Siskiyou County
Planning Commission Staff Report
February 18, 2026

Agenda Item Number 1
Shasta Cascades Zone Change (Z-24-04)

Applicant:
John Vona
FWS Forestry Services California, LLC
1910 Market Street, Suite C
Redding, CA 96001

Property Owner:
Shasta Cascades Timberlands, LLC
315 Montgomery Street, Suite 1003
San Francisco, CA 94104

Project Summary
The project is a proposed zone change affecting approximately 160 acres of forested land owned by Shasta Cascades Timberlands, LLC, from Non-Prime Agricultural District, 40-acre minimum (AG-2-B-40) to the Timberland Production Zone (TPZ). The requested zone change is intended to align the zoning designation with the existing and long-term use of the property for commercial timber management.

Location:
The project site is located off Schulmeyer Gulch Road, south of the city of Yreka, on APN 014-350-050; Township 44N, Range 7W, Section 28 M.D.M; Latitude 41.631°, Longitude -122.655°.

General Plan:
The project site is subject to mapped General Plan resource overlays, including Erosion Hazard; Severe Septic Tank Limitations; Slope; Critical Deer Wintering Area; and Wildfire Hazard.

Zoning:
Non-Prime Agricultural, 40-acre minimum parcel size (AG-2-B-40)

Exhibits:

A. Resolution PC 2026-003
   A Resolution of the Planning Commission of the County of Siskiyou, State of California, Recommending that the Board of Supervisors Determine the Project Exempt from the California Environmental Quality Act and Approve the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04)
   - A-1. Recommended Findings
   - A-2. Notations and Recommended Conditions of Approval

B. Comments Received
C. Specific Forest Management Plan (November 11, 2025)
D. General Forest Management Plan (2021; Edits March 2023)
E. RPF Certification of List C Conformance
F. Resolution Adopting Criteria for “List C” Timber Preserve Zoning (April 11, 1978)

Background

Current and Historical Conditions

In 2018, the subject parcel, consisting of approximately 160 acres of forested land was acquired by Shasta Cascades Timberlands, LLC from the Roseburg Resources Company and was subject to Williamson Act Contract No. 72005.

Upon transfer of ownership, continuation of Williamson Act status requires execution of a new contract by the successor owner. Shasta Cascades Timberlands, LLC elected not to enter into a replacement contract, and the Board of Supervisors subsequently approved issuance of a Notice of Non-Renewal for Contract No. 72005.

Prior to expiration of the existing Williamson Act contract, the applicant proposes to rezone the subject parcel from Non-Prime Agricultural (AG-2-B-40) to Timberland Production Zone (TPZ) in order to better align the zoning designation with the historic, existing, and long-term use of the property for timber production and forest management. The parcel is being managed as timberland in accordance with the California Forest Practice Act and Forest Practice Rules.

The parcel is served by an established network of private and public roads suitable for forest management activities. Timber operations on the property are subject to review and regulation by CAL FIRE through the Timber Harvest Plan (THP) process, which functions as the functional equivalent of environmental review under CEQA for timber harvesting activities.

No residential or commercial development is proposed as part of this zone change. There is a historic cabin site on the property that has been recorded and entered into the state historic information records. Otherwise, the property remains undeveloped with respect to habitable structures.

Adjacent Parcels

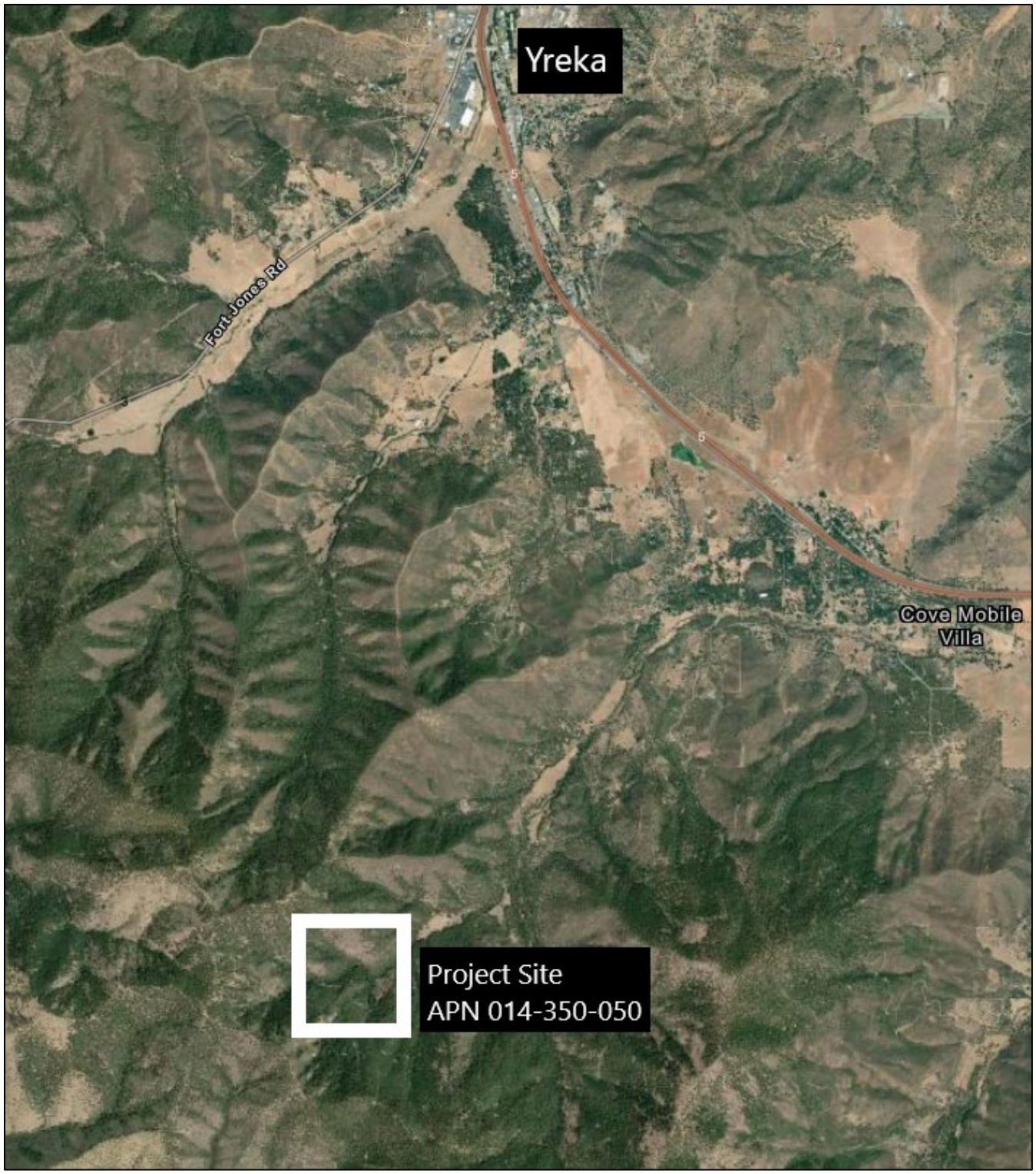
Direction	Acreage	Zoning	Uses/Ownership
North	200	TPZ	Timber production/Shasta Cascades Timberlands, LLC
South	520	TPZ	Timber production/Shasta Cascades Timberlands, LLC
East	475	TPZ	Timber production/Shasta Cascades Timberlands, LLC
West	280	TPZ	Timber production/Shasta Cascades Timberlands, LLC

The project site is surrounded to the north, south, east and west by timberlands, owned by Shasta Cascades Timberlands, LLC. Surrounding land uses are consistent with long-term resource management and are compatible with the Timberland Production Zone (TPZ) designation.

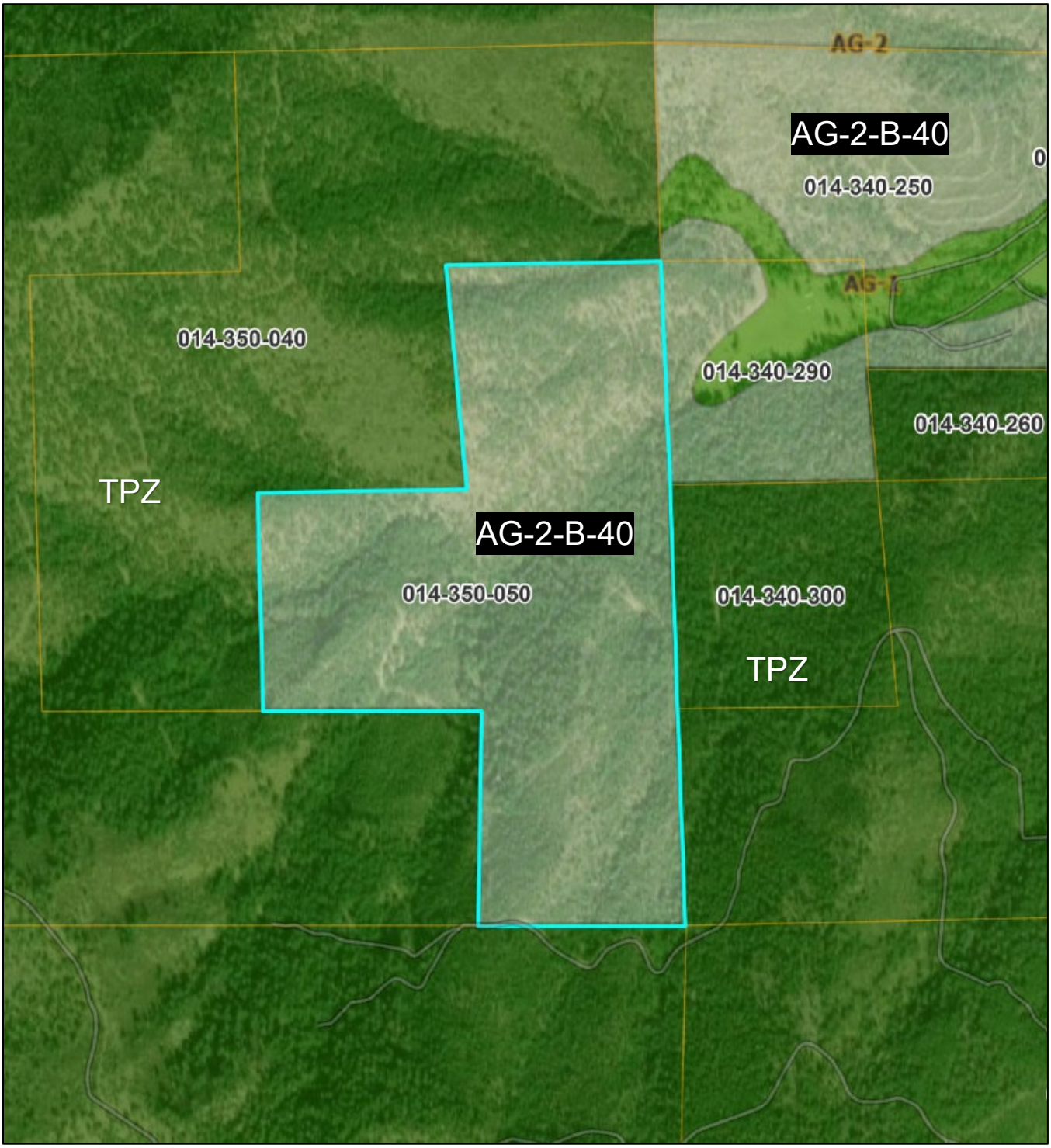
Parcel Creation and Ownership History

Federal land patent records maintained by the U.S. Department of the Interior, Bureau of Land Management (BLM), General Land Office (GLO) database indicate that the subject property was originally conveyed from the United States under a Homestead Entry patent. According to the BLM patent index, Henry J. Carlisle is listed as the patentee for a Serial Patent issued on September 11, 1903 (Accession/Serial No. CACAAA 016008; Document No. 2389), totaling approximately 160 acres within Township 44 North, Range 7 West, Mount Diablo Meridian, Section 28, Siskiyou County. Staff

relies on this record as supporting parcel history information in conjunction with County Assessor and Recorder records.



Location Map


AG-2
AG-2-B-40
014-340-250
AG-1
014-350-040
014-340-290
014-340-260
TPZ
AG-2-B-40
014-350-050
014-340-300
TPZ

Zoning Map

Wildlife Species and Waterways

Review of available biological information indicates that the project area provides habitat typical of mixed conifer forestlands in the Klamath Mountain region. Wildlife species commonly associated with these habitats include deer, elk, black bear, small mammals, and a variety of bird species adapted to forested environments. Northern spotted owl surveys have been conducted in portions of the project area as part of prior timber management activities regulated under the California Forest Practice Rules.

A review of the California Natural Diversity Database (CNDDB) identifies Yreka phlox (*Phlox hirsuta*) as occurring within the project area. Yreka phlox is a low-growing perennial wildflower listed as endangered under both the California Endangered Species Act (CESA) and the federal Endangered Species Act; therefore, killing or possessing the plant is prohibited. It blooms from April through June, producing rose-pink to white flowers, and typically grows 2 to 6 inches tall with hairy leaves and stems arising from a woody base. The species is restricted to the Yreka area in Siskiyou County and is found in open habitats on dry serpentine soils at elevations of approximately 2,700 to 4,400 feet.

The project site is located within the Schulmeyer Gulch drainage, which is the only named blue-line watercourse associated with the parcel. No other named creeks or rivers traverse the property. The site contains unnamed seasonal and intermittent drainage channels typical of upland forested lands in this area. Drainage from the site ultimately contributes to the Shasta River watershed.

The proposed project involves a change in zoning designation only and does not authorize ground disturbance, timber harvesting, or development. Any future timber operations would be subject to separate environmental review and permitting through the Timber Harvest Plan process, which includes evaluation of potential impacts to wildlife resources and sensitive species.

Soil Conditions

Natural Resources Conservation Service (NRCS) mapping indicates the project area includes Kindig–Neuns gravelly loams, 50–80 percent slopes, a mountainous soil unit characterized by very steep slopes. These soils are well drained, with no reasonable flooding or ponding potential, but are flagged by NRCS as droughty due to limited available water storage.

Because of the steep slope conditions, the soil unit has high runoff potential and a severe erosion hazard, particularly for disturbed areas such as roads, trails, and graded surfaces. NRCS agricultural capability ratings identify this unit as not prime farmland and is generally unsuitable for cultivation, with erosion susceptibility identified as the dominant limitation. NRCS limitations ratings further classify the unit as “very limited” for development-related uses such as buildings, roads, and septic systems due to slope and erosion constraints.

List C Eligibility and Site Class Analysis

Pursuant to Siskiyou County’s *Resolution Adopting Criteria for “List C” Timber Preserve Zoning (April 11, 1978)*, parcels not identified on List A or List B may be zoned Timberland Production Zone (TPZ) if they meet the County’s minimum acreage and site class equivalency standards. These standards are expressed in terms of Site Class III equivalents. To qualify under List C, a parcel must contain at least 40 acres of Site Class III timberland or its equivalent.

The subject parcel, APN 014-350-050, does not contain at least 40 acres of Site Class III timberland. Therefore, site class equivalency calculations are required to determine whether the parcel qualifies for inclusion under List C.

According to the submitted Forest Management Plan (Exhibit C), the parcel contains approximately 0.2 acres of Site Class II timberland, 20.1 acres of Site Class III timberland, 51.2 acres of Site Class IV timberland, and 89.5 acres of Site Class V timberland. These acreages are evaluated using the County's adopted equivalency standards to determine eligibility for inclusion under List C.

Site Class Equivalency Calculation

Classification	Ratio Calculation	Conversion Factor	Acreage Calculation	Site Class III Equivalent
Site Class II	40 ÷ 25	1.6	0.2 x 1.6 =	0.32 acres
Site Class III	40 ÷ 40	1	20.1 x 1 =	20.1 acres
Site Class IV	40 ÷ 80	0.5	51.2 x 0.5 =	25.6 acres
Site Class V	40 ÷ 120	0.3333	89.5 x 0.3333 =	29.83 acres
			Total Site Class III Equivalent Acres:	**75.85 acres**

When all site classes are evaluated using the County's equivalency standards, the parcel contains approximately 75.85 Site Class III equivalent acres. The County's List C eligibility threshold is 40 Site Class III equivalent acres. Because the combined equivalent acreage of 75.85 acres substantially exceeds the 40 acre threshold, the parcel meets the minimum site class equivalency requirement for inclusion under List C.

Analysis

General Plan Consistency

The Land Use Element of the Siskiyou County General Plan identifies the project site as being within the mapped resource overlay areas for Erosion Hazard; Severe Septic Tank Limitations; Slope; Critical Deer Wintering Area; and Wildfire Hazard. Planning staff has identified that Composite Overall Policies 41.3(e), 41.3(f), 41.9, 41.12, 41.13, and 41.18 apply to the proposed project.

