), type and identify

☐ Other

8. Location of the timber operation by legal description: covered by USGS 7.5 minute Quad. ***Jacks Backbone CA* 1995**
Base and Meridian: ☒ Mount Diablo ☐ Humboldt ☐ San Bernardino

Section (Optional)	Township	Range	Acreage	County	Assessor's Parcel Number
6	32N	3E	143	Shasta	
7	32N	3E	57	Shasta	

TOTAL ACREAGE **200** (Logging Area Only)

Planning Watershed: CALWATER Version, Identification Number, and Name

Version 2.2 Cal Water Planning Watersheds Name	Number	Acres w/in watershed
Huckleberry	5507.320102	7
Beal	5507.310103	193

9. ☐ Yes ☒ No Has a Timberland Conversion been submitted? If yes, list expected approval date or permit number and expiration date if already approved.

10. ☐ Yes ☒ No Is there an approved Sustained Yield Plan for this property? Number Date app.
☐ Yes ☒ No Has a Sustained Yield Plan been submitted but not approved? Number Date sub.

11. ☐ Yes ☒ No Is there a THP or NTMP on file with CDF for any portion of the plan area for which a Report of Satisfactory Stocking has not been issued by CDF?
If yes, identify the THP or NTMP number(s):
☐ Yes ☒ No Is there a contiguous even aged unit with regeneration less than five years old or less than five feet tall? If yes, explain. Ref. Title 14 CCR 913.1 (933.1, 953.1) (a)(4).

12. ☒ Yes ☐ No Is a Notice of Intent necessary for this THP?
☒ Yes ☐ No If yes, was the Notice of Intent posted as required by 14 CCR 1032.7 (g)?

13. RPF preparing the THP: Name **Benjamin C. Rowe** RPF Number **2686**

Address **875 Cypress Avenue**

City **Redding** State **CA** Zip **96001** Phone **(530) 225-2508**

a. ☐ Yes ☒ No I have notified the plan submitter(s), in writing, of their responsibilities pursuant to 14 CCR 1035 of the Forest Practice Rules.
☐ Yes ☒ No I have notified the timber owner and the timberland owner of their responsibilities for compliance with the Forest Practice Act and rules, specifically the stocking requirements of the rules and the maintenance of erosion control structures of the rules.

The timberland is owned by the California Department of Forestry and Fire Protection and managed by the LaTour Demonstration State Forest (LDSF). Mr. Bruce Beck is the manager of LDSF and is the Plan Submitter.

b. ☒ Yes ☐ No I will provide the timber operator with a copy of the portions of the approved THP as listed in 14 CCR 1035 (f). If "no", who will provide the LTO a copy of the approved THP?

I or my supervised designee will meet with the LTO prior to commencement of operations to advice of sensitive conditions and provisions of the plan pursuant to 14 CCR 1035.2.

c. I have the following authority and responsibilities for preparation and administration of the THP and timber operation. (Include both work completed and work remaining to be done):

I am responsible for the preparation of the THP including layout, flagging of WLPZ's, designation of timber to be harvested or retained and any additional work deemed necessary for plan approval. Additionally it is my responsibility to administer the operations described in the THP and explain to the LTO his responsibilities to ensure conformance with the requirements of the plan and the Forest Practice Act and Rules.

I will be present, or ensure that that my designee is present, on the logging area at a sufficient frequency to know the progress of operations and to advise the LTO and timberland owner, but not less than once during the life of the plan.

I will immediately furnish written notification to the LTO, the plan submitter, and the Department of a decision to withdraw professional services from the plan.

d. Additional required work requiring an RPF, which I do not have the authority or responsibility to perform:
NONE

e. After considering the rules of the Board of Forestry and Fire Protection and the mitigation measures incorporated in this THP, I have determined that the timber operation:

☐ will have a significant adverse impact on the environment. (Statement of reasons for overriding considerations contained in Section III).

☒ will not have a significant adverse impact on the environment.

Registered Professional Forester: I certify that I, or my supervised designee, personally inspected the THP area, and this plan complies with the Forest Practice Act, the Forest Practice Rules and the Professional Foresters Law. If this is a Modified THP, I also, certify that: 1) the conditions or facts stated in 14 CCR 1051 (a) (1) - (16) exist on the THP area at the time of submission, preparation, mitigation, and analysis of the THP and no identified potential significant effects remain undisclosed; and 2) I, or my supervised designee, will meet with the LTO at the THP site, before timber operations commence, to review and discuss the contents and implementation of the Modified THP.

Signature Brian C Rowe Date 10/6/09

SECTION II - PLAN OF TIMBER OPERATIONS

NOTE: If a provision of this THP is proposed that is different than the standard rule, the explanation and justification should normally be included in Section III unless it is clearer and better understood as part of Section II.

14. a. Check the Silvicultural methods or treatments allowed by the rules that are to be applied under this THP. Specify the option chosen to demonstrate Maximum Sustained Production (MSP) according to 14 CCR 913 (933, 953) .11. If more than one method or treatment will be used show boundaries on map and list approximate acreage for each.

☐ Clearcutting ac. ☐ Shelterwood Prep. Step ac. ☐ Seed Tree Seed Step ac.
☐ Shelterwood Seed Step ac. ☐ Seed Tree Removal Step ac.
☐ Shelterwood Removal Step ac.

☒ Selection **142** ac. ☐ Group Selection ac. ☐ Transition ac.

☐ Commercial Thinning ac. ☐ Road Right of Way ac. ☐ Sanitation Salvage ac,

☐ Special Treatment Area ac. ☐ Rehab. of Understocked Area ac. ☐ Fuelbreak ac.

☐ Alternative ac. ☒ Variable retention **55** ac. ☒ Other **3** ac.
Meadow Restoration

Total acreage **200** ac.: Explain if total is different from that in 8. MSP option chosen: (a) [X] (b) [ ] (c) [ ]

THP 2-02-187 SHA South Cow THP

b. If Selection, Group Selection, Commercial Thinning, Sanitation Salvage or Alternative methods are selected the post harvest stocking levels (differentiated by site if applicable) must be stated. Note mapping requirements of 1034 (x) (12).

Selection: Immediately upon completion of operations the area shall meet the stocking standards of CCR 933.2(a)(2)(A)(2), 75 square feet per acre of basal area shall be retained for Site III lands. The residual stand shall contain sufficient 18 inch DBH trees to meet at least the 15 sq/ft basal area, size, and phenotypic quality of tree requirement specified under the seed tree method as specified in CCR 933.1(c)(1)(A)(1.). Post harvest stocking will be met with group A species.

c. ☐ Yes ☒ No Will evenage regeneration step units be larger than those specified in the rules (20 acres tractor,30 acres cable)? If yes, provide substantial evidence that the THP contains measures to accomplish any of subsections (A) - (E) of 14 CCR 913 (933, 953) .1 (a) (2) in Section III of the THP. List below any instructions to the LTO necessary to meet (A) - (E) not found elsewhere in the THP. These units must be designated on map and listed by size.

d. Trees to be harvested or retained must be marked by or marked under the supervision of the RPF. Specify how the trees will be marked and whether harvested or retained.

All harvest trees shall be marked in Orange paint with a horizontal stripe near breast height and a mark at the stump. A sample area will be marked prior to the preharvest inspection.

[ ] Yes [X] No Is a waiver of marking by the RPF requirement requested? If yes, how will LTO determine which trees will be harvested or retained? If yes and more than one silvicultural method, or Group Selection is to be used, how will LTO determine boundaries of different methods or groups?

e. Forest products to be harvested:

Sawlogs, cull logs, chips, pulp logs, and fuel-wood, poles.

f. ☐ Yes ☒ No Are group B species proposed for management?
☐ Yes ☒ No Are group B or non-indigenous A species to be used to meet stocking standards?
☐ Yes ☒ No Will group B species need to be reduced to maintain relative site occupancy of A species?

If any answer is yes, list the species, describe treatment, and provide the LTO with necessary felling and slash treatment guidance. Explain who is responsible and what additional follow-up measures of manual treatment or herbicide treatment are to be expected to maintain relative site occupancy of A species. Explain when a licensed Pest Control Advisor shall be involved in this process.

g. Other instructions to LTO concerning felling operations

Check all road location flagging, watercourse flagging, WLPZ boundary flagging, EEZ and ELZ flagging, and skid trail flagging prior to the commencement of any falling operations. Have the responsible RPF or supervised designee replace any flagging that is incomplete or unclear.

Trees designated for removal within the EEZ or ELZ shall be directionally felled towards the perimeter and away from the protection zone and endlined, so as to keep heavy equipment out of the protection zone. In the ELZ of Class III watercourses, trees may be felled bridging the watercourse and endlined from outside the ELZ. The purpose of this measure is to allow for trees that if not directionally felled across the ELZ would fall into the ELZ or damage the residual stand.

h. ☒ Yes ☐ No Will artificial regeneration be required to meet stocking standards?

i. ☐ Yes ☒ No Will site preparation be used to meet stocking standards? If yes, provide the information required for a site preparation addendum, as per 14 CCR 915.4 (935.4, 955.4).

Site Preparation Addendum per 14 CCR 935.4 (a)-(h) & Regeneration Plan

a) Site preparation within the Variable Retention (VR) unit may occur, but will not be required to meet stocking.

b) Methods of site preparation may include manual slashing of sub-merchantable unharvested material, brushraking logging slash and brush into burn piles, and contour ripping.

c) Mechanical equipment – escavator, bulldozer with rippers.

d) All retention trees in the dispersed retention area have been marked with a white stripe at dbh and all clusters within the aggregate retention area have been identified with red and white stripped flagging. All site preparation activities shall stay out of the retention clusters and retention trees shall not be removed. Site preparation activities are prohibited with the ELZ of the Class III watercourse.

e) No exceptions or alternatives to the standard rules are requested.

f) The Variable Retention Unit is the only area where site preparation may occur.

g) LTO shall be amended into the plan prior to the start of any site preparation.

h) All mechanical site preparation shall be conducted between May 1 and November 15

i) Pile construction and burning shall adhere to Item 31 within this THP.

j) Unit shall be planted with group A species within two years of completion of operations.

j. If the rehabilitation method is chosen provide a regeneration plan as required by 14 CCR 913 (933, 953) .4 (b).

PESTS

15. a. [ ] Yes [X] No Is this THP within an area that the Board of Forestry and Fire Protection has declared a Zone of Infestation or Infection, pursuant to PRC 4712 - 4718? If yes, identify feasible measures being taken to mitigate adverse infestation or infection impacts from the timber operation. See 14 CCR 917 (937, 957) .9 (a).

b. [X] Yes [ ] No If outside a declared zone, are there any insect, disease or pest problems of significance in the THP area? If yes, describe the proposed measures to improve the health, vigor, and productivity of the stand(s).

Located throughout the THP area and adjacent to the THP on the Lassen National forest, there are pockets of Red Fir that are heavily infected with dwarf mistletoe and *Cytospora spp.* Additionally the Western White pine on the THP is infected with blister rust and is experiencing a heavy die off.

HARVESTING PRACTICES

16. Indicate type of yarding system and equipment to be used:

GROUND BASED*	CABLE	SPECIAL
a. [X] Tractor, including end/long lining	d. [ ] Cable, ground lead	g. [ ] Animal
b. [X] Rubber tired skidder, Forwarder	e. [ ] Cable, high lead	h. [ ] Helicopter
c. [X] Feller buncher	f. [ ] Cable, Skyline	i. [ ] Other

* All tractor operations restrictions apply to ground based equipment.

17. Erosion Hazard Rating: Indicate Erosion Hazard Ratings present on THP. (Must match EHR worksheets)

[X] Low [X] Moderate [ ] High [ ] Extreme

If more than one rating is checked, areas must be delineated on map down to 20 acres in size (10 acres for high and Extreme EHRs in the Coast District).

18. Soil Stabilization: In addition to the standard waterbreak requirements describe soil stabilization measures or additional erosion control measures to be implemented and the location of their application. See requirements of 14 CCR 916.7 (936.7, 956.7), and 923.2 (943.2, 963.2) (m), and 923.5 (943.5, 963.5) (f).

1. Stabilization measures shall be selected that will prevent significant soil loss or sediment transport into Class II and Class III waters and may include, but need not be limited to, mulching, rip-rapping, grass seeding, or chemical stabilizers. Preference to which stabilization measure to be used, if the need occurs, shall be based upon on site conditions and the availability of treatment materials. If appropriate for the site, mulching will be the method of choice.

2. Mulch shall consist of straw or other material that is less than 3 inches in diameter (i.e. logging slash or brush). Straw mulch shall cover > 90% of the exposed area at an applied depth of > 2 inches. If logging slash or brush is used for mulch it shall be compacted by equipment and cover 90% of the exposed area.

3. Where the undisturbed natural ground cover cannot effectively protect beneficial uses of water from timber operations, the ground shall be treated by measures including, but not limited to, seeding, mulching, or replanting, in order to retain and improve its natural ability to filter sediment, minimize soil erosion, and stabilize banks of watercourses and lakes. Treatments shall meet the standards described in item 1 and 2 above.

4. Waterbreaks shall be constructed as soon as practical upon conclusion of use of skid trails, roads, and landings, which do not have permanent and adequate drainage facilities, or drainage structures.

   The maximum distance between waterbreaks on all roads and skid trails within the THP area shall not exceed the following standards except where natural drainage will occur, i.e., low spots, draws, and depressions. In these areas, any berm on the downhill side of the road or skid trail shall be removed to allow drainage and a drainage facility shall not be constructed.

Road or Trail Gradient (%)	10 or Less	11-25	26-50
Low EHR	300 ft	200 ft.	150 ft.
Moderate EHR	200 ft.	150 ft.	100 ft.

   Waterbreaks shall be cut diagonally a minimum of 6 inches into the firm roadbed or skid trail surface and shall have a continuous firm embankment of at least 6 inches in height immediately adjacent to the lower edge of the waterbreak cut.

   Waterbreaks shall be located to allow water to be discharged into some form of vegetative cover, duff, slash, rocks, or less erodible material wherever practical, and shall be constructed to provide for unrestricted discharge at the lower end of the waterbreak so that water will be discharged and spread in such a manner that erosion and sediment transport shall be minimized. Where waterbreaks cannot effectively disperse surface runoff, including where waterbreaks on roads and skid trails cause surface runoff to be concentrated on down-slopes, roads, or skid trails, other erosion control methods, as described in 1 above, shall be installed as needed to comply with 14 CCR 934.

5. Soil stabilization of logging roads - Permanent drainage facilities (rolling dips or drivable waterbars) shall be constructed on appurtenant seasonal roads used for this operation. These drainage facilities shall be constructed prior to the completion of hauling on all road segments where practical. Where pre-haul drainage facilities are not feasible, the standard waterbreak construction and spacing specifications will be used.

6. All outside berms along roads created from grading or truck traffic during operations shall be pulled back onto the road surface prior to completion of use and final road grading. Where feasible, and to the extent that can reasonably be done with minor road dressing and grading, existing side-hill roads shall be outsloped.

7. The traveled surface of logging roads shall be treated to prevent waterborne transport of sediment and concentration of runoff that results from timber operations. Consequently, during timber operations, road running surfaces in the logging area shall be treated as necessary to prevent excessive loss of road surface materials by watering.

8. The erosion control maintenance period on permanent and seasonal roads and associated landings that are not abandoned in accordance with 14 CCR 943.8 shall be three years.

9. Pursuant to 14 CCR 936.9(n), exposed areas, >100 square feet, approaches to watercourse crossings between the drainage facilities closest the watercourse, and road cuts and fills within the WLPZ, and within any EEZ or ELZ designated for watercourse or lake protection, shall be treated to stabilize soils, minimize soil erosion, and prevent the discharge of sediment into waters in amounts deleterious to the beneficial uses of water. Treatments shall meet the standards described in item 1and 2 above.

10. Timing requirements for all erosion prevention activities.

1. For areas disturbed from May 1 through October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface.
2. For areas disturbed from October 16 through April 30, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.
3. All tractor roads shall have drainage facilities installed as soon as practical following yarding and any day with a National Weather Service forecast of chance of rain 30 percent or more, a flash flood warning, or a flash food watch as specified in CCR 14 936.9(m).

19. [ ] Yes [X] No Are tractor or skidder constructed layouts to be used? If yes, specify the location and extent of use:

20. [ ] Yes [X] No Will ground based equipment be used within the area(s) designated for cable yarding? If yes, specify the location and for what purpose the equipment will be used. See 14 CCR 934.3 (e).

21.
Within the THP area will ground based equipment be used on:

a. [ ] Yes [X] No Unstable soils or slide areas? Only allowed if unavoidable.
b. [ ] Yes [X] No Slopes over 65%?
c. [ ] Yes [X] No Slopes over 50% with high or extreme EHR?
d. [ ] Yes [X] No Slopes between 50% and 65% with moderate EHR where heavy equipment use will <u>not</u> be restricted to the limits described in 14 CCR 914 (934, 954) .2 (f) (2) (i) or (ii)?
e. [ ] Yes [X] No Slopes over 50% which lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake?

If **"a".** is yes, provide site specific measures to minimize effect of operations on slope stability below. Provide explanation and justification in section III as required per 14 CCR 914 (934, 954) .2 (d). CDF requests the RPF consider flagging tractor road locations if **"a."** is yes.

If **b.**, **c.**, **d.** or **e.** is yes:

1) the location of tractor roads must be flagged on the ground prior to the PHI or start of operations if a PHI is not required, and
2) you must clearly explain the proposed exception and justify why the standard rule is not feasible or would not comply with 14 CCR 914 (934, 954).

The location of heavy equipment operation on unstable areas or any use beyond the limitations of the standard rules must be shown on the map. List specific instructions to the LTO below.

22. [ ] Yes [X] No Are any alternative practices to the standard harvesting or erosion control rules proposed for this plan? If yes, provide all the information as required by 14 CCR 914 (934, 954) .9 in Section III. List specific instructions to the LTO below.

WINTER OPERATIONS

23.	a. [X] Yes [ ] No	Will timber operations occur during the winter period? If yes, complete "b, c, or d." State in space provided if exempt because yarding method will be cable, helicopter, or balloon.
	b. [ ] Yes [X] No	Will mechanical site preparation be conducted during the winter period? If yes, complete "d".
	c. [ ]	I choose the in-lieu option as allowed in 14 CCR 914 (934, 954) .7 (c). Specify below the procedures listed in subsections (1) and (2), and list the site specific measures for operations in the WLPZ and unstable areas as required by subsection (3), if there will be no winter operations in these areas, so state.
	d. [X]	I choose to prepare a winter operating plan per 14 CCR 914 (934, 954) .7 (b).

The following winter operation plan is for all timber operations taking place between October 15 to May 1. The harvesting activities that may occur during the operational period include but not limited to felling timber, yarding with ground-based equipment, decking logs and hauling logs. Road construction and abandonment shall not occur during the Winter Period.

WINTER OPERATING PLAN

1. The erosion hazard rating in the THP is low and moderate.
2. No mechanical site preparation is proposed during the Winter Period.
3. The yarding system is ground based.
4. The operational period may be at any time between October 15 to May 1 when dry, rainless, or hard frozen conditions exist and when soils are not saturated. Use of heavy equipment or trucks on roads and landings shall be limited to a stable operating surface. Refer to "Definitions" below for the definitions of hard frozen conditions, stable operating surface and saturated soil conditions.
5. Erosion control facilities timing. This Winter Operating Plan shall be effective from October 15 to May 1. The installation of erosion controls utilizing drainage facilities is required from October 15 to May 1 on all seasonal roads, constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a "chance" (30% or more) of rain within the next 24 hours, a flash flood warning or flash flood watch within the next 24 hours and prior to any weekend shut down periods.
6. Precipitation - Consideration in form of rain or snow. Precipitation in the THP area is primarily in the form of snow between October 31 and April 1. Spring rains usually fall onto a substantial snow pack and snow persists until middle to late May with drifts present until mid June. No hauling or ground based operations shall occur when saturated soil conditions are present. Drainage facilities shall be kept in effective condition throughout operations conducted during the winter period.
7. Ground conditions (soil moisture condition, frozen). Use of logging roads, tractor roads or landings shall not take place at any location where saturated soil conditions exist, where a stable logging road or landing operating surface does not exist, or when visibly turbid water from the road, landing, or skid trail or inside ditch may reach a watercourse or lake.
8. Silvicultural system-ground cover. Healthy regeneration, slash, needle cast and existing ground cover will ensure adequate ground cover to dissipate rainfall impact and runoff.
9. Operations within the WLPZ. Designated harvest trees within the WLPZ of Class II watercourses are to be felled toward the perimeter of the zone and end-lined out. All watercourse crossing facilities not constructed to permanent crossing standards shall be removed before November 15.
10. Equipment use limitations. No ground-based operations shall occur during locally saturated soil conditions and shall be limited to stable operating surface. Refer to "Definitions" below for the definitions of hard frozen conditions, stable operating surface and saturated soil conditions.

11. Known Unstable Areas. No known unstable areas are within the plan area.

Definitions (14 CCR 895.1):

Low Antecedent Soil Wetness is defined as conditions not meeting the threshold of saturated soil conditions.

Hard Frozen Conditions means those frozen soil conditions where loaded or unloaded vehicles can travel without sinking into the road surfaces to a depth of more than six inches over a distance of more than 25 feet.

Saturated Soil Conditions means that site conditions are sufficiently wet that timber operations displace soils in yarding or mechanical site preparation areas or displace road and landing surface materials in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, or in downstream Class I, II, III, or IV waters that is visible or would violate applicable water quality requirements.

In yarding and site preparation areas, this condition may be evidenced by: a) reduced traction by equipment as indicated by spinning or churning of wheels or tracks in excess of normal performance, b) inadequate traction without blading wet soil, c) soil displacement in amounts that cause visible increase in turbidity of the downstream waters in a receiving Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, or d) creation of ruts greater than would be normal following a light rainfall.

On logging roads and landing surfaces, this condition may be evidenced by a) reduced traction by equipment as indicated by spinning or churning of wheels or tracks in excess of normal performance, b) inadequate traction without blading wet soil, c) soil displacement in amounts that cause visible increase in turbidity of the downstream waters in receiving Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, d) pumping of road surface materials by traffic, or e) creation of ruts greater than would be created by traffic following normal road watering, which transports surface material to a drainage facility that discharges directly into a watercourse.

Soils or road and landing surfaces that are hard frozen are excluded from this definition.

Stable operating surface means that throughout the period of use, the operating surface of a logging road or landing does not either (1) generate waterborne sediment in amounts sufficient to cause a turbidity increase in downstream Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters or, that is visible or would violate applicable water quality requirements; or (2) channel water for more than 50 feet that is discharged into Class I, II, III, or IV waters.

Winter period means the period between November 15 and April 1, except as noted under special County Rules at Title 14 CCR 925.1, 926.18, 927.1, and 965.5... (a) except as otherwise provided in the rules: (1) All waterbreaks shall be installed no later than the beginning of the winter period of the current year of timber operations. (2) Installation of drainage facilities and structures is required from October 15 to November 15 and April 1 to May 1 on all constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a "chance" (30% or more) of rain within the next 24 hours.

ROADS AND LANDINGS

24. Will any roads be constructed? [ ] Yes [X] No, or reconstructed? [ ] Yes [X] No. If yes, check items "a." through "g."
Will any landings be constructed? [X] Yes [ ] No, or reconstructed? [ ] Yes [X] No. If yes, check items "h." through "k."

a. [ ] Yes [X] No Will new or reconstructed roads be wider than single lane with turnouts?
b. [ ] Yes [X] No Are logging roads proposed in areas of unstable soils or known slide-prone areas?
c. [ ] Yes [X] No Will new roads exceed a grade of 15% or have pitches of up to 20% for distances greater than 500 feet? Map must identify any new or reconstructed road segments that exceed an average 15% grade for over 200 feet.
d. [ ] Yes [X] No Are roads to be constructed or reconstructed, other than crossings, within the WLPZ of a watercourse? If yes, completion of THP Item 27 a. will satisfy required documentation.
e. [ ] Yes [X] No Will roads be located across more than 100 feet of lineal distance on slopes over 65%, or on slopes over 50% which are within 100 feet of the boundary of a WLPZ?
f. [ ] Yes [X] No Will any roads or watercourse crossings be abandoned?
g. [ ] Yes [X] No Are exceptions proposed for flagging or otherwise identifying the location or roads to be constructed?
h. [ ] Yes [X] No Will any landings exceed one half acre in size? If any landing exceeds one quarter acre in size or requires substantial excavation the location must be shown on the map.
i. [ ] Yes [X] No Are any landings proposed in areas of unstable soils or known slide prone areas?
j. [ ] Yes [X] No Will any landings be located on slopes over 65% or on slopes over 50% which are within 100 feet of the boundary of a WLPZ?
k. [ ] Yes [X } No Will any landings be abandoned?

25. If any section in "item 24" above is answered yes, specify site-specific measures to reduce adverse impacts and list any additional or special information needed by the LTO concerning the construction, maintenance, and/or abandonment of roads or landings, as required by 14 CCR Article 12. Include required explanation and justification in THP Section III.

WATERCOURSE AND LAKE PROTECTION ZONE (WLPZ) AND DOMESTIC WATER SUPPLY PROTECTION MEASURES

26. a. [X] Yes [ ] No Are there any watercourse or lakes which contain Class I through IV waters on or adjacent to the plan area? If yes, list the class, WLPZ or ELZ width, and protective measures determined from Table I and/or 14 CCR 916 (936, 956) .4 (c) of the WLPZ rules for each watercourse. Specify if Class III or IV watercourses have WLPZ , ELZ or both.

Class II watercourses

The Class II watercourses have been flagged with blue and white striped flagging. Consistent with 14 CCR 936.5 all of the class II watercourses have at least the minimum widths as shown in the table below.

Slope Class %	**< 30%**	**30% - 50%**
WLPZ width in feet	**50 ft.**	**75 ft.**

Pursuant to 14 CCR 936.5(e) "E", to ensure retention of shade canopy filter strip properties and the maintenance of wildlife values described in 14 CCR 936.4(b) a base mark shall be placed below the cut line of the harvest trees within the zone in advance of the PHI by an RPF or supervised designee. Additionally, pursuant to 14 CCR 936.5(e) "I" To protect water temperature, filter strip properties, upslope stability, and fish & wildlife values, at least 50% of the total canopy covering the ground shall be left in a well distributed multi-storied stand configuration composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing overstory conifers. All class II watercourses shall comply with 14 CCR 936.3(g) recruitment of large woody debris for instream habitat shall be provided by retaining at least two living conifers per acre at least 16 inches dbh and 50ft. tall within 50 ft.

Class III watercourses

Pursuant to 14 CCR 936.4(c)(1), Class III watercourses shall have a 25-foot ELZ on slopes less than 30% and a 50-foot ELZ on slopes greater that 30%.

Class III watercourse ELZs shall be flagged with blue and white striped flagging prior to start of operations. The ELZs shall be flagged by the RPF or supervised designee. Within the ELZ of Class III watercourses, equipment shall be allowed to operate on existing roads, prepared crossings and designated tractor road crossings. At least 50% of the understory vegetation present before timber operations shall be left living and well distributed within the ELZ to maintain soil stability. Note: "ELZ" means, "Equipment Limitation Zone" and shall be defined as follows: a) all heavy equipment is to be excluded from operating within the ELZ except on existing skid trails, skid trail crossings and existing haul roads, b) approved existing skid trails and existing skid trail crossings have been identified on the ground with yellow flagging. c) Approved skid trail crossings shall only be used when dry.

Non Classified Draw

No draws, swales, or channels shall be used as skid trails. Skid trail crossings of these non-classified draws, swales, and channels shall be kept to a minimum. Existing crossings shall be used where feasible and shall be as close to a 90-degree angle as possible.

b. [X] Yes [ ] No	Are there any watercourse crossings that require mapping per 14 CCR 1034 (x) (7)?
c. [ ] Yes [X] No	Will tractor road watercourse crossings involve the use of a culvert? If yes state minimum diameter and length for each culvert (may be shown on map).
d. [ ] Yes [X] No	Is this THP Review Process to be used to meet Department of Fish and Game CEQA review requirements? If yes, attach the 1603 Addendum below or at the end of this Section II; provide the background information and analysis in Section III; list instructions for LTO below for the installation, protection measures, and mitigation measures; as per THP Form Instructions or CDF Mass Mailing, 07/02/1999, "Fish and Game Code 1603 Agreements and THP Documentation".

During the preparation of the THP, and the implementation of LaTour Demonstration State Forest's 2008 Management Plan (State Clearinghouse number 2008062009) all road segments and watercourse crossings have been evaluated and rated to the risk to water quality. The evaluation included, but not limited to, erosion potential, watercourse crossing types, frequency and placement of drainage structures, and the condition of all road watercourse crossings and drainage features. All watercourse crossings and drainage features are functioning properly.

27. Are site specific practices proposed in-lieu of the following standard WLPZ practices?

a. [X] Yes [ ] No Prohibition of the construction or reconstruction of roads, construction or use of tractor roads or landings in Class I, II, III, or IV watercourses, WLPZs, marshes, wet meadows, and other wet areas except as follows:
(1) At prepared tractor road crossings.
(2) Crossings of Class III watercourses which are dry at time of timber operations.
(3) At existing road crossings.
(4) At new tractor and road crossings approved by Department of Fish and Game.

b. [ ] Yes [X] No Retention of non-commercial vegetation bordering and covering meadows and wet areas?

c. [ ] Yes [X] No Directional felling of trees within the WLPZ away from the watercourse or lake?

d. [ ] Yes [X] No Decrease of width(s) of the WLPZ(s)?

e. [ ] Yes [X] No Protection of watercourses which conduct class IV waters?

f. [ ] Yes [X] No Exclusion of heavy equipment from the WLPZ except as follows:
(1) At prepared tractor road crossings.
(2) Crossings of Class III watercourses which are dry at time of timber operations.
(3) At existing road crossings.
(4) At new tractor and road crossings approved by Department of Fish and Game.

g. [ ] Yes [X] No Establishment of ELZ for Class III watercourses unless sideslopes are <30% and EHR is low?

h. [ ] Yes [X] No Retention of at least 50% of the overstory canopy in the WLPZ?

i. [ ] Yes [X] No Retention of at least 50% of the understory in the WLPZ?

j. [ ] Yes [X] No Are any additional in-lieu or any alternative practices proposed for watercourse or lake protection?

NOTE: A yes answer to any of items "a." through "j." constitutes an in-lieu practice. If any item is answered yes, refer to 14 CCR 916 (936, 956).1 and address the following for each item checked yes:

1. The RPF shall state the standard rule;
2. Explain and describe each proposed practice;
3. Explain how the proposed practice differs from the standard practice;
4. The specific location where it shall be applied, see map requirements of 14 CCR 1034 (x) (15) and (16);
5. Provide in THP Section III an explanation and justification as to how the protection provided is equal to the standard rule and provides for the protection of the beneficial uses of water, as per 14 CCR 916 (936, 956) .1 (a). Reference the in-lieu and location to the specific watercourse to which it will be applied.

Roads within WLPZ

Though not an in-lieu practice road segments exist that are adjacent to and fall with in the WLPZ of a Class II watercourse. These segments are to be used for normal vehicular traffic, and log hauling. Equipment will also be allowed to travel on these roads and perform the necessary road maintenance. Road segments are delineated on the THP Map.

The portion of the Rim Road beginning at the intersection with the Huckleberry Road and extending 300 feet to the east (segment within the WLPZ), shall not be utilized during the Winter Period unless the segment is rocked. The rock shall be a minimum 3 inches compacted depth. Rock source is the LDSF rock pit along the Batman Road.

In preparing the THP these road segments were reviewed and assessed for any negative impacts to the beneficial uses of water. There are currently no apparent negative impacts and none are anticipated as a result of the proposed operations. These road segments are well established and stable, and the watercourses appear stable with canopy cover exceeding 50%.

28. a. [ ] Yes [X] No Are there any landowners within 1000 feet downstream of the THP boundary whose ownership adjoins or includes a class I, II, or IV watercourse(s) which receives surface drainage from the proposed timber operations? If yes, the requirements of 14 CCR 1032.10 apply. Proof of notice by letter and newspaper should be included in THP Section V. If No, "28 b." need not be answered.

b. [ ] Yes [ ] No Is an exemption requested of the notification requirements of 14 CCR 1032.10? If yes, an explanation and justification for the exemption must appear in THP Section III. Specify if requesting an exemption from the letter, the newspaper notice or both.

c. [ ] Yes [X] No Was any information received on domestic water supplies that required additional mitigation beyond that required by standard Watercourse and Lake Protection rules? If yes, list site specific measures to be implemented by the LTO.

29. [ ] Yes [X] No Is any part of the THP area within a Sensitive Watershed as designated by the Board of Forestry and Fire Protection? If yes, identify the watershed and list any special rules, operating procedures or mitigation that will be used to protect the resources identified at risk?

HAZARD REDUCTION

30. a. [X] Yes [ ] No Are there roads or improvements which require slash treatment adjacent to them? If yes, specify the type of improvement, treatment distance, and treatment method.

b. [ ] Yes [X] No Are any alternatives to the rules for slash treatment along roads and within 200 feet of structures requested? If yes, RPF must explain and justify how alternative provides equal fire protection. Include a description of the alternative and where it will be utilized below.

Within 100 feet of the edge of the traveled surface of public roads, slash created and trees knocked down by timber operations shall be treated for fire hazard reduction by lopping, piling and burning, chipping, burying or removal from the zone. All treatments, except burning, shall be completed prior to the completion of timber operations. The timing of burning shall adhere to item 31 below.