Planning staff has conducted a detailed analysis of the required findings and recommends that the Planning Commission find the proposed project consistent with the applicable General Plan policies governing the subject site. Additionally, the proposed zoning designation is compatible with surrounding land uses, is served by existing roadway access adequate for ongoing timber management activities and public health and safety needs and does not authorize activities that would result in environmental impacts to on- or off-site resources. The recommended findings are detailed in the General Plan Consistency Findings section of Exhibit A-1 attached to this staff report and are submitted for the commissioners' review, consideration, and approval.

Zoning Consistency

The subject parcel is zoned Non-Prime Agricultural District 40-acre minimum parcel size (AG-2-B-40). After the proposed zone change, the parcel would be rezoned to Timberland Production Zone (TPZ).

Government Code Section 51104(f) defines "timberland" as privately owned land devoted to and used for growing and harvesting timber and capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre.

> *Based on timberland site classification mapping prepared under the supervision of a Registered Professional Forester, the subject parcel includes approximately 75.85 acres of Site Class III equivalent timberland under the County's List C eligibility criteria, which exceeds the County's minimum 40-acre threshold for TPZ qualification. Site Class III equivalent acreage reflects commercial forest productivity and supports the finding that the parcel is capable of meeting the timberland definition under Government Code §51104(f).*

Pursuant to Government Code section 51113(c)(3)(A), parcels proposed for Timberland Production Zone (TPZ) designation are required to meet the timber stocking standards set forth in Public Resources Code section 4561 and the California Forest Practice Rules. In addition, Siskiyou County Code section 10-6.5102 identifies the growing and harvesting of timber as permitted uses within the TPZ District.

> *Based on the Registered Professional Forester certification and timberland site classification data contained in the Forest Management Plan, the subject parcel appears to meet the applicable timber stocking standards. Accordingly, rezoning the property from AG-2-B-40 to TPZ is consistent with state law, County zoning regulations, and the long-term management of the property for commercial timber production.*

Based on staff's analysis of the proposed zone change, staff believes that the necessary findings can be made for the approval of this application.

Environmental Review

The proposed project—rezoning property to the Timberland Production Zone (TPZ)—is eligible for the statutory exemption set forth in CEQA Guidelines Section 15264 (Timberland Preserves). Government Code Section 51119 reflects the Legislature's determination that the adoption of timberland production zoning, by itself, does not result in significant environmental impacts.

The zone change is a zoning action only and does not authorize specific timber harvest activities, ground disturbance, or physical development, all of which would remain subject to separate regulatory review and permitting.

In addition, a Timber Harvest Plan (THP), as approved by CAL FIRE under the California Forest Practice Act, serves as the functional equivalent of an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA) for industrial timber harvesting activities on private lands.

Comments

A Notice of Public Hearing was published in the Siskiyou Daily News and mailed to property owners within 300 feet of the applicant's property. At the time this staff report was prepared, no public comments had been received.

A Preliminary Project Review was circulated to Siskiyou County Reviewing Agencies and State Responsible Agencies.

Siskiyou County Environmental Health – January 12, 2026

Environmental Health has no objection to the proposed zone change. A historic cabin resides on the parcel but does not have bathroom facilities or water supply and is otherwise undeveloped and has not been reviewed or approved for buildability at this time for sewer and water.

Department of Forestry and Fire Protection (CAL FIRE) – January 14, 2026

CAL FIRE has no comment regarding change in zoning for this project. CAL FIRE requires future building on the parcel to be compliant with Public Resources Code Section 4290.

Siskiyou County Public Works – January 14, 2026

Public Works has reviewed the attached proposed Zone Change (Z-24-04) and has no comment.

Planning Staff Recommendations

Adopt Resolution PC 2026-003 taking the following actions:

1. Recommend the Board of Supervisors determine the project to be statutorily exempt from the California Environmental Quality Act (CEQA) in accordance with CEQA Guidelines Section 15264 (Timberland Preserves); and
2. Recommend that the Board of Supervisors approve the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04) based on the recommended findings and subject to the recommended conditions of approval.

Suggested Motion

“I move that we adopt Resolution PC 2026-003, a resolution of the Planning Commission of the County of Siskiyou, State of California, recommending that the Board of Supervisors determine the project to be statutorily exempt from CEQA and approve the Shasta Cascades Timberlands, LLC Zone Change Request (Z-24-04).”

Preparation

Prepared by the Siskiyou County Planning Division. For project specific information, please contact:

James Phelps
Siskiyou County Planning Division
806 S. Main Street
Yreka, California 96097

Resolution PC 2026-003

A Resolution of the Planning Commission of the County of Siskiyou, State of California, Recommending that the Board of Supervisors Determine the Project Exempt from the California Environmental Quality Act and Approve the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04)

Whereas, an application has been received from Shasta Cascades Timberlands, LLC to rezone approximately 160 acres of land from Non-Prime Agricultural, 40-acre minimum parcel size (AG-2-B-40) to Timberland Production Zone (TPZ); and

Whereas, the proposed zone change applies to the entirety of the following legally created Assessor's Parcel Number: 014-350-050; and

Whereas, the Planning Division reviewed the project and recommended that it be determined statutorily exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Section 15264 (Timberland Preserves); and

Whereas, notice of the public hearing for the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04) was published in the Siskiyou Daily News; and

Whereas, public hearing notices were provided in compliance with Siskiyou County Code Section 10-6.2805 et seq.; and

Whereas, the Planning Division presented its written and oral staff report regarding the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04) at a regular meeting of the Siskiyou County Planning Commission on February 18, 2026; and

Whereas, the Planning Division recommended that the Planning Commission forward a recommendation to the Board of Supervisors to adopt the findings set forth in Exhibit A-1 and approve the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04); and

Whereas, on February 18, 2026, the Chair of the Planning Commission opened the duly noticed public hearing on the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04) to receive oral and written testimony, after which the public hearing was closed and the Planning Commission deliberated on the project prior to reaching its decision.

Now, Therefore, Be It Resolved that the Siskiyou County Planning Commission hereby adopts the recommended findings set forth in Exhibit A-1, attached hereto and incorporated by reference; and

Be It Further Resolved that, based on the evidence in the record and the findings set forth in Exhibit A-1, the Planning Commission recommends that the Siskiyou County Board of Supervisors determine the project to be statutorily exempt from CEQA pursuant to CEQA Guidelines Section 15264 and approve the Shasta Cascades Timberlands, LLC Zone Change (Z-24-04).

It is Hereby Certified that the foregoing Resolution PC 2026-003 was duly adopted on a motion by Commissioner _____ and seconded by Commissioner _____ at a regular meeting of the Siskiyou County Planning Commission held on the 18th day of February 2026, by the following roll call vote:

Ayes:

Noes:

Absent:

Abstain:

Siskiyou County Planning Commission

_____

Jeff Fowle, Chair

Witness, my hand and seal this 18th day of February 2026

_____

Hailey Lang, Secretary of the Commission

Findings

Zoning Consistency Findings

1. The Planning Commission finds that the proposed zone change is consistent with the applicable elements and policies of the Siskiyou County General Plan, as documented in the administrative record and the associated staff report.
2. The Planning Commission finds that the proposed zone change is consistent with Siskiyou County Code Title 10, Chapter 6, including provisions governing the Timberland Production Zone (TPZ).
3. The Planning Commission finds that the proposed zone change from the Non-Prime Agricultural District, 40-acre minimum parcel size (AG-2-B-40), to the Timberland Production Zone (TPZ) is consistent with existing land uses in the surrounding area.
4. The Planning Commission finds that the proposed zone change is compatible with the surrounding zoning pattern, which includes adjacent and nearby lands designated Timberland Production Zone (TPZ).
5. The Planning Commission has considered all written and oral testimony received and, based on the administrative record and staff analysis, finds that the proposed zone change would be compatible with existing and planned land uses in the area.

Timberland Production Zone Inclusion

1. Pursuant to Government Code Section 51104(f), “timberland” is defined as privately owned land devoted to and used for the growing and harvesting of timber, or for growing and harvesting of timber and compatible uses, and capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre. The Planning Commission finds that the subject parcel proposed to be rezoned meet this definition.

2. The Planning Commission finds that pursuant to Siskiyou County Code §10-6.5104(b), the parcel included in this project meets the minimum standards adopted by resolution of the Board of Supervisors for inclusion under List C of the Timberland Production Zone (TPZ).

3. The Planning Commission finds that the parcel meets the timber stocking standards set forth in Government Code Section 51113(c)(3)(A), Public Resources Code Section 4561, and the California Forest Practice Rules.

General Plan Consistency Findings

Composite Overall Policies

Policy 41.3(e) – All proposed uses of the land shall be clearly compatible with the surrounding and planned uses of the area.

The Planning Commission finds that timber production is consistent with the historic and existing use of the subject parcel and is clearly compatible with the surrounding and planned land uses of the area.

Policy 41.3(f) – All proposed uses of the land may only be allowed if they clearly will not be disruptive or destroy the intent of protecting each mapped resource.

The Planning Commission finds that the proposed zone change does not authorize development and, as a zoning action, will not disrupt mapped resources.

Policy 41.9 – Buildable, safe access must exist to all proposed uses of land. The access must also be adequate to accommodate the immediate and cumulative traffic impacts of the proposed development.

The Planning Commission finds that the proposed zone change does not authorize new development. Existing access via public and private roads is adequate for existing timber management activities.

Policy 41.12 – All significant historic and prehistoric places and features when identified shall be preserved and protected in accordance with accepted professional practices.

The Planning Commission finds that there is a historic cabin site located on the parcel which has been recorded and entered into the state historic information records.

Policy 41.13 – All rare and endangered plant species as identified and recognized by state and federal government shall be preserved and protected in accordance with accepted professional practices.

The Planning Commission finds that sensitive species protections are addressed through the Forest Management Plan and applicable state and federal regulations governing timber operations.

Policy 41.18 – Conformance with all policies in the Land Use Element shall be provided, documented, and demonstrated before the County may make a decision on any proposed development.

The Planning Commission finds that the proposed zone change is consistent with applicable General Plan policies. Any future development would be subject to separate discretionary review.

Map 2: Erosion Hazard

Policy 7 – Specific mitigation measures will be provided that lessen soil erosion, including contour grading, channelization, revegetation of disturbed slopes and soils, and project timing (where feasible) to lessen the effect of seasonal factors such as rainfall and wind.

The Planning Commission finds that the proposed zone change does not authorize physical development and therefore does not result in erosion-related impacts.

Map 4: Soils: Severe Septic Tank Limitations

Policy 9 – The minimum parcel size shall be one acre on zero to 15 percent slope and five acres on 16 to 29 percent slope.

The Planning Commission finds that the parcel comprises approximately 160 acres and exceeds the minimum parcel size requirements. No development is proposed.

Policy 10 – Single-family residential, heavy or light industrial, heavy or light commercial, open space, non-profit and non-organizational in nature recreational uses, commercial/recreational uses, and public or quasi-public uses only may be permitted.

The permitted density will not create erosion or sedimentation problems.

The Planning Commission finds that the proposed zone change does not authorize development and therefore will not result in erosion or sedimentation impacts.

Map 5: Excessive Slope

Policy 11 – All areas with 30 percent or greater natural slope shall not be developed with facilities requiring septic tanks for sewage disposal.

The Planning Commission finds that no development is proposed as part of this project.

Policy 15 – Areas designated as having 30 percent or greater natural slope, but proven to be less than 30 percent slope, shall only be developed when a grading plan for roads acceptable to the Department of Public Works has been submitted.

The Planning Commission finds that no development is proposed as part of this project.

Map 10: Wildfire Hazard

Policy 30 – All development proposed within a wildfire hazard area shall be designed to provide safe ingress, egress, and have an adequate water supply for fire suppression purposes in accordance with the degree of wildfire hazard.

The Planning Commission finds that the proposed zone change does not authorize development. Any future development would be required to comply with applicable fire

safe standards enacted pursuant to Public Resources Code Section 4290 and California Code of Regulations, Title 14, Fire Safe Regulations, to the satisfaction of CAL FIRE.

Map 11: Woodland Productivity

Policy 31 – The minimum parcel size shall be one acre on zero to 15 percent slope and five acres on 16 to 29 percent slope.

The Planning Commission finds that the parcel contains approximately 160 acres with varying slopes, which exceeds the minimum parcel size requirements. Parcel acreage will not change as a result of this project.

Policy 32 – Single family residential, light commercial, light industrial, open space, non-profit and non-organizational in nature recreational uses, commercial/recreational uses, and public or quasi-public uses only may be permitted.

The permitted uses will not create erosion or sedimentation problems.

The Planning Commission finds that uses allowed under the Timberland Production Zone are intended to support long-term timber production and do not, by themselves, authorize activities that would create erosion or sedimentation impacts.

Policy 33 – All land uses and densities shall be designed so as not to destroy timber productivity on large parcels of high suitability woodland soils. (Class I and II.)

The Planning Commission finds that the proposed zone change to the Timberland Production Zone will not destroy timber productivity, will not alter parcel size, and that the parcel is not classified as Class I or Class II woodland soil.

California Environmental Quality Act (CEQA) Findings

1. The Planning Commission finds that the proposed zone change qualifies for the statutory exemption set forth in CEQA Guidelines Section 15264 (Timberland Preserves) and recommends that the Board of Supervisors determine the project to be statutorily exempt from the California Environmental Quality Act (CEQA).

Exhibit A-2 to Resolution PC 2026-003
Notations and Conditions of Approval

Notations

1. Within ten (10) days following the date of the decision of the Siskiyou County Planning Commission, the decision may be appealed to the Siskiyou County Board of Supervisors. Any appeal shall be filed with the Clerk of the Board of Supervisors.
2. Upon adoption of the CEQA exemption, a check in the amount of fifty dollars ($50), made payable to the Siskiyou County Clerk and submitted to the Siskiyou County Planning Division, is required in order to file a Notice of Exemption. Failure to file the Notice of Exemption extends the statute of limitations for legal challenges to the CEQA exemption from 35 days to 180 days.

Conditions of Approval

1. The project shall substantially conform to the project description reviewed by the Planning Commission on February 18, 2026, and subsequently approved by the Siskiyou County Board of Supervisors. Any proposed amendment shall be submitted to the Deputy Director of Planning for a determination of the applicable review process pursuant to the Siskiyou County Code.
2. The applicant shall defend, indemnify, and hold harmless the County, its agents, officers, and employees from any claim, action, or proceeding (collectively, “Action”) against the County, its agents (including consultants), officers, or employees to attack, set aside, void, or annul the approvals, or any part thereof, or any decision, determination, or Action, made or taken approving, supplementing, or sustaining the project or any part thereof, or any related approvals or project conditions imposed by the County or any of its agencies, departments, commissions, agents (including consultants), officers, or employees, concerning the project, or to impose personal liability against such agents (including consultants), officers, or employees resulting from their non-negligent involvement in the project, which action is brought within the time period provided by law, including any claim for private attorney general fees claimed by or awarded to any party from the County. Said responsibilities shall be pursuant to the County’s standard Agreement for Indemnification in effect at the time of application approval or Agreement for Indemnification if signed and effective prior to the date the application is approved. In the event that the applicant fails to comply with the terms of the applicable agreement, the applicant does hereby consent and agree to all remedies in said agreement and does hereby agree and consent to the County rescinding all applicable project approvals.

From: Terry E. Smith
To: Dianne Johnson
Cc: Jeremy Lipke
Subject: RE: Z-24-04 SHASTA CASCADE 15 DAY REVIEW
Date: Wednesday, January 14, 2026 10:10:24 AM

Dianne,
Public Works has reviewed the attached proposed Zone Change (Z-24-04) and has no comment.

Terry E. Smith P.E.
Senior Engineer
County of Siskiyou
Department of Public Works
1312 Fairlane Road, Suite 3
Yreka, CA 96097
Office: (530) 842-8278
Fax: (530) 842-8288
tesmith@co.siskiyou.ca.us

From: Dianne Johnson <dmjohnson@co.siskiyou.ca.us>
Sent: Monday, January 12, 2026 3:30 PM
To: Tharp, Heather@CALFIRE <heather.tharp@fire.ca.gov>; Rivera, Liliana@CALFIRE <liliana.rivera@fire.ca.gov>; Nancy Ogren <nogren@co.siskiyou.ca.us>; Wildlife R1 CEQA Redding <r1ceqaredding@wildlife.ca.gov>; NorthCoast <northcoast@waterboards.ca.gov>; Craig Kay <ckay@co.siskiyou.ca.us>; Eric Olson <eolson@co.siskiyou.ca.us>; Garrett Richardson <grichardson@co.siskiyou.ca.us>; Jeff Clausen <jclausen@co.siskiyou.ca.us>; Jennifer Taylor <jtaylor@co.siskiyou.ca.us>; Jeremy Lipke <jlipke@co.siskiyou.ca.us>; Klev Hegdal <khegdal@co.siskiyou.ca.us>; Monique George <mgeorge@co.siskiyou.ca.us>; Terry E. Smith <tesmith@co.siskiyou.ca.us>
Cc: James V. Phelps <jvphelps@co.siskiyou.ca.us>; John Vona <jvona@fwsforestry.com>
Subject: Z-24-04 SHASTA CASCADE 15 DAY REVIEW

Good afternoon,

Please find attached 15 day review for application Z-24-04. All responses to the application must be received by January 26, 2026.