All appurtenant roads and roads within the THP boundary are public roads.

31. [X] Yes [ ] No Will piling and burning be used for hazard reduction? See 14 CCR 917.1-.11, 937.1-.10, or 957.1-.10, for specific requirements. Note: LTO is responsible for slash disposal. This responsibility cannot be transferred.

LTO is responsible for slash disposal. Any landing slash that is not spread back onto skid trails shall be piled near the center of the landing. Piles shall not exceed 50 x 50 x 20 feet with a fire line completely around the pile that has a width at least 1.5 times the height of the pile to a maximum of 30 feet. Efforts shall be made to ensure that these piles are as compact and free of soil as practical. Material shall be piled at or near its final location to minimize the amount of movement necessary and subsequent soil deposition in the piles. Slash piles created prior to September 1 of each year shall be burned that fall when safe burning conditions occur. Slash piles created after September 1 of each year may be burned the following fall, prior to December 31, when safe burning conditions occur. See Section III, Item 31.

The local representative of the Director shall be notified in advance of the time and place of any burning of logging slash.

BIOLOGICAL AND CULTURAL RESOURCES

32. a. [X] Yes [ ] No Are any plant or animal species, including their habitat, which are listed as rare, threatened or endangered under federal or state law, or a sensitive species by the Board, associated with the THP area? If yes, identify the species and the provisions to be taken for the protection of the species.

b. [ ] Yes [X] No Are there any non-listed species which will be significantly impacted by the operation? If yes, identify the species and the provisions to be taken for the protection of the species.

NOTE: See THP Form Instructions or the CDF Mass Mailing, 07/02/1999, section on "CDF Guidelines for Species Surveys and Mitigations" to complete these questions.

All trees and snags with visible nesting sites of any threatened, endangered, or board sensitive species will be left standing as prescribed under 14 CCR 939.1 and 939.2(d). If during timber operations within the critical period, the timber operator discovers a snag or tree with a nesting threatened, endangered, or board sensitive species the operator shall protect the nest tree, screen trees, perch trees and replacement trees and shall cease operations within .25 miles, and notify the RPF, the Department of Fish and Game (DFG) and Cal Fire. The RPF shall consult with DFG and develop site specific mitigations and protection measures.

LISTED:

Northern Goshawk: the nearest Northern Goshawk activity center located approximately 1 .5 miles southeast of the THP, NE ¼, Section 13, T32N, R2E. The activity center was originally located in 2001 and has been active every year since. The activity center has fledged offspring in 2001, 2002, 2005-2006. There has been 4 different nest trees all within 300 yards of each other. The THP contains habitat for the Northern Goshawks and in the event that goshawks are discovered or suspected of inhabiting the THP area, efforts will be made to verify their presence. If any goshawks are observed nesting within the THP area the LTO shall cease all operations within .25 miles of the nest and contact the RPF, CAL FIRE inspector, and DFG. Specific nest protection measures will be developed in consultation with DFG. At a minimum, all goshawk nest sites will be protected according to 14 CCR 939.3.

NON-LISTED:

Pacific Fisher (STATE CANIDATE):

On April 27, 2009 the Pacific Fisher became a candidate for listing under the California Endangered Species Act. Emergency regulations were developed by the Fish and Game Commission for this species in order to allow incidental take of fisher for specified activities including timber operations (Section 749.5, Title 14, CCR). This emergency regulation was approved by the Office of Administrative Law on April 27, 2009 and will be in effect until October 27, 2009.

The critical period for fishers is March 1 through July 31, where reproduction and caring for young occurs and when the highest potential for disturbance exists

LDSF contains habitats for the Pacific Fishers and it was detected in a 1990 furbearer presence survey. No subsequent detections have occurred. The elevation of the plan is generally considered above the range of the pacific fisher, but contains habitat for the Pacific Fisher. The plan will maintain habitat post harvest. If Pacific Fishers are observed within the THP area the LTO shall cease all operations within .25 miles of the observation site and contact the LDSF staff, CAL FIRE inspector, and DFG. The Redding DFG Timberland Planning office shall be notified of the detection and observations of the pacific fisher, including any along the appurtenant roads. The notification shall include the time, date, and map location.

Additionally observations, detections, and take shall be reported to the Department of Fish and Game, Wildlife Branch, Attn: Fisher Observations, 1812 Ninth St., Sacramento, CA 95811, or by email submission to fisherdata@dfg.ca.gov. Information reported to the Department pursuant to this

subdivision shall include as available: a contact name; the date and location (GPS coordinate preferred) of the observation, detection, or take; and details regarding the animal(s) observed (Title 14 CCR, Section 749.5(c)).

Pine Marten: The Pine Marten has been detected in the southeastern portions of the forest (Section 24), within the assessment area, during the forest carnivore surveys conducted by LDSF staff in 2005, 2006 and 2007. The THP will maintain habitat for the Pine Marten. LSDF staff is continuing a monitoring program to evaluate the presence and continued use of known mid-sized forest carnivores.

See Section III for additional discussion of biological review.

33. [X] Yes [ ] No Are there any snags which must be felled for fire protection or safety reasons? If yes, describe which snags are going to be felled and why.

Snags greater than 20 feet tall and 16 inches DBH which are within 100 feet of permanent or seasonal roads or landings will be felled if they lean towards the road or landing and present a safety hazard, or if they are a potential hindrance to future access for initial attack of wildfire as per 14 CCR 939.1(a)(2). Additionally, any snag thought to contain sound volume may be harvested as allowed under 14 CCR 939.1(d).

34. [ ] Yes [X] No Are any Late Succession Forest Stands proposed for harvest? If yes, describe the measures to be implemented by the LTO that avoid long-term significant adverse effects on fish, wildlife and listed species known to be primarily associated with late succession forests.

35. [ ] Yes [X] No Are any other provisions for wildlife protection required by the rules? If yes, describe.

All trees and snags with visible nesting sites of any non-listed raptor will be left standing as prescribed under 14 CCR 939.1 and 939.2(d). If during timber operations, the timber operator discovers a snag or tree with a nesting of any non-listed raptor the operator shall protect the nest tree, screen trees, perch trees and replacement trees, and cease operations within 500' of the nest, notify the RPF, DFG, Cal Fire. DFG shall have ten (10) days to respond and develop a consultation based on site specific conditions. If a consultation is not developed within the ten (10) days, all non-listed raptors shall have the nest tree, screen trees, perch trees, and replacement trees protected.

Other trees within the THP area that have special value to wildlife will similarly be retained. These trees have been marked with a"W" at dbh. Additionally all snags that do not met the criteria in Item 33 above shall be retained for the benefit of wildlife

36. a. [X] Yes [ ] No Has an archaeological survey been made of the THP area?

b. [X] Yes [ ] No Has a current archaeological records check been conducted for the THP area?

c. [ ] Yes [X] No Are there any archaeological or historical sites located in the THP area? Specific site locations and protection measures are contained in the Confidential Archaeological Addendum in Section VI of the THP, which is not available for general public review.

37. [ ] Yes [X] No Has any inventory or growth and yield information designated "trade secret" been submitted in a separate confidential envelope in Section VI of this THP?

38. Describe any special instructions or constraints that are not listed elsewhere in Section II.

Water drafting plan

Drafting locations are Beaver Creek crossing on South Cow Creek Road, Roaring Spring crossing on Bateman Road, Atkins Creek crossing on the Bateman Road, and Old Cow Creek crossing at Old Cow Creek campground.

It is estimated that water usage will be approximately 40,000 gallons per day distributed among the drafting locations during active timber operations.

Water drafting shall not occur at any of these locations when:

(A) bypass flows are less than 2 cubic feet per second (cfs), or 1 cfs at Roaring Springs
(B) pool volume at the water drafting site would be reduced by 10%, or
(C) diversion rate exceeds 350 gallons per minute, or
(D) diversion rate exceeds 10% of the above surface flow.

The following are requirements when drafting:

a. Openings in perforated plate or woven wire mesh screens shall not exceed 3/32 inches (2.38 millimeters).
b. The approach velocity (water moving through the screen) shall not exceed 0.33 feet/second.
c. Flow in the source stream shall be at least 2 cfs.
d. Reduction in pool volume shall not exceed 10 percent.
e. The screen surface shall have at least 2.33 square feet of openings and the diversion rate shall not exceed 350 gallons per minute (gpm) or 10 percent of the surface flow.
f. If an alternative screen surface area or diversion rate is desired, the following formula can be used: diversion rate (gpm) X 0.00676 = square feet of screen surface area. The diversion rate can be calculated by dividing the tank capacity by the fastest filling time (i.e.., 3000 gallons / 15 minutes = 200 gpm).
g. The drafting operator shall actively observe the drafting operation. Pumping shall cease and the screen cleaned if it becomes more than 10 percent obstructed with debris.
h. All drafting locations shall include measures (such as drip pans or absorbent fiber pads) to prevent petroleum-based products originating from vehicles from reaching surface water, groundwater, and soil. These items shall be disposed of properly.

Check all WLPZ, EEZ and ELZ flagging, and skid trail flagging prior to the commencement of any falling operations. Have the responsible RPF or supervised designee replace any flagging that is incomplete or unclear.

Review any restrictions in yarding equipment access which may cause a need for directional falling toward the lead where the logs will be yarded. Trees designated for removal within the WLPZ of a watercourse shall be directionally felled away from the watercourse and longlined, so as to keep heavy equipment out of the protection zone. In the ELZ of Class III watercourses, trees may be felled bridging the watercourse and endlined from outside the ELZ. The purpose of this measure is to allow for trees that if not directionally felled across the ELZ would fall into the ELZ or damage the residual stand.

Use only designated skid trails and tractor road crossing within WLPZs. Designated skid trails and tractor road crossings are delineated with yellow flagging.

All trees marked with a "W", a "No" or a "L" shall be retained.

Review the Winter Operations Plan and the Site Preparation/Regeneration Plan Addendum

and Landings, 14 CCR 943.6.

The LTO shall carefully review the Forest Practice Rules regarding Wildlife Protection Practices contained in 14 CCR 939.2 and 939.3.

All trees and snags with visible nesting sites of eagles, hawks, owls, waterfowl, or any rare or endangered species shall be left standing.

The THP boundary has been designated in red "Sale Boundary" flagging.

The Plan submitter shall notify the Department of the commencement of timber operations at the following address:

TEHAMA-GLENN UNIT
Unit Forester
CAL FIRE
604 Antelope Boulevard
Red Bluff, CA 96080
530-528-5106

DIRECTOR OF FORESTRY AND FIRE PROTECTION

This Timber Harvesting Plan conforms to the rules and regulations of the Board of Forestry and Fire Protection and the Forest Practice Act:

By: William E. Schultz
(Signature)

December 11, 2009
(Date)

William E. Schultz, RPF #1974
(Printed Name)

Deputy Chief Forest Practice
(Title)

Rim Road THP

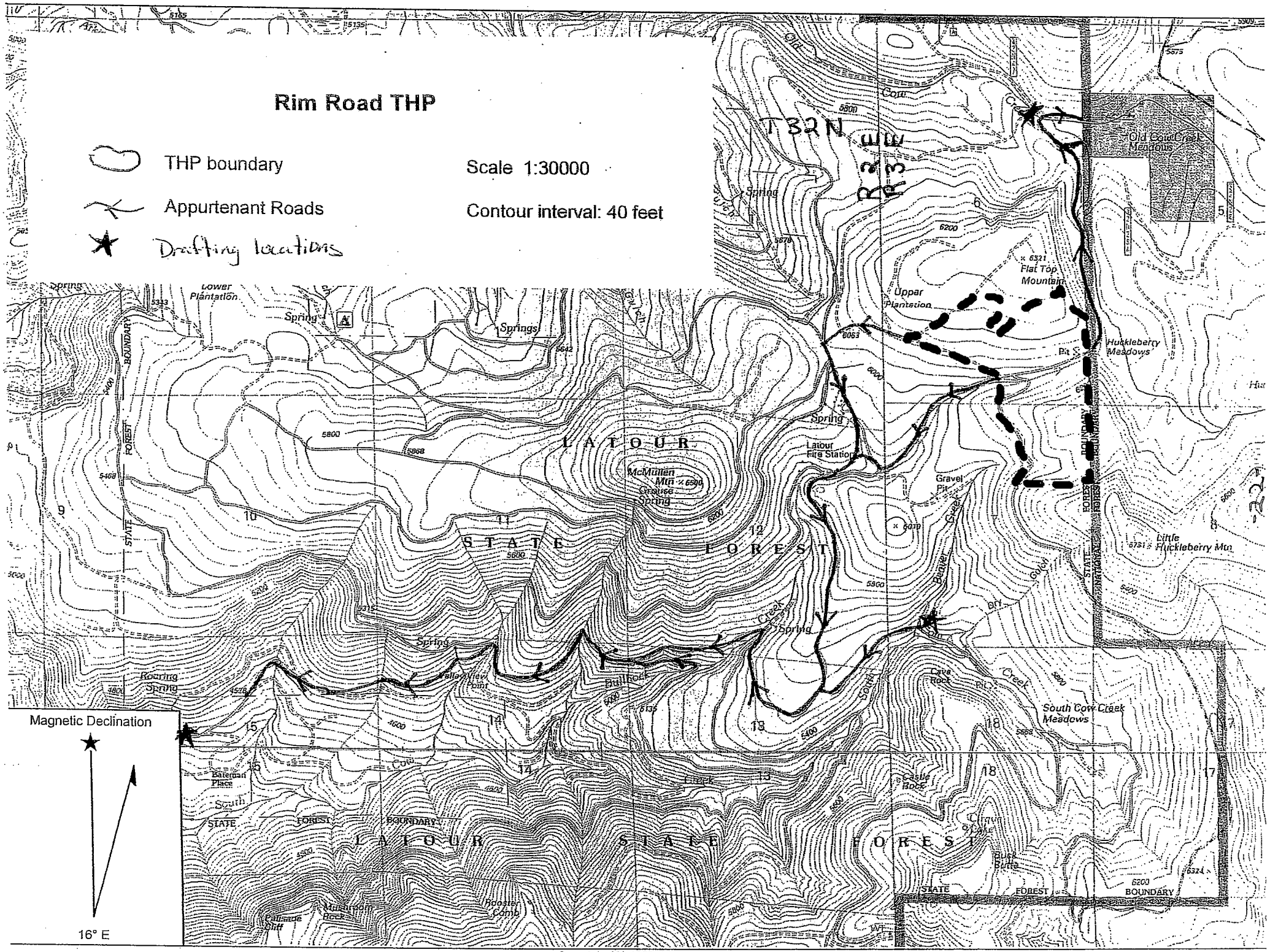
THP boundary

Appurtenant Roads

Drafting locations

Scale 1:30000

Contour interval: 40 feet



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Rim Road THP

Roads and Watercourses MAP

Class II

Class III

Primary roads

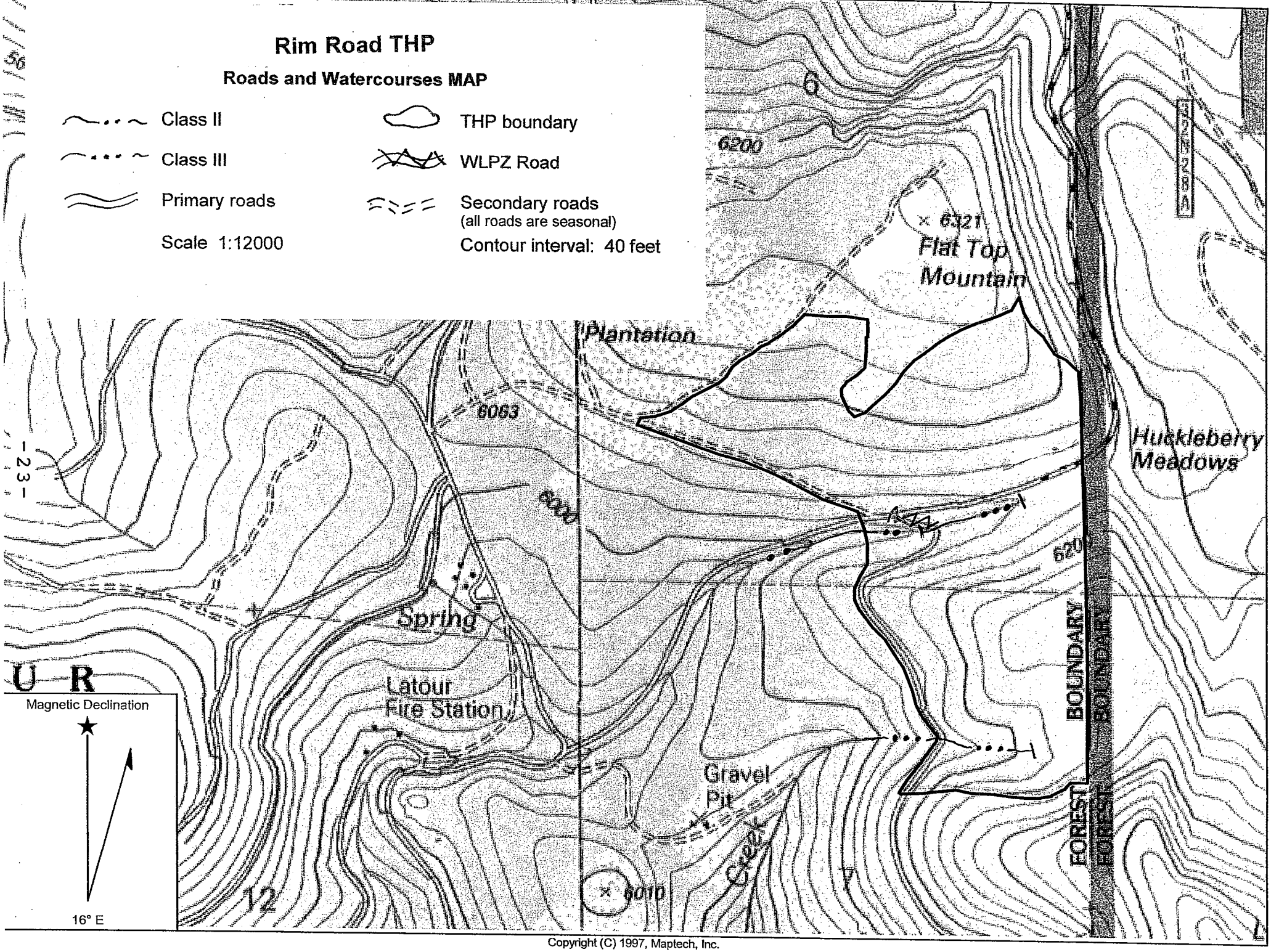
Scale 1:12000

THP boundary

WLPZ Road

Secondary roads
(all roads are seasonal)

Contour interval: 40 feet



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Rim Road THP

EHR MAP

THP boundary

Low

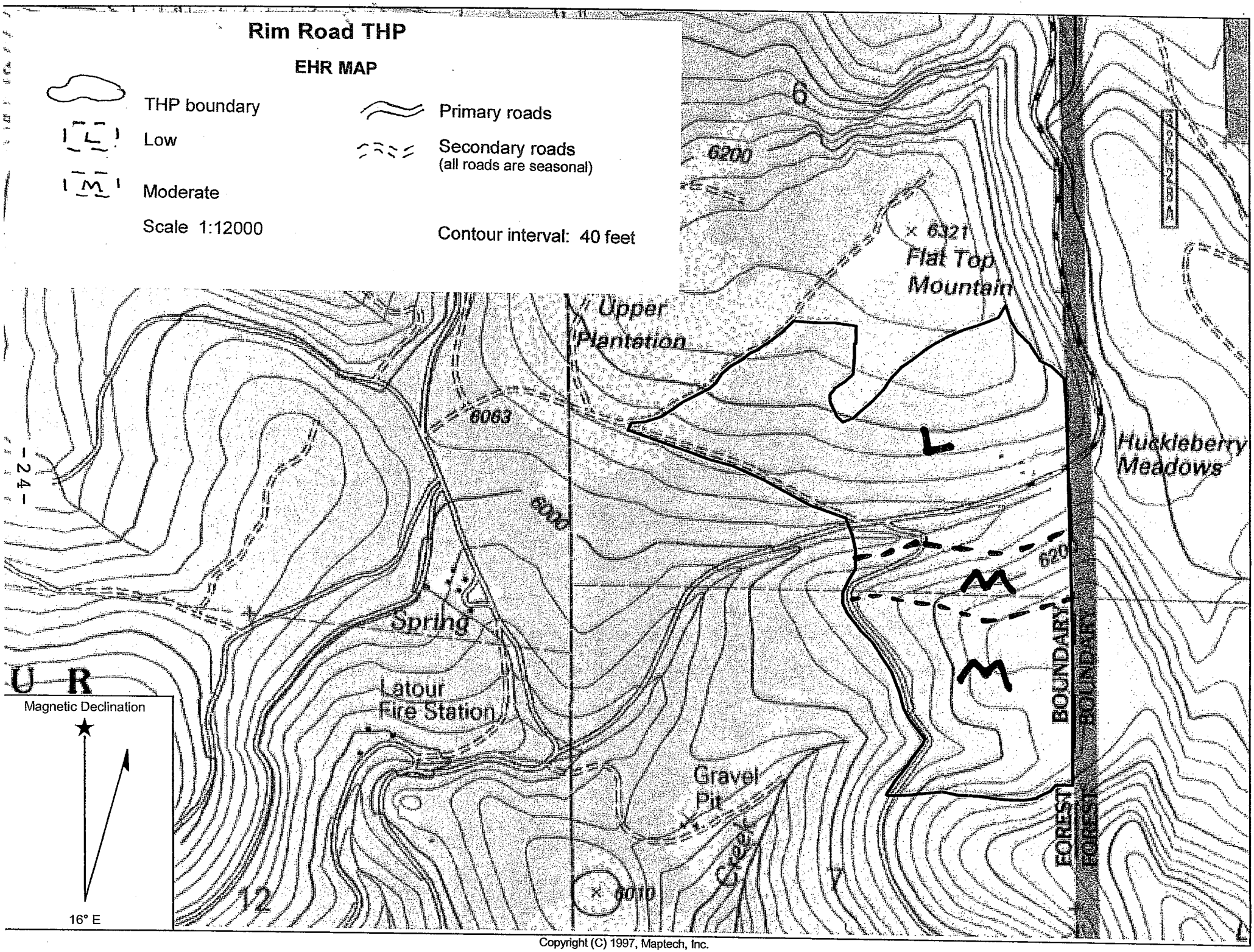
Moderate

Scale 1:12000

Primary roads

Secondary roads
(all roads are seasonal)

Contour interval: 40 feet



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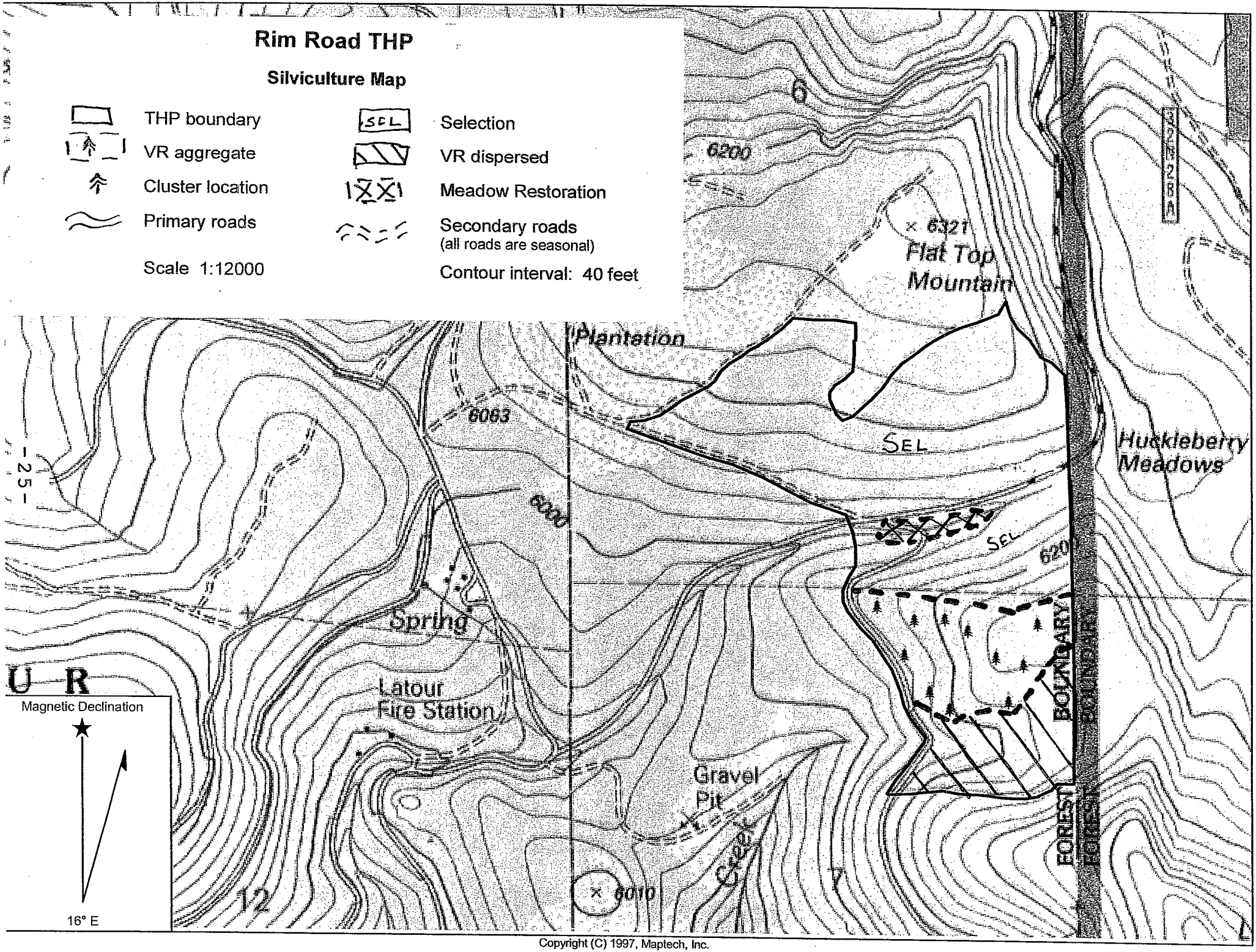
Rim Road THP

Silviculture Map

THP boundary
VR aggregate
Cluster location
Primary roads
Scale 1:12000

Selection
VR dispersed
Meadow Restoration
Secondary roads
(all roads are seasonal)
Contour interval: 40 feet



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SECTION III
Support Documentation

Feasibility of Alternatives

No significant adverse effects from the proposed operations under this THP are expected to occur. However, an analysis of THP alternatives follows.

Purpose

The legislative authority for the State Forest System is contained in Public Resources Code (PRC) §4631-4658. CAL FIRE is responsible for the management of LDSF. As part of this oversight, the LDSF staff operates under a management plan, which provides general objectives and goals. The plan is required pursuant to Public Resources Code (PRC) §4645 and Article 8 of the California Board of Forestry and Fire Protection (Board) policy.

LDSF has a management plan (SCH # 2008062009), approved by the board, which provides direction and guidance for the managed uses of forest resources with an emphasis on forest demonstration, research, recreation, maintenance of wildlife habitat, and water quality protection. Timber harvesting is one of the mechanisms used to implement forest management goals and foster maintenance and enhancement of other non-timber resources. Guided by the statutes, the Board of Forestry and Fire Protection establishes policy, which governs LDSF and other state forests. Board policy states that the primary purpose of the state forest program is to conduct innovative demonstrations, experiments, and education in forest management.

Objectives

- Demonstrate sound forest management.
- Demonstrate Board approved Variable Retention Silviculture
- Reduce fuel loading thus reducing the risks of wildfires
- Avoid the waste of timber resources
- Enhance growth and vigor of timber resources
- Improvement of the forest road system
- Improve wildlife habitat, and watershed values promoted by the resulting healthy stands

The project as proposed meets is in conformance with the 2008 LDSF Management Plan (SCH # 2008062009), LDSF's Option A for Long Term Sustained Yield (LTSY), and the Board's policy. The project also meets the following objectives:

Achieve a balance between growth and harvest over time consistent with the harvesting methods within the rules of the Board.

Harvesting the trees that are infected with Cytospora sp. and white pine blister rust. Thus improving forest health and reducing tree mortality and fuel loading.

Maintain functional wildlife habitat in sufficient condition for continued use by the existing wildlife community within the planning watershed.

Maintain growing stock, genetic diversity, and soil productivity.

Applies and gives a visual demonstration of the Variable Retention Silviculture.

Alternatives Considered

NO PROJECT

Site would remain as is.

No economic benefits would be realized.

Stand vigor would decrease do to the *Cytospora sp.* and the white pine blister rust.

Mortality not harvested would be wasted.

Increased risk to stand replacing wildfires resulting from the stand conditions and increasing fuel loads.

Forest management and timber harvest demonstrations will not be carried out.

PROJECT TIMING

The proposed project will be completed within the next 5 years.

Delaying the project to another decade was considered.

A delay of the proposed timber harvest would result in the waste of timber resources through stand mortality and allow for the continual risk of wildfire.

A delay in harvest and income timing would substantially reduce the present net worth of the proposed project.

The landowners manage their land on a 10 to 15 year cutting cycle. Delaying the project will increase the acres to be treated in future years to maintain the stand treatment schedule.

ALTERNATIVE SITE

This alternative is not necessary, as any significant negative effect from the proposed operations has been mitigated in the THP.

ALTERNATIVE SILVICULTURE

Using more even-aged silviculture prescriptions is not suitable for this THP. LDSF has an Option A plan that defines the LTSY of the forest. The LTSY was determined by modeling timber growth for LDSF using specific silvicultural prescriptions. The LTSY was calculated primarily using un-evened aged silviculture. Even though even-aged silviculture is available to use, the minimal acres modeled are better suited for different locations on the forest, within stands of high disease and mortality, or marginal stocking.

Upon review of the alternatives considered, the proposed project is the landowner's best alternative to meet the above stated objectives

General Project Description

Location: The THP is located in Shasta County on LDSF in sections 6 and 7, T 32 N, R 3 E. The elevation of the THP ranges from 6040 feet to 6,360 feet. The THP is approximately 14 air miles east of the community of Whitmore, California, 22 miles south of Burney and Seventeen miles northeast of Lassen Volcanic National Park.

Soils and Topography

There is one predominant soil series within the harvest boundary, Windy - McCarthy stony sandy loam. Soils in the Windy-McCarthy series make up about 95% of the soil types in the plan area. Windy - McCarthy soils are made up of Windy and McCarthy soils in equal proportions. These soils are stony sandy loams with a depth of up to 60 inches. The soils are well-drained with moderate to rapid permeability.

Elevation in the harvest area ranges from 6060 to 6300 feet. The topography is varies from flat to moderately steep slopes. The average slope within the harvest units is approximately 20% but ranges from 0 to 55%.

The following are soil types that are found within the THP boundary:

Soil Type	Slopes	Depth	Permeability
Windy-McCarthy stoney sandy loam (WeD)	0-30%	40-60 inches	Mod-Rapid
Windy-McCarthy stoney sandy loam (WfE)	30-50%	40-60 inches	Mod-Rapid
Windy-McCarthy stoney sandy loam (WfG)	50-75%	40-60 inches	Mod-Rapid
Windy-McCarthy stoney sandy loam (WgE)	8-50%	40-60 inches	Mod-Rapid

Vegetation and Stand Conditions

The predominant vegetation types in the harvest area are True fir and Sierra mixed conifer. Previous management activites have resulted in the THP area having both even-aged and uneven-aged stands. Species composition of the true fir stands is predominately White fir and Red fir with a minor component of Lodgepole pine, Jeffrey pine, Sugar pine, Western White pine, and Mountain hemlock. The stocking density in the majority of the true fir stands has resulted in little vegetation or regeneration in the understory, but where stocking is less dense the understory is dominated by chinquapin.

Sierra mixed conifer stands are uneven-aged with all size classes represented. Red fir and White fir comprise approximately 50 percent of the stand, Jeffery pine ranges from 10 to 25 percent of the stand and the Sugar pine and western white pine both comprise between 5 to 15 percent of the stand. Lodgepole pine and Mountain hemlock are also found within the mixed conifer stands. Regeneration exists in the understory especially in areas where past harvest activities have created openings in the canopy.

The disease problems observed in the harvest area largely consist of dwarf mistletoe and cytospora or fir canker. Pockets of dead trees exist in the harvest area from fir canker infection. Infection of White Pine Blister Rust is affecting intolerant sugar pine and the western white pine and is very prevalent throughout the THP. Endemic insect populations of Mountain Pine Beetle and Ips in the pine species and Scolytis in the fir were also observed.

Despite the disease problems the selection area are well stocked with an average basal area of approximately 180 square feet and ranges for 100 to 220 square feet of basal area. The target average basal area post harvest in the selection area is 120 square feet. There are two different stocking levels within the Variable Retention area. One portion has a basal area of 100 to 140 sq. feet of mature timber, with little to no regeneration in the under story. The second area is more variable with portions having less than 100 sq feet of basal area with an understory of manzanita and chinquapin, other portions are comprised with dense stands 300+ square feet of advanced regeneration to small pole sized timber, and other areas contain are uneven-aged stand with basal area ranging from 170-240 sq feet of basal area. Portions of the Variable Retention unit are heavily infected with fir canker and blister rust and it is very difficult to find a countable tree as defined by 14 CCR 895.1. Post harvest the stocking with meet the retention standards of 14 CCR 933.4 (d), and within five years following harvest the entire Variable Retention unit shall meet 300 point count as per 14 CCR 932.7(b)

Watershed and Stream Conditions

LDSF is the headwaters source of two major streams, Old Cow Creek and South Cow Creek. A Tributary to the North Fork Battle Creek and South fork Bear Creek drain small portions of the south side of LDSF.