If you should require additional information please contact me.

Thank you,

Dianne Johnson
Planning Permit Technician II
Siskiyou County Community Development
806 S. Main Street, Yreka, CA 96097
530-841-2148

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
P.O. Box 128
1809 Fairlane Road
YREKA, CA 96097-0128
(530) 842-3516
Website: www.fire.ca.gov

Date: 1/14/2026

Siskiyou County Department of Public
Health and Community Development
806 South Main Street
Yreka, CA 96097-3321

Attention: Dianne Johnson, Permit Planning Technician

Subject: Zoning Change: Z-24-04

CAL FIRE has no comment regarding change in zoning for this project. CAL FIRE requires future building on the parcel to be compliant with the applicable code sections of Public Resource Code 4290.

If you have any questions, please call Heather Tharp at 530-598-2676 or Lilly Rivera at 530-598-2635.

Heather Tharp
Forestry Technican

For: Greg Roath
Siskiyou Unit Chief

Attachment cc: file

SISKIYOU COUNTY COMMUNITY DEVELOPMENT DEPARTMENT
LAND DEVELOPMENT REVIEW

OWNER SHASTA CASCADE **FILE #** 014-350-050

LOCATION SCHULMEYER GULCH YREKA **T** 44N **, R** 7W **, SEC.** 28 **PD#** Z-24-04

REQUIREMENTS:

Sewage Disposal Test/Information:

( ) None Required: Connection to Approved Sewage System
( ) Engineered Percolation Tests – Parcels #
( ) Wet Weather Testing
( ) Engineered Sewage Disposal System
( ) Other

Water Supply Tests/Information:

( ) None Required: Connection to Approved Water System
( ) Well Logs (Existing Wells) ( ) Well Logs for Adjoining Property
( ) Drilled Well – Parcels # ( ) Spring Source-Verification
( ) Pump Test (Static Level) Hours
( ) Bacteriological Analysis ( ) Chemical Analysis ( ) Physical Analysis
( ) Other

Project Information:

( ) Location Map ( ) Mark Project Area ( ) Contour Map
( ) Food Establishment Plans ( ) Swim Pool/Spa Plans
( ) Waste Information (Non-Sewage)
( ) Other

Comments/Conditions:

Environmental Health has no objection to the proposed zone change.

A historical cabin resides on the parcel but does not have bathroom facilities or a water supply and is otherwise undeveloped and has not been reviewed or approved for buildability at this time for sewer and water.

REHS DATE 1/12/26

ENVIRONMENTAL HEALTH ACTION

(x) Application Accepted ( ) Application Rejected as Incomplete (see comments)

****

(x) Approved ( ) Recommended for Denial
( ) Approved with conditions (see comments)

REHS DATE 1/12/26

Date sent to Planning:

Forest Management Plan

Zone Change Application

Shasta Cascades Timberlands, LLC

Schulmeyer Gulch

Application Z2404

November 11, 2025

Prepared by:

John Vona & Ann Wagner,
FWS Forestry Services California, LLC
On Behalf of Clients, Shasta Cascades Timberlands, LLC 1910 Market Street, Suite C
Redding, CA 96001

This site plan contain maps depicting the following:

- Management Plan
- Overview Map
- County Parcel APNs
- Parcel Acres
- Public Land Survey System Coordinates
- Scale
- Location of Roads & Streams
- Timber types
- Site Class
- Acres of stocked areas
- Acres of non-stocked/non-forest areas

Proposed Management Plan for the parcels requesting to be converted to TPZ.

All parcels in this TPZ application have legal access off public roads to the parcels included in this request. Furthermore, access is well established with clear roads and the parcel appurtenant roads are accessible and drivable by vehicular traffic for forest management.

The parcels included in this application range consist of well managed conifer stands that are managed under the California Forest Practice Act (FPA) and the Forest Practice Rules (FPRs). These rules ensure timberland management is conducted in a way that protects the environment, including fish, wildlife, forests, soils, water resources and viewshed. The conifer growing on these parcels are managed to meet the long-term sustained yield objectives of the owners across the entire 168,000-acre Shasta Cascades footprint. The California Forest Practice Rules requires that landowners demonstrate their operations meet the requirement to ensure maximum sustained production of timber while also considering environmental values. The agency body who oversees and enforces the CA FPRs is the California Department of Forestry and Fire Protection (CalFIRE).

Under the CA FPRs we are required that any even-aged harvest shall meet full conifer stocking at the fifth year after harvest. Our records indicate that all the stands included in this application have meet the legal requirements for “stocking” under the State FPRs which would have been signed off by a CalFIRE inspector.

Timber stands are inventoried when approach maturity at age 40 years-old. Stands older than 40 years-old have all been inventoried at some point in the last 10 to 12 years across the entire forested footprint. The inventory data collected from “timber cruising” is maintained in a sophisticated Growth & Yield software system that systematically grows the inventoried stands every year based on an algorithm developed from measurement of permanent plots.

The growth & field system that we employ to manage Shasta Cascades TImberladnds inventory is the Forest Vegetation Simulator (FVS), which is a forest growth simulation model. The software simulates forest vegetation change in response to natural succession, disturbances, and management. It recognizes all major tree species and can simulate nearly any type of management or disturbance at any time during the simulation. Outputs include tree volumes, biomass, density, canopy cover, harvest yields, fire effects, and more.

Harvests are determined based on series of analyses that evaluate the financial needs of the landowners, the Option A document on file with CalFIRE which projects the 100-year harvest of the forest as well as the long-term sustainability of the forest and a myriad of

other complicating factors. The decision on when and where to harvest is followed up by the preparation of a Timber Harvest Plan (THP). In California, a Timber Harvest Plan (THP) is considered the functional equivalent of an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA) for industrial timber harvest on private lands. This means that a THP is designed to serve the same purpose as an EIR, which is to ensure that the state understands the potential environmental impacts of a project before making a decision to approve it.

Harvesting of these stands will occur at economic maturity and in accordance with the California Forest Practice Rules. The site indices published in the accompanying stand list provides foresters with an indication of site productivity. Stands with site index of 1 and 2 possess much more productive soils and the stands with this designation will grow more rapidly in both height and diameter. It is expected that stands with site indices of 1 and high Site 2 will be ready to harvest at age 50 to 60 years of age. Low site 2 and 3 will grow more slowly and we expect these stands to be ready to harvest at 60 to 75 years of age. Site 4 and 5 reflect more challenging growing conditions and typically possess thinner, rocky soils with a poor nutrients and essential mineral profile. These stands occur generally on high rocky and exposed ridges. Stands with low sites may not be achieve economic maturity until 80 to 100 years of age.

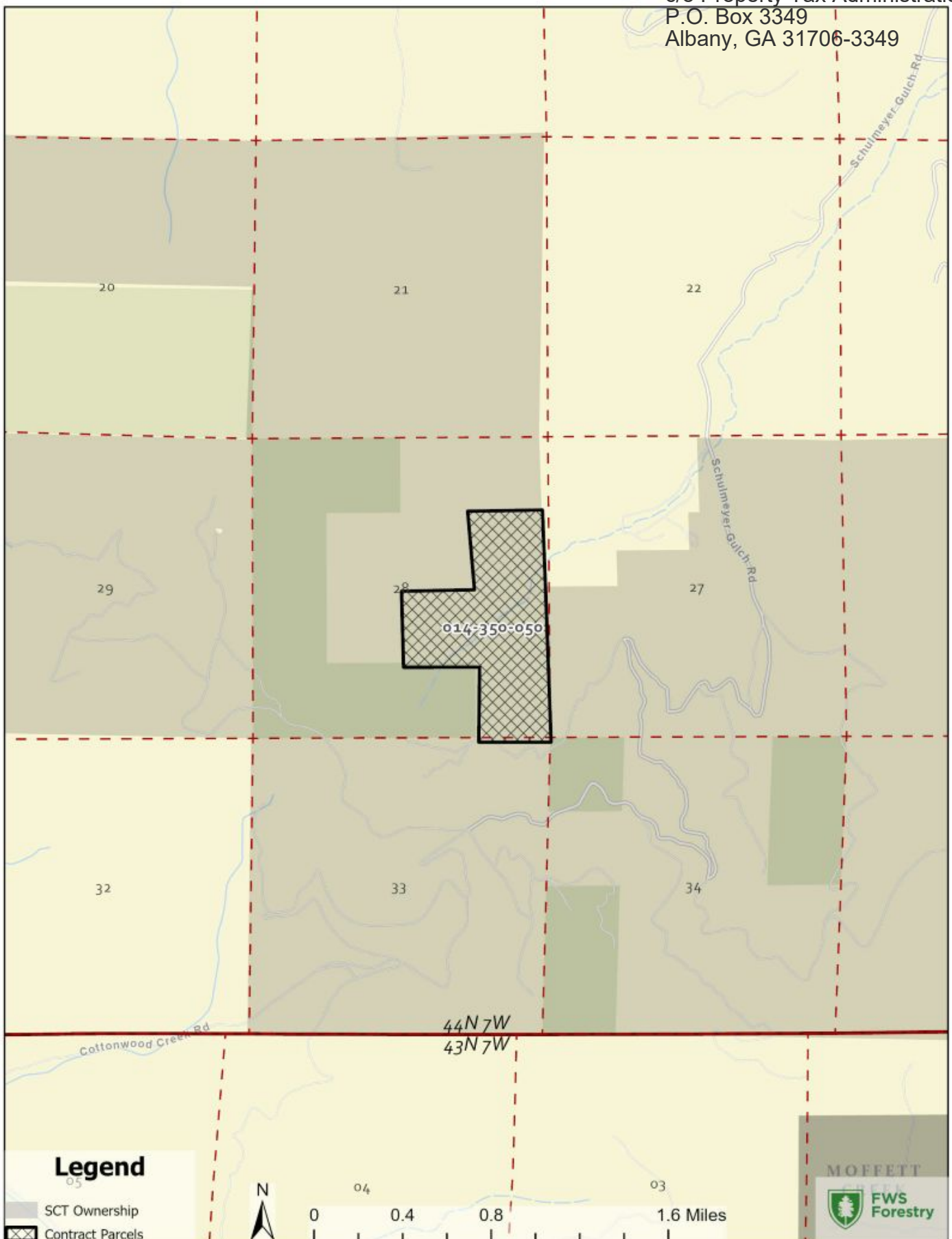
In terms of qualifications, FWS Forestry Services manages all aspects of the Shasta Cascades Timberlands estate on behalf of the owners. FWS Forestry Services is the California subsidiary of F&W Forestry, based out of Albany Georgia. F&W Forestry started consulting with landowners in 1962 and currently manages approximately 2.7 million acres of timberlands on behalf of clients throughout North America and Europe. The organization consists of highly trained professionals with the average professional experience of 20+ years.

Below is a list of parcels in the Z2404 Zone Change Application:

Shasta Cascades Timberlands				
Present Use	Re-Zone Request	Assessors Parcel	Acreage	Former Owner
Timber	Timberland Production Zone	014-350-050	160	Roseburg

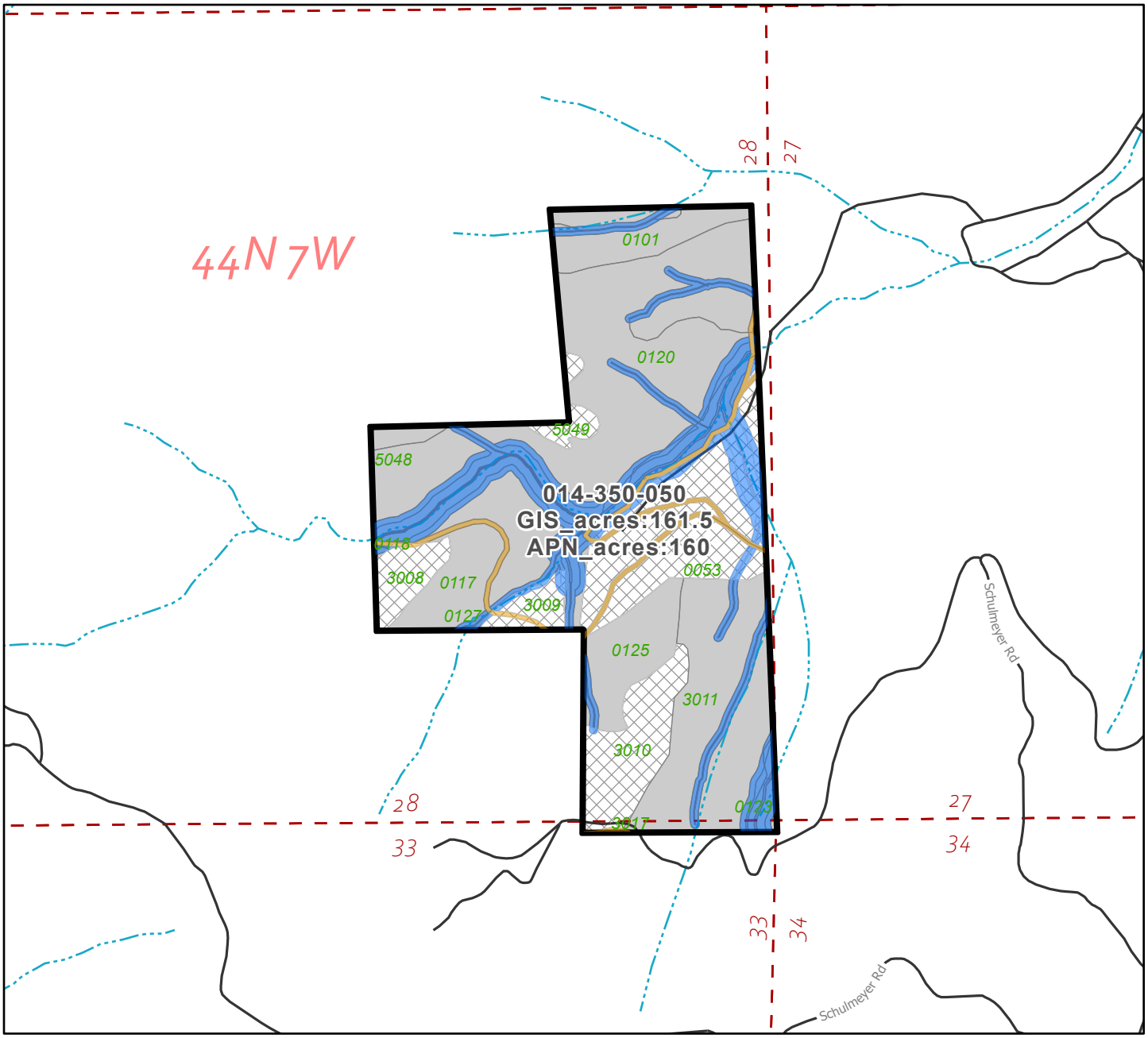
Landowner's Legal name: Shasta Cascades Timberlands, LLC
Legal Address: 315 Montgomery Street, Suite 1003
San Francisco, California 94104 USA

Mailing Address:
F&W Forestry Services
c/o Property Tax Administration
P.O. Box 3349
Albany, GA 31706-3349



APN: 014-350-050

Map Date:11/13/2025



Stand	Mngmt	Land Use	Stand Gross Acres	Stand Parcel Acres	Site Class	Age
5300101	Unknown	TMBR	195	10.6	V	108
5300117	Unknown	TMBR	139.3	20	V	104
5300118	Unknown	TMBR	123.3	0.1	III	96
5300120	Unknown	TMBR	507.2	46.4	V	101
5300123	Unknown	TMBR	124.8	1.2	IV	46
5300125	Unknown	TMBR	175.7	16.8	III	70
5300126	Unknown	TMBR	149	0.4	IV	95
5300127	Unknown	TMBR	74.2	0.2	II	58

Stand	Mngmt	Land Use	Stand Gross Acres	Stand Parcel Acres	Site Class	Age
5303008	Even	TMBR	26.6	4.1	IV	22
5303009	Even	TMBR	70.8	3.2	III	22
5303010	Even	TMBR	69	10.3	V	22
5303011	Even	TMBR	157.6	24.9	IV	25
5303017	Even	TMBR	52.2	0.1	V	26
5305048	Even	NONT	2.4	0	V	7
5305049	Even	NONT	21.6	2.1	V	7
9000053	Even	UNPH	689.4	20.6	IV	0

N

Scale: 1:12,000

1 inch equals 0.19 miles

Local Roads

PLSS Township

PLSS FirstDivision

Application Parcel

Nets on Stands

Road

Stream Channel

WLPZ; WLPZ Ext.