The THP is primarily located Beal watershed (Cal Water version 2.2 #5507.320103), with approximately 5 acres within the Huckleberry Watershed (Cal Water version 2.2 #5507.320102). The primary watercourses within these watersheds are South Cow Creek and Old Cow Creek respectively. The headwaters of Bullhock Creek, a tributary to South Cow Creek, is located within the THP. Bullhock Creek changes from a Class II to a Class III watercourse just east of the Rim Road within the THP boundary. Approximately 2.5 miles downstream Bullhock Creek transitions to a Class I watercourse. There is only one other watercourse within the THP boundary and it is a Class III located near the southern portion of the THP.

South Cow Creek and Old Cow Creek contains generally complex habitat with deep pools, riffles, and boulders forming step pools. The creek appears to have good channel conditions in the lower portion of the planning watersheds and impacts from timber operations were not significant to those portions of South Cow Creek and Old Cow Creek. Further evaluation of the watercourses occurred in the summer of 2000 from the *LaTour Demonstration State Forest Watershed Monitoring Project*, Stream Channel and Fish Habitat Assessment prepared by the Sacramento Watersheds Action Group (SWAG) under contract with the Department of Forestry and Fire Protection. In this report South Cow Creek, Bullhock Creek and Old Cow Creek were assessed within LDSF boundaries.

The SWAG report evaluated the Class I reaches of all three creeks and concluded nearly all of the watercourses are stable with some instability observed at the upper reaches in the meadows and the first 300 feet of Old Cow creek where it exits LDSF. Banks were stabilized primarily by large cobbles, boulders, and riparian vegetation. Bullock Creek shows evidence the watercourse has supported large flood events. Some bank scouring, erosion and depositional features are present in the upper reaches in the Class II segment adjacent to the THP. These features are largely due to the 1997 rain-on-snow event that caused significant runoff in the watershed.

Plan addendum # 14

Selection: pursuant to 14CCR 933.2(a)(2)(A), selection will occur on 142 acres of the plan area. Three silvicultural considerations were observed within the existing stands (1) high stand density in the true fir stands (2) lack of regeneration, and (3) disease and mistletoe infection. In the selection area the average basal area is estimated at 180 square feet per acre and ranges from 100 to 220 square feet per acre. The target average basal area post harvest in the group selection area is 120 square feet, but this THP does not limit LDSF from retaining the Forest Practice Rule standards of 75 square feet. The site classification in the area to be harvested is Dunning Site III

Variable Retention: pursuant to 14CCR 933.4(d), Variable Retention will occur on 55 acres of the plan. Aggregate Retention will occur on 30 acres and Dispersed Retention will occur on 25 acres. The existing stand is declining in health and vigor. Disease problems such as dwarf mistletoe, *cytospora spp*, and blister rust are infecting the Red Fir and Western White pine. The mistletoe and *cytospora spp*. have been transferred from the overstory to the understory. The intent of this prescription is to capture future tree mortality, improve forest health, and establish a healthy timber stand, while providing biological and structural elements of the pre-harvest stand for integration into the future stand. Retention standards shall be met immediately after harvest. The maximum retention sample size shall be 20 acres and the retention standards shall be met on each 20-acre area. The stocking standards of 14 CCR § 912.7 [932.7, 952.7](b)(1) shall be met within five years following completion of operations and retention trees, that meet the definition of "countable tree" (14 CCR 895.1) will be used to meet stocking.

Aggregate retention standards: a minimum of ten percent of the aggregate retention area shall be retained in clusters. Eleven individual clusters have been identified on the ground and flagged with red and white stripped flagging. The clusters range in size from .1 acres to .4 acres. The locations of the clusters are shown on the THP map. One or more of the following criteria was used to identify the clusters: 1) provide a visual cover/break from the Rim Road to the rest of the unit, 2) contain several trees greater than 24 inch dbh trees for snag recruitment, 3) contain snags and or large woody debris, 4) provide a brush component for the future stand, 5) contain several healthy mature seed trees of multiple species, 6) juxtaposition to other clusters, 7) advanced healthy regeneration, 8) minimal operational constraints.

Dispersed retention standards: on the 25 acres of dispersed retention area the minimum basal area retained shall be 20 percent of the Resource Conservation Standards basal area levels stated in 14 CCR 932.7(b)(2), which is 10 square feet of basal area for Site III lands . Leave trees have been designated with white paint and one or more of the following criteria was used to identify the retention trees: 1) Large live culls (decadent and deformed trees > 24 inch dbh), 2) Healthy mature seed trees, 3) Lodge pole pine > 20 inch dbh for snag recruitment, 4) juxtaposition – no spot within the harvest area shall be further than 300 feet from a retention tree, 5) species preference - White fir, Jeffery pine, western white pine, mountain hemlock, red fir.

Estimated Basal Area per Acre - Pre and Post Harvest

Species		Basal area (ft^2) by diameter class						
		0-6" dbh	7-12" dbh	13-18" dbh	19-24" dbh	25-30"dbh	31-36"dbh	37-42"dbh
White fir	Pre	5	10	25	15	12	3	1
	Post			1	3	1		
Red Fir	Pre	1	7	12	8	2	1	
	Post				1	<1		
Jeffery pine	Pre			1	1			
	Post							
Western White pine	Pre		3	12	7	3		
	Post				1	1		
Lodge pole pine	Pre	1	2	5	2			
	Post				1			
Sugar pine	Pre		2	5	10	3	1	
	Post				1	1		
Mountain Hemlock	Pre		<1					
	Post		<1					

Meadow Restoration: Approximately 3 acre of a historic seasonal wet meadow will be restored as per 14 CCR 939.15. The seasonal meadow is located at the headwaters of Bullhock Creek. Year round springs are located on the down stream edge of the meadow. The seasonally wet portion of the meadow is occupied with a very dense stand of 6 to 8 foot tall lodge pole pine. The uniform age of the Lodgepole pine and evidence of piling and burning in the past it appears that previous management has tried to restore the meadow in the past. The ground disturbance caused by the equipment used to pile the meadow caused a very suitable seed bed for the Lodgepole pine and the restoration effort failed. NO equipment will be used within the seasonal meadow. An EEZ (red and white stripped flagging) has been flagged around the meadow restoration perimeter. The Lodgepole pine stand will be hand cut and piled. To the extent feasible, the number of piles will be kept to the minimum necessary to accommodate the material created and allow for safe burning. Additionally, to the extent feasible, material shall be piled towards to the outer edge and/or outside the unit. Burning of the piles shall adhere to item 31 of the THP.

LaTour DSF has historically worked in cooperation with Redding DFG on meadow restoration projects, dating back to the 2003 South Cow Creek THP. LaTour DSF and Redding DFG staffs are continuing to work in cooperation on research and demonstrations pertaining to meadow restoration projects.

Vegetation control: control of competing vegetation may be required to insure the survival of the regeneration within the Variable Retention units. The primary competing vegetation with the regeneration is Chinquapin, manzanita, and grasses. The competing vegetation may be controlled by manual, mechanical or chemical treatments.

Mechanical treatments: All equipment utilized for the control of competing vegetation shall adhere to the protection measures described within this THP including ELZs, and the Winter Operations Plan.

Chemical treatments: The registration of herbicides in California is a CEQA equivalent process, and when applied according to the label instructions, no significant adverse impacts to wildlife and water resources should occur. Herbicides use is regulated by the Department of Pesticide Regulation (DPR) and enforced by the County Agricultural Commissioner. The use, type and the timing of the herbicide shall be determined and recommended by a Licensed Pest Control Advisor (PCA) and the application shall adhere to the PCA's recommendation, the herbicide label instructions, and the Mitigated Negative Declaration, State Clearing House (SCH) # 2008062009 for LDSF Management Plan 2008.

Plan addendum #17 - Erosion Hazard Rating (EHR)

The Soil Survey of Shasta County California and field observations were used to determine the erosion hazard rating (EHR) for this THP area. The EHR areas were delineated according to soil type and ground observations with regard to slope, ground cover, and physical characteristics. The EHRs for the THP area are low and moderate. The EHR types are delineated on the EHR Map.

Plan addendum #31 - Piling and burning for hazard reduction

The standard rules 14 CCR 937.2(a) and 937.5(b) state slash to be treated by piling and burning shall be treated no later than April 1 of the year following creation, or within 30 days following climatic access, or as justified in the plan. The piles and concentrations shall be burned at a safe time during the first wet fall or winter weather or other safe period following piling and according to laws and regulations.

An alternative to the standard rule is proposed to allow treatment of landing slash accumulations that result from the use of chipping and/or de-limbing equipment created after September 1 of each year. This material may be burned the following fall when safe burning conditions occur. This alternative practice shall be applied over the entire THP area.

This practice differs from the standard practice in that piles will remain in place over the spring and summer and will be treated in the fall, rather than in the winter or early spring following their creation.

This alternative will provide equal or greater hazard reduction. Slash will be concentrated in the landings so that it is no longer a fuel component of the forested stands. There will be protective space around the piles as specified in Section II, Item 31. Also, there have been several incidents of burnt piles rekindling and even escaping following spring burning in this general region. Allowing fall burning of these piles will assure better consumption of the material and a cooling off period through the winter months.

All other provisions of 14 CCR 937.5 will be complied with. Piles will be constructed so that they are sufficiently free of soil for effective burning. These piles will be burned at a safe time during wet fall or winter weather according to other applicable laws and regulations. Piles that fail to burn sufficiently to remove the fire hazard shall be further treated to eliminate the hazard. All necessary precautions shall be taken to confine such burning to the piles.

Although some scorching of surrounding trees may occur, the extent of this damage will not result in conditions that do not meet the silvicultural and stocking requirements of this THP. No excessive buildup of bark beetle populations is expected to occur as a result of this proposed alternative.

Plan addendum #33 - Snag Falling / Hazard Reduction

Felling of snags for hazard reduction within 100 feet of all public roads, seasonal roads, and landings will not result in the loss of habitat elements associated with late seral stage timber stands. There are standing dead trees in later stages of decay throughout the THP. All snags with visible nesting sites of eagles, hawks, owls, waterfowl, or any rare or endangered species will be left standing as prescribed under 14 CCR 939.1 and 939.2(d). Special attention will be focused on retaining snags within WLPZs that may be recruited as large woody debris (LWD).

DEMONSTRATIONS AND EXPERIMENTS

According to statute and Board policy, the purpose of the state forest program is to investigate and demonstrate the economic feasibility of artificial reforestation and the productive and economic possibilities of forest management practices which are designed to promote continuous forest production, with due regard to conservation of soil, watershed, scenic, wildlife, and recreational values. PRC 4645 authorizes the Department of Forestry and Fire Protection to manage State Forests and states, "The department, in accordance with plans approved by the board, may engage in the management, protection, and reforestation of state forests." The primary current use of state forests is to demonstrate economical silvicultural practices and timber harvesting procedures that protect environmental values.

State forests have been established to furnish land for needed investigation, demonstrations, and education in such things as the economic feasibility of artificial reforestation, good forest practices, maintenance of forest land in a productive condition, study of effects of improved cutting methods, proper management and harvesting methods, and economical forest management.

The following demonstrations are associated with this timber harvesting plan:

1. Continuous Forest Production and economical silvicultural practices.

   Timber harvesting and forest production has occurred on LDSF since 1952. Approximately 150 million board feet of timber has been harvested from the Forest. Since the Forest's establishment, the estimated standing volume of timber has increased from 102 million board feet to 197 million board feet (based on TAI inventory conducted from 1994-2001). This harvest will continue to demonstrate forest production to achieve maximum sustained production of high quality forest products while giving consideration to other values relating to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment.

2. Demonstration of the Board approved Variable Retention Silviculture.

3. Evaluation of yarding systems in selection silvicultural systems

   An on going demonstration project is being conducted by LDSF Staff. Three yarding systems, (tractor, cable and helicopter) are being evaluated in harvesting forest stands utilizing selection silviculture. Costs, feasibility, and residual stand damage are evaluated to determine applicability for the small forest landowner.

4. Avian use of pre and post harvested timber stands

   LSDF staff in cooperation with the DFG is doing a comparative evaluation of avian species use of timber stands and brush fields. Additionally within the study, a comparison of pre and post harvest avian use is being evaluated by silvicultural treatment.

SECTION IV

CUMMULATIVE IMPACTS

STATE OF CALIFORNIA
BOARD OF FORESTRY
CUMULATIVE IMPACTS ASSESSMENT

(1) Do the assessment area(s) of resources that may be affected by the proposed project contain any past, present, or reasonably foreseeable probable future projects? ☒ Yes ☐ No
If the answer is yes, identify the project(s) and the effected resource subject(s).

(2) Are there any continuing, significant adverse impacts from past land use activities that may add to the impacts of the proposed project? ☐ Yes ☒ No
If the answer is yes, identify the activities, describing their location, impacts, and the affected resource subject(s).

(3) Will the proposed project, as presented, in combination with the past, present, or reasonably foreseeable probable future projects identified in items (1) and (2) above, have a reasonable potential to cause or add to significant cumulative impacts in any of the following resource subjects?

Impact Assessment	Yes After Mitigation (a)	No After Mitigation (b)	No Reasonably Potential Significant Effects (c)
1. Watershed			X
2. Soil Productivity			X
3. Biological			X
4. Recreation			X
5. Visual			X
6. Traffic			X
7. Other			

a. Yes, means that potential significant adverse cumulative impact are left after application of the forest practice rules and mitigations or alternatives proposed by the plan submitter.
b. No after mitigation means that any potential for the proposed timber operation to cause or add to significant adverse cumulative impacts by itself or in combination with other projects has been reduced to insignificance or avoided by mitigation measures or alternatives proposed in the THP and application of the forest practice rules.
c. No reasonably potential significant cumulative effects means that the operations proposed under the THP do not have a reasonable potential to join with the impacts of any other project to cause, add to, or constitute significant adverse cumulative impacts.

(4) If column (a) is checked in (3) above, describe why the expected impacts cannot be feasibly mitigated or avoided and what mitigation measures or alternatives were considered to reach this determination. If column (b) is checked in (3) above describe what mitigation measures have been selected which will substantially reduce or avoid reasonably potential cumulative impacts except for those mitigation measures or alternatives mandated by the application of the rules of the Board of Forestry.
(5) Provide a brief description of the assessment area used for each resource subject.
(6) List and briefly describe the individuals, organizations, and records consulted in the assessment of cumulative impacts for each resource subject. Records of the information used in the assessment shall be provided to the Director upon request.

Past and Future Activities

The assessment area for past and future activities consists of the Huckleberry (5507.320102) and Beal (5507.310103) Cal Water Planning Watersheds, version 2.2

For assessment purposes, the following is a table of past projects that have been approved within the Huckleberry and Beal planning watersheds. The data was obtained from the CAL FIRE Cumulative Effects Database. Due to the limitations of the CDF database the acres listed below tend to be over estimates. If part of a THP is within the assessment area, then all of the acres of the THP are included in the database, unless noted otherwise.

Timber Harvest Plans in the Assessment Area

THP Number	yarding method	status	Acres by Prescription										
			NT	FB	AP	R/W	CC	SWR	SEL	SS	CT	GSEL	Total
2-99-222	tractor/skidder	completed			198		99	22		86			405
2-02-033	tractor/skidder	completed					31						31
2-02-225	tractor/skidder	completed			70	3	44					557	674
2-03-172	tractor/skidder	completed							458				458
2-04-177	tractor/skidder	active		40					1133		11		1184
2-05-111	tractor/skidder	active				2	213		10				225
2-05-149	tractor/skidder	active	39	14					95	200		1914	2262
2-06-129	tractor/skidder	active			344	2							346
2-06-138	tractor/skidder	active			167		239						406
2-98-239	tractor/skidder	completed									527	329	856
2-99-253	tractor/skidder	completed					5	83				368	456
2-01-037	tractor/skidder	completed				1			300	50	1025		1376
2-03-188	tractor/skidder	completed		57			485	2			237		781
2-03-050	tractor/skidder	completed							1185				1185
2-02-214	tractor/skidder	completed	13	112			494	54	3		410		1086
2-02-187	cable, tractor/skidder	completed						344				1288	1632
2-01-161	tractor/skidder	completed									50	611	661
2-08-071	tractor/skidder	active				2		7				341	350
2-09-064	tractor/skidder	review				6	266		12				284
2-09-063	tractor/skidder	review							1768	64			1832
2-09-059	tractor/skidder	review	15			1			320	101			437
*SCH # 2008062009		active	9,033 acre LDSF management Plan										
**Total Acreage			67	223	779	17	1,876	512	5,284	501	2,260	5,408	16,927
**Percent of Assessment Area			0.39%	1.31%	4.6%	0.1%	11.08 %	3.02%	31.21%	2.96%	13.35 %	31.94%	69.28%

CC	Clear Cut	SEL	Selection
SWS	Shelterwood Seed	SS	Sanitation-Salvage
SWP	Shelterwood Prep	CT	Commercial Thinning
SWR	Shelterwood Removal	Trans	Transition Method
STS	Seed Tree Seed	Rehab	Rehabilitation of Understocked Area
STR	Seed Tree Removal	GSEL	Group Selection
R/W	Right of Way	NT	Non Timberland

* This is a CEQA compliant Mitigated Negative Declaration of LaTour Demonstration State Forest's Management Plan 2008.

** Acres and percentages shown within these tables may be increased are over actual acres harvested within the assessment area. Due to the limitations of CAL FIREs' database, if portion of a THP is within the assessment area, then all the acres of the THP are included in the data base.

Based on the CAL FIRE Database Check 16,927 acres (69%) of the assessment area has been harvested or planned for harvest. Of the total area harvested, 3184 acres (18% of the assessment area) were treated with evenaged silviculture methods. The majority of the assessment area that was harvested was treated using unevenaged and intermediate silvicultural methods (13,743 acres). No long-term site impacts have resulted from the harvesting with in the assessment area.

Present projects

For the purpose of assessing present projects the entire THP area is being treated with selection and Variable Retention silviculture methods and there is three acres of meadow restoration. There are no other known California Environmental Quality Act projects currently proposed within the assessment area.

Future Projects

Future projects include the ongoing production and removal of high quality forest products through scheduled periodic harvesting on the commercial timberlands. LDSF will continue to manage the State's timberlands on periodic entries (18 year re-entry cycle) using predominantly un-evenaged silviculture. Within the next 5 years LDSF has 1 additional THP planned within the Beal watershed and one within the Huckleberry watershed. No increased impacts are expected to result from these ongoing forest management activities.

A. ASSESMENT AREAS

Watershed Resources

The watershed assessment area consists of the Beal and Huckleberry Cal Wat 2.2 watersheds and is shown on the attached Watershed Assessment Map. The THP boundary lies within the headwaters of both watersheds. The watersheds are third order watersheds and Cow Creek is tributary to the Sacramento River. This assessment area was chosen because the key cumulative impact issues, related to timber harvest, typically express themselves at the scale of planning watersheds or a subset of the planning watershed area.

Beal watershed (planning watershed 5507.310103) is the headwaters of South Cow Creek and drains a basin of 11,598 acres, of which 5,928 acres are contained within the boundaries of LDSF. Elevation ranges from 6,740 at LaTour Butte to 2,920 feet at the junction with Atkins Creek. Major tributaries include Beaver, Bullhock and Beal Creeks. South Cow is a third order stream before the junction with Atkins Creek (and fourth order below Atkins). There are approximately 9 miles of Class I watercourses along the main channel of South Cow Creek. Ownership in the lower elevations of the watershed is predominately private commercial timberlands

Huckleberry (planning watershed 5507.320102) includes the headwaters portion of Old Cow Creek and drains a basin of 12,836 acres, of which 1,452 acres are contained within the boundaries of LDSF. Elevation ranges from 7,064 (Huckleberry Mountain) to 4,520 feet about 1/4 mile below the junction with Hunt Creek. Old Cow Creek originates from Huckleberry Lake in the Lassen National Forest. Additional major tributaries include Huckleberry Creek, Peavine Gulch, and White Fawn Gulch. Old Cow Creek below Hunt Creek is a fourth order stream. There are about 7.5 miles of Class I watercourse along the main channel of Old Cow Creek.

Soil Productivity

The assessment area will be the boundary of the THP. This will be adequate to cover impacts from timber operations.

Biological Resources

The biological assessment area (BAA) coincides with the watershed assessment area. The BAA has high biodiversity based on the elevation range, and multiple types of vegetation and habitat. Rational for selection of the BAA is that the watershed assessment area serves as a distinct boundary for collecting and observing wildlife data. This area provides a large enough area adjacent to the THP to assess cumulative impacts to wildlife.

Recreational Resources

The assessment area for recreational resources will be the harvest area plus 300 feet from the plan boundary. This area is appropriate due to the limited recreational use the area receives.

Visual Resources

The visual assessment area is the plan area that is readily visible to significant numbers of people within 3 miles of the THP. This was selected due to the distance of the harvest area from communities and well traveled roads.

Vehicular Traffic Impacts

The assessment area includes the two main haul routes from the THP area.

a) Cutter Road to the Lassen National Forest Road A16, North to the Tamarack Rd (Shasta County Rd.)

b) Bateman Road from the harvest boundary to the end of the county road portion on the Bateman Road. The county road ends at the Atkins Creek watercourse crossing.

The extent of the assessment area was determined based on these routes are the most logical routes off the harvest area and the assessment area terminates at the first county road.

B. Watershed Impact Assessment

LDSF is located at the top of a range and is the headwaters for one major drainage, South Cow Creek and part of the headwaters of Old Cow Creek. Beal and Huckleberry watersheds are the headwaters of these two major drainages. Precipitation averages 46 inches a year with most of it as snow (74%) between November and March. Summer rainfall in the form of thunderstorms is unpredictable.

The harvest area lies within the Beal and Huckleberry watersheds. Tributaries to South Cow Creek, part of the Beal Watershed, are within the plan area although the WLPZ of South Cow Creek is outside the plan. Numerous skid trials and landings exist in the harvest area from past selection harvests. Slopes of the harvest area within the Beal Watershed are moderate with the average being approximately 25-30%.

Various portions of the plan area were initially harvested in the early 1960's. A second entry occurred in the 1980s, which covered most of the plan area. Past harvests used the selection silvicultural system.

South Cow Creek is a third order watercourse and a fourth order watercourse downstream of the junction of Atkins Creek. South Cow Creek is in good condition. South Cow Creek contains generally complex habitat with deep pools, riffles, and boulders forming step pools. The creek appears to have good channel conditions in the lower portion of the planning watershed and impacts from timber operations were not significant to those portions of South Cow Creek.

Further evaluation of the South Cow Creek and Old Cow Creek occurred in the summer of 2000 from the *LaTour Demonstration State Forest Watershed Monitoring Project,* Stream Channel and Fish Habitat Assessment prepared by the Sacramento Watersheds Action Group (SWAG) under contract with the Department of Forestry and Fire Protection. In this report South Cow Creek, Bullhock Creek and Old Cow Creek were assessed within the LDSF boundaries. The SWAG report assessed 16,579 feet of South Cow Creek, 15,376 feet of Bullhock creek and 7,380 feet of Old Cow Creek within the LDSF Boundaries. The report concluded 91% of S. Cow Creek was stabile with some instability noted at the upper reaches in a meadow. The report noted that 99% of Old Cow Creek was stabile with the first 300 feet of Old Cow Creek being rated as stability at risk. Banks were stabilized primarily by large cobbles, boulders, and riparian vegetation. By length habitat within these two creek is approximately 40% riffle, 40% flatwater and 20% pools. Bullhock creek lies entirely within the LDSF Boundary. The 4500-foot class I segment of this watercourse was also rated as being stabile and begins at its confluence with South Cow Creek. The channel is steep with the banks being stabilized with large boulders and diverse woody riparian vegetation. By length habitat is 36% riffles, 58% flatwater, and 6% pools. Bullhock Creek has a steep gradient and has evidence of supporting large flood events. The habitat within all three Class I watercourses are boulder dominated.

<u>Sediment Effects</u>

Sediment-induced cumulative watershed effects (CWE) occur when earth materials transported by surface or mass wasting erosion enter a stream or stream system at separate locations and are then combined at a downstream location to produce a change in water quality or channel condition. Sediment effects result from many factors such as weather, geology, soil erosion potential, road location, silviculture, vegetation retention, and heavy equipment operations adjacent to watercourses. Sedimentation has occurred to tributaries of the South

Cow Creek during the winter storms of 1997, when rain-on-snow events caused significant runoff resulting in culvert crossing failures and road fill washing into the drainage system.

The management of LDSF has a goal of reducing sedimentation to watercourses. The LDSF has developed and implemented a Road Management Plan (RMP) in compliance with the California Environmental Quality Act (CEQA) that will reduce erosion and sediment from the permanent road system. Implementation of the RMP involves systematic survey of the road system and all watercourse crossings.

Since 1999 over 10 miles of roads in the Beal Watershed have been treated to improve drainage and reduce erosion. This treatment has included outsloping and installing rolling dips on 5.5 miles of road that were previously insloped with an inside ditch. Where road surface runoff is a concern the traveled surface is rocked. At the headwaters of South Cow Creek, 0.5 miles of South Cow Creek road was abandoned and five crossings permanently removed. Watercourse crossings are evaluated as to their potential to fail or contribute sediment from improper installation. Twelve crossings have been replaced since 1999. All of these actions have or will reduce potential sediment inputs into the Beal Watershed. Approximately 1 mile of LDSF roads have been rocked within the Huckleberry watershed since the implementation of the RMP.

Water Temperature/Thermal Loading Effects

Water temperature related CWEs are changes in water chemistry or biological properties caused by the combination of solar warmed water from two or more locations (in contrast to an individual effect that results from impacts along a single stream segment) where natural cover has been removed. Due to the elevation of the plan area the two major factors that would affect water temperature are water source and canopy cover. The contribution of water from the plan area within both watersheds, during the summer months, is spring-fed watercourses from streams with gradients that result in high flow velocities. Stream reaches with low flow velocities and full solar exposure that would result in an increase in water temperature are uncommon on the LDSF within these watersheds. Past harvests have maintained canopy cover over watercourses. The SWAG report found that the Class I watercourses within the Beal and Huckleberry watersheds had an average of 69% canopy cover, measured with a solar pathfinder, within the LDSF boundaries. Ninety four (94) percent of this cover consisted of coniferous vegetation.

This THP will maintain streamside vegetation that will continue to shade watercourses from solar radiation and prevent water temperature increases.

Organic Debris/LWD Effects

Large woody debris can have both positive and negative effects on a watercourse. Large woody debris is an important stabilizing agent in steep gradient channels. The sudden introduction of large, unstable volumes of bigger debris (such as logs, chunks, and larger limbs produced during a logging operation) can obstruct and divert stream flow against erodible banks, block fish migration, and may cause debris torrents during periods of high flow. Removing streamside vegetation can reduce the natural, annual inputs of litter to the stream (after decomposition of logging-related litter). This can cause both a drop in food supply, and resultant productivity, and a change in types of food available for organisms.

Based upon the California Department of Fish and Game's *California Salmonid Stream Habitat Restoration Manual –Third Edition,* the SWAG study found that on average there were 22 pieces of large woody debris per 100 feet of watercourse segment in the Class I watercourses on the LDSF. Watercourse protection provided in the plan will continue to provide both LWD for streamside habitat and prevent the sudden introduction of debris from harvesting practices.

Chemical Contamination Effects

Sources of chemical contamination include run-off from roads treated with oil or other dust-retarding materials, direct application or run-off from pesticide treatments, contamination by equipment fuels and oils, and the introduction of nutrients released during slash burning.

The use of oil or dust retarding materials is not planned for this THP. Accidental contamination of equipment fuel

or oil is unlikely. Fuel is stored in an area where it cannot contaminate a watercourse if a leak occurs. Additionally, equipment shall be serviced outside the protection zone of watercourses.

The use, type and the timing of the herbicide shall be determined and recommended by a PCA and the application shall adhere to the PCA's recommendation, the herbicide label instructions, and the Mitigated Negative Declaration, State Clearing House (SCH) # 2008062009 for LDSF Management Plan 2008to DPR regulations, the PCA recommendation, the instructions on the herbicide label. The label is a comprehensive document about the herbicide, any associated hazards, active and inactive agents, and the proper use and handling of the herbicide. To speculate on potential impacts that could occur if the label, PCA recommendations, and DPR regulations are not followed is beyond the scope of this document.

No cumulative watershed effect, with regards to chemical contamination, is predicted for this THP.

Peak Flow Effects

Peak flow increases may result from management activities that reduce vegetative water use or produce openings where snow can accumulate (such as clear-cutting and site preparation) or that change the timing of flows by producing more efficient runoff routing (such as insloped roads).

The assessment area has experienced high peak flows from rain-on-snow events. These events, such as occurred in 1997, are unpredictable. The proposed silvicultural prescriptions will maintain vegetation over the plan area that will enhance infiltration of precipitation and maintain peak flows. Groups within the selection area will be less than 2.5 acres and will be planted to establish vegetation in the opening. There are no new roads planned for this timber harvesting plan that would reroute and concentrate runoff. As stated above for sediments effects, the drainage of existing roads is being improved through implementation of LaTour's Road Management Plan. The potential for this plan to increase peak flows is insignificant.

This harvest will have no impact on water temperature, organic debris, chemical contamination, or peak flow cumulative watershed effects. Sediments effects from road use and harvesting activities may occur but will be insignificant. No new road construction is planned nor will large openings be created. Nearly all tractor roads needed for this harvest exist. All watercourses and springs within and adjacent to the harvest area will be protected. Post harvest streamside vegetation will continue to provide filter strip properties and shading. Water drafting is proposed at four locations. Drafting locations will be rocked to prevent the introduction of sediment into the watercourse during drafting operations. Additionally the vehicles will be inspected to ensure chemical contaminants are not introduced into the watercourses. The silvicultural systems being applied should have no effect on peak flow. The vigorous residual stand will continue to maintain infiltration capacities and hold soil in place.

303(d) Listing

South Cow Creek is 303(d) listed based on the pollutant of Fecal Coliform. The possible sources of fecal coliform include agriculture, grazing related sources and others. Although LaTour may acquire an occasional lost cow on the property, it is not considered a highly desirable grazing area due to steep slopes, dense timber cover and minimal meadow grazing potential. In addition, weather conditions also attribute to the loss of grazing potential (moderate to heavy snow loads in the Winter and Spring). This THP does not propose cattle grazing, or the installation of septic tanks, nor will timber harvesting increase or decrease fecal coliform potential.

C. Soil Productivity Assessment

Windy - McCarthy sandy loam, with varying amounts of stones and rock, is only soil series within the harvest boundary. Windy - McCarthy soils are a complex of made up of Windy and McCarthy soils in equal proportions. These soils are stony to rocky sandy loams with a depth of up to 60 inches. The soils are well-drained with moderate to rapid permeability.

The primary factors influencing soil productivity to be assessed are:

1. Organic matter loss
2. Surface soil loss
3. Soil compaction
4. Growing space loss

Organic matter loss

The entire harvest area will be logged by tractor and disturbance of organic matter will occur. Throughout the harvest area there are many existing skid trails that will be utilized for this harvest. Few new skid trails will be constructed. When these skid trails are utilized organic matter will be displaced from them. To minimize disturbance, equipment will utilize designated skid trails and trees will be felled to these skid trails. Replacement of organic matter will occur through logging residue, tree tops and limbs that will be left behind after harvest and from natural needle fall. Existing skid trails not pertinent to the harvest will not be utilized.

Existing down woody material throughout the harvest area will remain. Retaining unmerchantable material in the harvest area will recruit woody material. In addition to providing wildlife habitat, leaving woody material will add organic matter to the forest floor. Increases of organic matter to the forest floor will also occur from the planned lop and scatter slash treatment throughout the entire plan area.

Surface soil loss

Surface soil loss will occur by displacement of soil from skid trail construction and log skidding. There are many existing skid trails from past harvests and the need to construct new ones is minimal. Only one new landing is planned. The loss of surface soil from construction will be slight. Surface soil loss from erosion will be nominal due to the silvicultural systems being applied, lack of road construction, and installation of waterbreaks on skid trails and landings after completion of use.

Soil Compaction

Soil compaction will occur from the tractor skidding operation. Compaction will be greatest on main skid trials. To reduce compaction over the harvest area and eliminate random wandering by equipment operators, main skid trails will be kept to the minimum needed to carry out the harvest. Skid trails will be designated prior to timber operations and equipment will be required to use designated trails, which will reduce the impact from compaction to the harvest area. Harvest activities will occur when soil moisture is low. When soils are saturated timber operations will be suspended. Timber operations will not occur during the winter period.

Growing Space Loss

Growing space loss from skid trail construction will occur, however, it will be minimal. All roads, landings, and skid trails are considered permanent. New skid trails are constructed so that they can be utilized in future harvests. The use of existing skid trails will be required. There may be a need for the construction of a few new skid trails for this harvest. All roads needed for this harvest exist and no new roads are planned.