FWS Forestry

Prepared by: Ann Wagner, FWS Forestry

Exhibit C - Specific Forest Management Plan

Forest Management Plan

FWS Forestry, Inc—California

Shasta Cascade Timberland's

2021

Edits March 2023

Table of Contents

Page	Chapter Topic
2	Table of Contents
3	Introduction
4	Historical Background
10	Management Objectives
11	Existing Conditions
15	Representative Sample Areas
15	Rare, Threatened, Endangered Species
16	High Conservation Value Forests and Areas and Forests with Exceptional Conservation Value
16	Exotic and Invasive Species
20	Risks and Hazards
24	Wildlife Resources and Habitats
29	Aquatic and Fisheries Habitats
34	Rare Plants and Plant Communities
37	Range Management
39	Road and Transportation Management
44	Public Access Policy
46	Social and Economic Factors
48	Forest Growth and Yield
48	Implementation Strategy
51	Monitoring and Evaluation Systems Regulatory and Certification Compliance
55	Appendix I Snag Management Policy
55	Appendix II. Retention Area Designation Guide
60	Appendix III FSC Riparian Management Zone Requirements
62	Climate Risks, Mitigations and Adaptations
65	Fire Resiliency, Mitigations and Adaptations

Introduction

This Forest Management Plan (FMP), combined with other relevant documents, is intended to meet the requirements of the Forest Stewardship Councils Principle 7.1. The primary guidance document directing this FMP is Shasta Cascade Timberland's Sustained Yield Analysis (or Option A) that has been approved and accepted by the California Department of Forestry and Fire Protection (CAL FIRE). This document demonstrates the Shasta Cascade Timberlands holdings will be managed in such a way that they will be able to provide a continuous flow of logs and other forest products from their timberlands in a sustainable manor over a long-term planning horizon. In the analysis they account for most of the limiting factors, or constraints, that we currently know of such as riparian buffers, endangered species restrictions, and social or aesthetic limitations. A spatially explicit model, however, is lacking and will be included as soon as it is completed.

This FMP will clearly state SCT's management objectives. Other documents that are related to and essential to this FMP include (but are not limited to) the HCV and RSA Assessments, the Option A, the Master Agreement for Timber Operations, (MATO), the Water Boards General Orders, PLM Management plan through CDFW, California's Forest Practices Rules (FPR's), Snag Management Policy, Retention Area Designation Guide, and the FSC Riparian Management Zone Requirements. The monitoring that administered through these programs is discussed in the Monitoring and Evaluation Systems section of this FMP.

> ***Personnel***—Quality workmanship is mandatory. The best available, skilled workers, professionals, and tools will be utilized in the conduct of operations and projects. A skilled, professional, and experienced team will be employed to develop strategies and implement solutions. This team will also manage and administer operations to achieve these goals. Additionally, scientific, professional, and technical experts and consultants from outside the organization will be utilized where appropriate, in collaboration with and in support of the management team's efforts to carry out our goals and objectives.

This plan will be a living document, designed to change and adapt with new knowledge and conditions over time. This will happen continuously, evolving with change, rather than being replaced periodically.

Historical Background

Shasta Cascade Timberlands, LLC (SCT) acquired these lands from Roseburg Resource Company on January 22, 2018. Before SCT acquiring the lands, they were continually certified under Roseburg since 2003. SCT's land base extends from near the town of Yreka in the north, south and west to the Trinity River headwaters in the Coast Range, east to the western edge of the Modoc Plateau in the southern Cascades and south to the headwaters of the northern Sacramento Valley near Mt. Lassen at the northern edge of the Sierra Nevada range. This area encompasses a variety of biological, geographical, and geological factors that contribute to its unique floral and faunal patterns. In addition, past management has affected vegetation patterns, not always in manners that current managers would have preferred.

D. Natural History Perspective

The high degree of plant and animal diversity existing in northern California is quite well known. Many factors including topographic and elevational variability, the merging of multiple geologies, major landforms such as Mount Shasta, and a Mediterranean climate led to this diversity. The SCT land base is a representative slice of the northern California region and therefore has a mix of habitats and conditions leading to a high degree of both biotic and abiotic diversity.

In attempting to understand some of the ecological relationships that exist for a region, knowledge of prehistoric disturbance regimes is helpful. An understanding of historical disturbance regimes and a subsequent knowledge of how the vegetation responded gives valuable insights into how forests might be managed to minimize environmental impacts.

The primary source of prehistoric and pre-European landscape disturbance came from fire. Fires were ignited primarily by lightning and native Americans and frequently burned through the various plant communities. These fires tended to be patchily distributed and generally burned at low intensities. Occasional moderate and high intensity stand replacing fires would also occur. These frequently recurring fires continually cleaned the forests of down fuel concentrations and thinned the stands of encroaching understory vegetation. The results were forests that were dominated primarily by large widely spaced pine with a significant oak component in some areas. The larger conifers existing in these forests tended to be resistant to low or moderate intensity ground-fires so that they often survived repeated fires. These open conditions led to the perpetuation of ponderosa pine-dominated stands in many forested areas of interior California below 5,000 feet elevation. From anecdotal accounts and historic photos, we know that historic and prehistoric forest conditions were much different than what we find today. Even areas that many would now consider "pristine", areas that have been never been harvested, are likely significantly different than they were a mere 100 years ago.

Fire suppression began in the early 1900s to reduce what was perceived as a waste of forest resources and a factor in environmental degradation. At the same time logging was occurring in many northern California forests and focused on the larger, high value trees. The combination of fire suppression and logging resulted in widespread changes across the landscape. First, without fire to continually remove the small young trees, denser stands quickly developed. Stands that once contained 40-60 trees per acre developed into stands with up to 300 trees per acre. Second, shade tolerant species, such as incense cedar and white fir became more common while Ponderosa pine became a less prominent component of stands. Third, heavy concentrations of ground and ladder fuels developed. These fuels now contribute to much larger and higher intensity fires. Additionally, early seral habitats such as brush fields and aspen and meadow systems were reduced in size and distribution due to conifer encroachment.

The wet and dry climatic cycles typical of northern California have led to a variety of floods and droughts. For example, in 1906 a major flood led to a dam failure and heavy damage to the Terry Mill, east of Redding. The 1962 Columbus Day storm resulted in extensive areas of windthrown trees throughout northern California. In 1964 floods damaged many stream courses, roads, and communities in California and throughout the northwest. A combination of drought conditions and overstocked stands led to heavy conifer mortality east of the Cascade Range in the early 1990s. Currently there are an estimated 192 million dead trees in CA due to an unprecedented 5-year drought. Although most of these dead trees are in the southern Sierra Nevada, we have also seen minor increases in drought related mortality in this region.

Large wildfires have burned on or near SCT's lands over the years and have tended to become more problematic in the past several decades. For instance, in 1891 widespread fires in the Sacramento River Canyon led to the permanent shut-down of several local sawmills while the massive 1992 Fountain Fire had a major impact on company operations (See Risks and Hazards Section for a more complete discussion of wildfires on SCT.)

In summary, the area in which SCT owns its lands is extremely diverse but also prone to extreme natural disturbance events. Past management practices have exacerbated some of the potential risks, especially those pertaining to decades of fire exclusion.

B. Historical Trends in Timberland Management and the Consolidation of Large Timberland Holdings

The earliest settlers to live on and manage northern California timberlands were miners that moved to California shortly after the 1849 gold discovery. Gold mines existed in several areas on or near SCT including the Sacramento River Canyon, the headwaters of the Trinity River (the largest at Altoona), and near Yreka.

Early logging used livestock to skid logs to a small mill and could have only supplied relatively minor quantities of lumber and timbers. Small mills were usually set up near or

on site to reduce log skidding distances. With time, other entrepreneurs attempted more adventurous schemes. For instance, as early as 1896 the Flatwoods area north-east of Redding was logged for high quality sugar pine. The logs were sent down chutes dropping steeply down the bluffs into the Pit River. The plan was to float the logs to a mill site at Redding and to provide the lumber to nearby mines; however, too many logs were damaged, sunk, or were lost in floods and the effort was abandoned.

As rail and road facilities developed, the areas in which timber management could occur expanded greatly. A railway reached into the Sacramento River Canyon by the 1880s and into the McCloud Basin by 1897. These rail-lines provided an efficient means to move logs from the woods to sawmills and the products to far-off markets. This timing coincided with technological changes in logging and large-scale increases in demand of lumber and wooden fruit boxes.

Previously, when logging was dependent upon livestock for skidding logs mills needed to be close to the log supply and markets. As narrow-gage railroads and steam yarder technology became available, logging occurred further and further into the woods. Railroad logging occurred during the late 1800s and early 1900s on lands now owned by SCT in the northern Anderson District, lower portions of Soda Creek, Pondosa and Kemp tracts.

The demand for wood products greatly increased in the 20th century. The 1906 San Francisco earthquake and fire coincided with large-scale mining in the west and Mexico. About the same time California became a huge citrus fruit supplier to the world and the demand for wooden boxes greatly expanded. The result was the formation of a forest management company (Fruit Growers Supply Co.) whose initial focus was to supply the fruit box demand. Red River Lumber Company moved to California following the cutting-out of its Minnesota timberlands. In time, it became the largest timber company in history with holdings throughout north-eastern California. Evidence of the demand for, and profitability of, lumber and box parts are suggested by the fact that high quality pine was shipped from Sacramento River Canyon (Slate Creek) and Terry Mill sites regularly to the eastern United States, Europe, and Mexico.

During the late 1920s and early 1930s dependable tractors became increasingly available. This technology allowed logging with lower levels of effort and coordination than that required by railroad logging. Small-scale logging could occur in areas where railroad logging had not been feasible. At first, logs were skidded to railroad grades, but shortly after that, as truck roads became more prevalent, large haul trucks began moving logs long distances to mills. The advent of tractors and haul trucks were responsible for the elimination of many small mills scattered across the region and focused log manufacturing toward large, more efficient mills. As small mills closed, more efficient mills sprung up at central locations such as Mt. Shasta, Yreka, Weed, McCloud, Burney, Redding, and Susanville. By the time Roseburg purchased most of its California lands in 1979, much of this consolidation had already occurred.

A legacy of the tractor logging era is road systems constructed and designed for logs to be skidded downhill. Many roads were placed in the bottom of drainages and oftentimes, small tributaries were used as skid trails to move logs to haul roads. From a water quality standpoint, this was probably the least desirable road location strategy. Current practices include moving and or abandoning these roads when they pose a significant risk to water quality.

The final step in the evolution of logging technology was the advent of widespread use of modern, mobile cable yarding equipment and shearing technology for harvest of smaller trees. Modern cable yarding allows efficient and high-quality thinning and clearcutting of timber on steep ground. The shearing equipment, used on gentle terrain, allows for thinning and use of the products for clean chip or hog fuel markets.

With changes in technology came a gradual change in the way that the forestlands were managed. In the early days finding appropriate log supplies (primarily pine) and getting them to a mill in adequate quantities was the primary focus of the forest owners. Given the access and logistical problems inherent in the early days, the forest management issue was essentially an engineering problem. During the last several decades forest management has been taken over by licensed foresters rather than logging departments. This change allowed modern forestry concepts to permeate management of the forest resource, including inventory, stocking control, fuels management, habitat management, and efficient reforestation. The result has been forest management that can produce a much greater amount of wood product while doing a better job at protecting environmental issues.

C. Acquisition of California Lands by Shasta Cascades Timberlands

The timberland holdings of most large timber companies have been managed by large entities for decades. There were a variety of ways in which these lands originally became privately owned and then moved on to industrial timberland owner status. Some lands were homesteaded by individuals and then conveyed to large companies; other lands were purchased or traded from railroad companies that acquired land grants near their rail corridors. In some cases, private timberlands were originally owned by small lumber companies that used the holdings to supply logs to their mills. As these small mills closed, the owners opted to sell their lands in blocks to larger timber companies. As an example, lands comprising much of the Anderson District were first owned by small landowners, consolidated by several timber companies (e.g., Terry Lumber Company and Ralph L. Smith), then acquired by larger companies (Red River Lumber Company and then Kimberly-Clark Corporation through Roseburg Resource Co). Part of the consolidation process included the purchase of small, nearby parcels from individuals and land trades with the federal government. More recently we have seen the advent and expansion of Real Estate Investment Trust (REIT) and Timber Investment Management Organizations (TIMO) as major landowners in the industrial timber market. The acquisition of these lands is a result of this evolution in land ownership in North America.

SCT purchased all their current holding from Roseburg in one transaction. While SCT is the sole owner of its property and the timber associated with it, there are other rights associated with various properties that SCT may or may not own. For instance, on some parcels SCT does not own surface mineral rights or water rights. There are other encumbrances on some parcels such as right of way agreements. SCT doesn't have record of the mineral rights as they do not own the mineral rights. Kimberley Clark reserved those rights upon sale circa 1978. The rights of way were documented at the close of the Roseburg SCT transaction in 2018.

D. Law Changes

At the time that settlers first moved into northern California the intent of most existing laws was to encourage people to purchase and live on the land. In many cases, the settlers were not successful in using the land for agriculture or range management or they were not honest in their efforts to settle the lands. The result was that the land reverted to public ownership, or they were acquired by large timber companies. Gradually, several new laws and federal policies began to affect timberland ownership and management, namely:

- In 1905 the Hepburn Act forced railroad companies to divest themselves of superfluous lands, some of which ended up as timber management companies' holdings.
- In the early 1900s federal land management agencies began offering timber stumpage to timber companies. Oftentimes the companies owning lands in the vicinity of the federal lands acquired the federal stumpage and it was used to help augment their mill supply.
- The California Forest Practice Act was enacted in 1973. For proposed forest management projects, it required an analysis of environmental impacts and mitigation; protection of stream courses; improved road construction techniques; and reforestation or minimum residual retention.
- The 1977 Timber Tax Act abolished the existing "ad-velorum" tax on standing timber. Previously, counties assessed market value on standing timber, creating incentive to harvest as quickly as possible. The new tax law allowed for a yield tax only at the time of harvest and encouraged good forest management by removing tax considerations as a major factor in harvest regimes.

E. Urban Interface Development

When settlers first entered northern California, the forested landbase was considered a potential source of subsistence livelihood. As more work became available in nearby communities, the notion of subsistence survival died out and many of the small-scale mills, farms, or ranches were abandoned. However, a reversal of this trend has occurred over the past several decades. The northern California population and societal wealth have increased, and road systems have improved—leading to increasing numbers of people living in rural areas. Nowadays many people can live in rural areas and commute to their work. Consequently, more people, or relatively small parcels, are intermixed

with today's managed forests. The increasing mix of people, structures, and recreational activities, combined with heavy fuel concentrations due to fire suppression, have led to a volatile and risky situation. Fire ignitions frequently happen in these interface areas and suppression is both difficult and costly. In addition, urban interface dwellers can cause resource problems for forestland managers, including road trespass, illegal firewood cutting, garbage dumping and damage to infrastructure.

F. Historical Legacies and Opportunities

This historical overview of forest management and ownership history of SCT lands suggests that nearly all the economic assumptions, technologies, and laws have changed since the land was first settled. In many ways these changes have created problems for timberland owners. In other cases, the changes provide opportunities in which creative solutions can be employed. For instance:

i) *Forest Stand Structure Changes*—Fire exclusion and a legacy of high-grading (in part due to *ad velorum* tax laws) have resulted in forest stand conditions that may not be optimal. In addition, dense fuel loading may provide a significant wildfire risk to the landbase. Opportunities exist to identify fuel problem areas and develop long-term, landscape approaches to reduce wildfire risks. Today, every forest stand is evaluated, during the preparation for timber harvest plans, to determine a preferred long-term management prescription. Wildlife habitat, water quality, and other factors are considered and accommodated in the prescription development and implementation during future harvests.

ii) *Road System Legacies*—Existing road systems, most of which were constructed many years ago, may not have been designed to minimize damage to watercourses or to optimize current harvest technology. Opportunities exist to relocate and abandon some roads to minimize environmental impacts and reduce road maintenance. In addition, some roads should be blocked, either with barricades or gates, to eliminate public traffic and damage that might occur.

iii) *Development of Urban Interface Issues*—A century ago society encouraged rural living. Settlers managed the lands and took active roles in protecting the land. Today, a rural population is scattered through areas with high fuel concentrations. Often, little if any forest management of the private parcels is done and a formidable fire risk exists in these interface situations. Opportunities exist to improve communications with interface dwellers and recreationists and develop coherent road management and access control policies.

Management Objectives

Primary Management Objective:

Sustainable Growth—Our objective is to intensively manage our forest lands to provide a sustainable harvest of high-quality forest products. We will increase the variety and complexity of our landscapes and habitats over time. There will be a much more diverse mix of stand ages as we transition our, primarily uneven-aged stands, to a more regulated mix of even-aged stands. We will be able to support a large, viable business enterprise.

Until approximately 2004, nearly all the harvest operations on these lands were light thinnings, selections, and sanitation-salvage. This resulted in two significant negative results. First, there was a significant disparity between growth (high) and harvest (low) that threatened the economic viability of the company's California holdings. Second, the timberlands were quickly growing trees that were too large for many of the local manufacturing facilities. In essence, they were growing trees with little or no economic value. To address this problem and to get growth and harvest rates in line, the past managers began to use even-aged management over a larger portion of the landscape. This will continue to be the primary silvicultural method used on most portions of the forest. The desired future condition of the forest is a highly regulated forest in which growth and yield are matched closely by harvest. Even aged management has been chosen as the main tool going forward given the history and the need to rotate the current merchantable inventory. We will continue to analyze different harvesting strategies to find which silvicultural methods meet our environmental, social, and economic goals.

Secondary Management Objectives:

Stewardship—We will manage our lands in such a way that we continue to provide for a large and diverse set of environmental factors. Sound land stewardship is the cornerstone of our business. The dynamic of natural processes will be managed in such a way to achieve the complex mission of providing for human needs, while sustaining and/or improving habitats and ecosystems.

Best Management Practices—Best management practices and techniques will be used in all facets of our activities and operations. This will ensure enhanced productivity and the maintenance of healthy, vigorous environments on a sustainable basis.

Community Leader—SCT and FWS Forestry will continue to be highly visible in the local community. We want to be able to offer safe, secure family wage jobs. We want to continue to be able to support the local communities by contributing to schools, civic groups, and local scholarship funds.

Existing Conditions-Forest Resources to be Managed

SCT's California land base includes approximately 170,000 acres which extends from near the town of Yreka in the north, south and west to the Trinity River headwaters in the Coast Range east to the western edge of the Modoc Plateau in the southern Cascades and south to the headwaters of the northern Sacramento Valley near Mt. Lassen at the northern edge of the Sierra Nevada range. Over this large expanse, the climate, geology, ownership patterns, and biological factors vary considerably. This variability affects the way that the land has been and is currently managed. The variability also contributes to constraints upon the lands and opportunities that might exist.

Climate

Northern California has a Mediterranean climate, with hot dry summers and cool, wet winters. SCT lands lie in regions with precipitation ranges extending all the way from 80+ to less than 20-inches per year. The wetter areas are to the west, including the Sacramento River Canyon, while the drier locations include tracts near Yreka and Weed and lands east of the Cascade Crest. Yearly mean temperatures are primarily determined by elevation, but precipitation is determined by many other factors. For instance, rain shadow conditions prevail for most of SCT east of the Cascade Crest, including eastern Pondosa. In contrast, local topography and orographic lift create several unusual precipitation regions, specifically in the Flatwoods (north-east of Redding) and the lower Sacramento River Canyon (north of Redding). These areas received more precipitation than surrounding areas, due to compression of winter storms pushed to the north and up the Sacramento Valley. Persistent snow occurs on most slopes above 4,000 feet elevation (considerably lower in the Sacramento River Canyon). Due to the dryness of the summer, northern and southern exposures of the same regions often exhibit significantly different vegetation communities.

Geomorphology, Geology, and Soils

The northern California region is a meeting place of several disparate geological formations. Much of the Sacramento River Canyon and northern Anderson District are in the Klamath Mountain geologic province with shales, cherts, metasedimentary, and metavolcanic formations. Most of the land west of the Cascade/Modoc volcanic are terrains (island masses or deep-sea sediments) that have been accreted (welded) onto the west coast of North America over millions of years. These materials were pushed eastward and attached to the western coast of North America, by a process known as plate tectonics.

East of the Klamath Mountain province, including those lands east of the Cascade Crest, are the Cascade and Modoc geological provinces. Lava and ash flows are the primary formations, which tend to overlay the older Klamath Mountain geology. The topography

tends to be relatively gentle, compared to the rugged and incised topography found in the Klamath Mountain region.

The soils found on SCT lands are highly variable. Soil quality is generally related to soil depth and available moisture. The best soils and most productive timber growing sites are often on gentle slopes in areas with abundant precipitation; however, steeper slopes can also have highly productive soils. Examples of these highly productive soils are found on the Flatwoods, north-east of Redding, and flatter slopes of the Pondosa/Kemp and Upper Sacramento River areas. The poorest soils tend to be rocky, on steeper slopes with southern exposures, and in areas with relatively low precipitation. Examples of these soils can be found on the Yreka (Deter) Tract. An interesting soil found on SCT lands is derived from ultra-mafic (serpentine- or peridotite-derived) parent material. These soils have chemical imbalances between iron and magnesium that lead to sparse and slow tree growth. Rare plant species have evolved within isolated pockets of these soils. A unique plant, often associated with these soils and boggy conditions, are the insectivorous pitcher-plants. Ultra-mafic derived soils exist on the Mt. Shasta district, in the Sacramento River Canyon and upper portions of the East Fork Trinity River.

Profile of Adjacent Lands/Land Ownership Patterns

Large timberland-holding companies own and/or manage over 2.5 million acres of timberlands in interior northern California. In addition to SCT these include Sierra Pacific Industries, Timber Products Co., Hancock Timber Management Group, The Campbell Group, Collins Pine, Hearst Corporation, and W.M. Beaty & Associates (Walker Family Trust Lands). Interspersed with these industrial lands are approximately four million acres of public lands, including the Shasta-Trinity National Forest and eastern portions of the Klamath National Forest. Included within these federally managed lands are several Wilderness Areas. In addition, Latour State Forest (approximately 9,000 acres) and Lassen Volcanic National Park (approximately 100,000 acres) are located within this interior northern California forest matrix. A significant number of small private timberland owners also exist throughout the region. These private parcels may be as small as one acre to a thousand acres, or more in size.

The mix of ownerships, both private and public, small, and large, lead to a wide variety of forest conditions reflective of the owners' land management philosophy or mandate. For instance, for federal lands within the range of the northern spotted owl (north of Highway 299), the primary emphasis is the protection and development of late successional forest conditions. Harvest on these lands precedes at a rate merely a fraction of the total growth. Under this management regime, mean tree size will be large, standing and down dead wood will exist in high densities, and forest stands will be unnaturally dense (unless burned by wildfire).

For federal lands south of Hwy. 299 wildfire and fuels management are considered critical issues. Fuel's reduction, through forest thinnings, are commonly used. For these lands there is an increasing concern regarding the maintenance of large diameter trees.

Harvest will occur at rates well below growth. Lassen National Park is managed as naturally as possible, with logging not permitted and prescribed burns set to re-institute a fire regime. For State-owned Latour Forest the land is managed at a moderate degree of intensity, with emphasis on water quality and wildlife habitat maintenance.

Most industrial timberland owners in northern interior California attempt to grow and manage their forests in an efficient manner and accelerated pace relative to wild conditions. Much of the land is managed with even-aged silviculture, especially on the better soils, while other portions of the lands have an uneven-aged focus. In contrast, small private timberlands, not having professional managers on staff, reflect a much wider range of management strategies. Some small landowners attempt intensive tree-farming but most merely conduct custodial forest management geared to periodic removal of merchantable timber. These small landowners are much more prone to try and harvest their trees when log values are high. This contrasts with public or industrial owners who harvest at a more constant rate. There has been a significant decrease in the number of small non-industrial owners who have filed state timber harvest plans (required by the state of California). Two factors contribute to this. First, there is an ever-increasing regulatory burden placed on timberland owners. A recent study showed that an average timber harvest plan costs approximately $30,000 to prepare. This is far more than the value of the timber that most small landowners would be able to generate from their lands. There is nothing to suggest that this situation will improve within the future, in fact, there are constantly new bills being introduced into the state legislature that would increase these regulatory costs. The second factor is that log values are currently very low due to the suppressed housing market. This is probably a temporary situation but there will probably never be the high demand for logs that there was before "The Great Recession".

The result of this mixed ownership and variable management focus is that forests of different age and structure generally occur scattered throughout the northern California landscapes. Habitat features or seral conditions that are relatively low in density on one ownership may be relatively abundant within the larger landscape. In some cases, this may not occur, as in the case of where large expanses of public land exist with little forest management occurring in which case earlier seral conditions may be in very short supply. Another extreme example is where large blocks of private lands are managed intensely. In these cases, later seral conditions may be lacking within entire drainages. The last extreme example is where homogeneous landscapes, irrespective of landowner, develop after large wildfires. Recent fires have burned in northern California with high intensity—often resulting in mortality to most trees. Landowners often respond by salvaging the dead trees and establishing relatively homogeneous conifer planted stands, having similar age and often of the same mix of species highlighting the inherent risk of wildfires to landscape habitat diversity.

Biological Landscape

General Description

North-central California has a highly diverse vegetation community due to its location at the convergence of several major physiognomic provinces (the Klamath Mountains, the Cascades, and the Sierra Nevada), a large range in elevation, a diversity of topography, geology, soils, and past management history. To illustrate this diversity, immediately to the west of SCT's ownership, in central Siskiyou County, are forest stands with the highest conifer diversity in the world. Also, on SCT lands in the Sacramento River Canyon are relic populations of conifer species much more widespread in past glacial periods. Brewer's spruce and Port Orford cedar are scattered through SCT.

There is also a diversity of wildlife in the region. Over 300 species of birds, 100 species of mammals, and 25 species of herptiles can occur on or near SCT's forest lands. SCT lands provide habitat for populations of these notable species: Rocky Mountain elk, black-tailed and mule deer, black bear, cougar, Pacific fisher, Northern and California spotted owl, Northern goshawk, bald eagle, osprey, peregrine falcon, and willow flycatcher.

SCT's lands are dominated by conifer forest; however, there are smaller but significant acreages of herbaceous and shrub areas and hardwood dominated forests in addition to barren areas such as rock outcrops. Additionally, the forest has several other areas of unique interest.

Vegetation (Wildlife Habitat Relationship Code)	Approximate Acres
Sierra/Klamath Mixed Conifer (SMC/KMC)	110,000
Douglas Fir	5,000
White or Red Fir (WFR/RFR)	27,000
Ponderosa-East Side Pine (PPN/EPN)	21,000
Lodgepole or Knobcone Pine (LPP/CPC)	200
Juniper (JPP)	550
Montane Hardwood (MHW)	
Mixed and Montane Chaparral (MCH/MCP)	1,100
Foothill Pine/Blue Oak (BOW/FOP)	1,100
Wet Meadow/Grasslands (WTM/AGS/PGS)	3,100
Bitterbrush/Big Sage (BBR/SGB)	700
Urban (URB)	260
Lakes (LAC)	300
Barren (BAR)	1,600
Other and unclassified	

Representative Sample Areas

In 2021, Representative Sample Areas (where conditions are allowed to develop naturally in a protected status) were re-assessed for SCT. EPA Level IV Ecoregions were used to delineate the major ecosystems on SCT. Ten ecoregions are present on SCT. Also, areas on SCT previously delineated as "water", "open" and "rock" were also considered ecosystems for this assessment.

Extensive samples of all ecosystems (EPA Level IV Ecoregions) were identified within protected areas in the region (USGS PAD-US Gap Status 1) except for one Ecoregion: (Duzel Rock). A sample of Duzel Rock was delineated on SCT and is now protected with a No Harvest status.

"Water" and "rock" ecosystems on SCT are protected from management and are thus considered their own RSA's. For the "open" ecosystem, five areas of Pondosa meadows, already protected through HCVF status, were delineated as RSA's. Regarding this area in particular, it should be noted that the major landscape level change that has occurred in the last 100 years is the reduction/elimination of fire. This absence of fire in a fire adapted system has caused the reduction of some early seral habitats. The most notable of these are aspen/meadow systems. Even though there are protected examples in the area, SCT has undertaken and active role of restoration and maintenance of its aspen and meadow systems where they historically occurred, primarily the Pondosa and Kemp tracts. This is done by removing all conifers from the aspen stands and historic meadows. In these rare cases we do not replant any conifer and we do not engage in any mechanical or chemical site preparation.

Representative Sample Areas will be reassessed when needed and at the time of full management plan updates, but at least on a no more than a ten-year cycle.

Rare, Threatened, Endangered Species

Several rare, threatened, and endangered species are found on the forest. There are literally dozens of occurrences and thousands of individual plants that are listed under the California Native Plant Society's Rare Plant Ranking System. These occurrences are far too numerous and widespread to list here but all locations of list 1, 2, and 3 plants have been submitted to the California Natural Diversity Database and can be found there.

Other RTE species found on the forest include Northern Spotted Owl, Pacific fisher, Willow Flycatcher, and Northern Goshawk. Again, all these locations are submitted to the California Natural Diversity Database. This database is queried prior to all timber harvest activities to check for locations of RTE species.

High Conservation Value Forests and Areas and Forests with Exceptional Conservation Value

In 2021, High Conservation Value Forests and Areas were re-assessed for SCT. Each of the six High Conservation Values identified in the FSC Standard were considered and assessed. Only HCV 1 (Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values) was found to be significantly expressed on SCT. Our HCV assessment concluded that five areas of the Pondosa meadows met the definition of a HCV Area, and therefore these areas are protected with that status. They will be managed to maintain and enhance that conservation value.

It should also be noted here that our assessment of HCV 3 (Forest areas that are in or contain rare, threatened or endangered ecosystems) determined that SCT should implement a process by which potential old growth stands can be identified in the planning process and otherwise, and a process by which potential old growth stands can be assessed through an inventory process to determine if they meet the definitions of FSC OG Type 1 or Type 2, and if they require protected status (such as through HCVF status). These processes were developed and are described in the FWS Old Growth Assessment Procedure.

At the time of this plan edit (October 2021) the High Conservation Value Assessment is ongoing, in that we have completed our initial assessment and have started the consultation process. We expect that consultations will continue, and these consultations may result in some adjustment or re-assessment of the results of our current exercise.

Once the initial assessment/consultations process is complete, the High Conservation Value assessment will be reassessed when needed (for instance if our Old Growth process identifies any Old Growth stands on the FMU) and at the time of full management plan updates, but at least on a no more than a ten-year cycle.

F&W Forestry assesses forests for the presence of FECV at the time of entry to the SFI group and/or the time of management plan preparation or update. Data sources vary by region, but the primary data sources are state level RTE species data layers available through F&W's Arc Online Certification Project and services like NatureServe, and state-level SFI produced Fact Sheets, where available. Currently, no Forests with Exceptional Conservation Value have been identified on SCT.

Exotic and Invasive Species

Occasionally invasive species are found on the forest. Some species of invasive plants include several species of thistle (*Cersium* spp. and *Carduus* spp), Yellow Starthistle and Knapweed (*Centaurea* spp), and Dyer's Woad (*Isatis tinctoria*). If it is feasible and appropriate, we treat these species with herbicides as we are able. This usually occurs in recently harvested areas. None of these species are considered a problem at this time.

If, at any time, these or other invasive species become epidemic we will consult with experts on their control and take appropriate measures.

Siskiyou County has a formal weed eradication program in which they have access to the forest for control of exotic plants. They have been informed of the Highly Hazardous Chemical List and have formally agreed to not use and HH Chemical on our lands.

There are some species, that while currently not found on the forest, in the area of the forest that may not be able to be controlled if they reach the forest due to the ban on certain chemicals by FSC. Mechanical removal of Hoary Cress (*Cardaria draba*), for example, is highly discouraged as this only serves to accelerate its invasion. 2,4-D is the recommended herbicide for control of this extremely problematic invasive.

Other exotic species found on the forest include brook trout and brown trout. Both species are regulated and as such, their control or elimination is infeasible.

Regulatory and Legal Conditions

Timberland managers in California are required to adhere to several important laws and regulations, namely:

i) *California Forest Practices Act (FPA) and the California Environmental Quality Act (CEQA)*— The California Environmental Quality Act requires an analysis of cumulative impacts on the environment for any proposed project, including commercial timber harvest. Under CEQA, timberland management is controlled by the California Forest Practices Rules (FPR's). California was one of the first states to have a FPA and, undoubtedly, is the most comprehensive in protecting public trust resources. Many environmental issues are covered by the state's FPR's with reforesting harvested areas, balancing growth with yield, protecting water quality and fish and wildlife habitat being major points of emphasis. The FPR's require that a written Timber Harvest Plan" (THP) be prepared, evaluated and approved prior to the commencement of any timber harvesting operations. Under CEQA the THP serves as the CEQA document or as an Environmental Impact Report equivalent. The CEQA process allows for review teams, comprised of the various state agencies responsible for different resources, to provide input regarding proposed projects. CEQA requires that all significant impacts be mitigated to a less than significant level.

ii) *The Endangered Species Act (ESA) and the California Endangered Species Act (CESA)*—Both of these laws make it illegal to "take" a listed (threatened or endangered) species. The definition of "take" is slightly different in each law but the result is that no listed species can be harmed during our timber management activities. The interaction between CEQA and the ESA results in a more restrictive process in which no THP can be

approved if there is a **likelihood** that take of a listed species will occur. This results in a process in which the project proponent basically must prove their innocence prior to any potential crime (a take) being committed. The result is that whenever a listed species might be affected by a THP, surveys must be conducted to determine if the species is present, and if so, where locations, such as nest sites, are located.

iii) *Clear Air Act (CAA)*—Timberland management becomes involved with the CAA when prescribed burning is planned (Figure 7). This act is intended to improve air quality. Local offices of the Air Quality Control Board coordinate landowner plan to conduct burns. The determination of whether burning is allowed, in part, is based upon the current air quality conditions and predicted air flow patterns, especially when downwind population centers exist. Increasingly, air quality considerations make it difficult to conduct slash burns, which result in added difficulties to regenerate harvested units. To lessen the reliance on burning to effect successful reforestation, Roseburg began experiments with alternative slash treatment strategies, including the use of a "Spyder" to pile slash.

iv) *Clean Water Act (CWA)*—The CWA requires states to identify "impaired waterbodies", in which beneficial uses may be impacted. For waterbodies placed on this list the state must prepare a Total Maximum Daily Load (TMDL) document, describing the stressors that contribute to listing and develop a program to improve the conditions, if possible. For projects planned by timberland owners within an "impaired" drainage, specific Forest Practice Rules must be followed. The CWA considers forestry activities to be nonpoint sources of pollution, in contrast to factories, which are point sources; hence, no pollution discharge permit is required. For forest management the CWA assumes that the forest Practice Rules are "Best Management Practices" (BMPs) that will mitigate any potential impacts to waterways. Monitoring and evaluation of each state's forest practice rules are an ongoing process to ensure that BMPs adequately protect waterways and public trust resources.

v) *Chemical Use Regulations*—Chemical applications are regulated by the California Department of Pesticide Regulation (DPR). Licensing requirements apply to applicators, and, in many situations, written recommendations are required for each use-situation. Permitting procedures and regular reporting of applications are required by the regulations.