D. Biological Assessment

Anadromy

There are no known anadromous salmonids identified within the biological assessment area. The Beal watershed is listed as a threatened and impaired for Chinook and Steelhead. No anadromous salmonids occur on LaTour nor are there historical records of observations in the Beal Creek Watershed. From information within the *Cow Creek Watershed Assessment* prepared by SHN Consulting Engineers & Geologists Inc. fall run Chinook have occurred in the lower reaches of South Cow Creek below Wagoner Canyon approximately 10 miles west of the Forest. Steelhead were reported at the crossing of South Cow Creek by Ponderosa Way, approximately 9.5 miles west of the plan boundary. Historical data indicates salmon

above Wagoner Canyon were scarce due to a natural barrier in the Canyon and a dam constructed across South Cow Creek by PG&E in 1908. The barrier was removed by blasting and a fish ladder was constructed at the dam in the 1970's by the Department of Fish and Game. However, local residents state there was no significant increase in the number of fish above the dam. The Cow Creek report suggests one of the key limiting factors is adequate stream flow to provide passage of adult fish. Water is diverted from South Cow Creek for irrigation and power use during critical passage periods.

No physical barriers exist on South Cow Creek upstream of the Ponderosa Way crossing, as such Steelhead could potentially migrate upstream. It is unlikely they occur within in Bullhock creek due to low flows during the summer and fall.

From dives performed in 2000 for the fish habitat assessment of the SWAG report, only rainbow trout were observed in South Cow Creek, Old Cow Creek and Bullhock Creek on the LDSF. There are no Class I watercourses on or adjacent to the THP.

Per 936.9(b) there will be no significant cumulative watershed effects on the populations and habitat of anadromous salmonids from implementation of this plan nor are any cumulative effects known. The Watershed assessment (section B) addresses sediment, thermal loading, large woody debris, and peak flow. Mitigation in the water drafting plan will prevent a take, if Steelhead are present in Atkins Creek. Harvesting activities along watercourses have been conservative in the past to provide good shade cover. With the implementation of the protection afforded the watercourses in the plan coupled with the requirements of the Forest Practice act and Board of Forestry rules there should be no adverse cumulative impact to aquatic species or habitat.

Scoping

The Natural Diversity Data Base (NDDB) was used as a scoping tool to check if any rare, threatened, endangered, or special concern species and/or their habitat are located on or surrounding the THP area. A nine quadrangle query was conducted, which included Jacks Backbone 7.5 minute quad, its surrounding eight quads. The following is a list of rare, threatened, endangered species, and/or their habitat that occurs within the THP area. There are no recorded occurrences of threatened or endangered species on LDSF.

Northern Goshawk. As discussed in Item #32 of the THP, the harvest area contains habitat for the Northern Goshawk. Protection measures are discussed in Section III of the plan. The silvicultural prescriptions proposed will have a very low impact on the Northern Goshawk's habitat requirements. The type of harvest being conducted may even improve forage habitat conditions for the goshawk where dense stands are opened.

Sierra Red Fox: The assessment area and the THP do contain the vegetation types considered habitat for the Sierra Red Fox. Observations of the red fox have occurred within the scoping area and primarily around Lassen Volcanic National Park. The closest observation to the THP is near Highway 44 and Scharch Meadow. LDSF staff has been conducting forest carnivore surveys the last three years and the Sierra Red Fox has not been detected. The project will maintain habitat for the Sierra Red Fox.

California Wolverine (State Threatened) : The California wolverine has been detected within the scoping area. The assessment area and the THP do contain the vegetation types that are considered habitat for the wolverine. LDSF staff has been conducting forest carnivore surveys the last three years and the wolverine has not been detected. The project will maintain habitat for the California Wolverine.

Pine Marten: The assessment area and the THP do contain habitat the Pine Marten. Pine Martin were detected on LDSF in a 1990 furbearer presence survey. The Pine Marten has been detected in the southeastern portions of the forest, within the assessment area, during the forest carnivore surveys being conducted by LDSF staff in 2005 and 2006 and 2007. The THP will maintain habitat for both the Pine Marten and the Pacific Fisher.

Pacific Fisher (State Canidate): LDSF contains habitats for the Pacific Fishers and it was detected in a 1990

furbearer presence survey. No subsequent detections have occurred. The elevation of the plan is generally considered above the range of the pacific fisher, but contains habitat for the Pacific Fisher. The plan will maintain habitat post harvest. Protection measures are discussed in Section III of the plan.

Nodding vanilla grass, *Hierochloe odorata* (CNPS 2.3): The assessment area and the THP have the general habitat types associated with the known occurrences of vanilla grass. Vanilla grass is located within wet meadows and seeps above 5400 feet in elevation. The THP provides protection for all meadows and seeps and the THP also restores potential habitat for vanilla grass.

Rayless mountain ragwort, *Packera indecora* (CNPS 2.2): Rayless mountain ragwort is located in meadows and seeps on mesic sites between 5200 and 6500 feet in elevation. The assessment area and the THP has the general habitat types associated with the known occurrences of Rayless mountain ragwort. The THP has potential habitat along the class II watercourses, meadows, springs and seeps. The THP provides protection for all meadows, seeps, and watercourses. The THP also restores potential habitat for Rayless mountain ragwort.

Scalloped moonwort, Botrychium crenulatum (CNPS 2.2): The assessment area and the THP have the general habitat types associated with the known occurrences of scalloped moonwort. Scalloped moonwort is located along moist meadows and near creeks of lower montane coniferous forests and freshwater marshes above 4500 feet in elevation. The THP provides protection for all meadows, seeps, and watercourses.

Long-stiped champion, *Silene occidentalis spp longistipitata* (CNPS 1B.2): CNPS identifies habitat as between 1000-2000 meters in Lower and Upper Montane coniferous forests and the NDDB add no further information. In the non published *Conservation Assessment and Strategy for Long-stiped Campion…,* a USFS Forest Service, Pacific southwest Region and Lassen National Forest document, the key habitat an biological parameters are: 1) occurs in openings of mid elevation mixed conifer forests as well as on ridgetops in black oak, 2) low canopy closure 3) survives in disturbed habitats and disturbance may be a important factor, 4) occurs in thin soils with clay and have various amounts of sand and rock. This document was provided to LaTour Demonstration State Forest from DFG. The THP does have the clay soils and is above the elevation range.

The following table shows additional species scoped by the CNDDB on Jan 30 2008, Feb 27 2008 & September 26 2009 that retain no habitat in the THP area.

Scientific Name	Common Name	Status	CNPS List	Comments
Fritillaria eastwoodiae	Butte County fritillary	None	3.2	THP is above elevation
Cryptantha crinita	silky cryptantha	None	1B.2	THP is above elevation
Potentilla newberryi	Newberry's cinquefoil	None	2.3	Marshes and swamps
Potamogeton praelongus	White-stemmed pondweed	None	2.3	Marshes and swamps
Asplenium septentrionale	Northern Spleenwort	none	2.3	Granite like outcrops
Smelowskia ovalis var congesta	Lassen Peak smelowskia	None	1B.2	Alpine bolder and rock field
Silene suksdorfii	Cascade alpine campion	None	2.3	Alpine bolder and rock field
Astragalus pulsiferea var suksdorfii	Suksdorf's milk-vetch	None	1B.2	Lower Montane Coniferous
Collomia larsenii	Talus collomia	None	2.2	Loose volcanic material
Botrychium virginianum	Rattlesnake fern	None	2.2	THP is above elevation
Hulsea nana	Little hulsea	None	2.3	Rocky or gravely volcanic Sub-Alpine forests
Eriogonum pyrolifolium	Pyrola-leaved buckwheat	None	2.3	Alpine bolder and rock field
Juncus digitatus	Finger ruch	None	1B.1	THP is above elevation
Calochortus longebarbatus var longebarbatus	Long haired star tulip	None	1B.2	Heavy clay soils
Cryptantha crinita	Silky cryptantha	None	1B.2	THP is above elevation
Stachys palustris ssp. Pilosa	Hairy marsh hedge-nettle	None	2.3	THP is above elevation
Rana boylii	Foothill yellow-legged	Special	N/A	THP is above elevation, outside range
Pandion haliaetus	Osprey	Special	N/A	No good fish producing body of water
Haliaeetus leucocephalus	Bald eagle	Endanger	N/A	No good body of water near
Falco peregrinus anatum	American peregrine falcon	Endanger	N/A	No habitat for nesting
Oncorhynchus tshawytscha	Spring run Chinook salmon	Threat	N/A	No occurrences in watershed.

There are numerous other wildlife species that exist on LDSF, including the THP, that are not listed as threatened, rare, of endangered. The South Cow Creek deer herd uses LDSF as summer range and fawning area. In the past, certain designated brush fields have been burned to improve forage habitat for the deer. There are other brush fields that may be burned in the future.

Habitat types

The forest inventory on LDSF indicates there are 7130 acres of merchantable sized timber stands and 677 acres of plantation (1978 Whitmore burn). The remainder of the Forest is brush, rocky areas, meadows, and open areas with scattered trees

Timber types and WHR habitat types for LDSF have been determined through aerial photo interpretation, vegetation inventory, and the use of a database program written by the Forest Staff which determines WHR types from forest inventory data. Plot data from the inventory represents a 2.5-acre area and the WHR type was determined for each plot. Within the plan area the tree size classes ranged from 3 to 5 and with a range of canopy closure from open to dense. The predominant WHR types were Sierra Mixed Conifer and White Fir 4D and 4M. WHR 5M, 5D exist in the plan area. However, these stands are scattered and do not have the continuity to qualify as late succession forest stands per rule definition. The desired forest structure on LDSF is described within *LDSF 2008 Management Plan*, "The overall goal is to maintain LDSF as a mid-seral forest type characteristic of the southern Cascades. Early and late seral stands will be represented but overall the Forest will maintain the characteristics of a mid-seral forest. This goal is not discretionary, but rather follows directly from the research and demonstration mandate for LDSF. Rather than a park or reserve, the legislated mandate for the Forest is that of a working forest property for demonstration and research purposes, serving a clientele of small to medium size land owners.

In order to remain relevant as a research forest, LDSF aims to create and maintain a wide range of forest types, ages, size classes, successional stages and structural characteristics. It is going to be very difficult to maintain pure stands of each of these characteristics on a Forest the size of LDSF. As a result, LDSF's approach will be to incorporate a continuum of types, age classes, successional stages and structures mixed within stands across the Forest as far as possible."

Snags and large down woody material are present on the THP and within the assessment area. Additional recruitment of snags and downed woody material will be accomplished through the retention of green cull trees and unmerchantable material in the forest stands.

Hardwoods

Hardwoods are not a large component of the stands on the LDSF, which is true for the THP area. The THP is located above 5400 feet in elevation, which is generally above the upper elevation limit at which oaks grow. Harvesting of oaks will not occur within the THP area.

Road density

Road density, which can have a potential effect on wildlife, are moderate on LDSF and within the assessment area. The average density per section is 4 to 5 miles of seasonal and rocked seasonal roads on LDSF. Although accessible to the public, these roads receive little traffic most of the year. There is no new road construction proposed within the THP.

E. RECREATIONAL ASSESSMENT

The recreational activities that normally occur in the recreational assessment area is deer hunting, camping, fishing, snowmobile riding, and site seeing. Mountain bike riders occasionally use the forest but are rare and infrequent. Additionally, the forest is used by the public for fuelwood cutting. The rock pit harvest unit is will occur along the main forest access road, Bateman Road. The road may be blocked to traffic for short periods of time during active timber operations. A sign will be posted on the Bateman road at the west entrance to the LDSF to warn the public of logging activities in the area and the Licensed Timber Operator will be advised to watch for recreationists and to allow thru traffic on Bateman Road.

The primary use within the recreational assessment area is deer hunting. Impact to hunting may occur during any year the THP is operated since, for safety reasons, no hunting will be permitted in the vicinity of timber operations

An agreement exists with the Lassen National Forest to allow the grooming of approximately 30 miles of Forest roads during the winter for snowmobile use. This recreational activity will not be adversely affected by timber operations.

F. VISUAL RESOURCE ASSESSMENT

This timber harvest cannot be seen by significant numbers of people since the harvest area is not visible from any well-traveled roads or communities. The closest paved public road is the paved section of Bateman Road, 11 miles to the west of the LDSF boundary. Adjacent ownerships are accustomed to timber production, however, one home is approximately 1/4 mile west of LDSF boundary. The harvest area cannot be viewed from the home, however, logging traffic will likely travel by the home enroute to/from Redding. There will be no adverse effect on the visual resource. The prescribed silviculture will not adversely change the visual aspect of the assessment area. The greatest visual impact will be from within the stand after harvest.

G. VEHICULAR TRAFFIC IMPACTS

Forest products from the harvest area will be hauled out over two potential routes. This will cause a slight increase in vehicular traffic.

a. Cutter Road and the Lassen National Forest Road A 16

This road network has a gravel surface with permanent culverts at watercourse crossings. Those portions of the road network which are not graveled have high coarse fragment contents in the native soil; these roads will not be used when soils are saturated. These roads will only be used during the non-winter months and a maintenance agreement and permit will be obtained prior to use for all private or federally owned roads. These roads will be graded as needed and watered during the operation (if used for log hauling).

b. Bateman Road.

This haul route will result in traveling down the Bateman Road. The Bateman Road is a private road and is graveled from Atkins Creek (end of the county road) to the harvest boundary. The one homeowner on the graveled portion of the road has posted 10 MPH signs near his home. The LTO will be advised to comply with the 10 MPH limit when passing by the home. The primary use of the road is from logging operations, recreation and access to the residence. Eleven miles of dirt and gravel roads will be used following this route. Bateman road will be graded as needed and watered during the operation (if used for log hauling).

Since the main use of these haul routes is logging traffic the impact to people who use them on a regular basis will be almost non-existent. The greatest impact from the increase in traffic will be on recreationists using these roads. Since weekend operations are not planned the impact will be minor.

H. OTHER

Climate Change and Forestry Practice

This THP complies with LDSF approved Management Plan, Mitigated Negative Declaration and Option A analysis. The following information is part of LDSF Mitigated Negative Declaration for LaTour Demonstration State Forest (SCH#2008062009) and the LDSF Management Plan:

In 2007 the State of California passed the Global Warming Solutions Act (AB 32), which set targets to reduce greenhouse gas emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. The California Air Resources Board was tasked with obtaining compliance with the cap through regulatory and market approaches. Planning is currently underway and definitive decisions by the Board have not yet been taken, however, it appears that forests will play a significant role in non-regulated strategies to meet targets. This is anticipated to occur both as offsets within a cap and trade system and through voluntary measures.

Recognized strategies to mitigate GHG emissions and enhance terrestrial sequestration include reforestation, forest management and fuels treatments to avoid catastrophic losses. LDSF will contribute to the targets of AB32 by increasing the resiliency of the Forest to catastrophic mortality by improving the general health of stands, pre-fire implementation of a shaded fuel break and maintenance of firefighting infrastructure such as roads, signage and water sources. The long-term carbon stocks of the Forest are anticipated to increase over time. For example, the Option A Plan indicates that the timber inventory on the Forest will increase from about 22.7 MBF per acre in 2005 to 34.4 MBF per acre in 2105.

Forest products produced from LDSF will sequester carbon during their life cycle. Biomass fuels produced on the Forest also provide an opportunity to replace fossil fuels with an alternative energy source that is close to carbon neutral.

This analysis evaluates whether climate change and greenhouse gas (GHG) issues related to management of LDSF have the potential to be a significant environmental effect, either on a project basis or cumulatively. Table 2 summarizes estimated net carbon dioxide sequestration levels under proposed management at LDSF over a 100-year planning interval1.The analysis shows substantial positive carbon sequestration benefits. Proposed management at LDSF will sequester a net CO2 equivalent of 3,773,000 tons of carbon at the end of 100 years.

Table 2. Estimated carbon sequestration at LDSF over the next 100 years.

1	2	3	4	5	6	7
Current standing inventory	CO2 stored in current standing timber[2]	Standing inventory at end of 100-year planning interval	CO2 stored in standing timber at end of 100-year planning interval	Total harvest over 100-year planning interval	Total CO2 sequestered in forest products at end of 100-year planning interval	Total net CO2 sequestered at end of 100-year planning interval (4-2+6)
MBF*	M* tons	MBF	M tons	MBF	M tons	M tons
196,931	1,575	308,096	2,465	360,460	2,884	3,773

* MBF is thousand board feet and M is thousand.

[2] A conversion factor of 8.0 was used to convert thousand board feet to tons of CO2 including soil root biomass, duff, litter, canopy and non-bole tree parts (Smith et al, 2002, GTR NE-298).
[2] A 100-year look-ahead period is necessary in forested ecosystems, where trees can take more than 50 years to reach maturity. The 100-year planning interval allows a minimum period necessary to evaluate long-term steady-state behavior of forested ecosystem while not exceeding the range of applicability of mathematical simulation models.

Accounting for emissions from the Forest includes vehicles and buildings used by the Department that are associated with management. It also includes emissions from harvesting and manufacturing. We chose to do the downstream accounting. This will be the most conservative accounting approach because we are not including the negative substitution effect that occurs when alternative higher-GHG-impact building materials such as steel and concrete are used instead of wood products. Emissions from vehicles and buildings are estimated as follows:

Vehicles: 0.02 thousand (M) tons per year x 100-year planning horizon = 2 M tons

Building: 0.00003 M tons per year x 100-year planning horizon = 0.003 M tons

This is a total of 2.003 M tons for the 100-year planning horizon.