Economic/Social Conditions

There has been a long trend for log milling to become more and more concentrated in larger, centrally located sites. Excellent highway and rail facilities were critical in

allowing this centralization to occur. In addition to logistical and efficiency considerations driving this trend are the dramatic declines that have occurred in the last 30-years relative to the amount of timber harvest that has occurred in California. For the years 1978-1987 the average harvest was 3.6 billion board feet of harvest per year while for 1996-1999 an average of 2.25 billion board feet per year were harvested (see Figure 9). This 40-percent state-wide reduction has been a result of drastic reductions in federal timber production, with a decline from 1.4 billion to 290 million board feet per year in the same periods (80 percent reduction). This reduction in forest harvest has contributed greatly to the reduction and consolidation of milling facilities.

Today, milling centers in northern California are in Yreka, Weed, Anderson, Burney, Weaverville, Chester, and Westwood. However, as recently as early 2016, there has been further steps of consolidation and centralization, as Shasta Green closed its mill in Burney. Forest economic factors that directly impact forest management include:

i) *Markets*--The decline in harvest volumes has reduced the number of sawmills and to a decline in the traditional uses of logs—namely lumber. Several alternatives to wood products have been developed recently, including metal framing studs. On the other hand, there have been attempts to creatively develop new markets, including increased uses of plywood, the development of oriented-strand board facilities, and the increased uses of wood chips, whether for paper products or for burning as hog fuel. The recent upturn in electrical rates, because of west-coast shortages, provides timberland owners opportunities to kill two birds with one stone—reduce fuel loads in overstocked stands and provide chips to biomass generation facilities. Nearby biomass facilities are centrally located at Anderson, Burney, Susanville, Chester, and Westwood.

ii) *Timberlands As Investments*—The economics of timberland management is different than virtually all other investments. While other companies can produce a product and achieve a return on an investment within a several year time, with timberlands it often takes 30 years or more for a planted tree to produce a product that might provide a profit to the landowner. In addition, the landowner must protect that investment for years from insect, disease, and fire risk. In some situations, these risks are considerable and difficult to calculate. Additional risk to the forest management equation is contributed by changing regulatory climate. With one signed document many of the economic decisions that went into a forest's management can be made meaningless.

Timberland owners include a wide variety of entities. SCT is an example of a private forest owned by a wide range of investors. There are no longer any publicly owned timber companies operating in CA. Louisiana Pacific and Pacific Lumber both sold their holdings in the in the late 1990's and early 2000's. REIT's, TIMO's and family-owned companies are all that remain in CA.

Prior to the SCT acquisition, RRC produced and submitted a 100-year growth and yield plan to the State of California that predicted an increase in standing timber volumes and a slow and steady increase in growth per acre of land, over the 100-year period (see Forest Growth and Yield Section).

Roseburg was continually certified by the Forest Stewardship Council since 2003 to provide certified wood products to the market.

Risks and Hazards

SCT owns timberland that are faced with several risks that could lead to destruction or degradation of its resources or limit future management options. Understanding the hazards to our resources and reducing the risks is an important part of the management of the land base.

Fire

The Mediterranean climate found in northern California, with moist winters and warm, dry summers is conducive to wildfires. This hazard is exacerbated by abundant growth of hardwoods, conifers, and shrub species. Prior to Anglo settlement fires likely burned frequently through our forests, leading to the spacing of trees and reduced shrub and herbaceous understories. With repeated, frequent fires, the number of fuels (shrubs, small trees, and down wood) was constantly diminished, leading to relatively light and patchy fuel concentrations. These fuel conditions resulted in low intensity and patchy fires.

Beginning in the 19th century significant effort was put into suppressing wildfires. Lookouts, fire fighting crews, and effective public relations efforts were responsible for reducing the number of intentionally set fires, identifying them quickly, and suppressing them. As decades proceeded, increased efforts and funding were spent to increase suppression capabilities and effectiveness. However, at the same time, forest fuel densities increased dramatically. Paradoxically, the result has been a very effective suppression infrastructure for a large portion of wildfires, but for a small portion of fires the suppression efforts are inadequate, and the fires grow to very large size. Given the intensity of these large fires, a function of the extreme weather conditions typical when the fires are burning and heavy fuel concentrations, often lead to near-total mortality of the conifers.

This situation is exacerbated by the large and growing number of dwellings being constructed in the "urban interface" zones. The population living in heavy forest zones and the dwelling present effect the fire risk situation. The number of fire starts is greater where people live and recreate, and fire-fighting strategies are affected by the presence of dwellings. The top priority of suppression personnel during a wildfire is life and property, therefore, in urban interface fire situations there is considerable effort put into protection of property with a resulting reduction in the effort and resources to devote to fire suppression.

In the past quarter century, several large fires have burned SCT forestlands, affecting over ten percent of the ownership, specifically:

Forest District	Fire Name	Year	Acres Burned
Mt. Shasta	Pondosa	1977	6,400
	Mt. Shasta	1986	60
	Altoona	1999	140
	Bear	2005	58
	Ward	2012	64
	Boles	2014	46
	Weed	2016	30
Anderson	Fern	1989	1,200
	Fountain	1992	27,400
	Powerhouse	2001	90
Sacramento Canyon	Delta	2018	4,500
Mt. Shasta	Unnamed	2021	<1
Total			39,790 acres

Each of these fires killed most, if not all, of the standing conifers and resulted in other environmental impacts. These past experiences suggest that fires are a considerable risk to SCT lands. Significant effort must be put into identifying the highest risk areas and reducing fuels and the continuity of fuel conditions.

For years Roseburg had been attempting to reduce fuels to reduce fire risk. This has been done during timber harvesting, fuels reduction following harvest (e.g., slash burning and chipping), and forest stand thinnings. FWS Forestry and SCT continues to use these methods to continue fuels reduction; however, these efforts have largely been accomplished opportunistically, depending upon other forest management motivations and have not necessarily been orchestrated over large landscapes.

To develop landscape strategies regarding the reduction of fuel continuity and wildfire risks the following tools and processes will be developed:

- Chipping of non-merchantable material in post-harvested stands where feasible
- Piling of slash and burning piles in winter months depending on weather conditions
- Installing shaded fuel breaks on key ridges and plateaus across the ownership
- Maintaining the current network of 15 miles of green and shaded fuel breaks across Shasta-Cascade Timberlands
- Collaborate with adjacent landowners to build cross-ownership fuel breaks
- Maintain eight 11,000-gallon helicopter dip tanks on key high points on SCT
- Invested in a TriMax Compressed Air Foam (CAF) devices which will be deployed with contract logging workforce. TriMax units can dispense up to 2,700 gallons of foam retardant from 120-gallon portable tanks that are equipped with 100 feet of hose and can dispense retardant up to 100 feet away.

- Developed a fire-risk model using the U.S. Forest Service Software FLAMMAP to facilitate the identification of the highest-risk fire zones on the Shasta-Cascade Timberlands which FWS Forestry is evaluating and developing a management plan for these high-risk zones, which includes fuel reduction projects and shaded fuel breaks. (https://www.firelab.org/project/flammap).

- Maintain active membership with the Northern California Fire Cooperative Association which coordinates with federal and state agencies and private landowners.

There were no significant fire incidents on SCT in 2021. The lightning strike period, which started in June and continued through September, was extremely active across northern California and the SCT footprint. However, the major wildfires occurred around SCT but did not materially impact the SCT asset. The major 2021 California fires burned in all directions: to the north (Antelope, Tennant Fires), South and east (Caldor, Dixie, Fires et al.) and West (River, Monument and McFarland fires) of SCT. Overall SCT was fortunate to have escaped a major fire.

Minor fire incidents on SCT in 2021 included a small < 1 acre fire in Pondosa off the Pacific Crest Trail that ignited during a rain event. FWS Forestry personnel responded with CalFIRE and it was doused quickly. The other small fire occurred on May 5th where a lightning strike ignited debris very close to the SCT border. CalFIRE and CHP helicopter provided water drops to douse the fire. No damage occurred to the SCT asset on either fire.

Insects and Diseases

The SCT Integrated Pest Management Plan is a guiding document and considered part of this FMP. There are several conifer diseases or pathogens that, on occasion cause unacceptable levels of damage to SCT timberlands. These include black-stain, *Heterobasidion annosum*, mistletoe, and blister-rust. Black-stain occurs primarily east of the Cascade Crest and kills patches of pine while spreading along root-grafts. *Heterobasidion* is a fungus that affects white fir and pine by spreading from fruiting bodies or from cut stumps. There are different mistletoe species for each conifer species and occasionally infestations can be heavy. Spores are spread slowly from an infected to uninfected tree or from an upper crown to lower crown position. Blister-rust occurs in the five needle pines (sugar and western white pine). Spores are spread by the wind and efforts continue to find genetically resistant trees.

Forest insects, such as many of the borers, defoliators, and bark beetle species, can cause significant conifer mortality. Although not usually overly damaging by themselves, these insect's damage if often associated with other forest stress factors, such as drought. Several additional insects' species are primarily found in young, planted stands and can be problematic, including the gouty midge, pine-shoot borer, and sheath-miners. Damage from these "planted stand insects" tend to be worse where trees are stressed from overcrowding or heavy shrub competition and during drought years.

Many of the described diseases and insect problems are episodic and localized. However, in cases where a large-scale stressor is placed on many trees or an entire forest, damage of an unacceptable level can occur. The key, of course, is to do what is possible to reduce stress on the growing trees so that they are not susceptible to insect and diseases. The goal is a healthy forest.

FWS employees are constantly on the lookout for unusual occurrences of these insect and diseases. When potential epidemics are found, technical assistance is frequently acquired from the State and decisions are made regarding how to reduce the potential loss.

Appropriate management of conifer stands, including stocking control to reduce competition between trees, will by itself greatly reduce the risk of insect and disease outbreaks.

Wildlife Resources and Habitats

SCT's forested lands consist of highly varied mosaics of stand types exhibiting a range of structural characteristics. Interspersed through the forested landscapes are non-timber habitats, including shrublands, rocky areas, meadows, lakes, and riparian areas. This highly diverse pattern exists within landscapes where public lands are dispersed. These public lands have a different focus to their management than the private lands, with much greater emphasis on protection and development of later seral habitats. To cap off the situation, the SCT land base is in a portion of northern California noted for high faunal diversity.

Existing Wildlife Resources and Habitats

During every-day management activities, company employees have identified many rare, unusual, or interesting wildlife sites on or near SCT lands. Many of these have either federal and/or state habitat restrictions that apply to forest management; therefore, SCT has habitat retention areas around each of these sites or has modified management because of the site's presence. The following is a summary of **known** locations of special status wildlife species, either on SCT or nearby lands, along with their habitat protection measures

i. *Pacific fisher locations*. Pacific fishers have been detected on every tract on the property where surveys have been conducted. Several dens were in the Castle Creek area in a cooperative study with Sierra Pacific Industries and DFG.

ii. *Big Bear Flat Bald Eagle Nest Site.* This nest is located alternatively on SCT, Beaty and private land along Bear Creek on the Pondosa Tract.

iii. *Flatwoods Osprey Nests.* Several osprey nests are located on, and adjacent to, SCT lands along the Pit River and its major tributaries, such as Roaring Creek, on the Flatwoods tract.

iv. *Kemp Flat Willow Flycatcher nesting area*. There are several nesting pairs of state listed Willow Flycatchers that use Kemp Flat. These nests are located adjacent to SCT lands. CA Forest Practice Rules restrict disturbances near the sites during the critical nesting period, which can affect log haul or water drafting.

v. *Northern Goshawk Nests and Alternative Nests.* During the past decade several goshawk nests and alternative nest sites have been found on SCT lands. Protection is given to these sites per the CA Forest Practice Rules unless they have been abandoned for three or more years. These sites are monitored periodically.

vi. *Northern Spotted Owl Nests or Activity Centers.* Active nests or activity centers exist on or adjacent to SCT lands in several locations. According to the protocol

used in determining an activity center, some of these sites may represent night-time response locations but not actual nest sites. Near-total protection is given the site within 1,000 feet distance of the nest and habitat retention standards are followed out to 1.3-mile radius of the site.

vii. *Roaring Creek Great Blue Heron nest*. An active nest was found in 2010 above Roaring Creek.

viii. *Old Cow Creek Peregrine Falcon Eyrie.* This site was found in the early 1990s and has been active continually since that time. Habitat protection is afforded around the site and activities are restricted during critical nesting periods. The site is monitored yearly

ix. *Listed Anadromous Fishery Streams.* These drainages containing SCT lands are known or suspected of providing habitat for listed salmon or steelhead trout. Special riparian and road use rules apply which are more restrictive than watersheds without the listed species.

General Wildlife Resources and Habitats

SCT lands consist of a variety of vegetation communities. The landbase was intentionally chosen to encompass coniferous stands; therefore, most of the ownership is dominated by commercial conifer stands. West of the Cascade Crest many stands have up to five or six conifer species and often with a black oak component, below 4,500 feet elevation. A wide variety of forest stand conditions exist, ranging from almost 40,000 acres of planted stands less than 20-years of age, primarily derived from wildfire salvage and reforestation; to uneven-aged mixed conifer stands with many trees over 24-inches diameter; to residual patches of large, older timber. Frequently interspersed with these stands are riparian areas with their unique combination of hardwoods and mesic shrub communities.

Non-conifer dominated stands also exist throughout SCT's lands. For instance, hardwood dominated stands (canyon live oak and black oak) exist in the Sacramento River Canyon and lower elevations of the Anderson District. Foothill pine and chaparral dominated stands can be found on the Anderson District, east of Redding, and in the Sacramento River Canyon. Mixed chaparral communities exist on harsh sites west of the Cascade Divide, on both the Mt. Shasta and Anderson Districts. Montane chaparral stands often occur on rocky ridgelines at the higher elevations of all three districts--often the legacy of past wildfires.

East of the Cascade Range the more open-grown conifer stands are intermixed with seasonal lakes, meadows, low sage, western juniper, and bitterbrush/mountain mahogany stands. Small, scattered populations of aspen, one of the few east-side hardwood species, exist along meadow edges or at the base of talus slopes and lava flows. These non-coniferous habitats provide excellent early seral habitat for many wildlife species. The

resulting landbase is quite variable and provides habitat for an amazing variety of wildlife species.

Unique and Special Habitats

The amazing diversity of geology, topography, vegetation, and wildlife resources found in northern California is well-known. SCT's ownership encompasses a representative sample of the diversity present in the region, including a variety of unique or special habitats. These unusual habitats, generally interspersed among commercial coniferous stands, tend to be scattered and provide considerably different attributes than surrounding habitats. Oftentimes they exist because of unusual soil or parent material and can harbor uncommon plants or animals. Due to their relative rarity, they may potentially require special inventory, evaluation, or management. They may also provide an opportunity for research, monitoring, or recreation.

Some of these unusual habitats may be "high risk", in that they may either be at risk of degradation or may potentially provide risks to adjacent lands. An example of "high risk" sites where degradation may be occurring would be meadows that are being encroached upon by conifers or shrubs. Without intervention, successional forces will eliminate such meadows. Examples of these special habitats include:

1) Aspen/meadow complexes;
2) Wet meadows, marshes, bogs, and vernal pools;
3) Early seral habitats;
4) Cliffs, talus slopes, and sheer rock bluffs;
5) Lakes;
6) Geological sensitive areas (e.g., landslides);
7) Botanically sensitive areas (e.g., serpentine soils);
8) Sub-alpine habitats;
9) Sensitive species nesting habitats (e.g., Northern goshawk, osprey, great blue heron, and Northern spotted owl); and
10) Late successional habitats.

These areas are delineated and mapped in our GIS as they are found. There has been a concerted effort over the past three years to restore and maintain many of these areas, especially aspen and meadow areas on the Pondosa Tract.

Habitat Retention Strategies

FWS Forestry employees and SCT management firmly believe that their land management is among the best to be found along the West Coast and effectively protects public trust resources in all respects. While normal forest management procedures following the forest Practice Rules result in many wildlife habitat benefits, FWS Forestry has developed policies and strategies to protect and enhance habitats with outstanding wildlife habitat values. These include Habitat Retention Areas (HRA's), legacy tree retention and oak retention and recruitment. SCT currently retains at least 10% of the

pre-harvest stand area in HRA's. These HRA's are designed to incorporate rare or unique habitat elements such as large decadent trees, concentrations of large woody debris, oaks, and rock outcrops. Our oak retention policy is to retain a minimum of $2ft^2$/acre of oaks in even aged units where it exists. This can be done either in aggregate retention or dispersed retention. For example, a 13-acre unit should have $26ft^2$ of oak basal area retained after harvest. The $26ft^2$ can be scattered evenly across the unit or can be contained entirely within an HRA.

Legacy Tree and Late Successional Stand Management

Periodic updates of the inventory improve our ability to identify potential late successional stands, including potential old growth, and to quantify wildlife habitat. Legacy trees and large snags are both measured where they occur on plots and may be queried to support FWS's old growth assessment process.

Stand and Landscape Structural Diversity

Landscape scale habitat features are assessed based on inventory, monitoring, and landscape level assessments and considered in the adaptive management planning used on SCT.

Snag Policy

FWS's snag policy will result in large snag density gradually increasing on SCT. Significant amounts of hardwoods occur in three general locations on SCT. First, in riparian areas, where alders, willows, or cottonwoods are abundant. Second, on harsh, rocky sites west of the Cascade/Sierra Crest. (Predominant species include blue, California black oak, and canyon live oaks.) Third, where California black oak is intermixed with conifers in mixed conifer stands, west of the Cascade/Sierra Crest.

The existence of snags, down wood, and hardwoods; intermixed with associated streamcourses; in a landscape pattern of uneven- and even-aged stands, suggests a moderate to high degree of landscape structural diversity. SCT policies to manage for appropriate levels of snags, hardwoods, and legacy trees will insure that within stand and stand-to-stand diversity will continue.

Structural Diversity on Interspersed Private and Public Lands

SCT lands are intermingled with other private lands. Some of these lands are owned by large, industrial holders while others are owned by small landowners. Stand conditions on nearby industrial lands are likely like SCT lands. Conditions on small, privately owned parcels appear to be much more variable, including higher levels of both snags and hardwoods. Some small private parcels may be but slightly managed and have a high degree of tree decadence.

SCT lands are also intermingled with public lands, including portions of two National Forests (Shasta-Trinity and Klamath); a state park (Castle Crags); and a State Forest

(Latour). Finally, there are miscellaneous public lands, including those managed by the Bureau of Land Management, State Lands Commission, etc. These public lands span a range of management mandates, ranging from no timber harvest (state and federal parks and Wilderness Areas); to very light harvest of selected sub-areas (National Forests); to moderate levels of harvest (Latour State Forest). Wildlife and fish habitat protection, water quality protection, and visual quality management are all very important considerations in all public land management schemes.

Significant amounts of mature and older forests exist on the public lands that border SCT holdings. Many of these lands are managed for their later successional habitats, including parks and national forest "Late Successional Reserves", or are managed with low intensity. On nearly all these public land's efforts are made to retain high amounts of habitat features such as snags, down wood, and hardwoods. For the federal lands north of Hwy. 299, and within the range of the Northern spotted owl, a riparian reserve system has also been implemented, where wide corridors along streams are maintained. These riparian areas serve to protect water quality, fish habitat, and provide wildlife habitat, including movement corridors.

Landscape Habitat Corridors

Several factors lead SCT to believe that there are few instances in which special efforts need to be made to provide habitat corridors through SCT. This is because there is a high degree of public land ownership intermixed and adjacent to SCT lands with heavy emphasis on protection of public trust resources and existing requirements of the forest Practice Rules to protect riparian zones and other special habitats.

Where large blocks of SCT lands exist, landscape habitat conditions and considerations for habitat corridors will be considered during preparation of Timber Harvest Plans. Consistent with this line of thought is the possibility that corridors of early to mid-successional habitats may need to be considered by adjacent public land managers. After all, it is possible that, given public land mandates, early to mid-successional habitats may only exist in the future in large wildfire-caused blocks. The size and distribution of these seral habitats will be considerably different in the future than in the prehistoric past.

Trends in Stand and Landscape Habitat Diversity

A goal of management is to consider, and where appropriate increase, the structural diversity of SCT lands. This will occur over time because of the following actions:

- An increase in large tree abundance
- Habitat retention steps to be taken under the snag management policy
- Legacy tree retention steps
- Hardwood retention

- Adhering to CA Forest Practice Rules that perpetuate habitat diversity, e.g., WLPZ rules.
- Spatial and temporal distribution of stand management activities.

The result will be a diverse forest structure and, when superimposed upon the various landscape, diverse landscapes.

Aquatic Habitats

During the last decade an increasing amount of environmental and regulatory scrutiny has been directed at aquatic issues. Listing of rare fish species; concerns regarding the potential of cumulative impacts; and the need to protect water quality have all been part of the rationale for the increased concern. Because riparian areas surround and often protect water quality ensures that controversy regarding the management of riparian habitats will continue to be interwoven with the water quality issue.

A. Riparian Habitats

Riparian habitats are those that grow along the edge of either seasonal or perennial water sources. In xeric landscapes the riparian zone can be quite narrow and discrete while in mesic regions the riparian zone may be much wider. Based upon current GIS data, SCT has over 9,000 acres within WLPZs. If the WLPZ zone is assumed to approximate riparian habitats, approximately three percent of the landbase falls within riparian zones. Typically, following THP development additional Class II and III stream courses are identified than exist on current maps, suggesting that even a greater percentage of habitat consists of riparian vegetation on SCT lands.

Riparian habitats on SCT lands consist of varying mixes of hardwood and conifer species. While the conifers are typically the same species found in the nearby upland forests, the hardwoods can vary considerably. In forests east of the Cascade/Sierra Crest hardwoods are often scant and may consist of aspen. Further to the west, riparian-associated hardwoods include white alder, black cottonwood, Oregon ash, various species of willow and dogwood, big-leaf, and vine maples.

Besides serving to protect stream ecological functions (e.g., water temperature moderation, large down wood production), riparian habitats often provide high value and diverse wildlife habitat. These riparian zones are often habitat for rare plants, as evidenced by recent, important findings of English Peak green-briar on the Anderson District. SCT understands the importance of these habitats and has always been conservative with their management.

In some “riparian” habitats conifers have been invading meadow habitats. Beginning in 2001 Roseburg identified several priority areas to attempt experimental meadow enhancement--by removing the conifers. The goal was to encourage the herbaceous

growth important to many wildlife species. On the first project, Shoestring Meadows, field reviews were held with applicable state agencies and the concept was strongly supported. The first project was completed using mechanized equipment in October 2001 and will be monitored to determine if the strategy can be used in similar situations. The second project, Buckhorn Meadows, was accomplished with hand-crews in the spring of 2002. Since that time Roseburg completed nearly 400 acres of aspen meadow restoration, mostly on the Pondosa Tract. FWS Forestry staff has continued this effort on the forest and is noted in the PLM Management Plan.

B. Water on SCT Lands

SCT lands span a range of low to moderate precipitation zones. Much of the lands east of the Cascade Crest probably receive less than 35 inches of precipitation yearly and the soils are quite porous. Consequently, year-round streams are few and scattered. As examples, Big Valley Mountain, containing over 30,000 acres of SCT, has only one perennial stream and the Davis/Blacks Mountain/Camp/McClure tracts, containing even more land, have none! West of the Cascade Crest precipitation is greater and perennial streams are much more common.

According to the CA Forest Practice Rules, streams are given regulatory classifications based upon whether they have fish (Class I), other aquatic life (Class II), or can be ditches (Class IV). Features upon the landscape that can carry water to Class I streams, during periodic events but are not Class I, II, or IV, are termed Class III streamcourses. GIS analyses of SCT lands currently show the following amounts of the various categories of streamcourses-types:

Streamcourses Classification	Miles of Streamcourses on SCT Lands
Class I	164.7
Class II	347.0
Class III	756.0
Class IV	21.2
Total	1288.9 miles

SCT lands also contain a variety of ponds and lakes. Notable examples of company lakes include Buckhorn Lake, east of Redding, and Picayune Lake, west of Mt. Shasta. However, many small, perennial ponds exist on SCT, the best examples being east of Mt. Lassen. Some of these ponds are natural while others have been developed or enhanced. They might have water all or nearly all year long, or hardly at all—depending on the winter precipitation total. These shallow lakes often provide excellent waterfowl and songbird habitat, albeit variable from season to season.

C. Waters with Special Regulatory Status

i) 303(d) Waterbodies—The Environmental Protection Agency requires every state to identify waterbodies in which beneficial uses have been impaired. Although different states use different procedures to determine impairment, California has produced the required list—the so-called 303(d) list. Under the Clean Water Act, states must prepare plans for each listed waterbody to address impairing factors and plan improvements—so-called Total Maximum Daily Load (TMDL) reports.

According to the State List, SCT has land in several drainages containing waterbodies on the 303(d) list**.** The following is a list of these waterbodies and the factor for which the waterbody was listed:

Forest District	Waterbody	303(d) Listing Factor
Anderson		
	Little Cow Creek	Cadmium, Copper, Zinc
	Clover Creek	Fecal Coliform
	Oak Run Creek	Fecal Coliform
	South Cow Creek	Fecal Coliform
	Pit River and Fall River	Nutrients, Organic Enrichment, Low Dissolved Oxygen, Temperature
	Trinity River	Sedimentation, Siltation
	So. Fork Trinity River	Sedimentation, Siltation, Temperature
Mt. Shasta		
	Klamath River	Nutrients, Organic Enrichment, Low Dissolved Oxygen, Temperature
	Scott River	Sedimentation, Siltation
	Shasta River	Organic Enrichment, Low Dissolved Oxygen, Temperature

The impaired waterbody list is dynamic, and it is possible that other streams may be added to or removed in the future.

TMDL documents will be prepared by the State for these waterbodies over the next decade. It is unlikely that forest management has little to do with the listing factors for the listed streams flowing through SCT lands. When TMDL preparation begins on each, SCT may opt to actively participate in the plan's preparation.

ii) Threatened and Impaired (T & I) Streams—Several anadromous fish species living in northern California waters, have been recently listed by the federal government as "threatened". These include Coho salmon, several runs of chinook salmon, and steelhead trout. To address these species, from a regulatory perspective, the state Board of Forestry developed Threatened and Impaired (T & I) rules applicable to Planning Watersheds in which listed fish dwell.

T & I rule emphasize the analysis of proposed projects; consideration of alternatives; and mitigation of potential impacts. The maintenance of riparian functions, winter use of roads, and appropriate culvert function are elements heavily emphasized in the new rules.

SCT owns lands in the headwaters of several T & I drainages. In other words, water flowing from these portions of SCT contributes to streams harboring listed anadromous fish. These drainages include:

Forest District	Waterbody	Listed Species
Anderson	Sacramento River Tributaries	Steelhead
	Old Cow Cr.	
	Little Cow Cr.*	
	South Cow Cr.	
	Bear Cr.*	
	Cedar Cr.*	
	Glendenning Cr.	
	Cottonwood Cr.	
	Trinity River Tributaries	Steelhead, Chinook, Coho
Mt. Shasta	Klamath River Tributaries	Steelhead, Chinook, Coho
	Scott River	
	Shasta River*	

*Drainages with known anadromous fish barriers downstream from SCT land.

Many of the tributary streams in which SCT owns lands, although existing within a Planning Watershed listed as T & I, are above physical barriers to anadromous fish. To date, steams above physical fish barriers have been interpreted by the state as being outside the purview of T & I rules.

Some of the other SCT lands within T & I Planning Watersheds, contain only Class II or III watercourses. In these cases, anadromous fish streams do not exist on SCT but further downstream.

D. Watershed Analyses

As part of every Timber Harvest Plan prepared, watershed analyses of some form are completed. The intensity and focus of analyses are driven by the sensitivity of the watersheds being affected. For instance, watersheds with little or no perennial water have considerably less attention and vigor placed in the analyses than projects in watersheds with listed fish species or 303(d) waterbodies.

To date analyses procedures have included some or all the following approaches:

- Water temperature data acquisition and analyses
- Sediment data acquisition and analyses
- Equivalent road acreage (ERA) analyses
- Evaluation of road crossings of streams for adequacy

- Analyses of past harvesting and road projects to test efficacy of mitigation
- Analyses of stream reaches for evidence of damage by increased flows
- Acquiring and analyzing data from nearby planning efforts (e.g., U.S. Forest Service Watershed Analyses)
- Analyses of crown coverage, watercourse debris, etc.

These analyses have led to a determination of whether best management procedures, as spelled out in the forest Practice Rules, sufficiently protect water quality objectives. In some cases, additional mitigation has been incorporated into projects.

E. Watershed Groups

Proactive consortiums of private and agency groups have formed to assess water quality issues in northern California and to propose solutions. Roseburg was, and FWS Forestry has been active in those efforts that overlap watersheds where SCT exist. Groups include the French Creek Watershed Group; the Fall River Watershed Group; and the Cow Creek Watershed Council.

F. Domestic Water Sources

Many tracts of SCT are adjacent or intermixed with small, private land holdings. This situation raises the possibility that company waters, either from springs or streamflow, are being used by adjacent private landowners for domestic uses. The location and number of these cases, although suspected to be widespread and numerous, are not precisely known.

G. Water Drafting

As required by the CA Forest Practice Rules, dust abatement is regularly applied on company roads during active haul. Although there are several chemical alternatives, water application is generally used. Over the course of many years water holes have been developed for this purpose, as well as to provide water for wildland fire emergencies and other management needs. Prior to water drafting from SCT water diversion permits are filed with the State Department of Water Resources. At the end of each year a report is filed with this agency summarizing the location and usage of water.

H. Existing Water Quality Protection Rules as Effective BMPs

Existing Forest Practice Rules have innumerable aspects that serve to protect water and riparian conditions. Examples include:

- Road Construction—require techniques to minimize fill failures; culvert installation that allows fish passage and will pass a 100-year flood event
- Riparian Protection—require buffers along streams with canopy cover protection and large wood recruitment and equipment exclusion and/or limitation
- Management of Unstable Areas—require avoidance or mitigation of areas at risk of depositing material in streams
- Chemical Use—require appropriate chemicals be used and buffers be established along water. In addition, chemical usage falls under the purview of Department of Pesticide Regulations and associated regulations preside

These rules form effective Best Management Practices to protect water quality. The State of California has ongoing monitoring efforts to test the efficacy of the existing rules.

Rare Plants and Plant Communities

SCT owns lands in portions of California known for their floristic diversity. This diversity stems from the region's variety of soils, parent material, range of elevations, and climatic diversity. Rare plants and plant communities are known to exist on and near SCT. While many of the rare plant/community occurrences are correlated to unusual soils or environmental conditions, this is not always the case. The following section describes what is known about rare plant and plant communities on or near SCT and future management strategies.

A. Identification of Rare Plants and Plant Communities

Information regarding the location of rare plants and floristic communities on or near SCT, although imperfect, exists. For instance, the Natural Diversity Database; CalFlora database; U.S. Forest Service's Watershed Analyses and databases; previous Roseburg plant surveys and database observations; and adjacent private landowner's surveys all give insight into specific plant locations.

In addition, there are many sources of information that pertain to the general biology, habitat needs, and distribution of rare species. California floral treatments, agency webpages, and publications all are useful sources. Some sources of information have excellent color photographs or line drawings of the plants or line drawings, which help greatly in species surveys (such as the recently published University of California document "Selected Rare Plants of Northern California").

The combination of known rare plant sites and general insight into habitat requirements and known distribution allows an "educated guesses" of which rare plants have reasonable potential to exist in given areas. The list of potentially occurring rare plants is a very important starting points in knowing what, where, and when to evaluate a given area for rare plants.

B. Project-Related Surveys

Rare plant surveys will be driven by project needs and satisfaction of CEQA requirements. When projects are planned, sources of general and specific rare plant information will be gleaned. This will result in a list of potential species, their habitats, elevational ranges, and flowering times. For areas where the proposed projects have the potential of impacting one or more of these target species, surveys will be made.