Harvesting emissions include in-woods emissions from equipment and vehicles and transportation to a mill. Mill emissions estimates from processing are included because long-term storage of wood products is included in the analysis. Mill emissions include sawing, drying, energy generation, and planing. Also, transport to final destination is included. The entire life cycle for green-dried lumber is included (Puettmann and Wilson 2005). This results in a total emission estimate of 0.13 metric tons CO2 equivalent per thousand board feet (MBF).

Given the total harvest of 360,460 MBF over the 100-year planning horizon in table 1, this equates to 46,859 tons of CO2 equivalent from harvesting emissions. Including vehicle and building emissions, the total GHG emissions estimate for LDSF is 46,861 tons of CO2 equivalents.

These emissions including full life-cycle of wood, vehicle, and building emissions, represent 1.24 percent of the total carbon sequestered (column 7 in Table 2), The conclusion from the above analysis is that there is a substantial positive carbon sequestration benefit and a net negative emission of GHGs at LDSF under the guidance of the Project. Orders of magnitude more biomass is being conserved than is being harvested. In other words, the management plan proposes to harvest less biomass (and to emit less CO2) than growth.

Climate change science is still in its infancy. There are likely wide error bars around the above estimates, given the general level of the analysis and the relatively new estimation equations in the literature. The result that positive sequestration benefits exceed emissions by orders of magnitude however, lends validity to the general conclusion that sequestration will be much greater than emissions. Our conclusion is also supported by estimates from the Air Resources Board, which indicate that forest land use in California results in a net decrease in atmospheric carbon, not an increase (http://www.arb.ca.gov/cc/inventory/data/tables/net_co2_flux_2007-11-19.pdf).

Since the net amount of carbon that would be sequestered under the Project is greatly higher than the amount of carbon that will be released by LDSF management activities, there are no potential significant adverse environmental impacts, single or cumulative. In fact, significant beneficial impacts of net carbon sequestration will occur.

I. CONCLUSION

This harvest will not have any significant cumulative impacts to the resources.

J. REFERENCE MATERIAL

PERSONS

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LITERATURE AND MODELS

California Wildlife Habitat Relationship SystemVersion 7.0
Cow Creek Watershed Assessment, prepared by SHN Consulting Engineers & Geologist, Inc.
LaTour Demonstration State Forest Watershed Monitoring Project, Stream Channel and Fish Habitat Assessment, Final Report, prepared by Sacramento Watershed Action Group.
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Aerial Photographs - Latour Demonstration State Forest
LaTour Demonstration State Forest Option A
LaTour Demonstration State Forest Management Plan 2008
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ESTIMATED SURFACE SOIL EROSION HAZARD
RM-87 (4/84)

STATE OF CALIFORNIA
BOARD OF FORESTRY

I. SOIL FACTORS

				FACTOR RATING BY AREA		
A. SOIL TEXTURE	Fine	Medium	Coarse	A	B	C
1. DETACHABILITY	Low	Moderate	High			
Rating	1-9	10-18	19-30	23	23	23
2. PERMEABILITY	Slow	Moderate	Rapid			
Rating	5-4	3-2	1	1	1	1

A – Windy/McCarthy > 30% slope

B – Windy/McCarthy < 30% slope

C – Variable Retention Unit

B. DEPTH TO RESTRICTIVE LAYER OR BEDROCK

	Shallow	Moderate	Deep			
	1"-19"	20"-39"	40"-60 (+)			
Rating	10-6	5-3	3-1	2	2	2

C. PERCENT SURFACE COARSE FRAGMENTS GREATER THAN 2 MM IN SIZE INCLUDING ROCKS OR STONES cx

							FACTOR RATING		
	Low	Moderate	High						
	(-)10-39%	40-70%	71-100%				BY AREA		
Rating	10-6	5-3	2-1	5	4	3	A	B	C
						SUBTOTAL ⇨	**31**	**30**	**29**

II. SLOPE FACTOR

Slope	5-15%	16-30%	31-40%	41-50%	51-70%	71-80%(+)			
Rating	1-3	4-6	7-10	11-15	16-25	26-35	12	3	4

III. PROTECTIVE VEGETATIVE COVER REMAINING AFTER DISTURBANCE

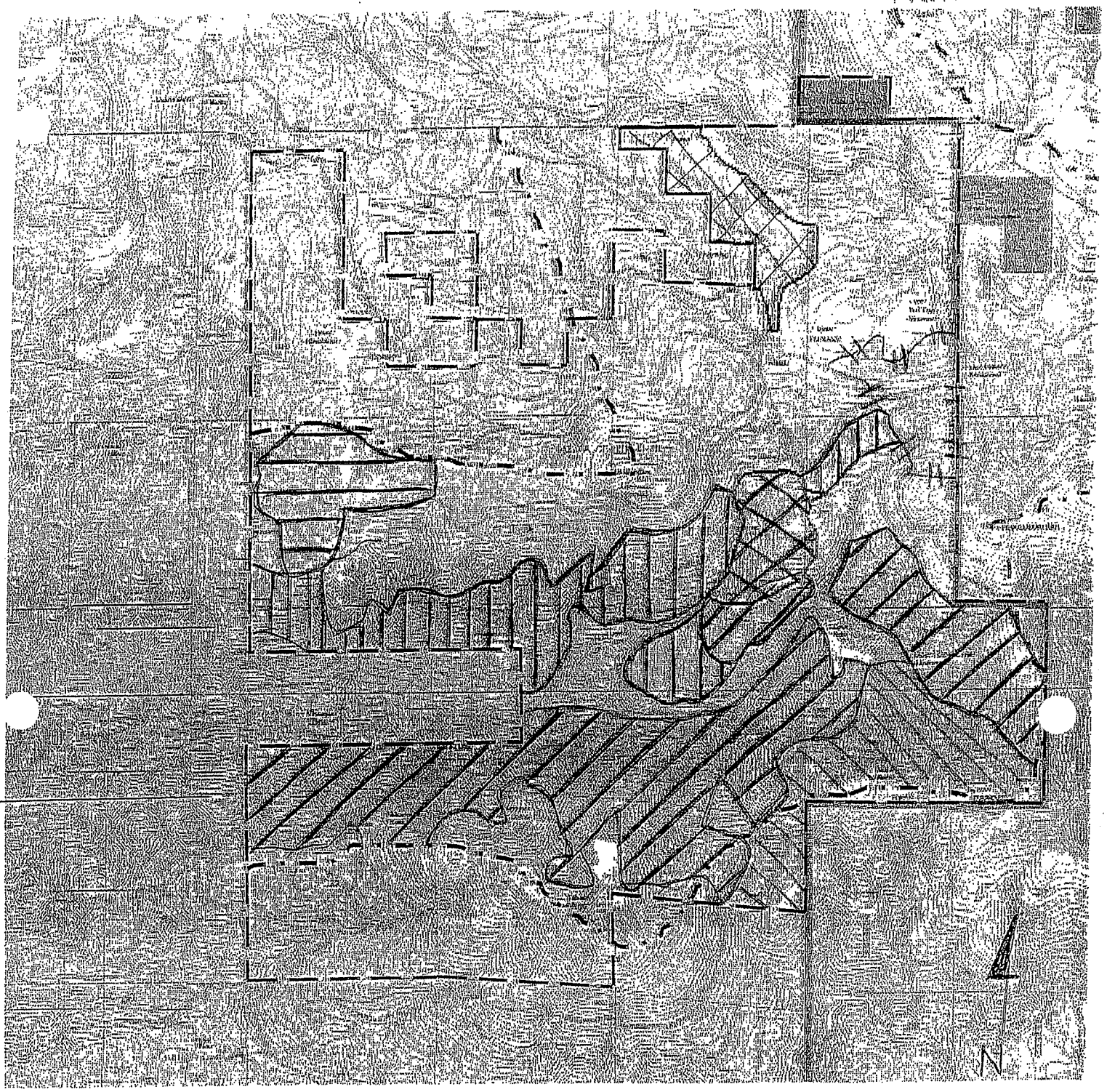
	Low	Moderate	High			
	0-40%	41-80%	81-100%	3	3	8
Rating	15-8	7-4	3-1			

IV. TWO-YEAR, ONE-HOUR RAINFALL INTENSITY (Hundredths Inch)

	Low	Moderate	High	Extreme			
	(-) 30-39	40-59	60-69	70-80 (+)	12	12	12
Rating	1-3	4-7	8-11	12-15			
				TOTAL SUM OF FACTORS ⇨	**58**	**48**	**53**

EROSION HAZARD RATING

	<50	50-65	66-75	>75			
	LOW (L)	MODERATE (M)	HIGH (H)	EXTREME (E)	**M**	**L**	**M**
				ETERMINATION IS ⇨			



AB 47 Cumulative Map

THP Boundary

LDSF Boundary

Watershed Assessment Area

THP 02-187

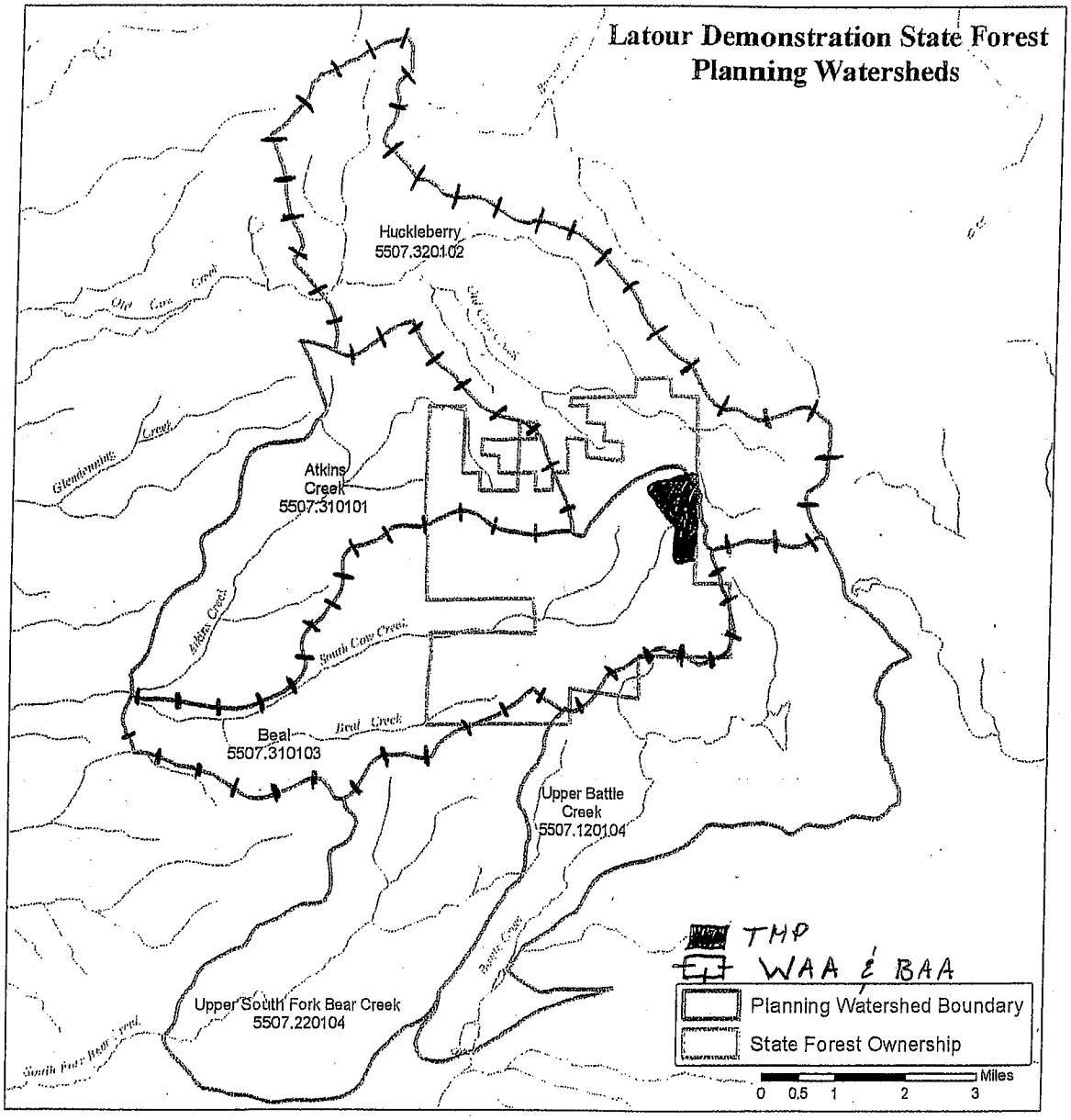
THP 01-161

THP 99-253

THP 09-059

THP 08-071

Scale: 1 mile


Latour Demonstration State Forest
Planning Watersheds
Huckleberry
5507.320102
Atkins
Creek
5507.310101
Beal
5507.310103
Upper Battle
Creek
5507.120104
Upper South Fork Bear Creek
5507.220104
Glendenning Creek
Atkins Creek
South Cow Creek
Beal Creek
THP
WAA & BAA
Planning Watershed Boundary
State Forest Ownership
Miles
0 0.5 1 2 3

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REDDING, CA 96001-
(530) 225-2508
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October 5, 2009

Pete Johnson
C/O W.M. Beaty and Associates
Brooks Walker et. al.
Post Office Box 990898
Redding, CA 96099-0898

Dear Pete:

As we discussed, W.M. Beaty and Associates will be included as a timberland owner on LaTour Demonstration State Forests' "Rim Road" timber harvesting plan. The inclusion of W.M. Beaty and Associates is for water drafting at one location along Bateman Road at Atkins Creek in the Brooks Walker ownership. Water drafting are considered timber operations per Public Resources Code 4527 and as such all timberland owners must be included in the plan.

Per Public Resources Code 4582, if the person filing the plan is not the owner of the timberland, the plan submitter shall notify the timberland owner by certified mail that the plan has been submitted and shall certify that mailing to the Department.

As the Plan Submitter, I am informing you of your responsibilities as the timberland owner. Post harvest stocking and erosion control maintenance is the responsibility of the timberland owner. LaTour Demonstration State Forest will assume erosion control maintenance responsibility for the water drafting location following timber operations. Stocking will not be an issue. The Department of Fore
of-way agreement for the use of Bateman Road. This
to maintain the road in good condition.

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Sent To Pete Johnson W.M. Beaty & Assoc. Brooks Walker et al
Street, Apt. No.; or PO Box No. POBOX 990898

All water drafting operations performed under this THP on property managed W.M. Beaty and Associates will conform to the Forest Practice act and Board of Forestry rules and your Master Streambed Alteration Agreement with the Department of Fish and Game.

Thank you for your time.

Sincerely,

BENJAMIN ROWE
Forester I, RPF #2686
Assistant Forest Manager
LaTour Demonstration State Forest

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
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REDDING, CA 96001-
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October 5, 2009

Carl J. and Jo Ann Davis
P.O. Box 142
Whitmore, CA 96069

Dear Jack and Jo:

As part of LaTour's next timber harvesting plan that I am preparing, the licensed timber operator will once again, as many years in the past, be using Roaring Springs as a drafting location to maintain Bateman Road. The use of Roaring Springs is required for both dust abatement and maintaining the roads surface in a stable condition. The Forest Practice rules require you to be included as a timberland owner on LaTour Demonstration State Forests' "Rim Road" timber harvesting plan. Your inclusion as a timberland owner assumes no responsibility for timber operations on your part and is for water drafting only at Roaring Springs along Bateman Road. Water drafting is considered timber operations per Public Resources Code 4527 and as such all timberland owners where water drafting will occur must be included in the plan.

Per Public Resources Code 4582, if the person filing the plan is not the owner of the timberland, the plan submitter shall notify the timberland owner by certified mail that the plan has been submitted and shall certify that mailing to the Department.

As the Registered Professional Forester preparing the plan I am required to inform you of your responsibilities as the timberland owner. The De
Protection has a right-of-way agreement for the use o
requires the Department to maintain the road in good
will assume the erosion control maintenance for the u
under this THP.

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Sent To: Carl J. & JoAnn Davis
Street, Apt. No.; or PO Box No. PO Box 142

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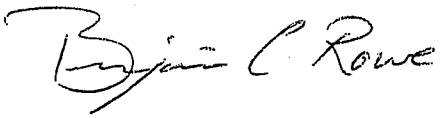
All water drafting operations performed under this THP on your property will conform to the Forest Practice act and Board of Forestry rules. Note that the Department of Forestry and Fire Protection has adjudicated water rights to Roaring Springs under the Cow Creek Adjudication Decree No. 38577 of the Superior Court for Shasta County.

Thank you very much.

Sincerely,



BENJAMIN ROWE
Forester I, RPF #2686
Assistant Forest Manager
LaTour Demonstration State Forest