The degree or intensity of plant searches will be determined by weighing the project's potential risk to the plant species in question. For instance, rare plants found near water or streamcourses will not likely have intensive searches made if the riparian areas will not be manipulated or if the forest Practice Rule requirements allows for little manipulation. Another example might be for rare plants found on talus or rock bluff areas. As forestry

projects rarely affect these habitats, no specific efforts would be made to survey for these species. (A possible exception would be where a rock pit or new road is planned for construction through these habitats. In these cases, surveys of the affected habitats would be made.) Another factor in determining which species to survey for and at what intensity has to do with the intensity of treatment planned. Surveys for rare plants in areas to be intensely manipulated require much more intensive surveys than for project areas where the degree of manipulation is scattered or light. This strategy is based upon the logic of not necessarily finding every rare plant or community on SCT lands, but of having a high likelihood of finding those that potentially can be affected by projects.

i) Survey Logistics—It is expected that with proper training and updates many species can be surveyed for effectively using non-specialists. In some situations, trained botanists will be used to conduct surveys.

ii)Information Data Storage—Botanical reports of THP areas will be retained, as well as analyses of potential rare plants that might occur in the vicinity.

iii*) Monitoring*--In some cases the effects of projects will be monitored. An example of this is the Atkins Meadow on the Pondosa tract. This area is monitored by FWS and partners.

C. Special Habitat Surveys

Special, rare, or uncommon habitats have been identified for SCT lands. Some of these may be so designated for known or perceived floristic reasons, e.g., serpentine/bog areas and meadows. A subset of these habitats will be inventoried, and floristic assessments may be made. In other words, plant presence and relative abundance may be evaluated. In addition, digital images will be taken of the habitats to allow for future reference. The results of these surveys will be entered into databases and will form a snap-shot view of specific habitats.

Range Management

Livestock grazing occurs on little of SCT lands. Of the few leases we do have, the permittees have had long-term relationships with SCT, and they hold permits with other nearby landowners as well. In some cases, there is public land intermixed with SCT holdings, and the permittees have use agreements with both entities (Miller Mtn).

The forest is in counties designated as “Free Range” meaning that anyone can legally graze on any open land. If the landowner does not want his land to be grazed it is incumbent upon the landowner to fence the property or otherwise exclude livestock. The

intensity of grazing, as determined by permitted AUMs (Animal Unit-Months), has been relatively stable from year-to-year. The timing of grazing, in the case of where public lands are intermixed, is based upon public land guidelines. Where public lands are not involved, the permittee is given greater discretion regarding seasonality of use. Leases require that each permittee shall develop its own custom Grazing Plan. Each plan will reflect the particular situation of the subject permit and will contain, but not be limited to, the following: on and off dates including notification of the Permitter, livestock numbers, agreed upon by both parties, such numbers shall be based on carrying capacity, site sensitivity and sound practices supported by scientific information; protection measures and practices for "special treatment area" as defined in applicable laws and regulation (i.e. archeological sites, wildlife buffers, stream and water protection zones; grazing rotation schedule; and a fencing and or irrigation plan covering maintenance and operating responsibilities.

There are only two active leases on the forest, both on the Anderson District. One was in the area south of Hwy 299 in the Moose Camp/Hatchet Ridge area and covered approximately 17 Sections (11,000 acres). The other was in the Tucker Butte area and covered approximately 4 sections (2500 acres).

A. The Benefits and Risks of Livestock Management on SCT Lands

Benefits may accrue from an active range management strategy. The biggest advantage is derived from livestock's control of vegetation that competes with conifers, including hardwoods, shrubs, and herbaceous growth. In addition, grazing helps to reduce the lighter, flashy fuels that can rapidly carry wildfire.

While there may be advantages from grazing timberlands, there are also potential risks, including:

- Damage to planted conifer in planted stands
- Damage to the mesic areas, such as meadows, springs, and seep areas.
- Effects on water quality
- Effects on floristic composition (including introduction of alien and noxious plant species)

- Effects on wildlife use.

B. Risk Management and Opportunities

SCT's planted stands are frequently monitored by employees to determine conifer growth and health; the degree of competition from other vegetation; and damage from livestock, wildlife, or insects. In situations where damage from livestock is judged to be at an unacceptable level, district personnel have historically contacted the permittee and had offending animals moved. It is possible that the offending animals are not on SCT by mutual agreement, in other words without permit. As the counties in which SCT owns lands are "open range", there are few options other than to fence our lands (unfeasible) or negotiate with the livestock owners.

Potential damage by livestock to mesic areas (springs, meadows, etc.) is currently less monitored. Many of these wet areas, in which livestock concentrate their time, may be away from conifer-growing areas and the local foresters may not frequently view these areas.

D. Future Goals

There is currently no intention of ending the limited grazing that occurs on SCT lands but given the little benefit and large environmental risk that comes with such operations they may choose to end some or all these agreements.

Road and Transportation Management

An integral element of the SCT forestland asset is the road systems that provide access to the lands. As described in the Historical Perspective section, the existing road system is a product of many different landowners over an extended period. The historical goal of the road network varied from location to location, but generally stemmed from either the need to get from one place to another or the desire to access an area to extract some commodity (using timber). Both goals were predicated upon the technology available during the era that the roads were built. This has resulted in many situations where roads are in places where they would not have been built today, given modern technologies and environmental concerns.

Roads are universally understood to be a significant risk inherent in managing timberlands in the American West. Roads can undercut and exacerbate landslides; they can divert and funnel water to areas where sediment can be discharged into streams; and their crossings of streamcourses, either with culverts or bridges, can form dams and lead to failures during high flows. Because of their inherent risks, identifying problems and opportunities to correct and alleviate potential problems is a very worthwhile endeavor.

On the other hand, the road system allows access for management of the landbase and provides a means to quickly respond to wildfires.

The following section describes SCT's existing road systems; documents the way the road systems is currently used and how it will be managed in the future; and highlight means in which corrective and mitigative actions will be taken to reduce their potential impacts.

A. Transportation Facility Types

SCT lands have transportation facilities that fit into several categories, including:

- *Permanent roads*. These roads access large portions of SCT lands and provide year-round access, except for during periods of heavy snow. Road surfacing may be native material, pit-run or crushed aggregate, chip-seal, or pavement. These roads are maintained frequently.
- *Seasonal roads*. These roads generally spur off mainline roads and generally access forest land for management. These roads may or might not be surfaced with hard rock and use is limited to the drier portions of the year when road use by log haul will not damage the road surface. These roads are important assets in accessing significant portions of SCT. They are maintained irregularly--generally in coordination with proposed or ongoing management activities accessed by these roads.
- *Temporary roads*. These facilities generally spur off from either seasonal or permanent roads and are use for short periods of time to access small areas, e.g., logging landings or rock pits. After use, they are typically blocked from vehicle access and stream crossing structures are removed.
- *Four-Wheel Drive trails*. These routes are generally a result of non-permitted use of SCT. Where found, they are blocked; however, their use is frequently perpetuated by offending users. They are not surfaced and frequently have significant erosion problems.
- *Hiking trails*. Several hiking trails pass through SCT lands, including segments of the Pacific Crest Trail in the Soda Creek and Bear Creek drainages, and near Picayune Lake. These trails are maintained periodically by the U.S. Forest Service.

The total lengths of each of the various transportation system-types is shown in the following table:

Transportation System Type	Total Miles
Seasonal roads	1398
Seasonal mainline	278
Permanent road	42
Four-wheel drive trails	19
County road	9
Total	1746 miles

Although some new roads are constructed every year, most of the roads in the first three categories were built many years ago when forestry rules and technology were considerably different. Therefore, many of the older roads have the potential of exhibiting problems that are rarely found in more recently constructed roads. For instance, on some older roads culverts may be lacking or undersized to accommodate high flows—resulting in occasional failures. In other instances, side cast material may have been deposited on steep side slopes, which eventually will ravel downward to nearby streams. Finally, organic material may have been covered in old road fills, resulting in the eventual failure of the fill-slopes.

Roseburg had made great efforts to upgrade its roads to correct and mitigate many, if not most, of the legacy issues of our older roads. SCT and FWS Forestry has continued this effort and continually make changes to the road systems that improve operational use while lessening environmental impacts. Culverts are constantly being replaced and upsized to withstand a 100-year flood event. Unstable side slopes and road fills are being replaced with full bench road where the spoils are end hauled to a stable location.

B. Road Surfacing

The type of surfacing that a road has determines the options of when and how the road can be used. For instance:

- Rock surfaced roads allow heavy use by vehicles in poor and wet conditions. Rock for the road can be acquired from nearby rock pits or commercial sources. Periodically, additional rock must be placed on the road to replace decomposed rock or rock graded off the road surface. Rocked roads tend to produce much less sediment, if used during wet periods. Roseburg spent a tremendous amount of time and money to add a rock surface to approximately 25 miles or road a year in 2009 and 2010. Rocking continued through the 2017 logging season and included a significant rocking project on the Smith Logging Road that has a very significant local residential use to it. Maintaining and strategically rocking roads has continued SCT under FWS management as needed.
- Roads with native soil surfaces generally allow access only under non-saturated conditions. In some cases, where the native material is rocky, access may be adequate in wet weather. As native roads can not support heavy vehicle traffic under saturated conditions, and often become rutted, they tend to produce significant amounts of sediment if improperly used.

C. Ownership and Maintenance Responsibilities of Roads

Much of SCT lands are intermixed with either federal or other private landowners. Road ownership and maintenance responsibilities are not always clearly defined. For instance, not all the roads on SCT lands are owned by the company. Also, some of the roads on

SCT may have shared maintenance responsibilities with another party. Given this situation, several processes have been developed that allow access through adjacent landowner's land and equitable sharing of road maintenance responsibilities. These processes include:

i)Co-op Road Agreements—SCT has cooperative agreements with both federal agencies and large private landowners regarding selected roads that pass from one ownership to another. Calculations are made regarding projected use of the road by the various parties, which result in either appropriate maintenance shares or may lead to payments from one party to the other to compensate for road maintenance costs.

ii)Permitted Road Agreements—In some cases SCT has permits from a second party to use roads that lead to SCT. In these cases, the permits generally spell out the maintenance responsibilities of SCT, while permitted activities are occurring.

iii)Prescriptive and Easement Right-of-Ways—SCT may have a right-of-way allowing use through other private lands or vice versa. In some cases, where traffic is moderate or heavy, maintenance responsibilities are spelled out and shared. A good example of this is various powerline easement agreements. However, there are several situations where private landowners have rights-of-way through SCT, to access private parcels (including homesites), in which the private landowner provides little if any maintenance and the entire responsibility falls on SCT.

D. Road Designs

An important consideration in design and construction of roads is how to build and maintain them to effectively shed the water that lands on or is intercepted by the road. Several different road designs have been used:

i)Out sloped Roads. —This involves building and maintaining the road so that the entire road surface slopes slightly downward from the hillslope toward the fill-slope. The intent is to constantly shed any water falling upon or intercepted by the road along the entire length of road. Frequently, drivable dips are interspersed along out sloped roads, especially where road grades exceed eight percent. A disadvantage of this type of road is that if used during wet weather, vehicles can slide off the road. The biggest advantage of this type of design is that less hillside excavation is needed and, if properly constructed, maintenance is greatly reduced. This is the most common design for seasonal roads on SCT lands.

ii)In slope Roads with Ditch—This design is intended to concentrate water from the road prism toward a ditch. Periodically ditch flow is passed under the road prism using culvert cross-drains. Most mainline and high-volume roads are constructed in this manner. Disadvantages are that maintenance is very high (to keep ditches

correctly functioning and cross drains cleaned) and larger amounts of excavation are needed to construct the road.

A major change in philosophy regarding the appropriate way to cross streams has occurred during the past several decades. When early roads were built the emphasis was to cross streams with the least cost and effort. Frequently, very small culverts, piles of cull logs, or old-growth log stringer bridges were used. These crossings often lasted for short periods of time and were susceptible to being blown out during storms. Fish passage and water quality may have been impacted by such designs.

Current road crossings of streams are designed to pass predicted 100-year flows. Additional mitigations to reduce water quality impacts include the use of rocked fords, where possible, and the reduction of fill to minimum depth over culverts. Fish-bearing streams are now being crossed with bridges or with culverts designed to allow adult and juveniles to pass. Roads built in past decades are constantly being evaluated to determine if drainage crossings are adequate, considering current appreciation of water quality and fishery issues.

Many of SCT roads were constructed at a time when vehicle capabilities, logging systems, and environmental considerations were different. Some roads can be modified to consider today's conditions while others can not and will being abandoned, following analyses.

E. Associated Road Problems and Solutions

Roads can present a wide range of potential problems that SCT must assess and minimize. The following are potential problems and techniques that SCT and FWS Forestry uses to reduce the risks:

i)Unauthorized Use and Access—SCT has a large amount of land accessed by a considerable road network. Many people use the lands and roads for legal purposes, such as fishing, hunting, or permitted wood cutting. However, there is considerable use of an illegal sort, including non-permitted wood-cutting, theft of logs, poaching, drug production, and vandalism.

ii) Aesthetics—Roads, especially those newly constructed or re-constructed on steep terrain, can create visual concerns. Roads can form a more-or-less horizontal cut in which road cut and fill slope are different in color and texture than existing vegetation patterns—resulting in highly visual contrasts. In some cases, little can be done to lessen the impact; however, in some cases there are mitigation strategies, including:

- *Road location considerations*—In visually-sensitive areas new roads should be constructed with aesthetics in mind. Oftentimes a variety of locations are possible, and in high public use/visually sensitive areas, the location that minimizes visual concerns should be used.

- *Logging System considerations*—The location of a road, or a road's necessity, may change depending upon logging systems. In situations identified in planning's as being highly sensitive, alternative road locations and logging systems should be assessed.
- *Road design considerations*—Road design can help minimize the width of the road and therefore the potential size of cut and fill scar path. In addition, right-of-way clearing may be adjusted to reduce visibility.
- *Post-construction techniques*—Many of the visual scars that roads can produce are relatively short in duration. It may be possible to reduce the temporary negative appearance by such "mitigations" as mulching and seeding cut and fill slopes or planting hardwood or conifers on fill slopes.

iii)Wildlife and Wildlife Habitats—Public access to company roads greatly increases wildlife hunting and poaching pressures. In most cases the pressures are probably acceptable; however, in other cases the effects may be damaging.

An additional risk to wildlife comes from the potential impact on habitats due to road access by the public--an example would be cutting of snags for firewood. In this case, specific snag density goals exist for SCT, including the management of firewood cutting.

F. Road Maintenance and Management Strategy

As mentioned previously, not all roads on SCT lands are owned and controlled by the company. There are several maintenance agreements that might be unique to a given road system.

For roads controlled by SCT we have agreed to monitor all watercourse road crossings at a minimum of every two years. We will have all our Class I crossings upgraded to allow up and downstream fish passage by 2018. Currently there are only a handful of crossing that do not meet this standard.

Roads are constantly monitored and maintained to ensure that they are in good condition and that all drainage facilities are properly functioning.

Public Access Policy

Shasta Cascades Timberlands lands had a history of limited public access. FWS Forestry has been given direction that SCT lands will no longer be open for public use due to increased wildfire risk. FWS Forestry staff will continue to work hard with stakeholders

to inform the public of this change. Special use and recreational permits are issued on an as needed basis.

See the website https://www.shastacascadetimberlands.com/ for the following statement: DUE TO THE EXTENDED DRY CONDITIONS AND THE THREAT OF WILDFIRE, SHASTA-CASCADES TIMBERLANDS IS CLOSED TO ALL PUBLIC ACCESS UNTIL FURTHER NOTICE.

Due to the extreme drought and resulting wildfire conditions, FWS Forestry Services has closed the Shasta-Cascade Timberlands (SCT) California forestlands to public access, effective Monday, June 21. Public roads that travel through SCT timberlands will remain open, however, no public access is permitted on the timberlands.

Social and Economic Factors

As a large private land managing company, SCT constantly deals with both social and economic issues as they pertain to the landbase, our local communities and citizens, and our manufacturing facilities. Because SCT is a large employer and has a relatively large staff of natural resource experts, our company is frequently expected to provide input and assistance on many local projects and with many community issues. The following is a summary of these factors and SCT's strategy to address them.

A. Financial Viability

SCT and FWS Forestry must work at a level that ensures long term financial viability and investment return for the investor. FWS Forestry staff have been told by the owners that this property is to be managed on a 20-year planning horizon with the goal of income generation and assess growth.

All aspects of the business are conducted to ensure a long-term supply of wood fiber to the various manufacturing facilities. The company has both short- and long-term strategic plans that include financial viability of both the resource land base and the manufacturing side of the company

B. Recreation

SCT's landbase historically provided limited recreational opportunities to local citizens and tourists. Given a higher awareness of risk management on the property there will be a reduction in unrestricted open access to the property. Limited access will still be provided under very tight control.

C. Community Involvement

Because SCT are widely scattered around many small communities and our local land managers live in these local communities, our employees naturally become closely involved with many community activities. Company employees belong to clubs, organizations, and community groups that lead to many community improvements. In the past employees have belonged to many local boards and steering groups for community endeavors.

Company forest management provides many employment opportunities for local contractors and citizens. SCT and FWS Forestry generally use a relatively small pool of contractors for many project-types, due to their competent work performance and their knowledge of SCT and policies.

FWS Forestry, the timberland manager for SCT, employs relatively few employees, however, these employees all live in the local communities where the timberlands are owned. The direct impact of FWS FORESTRY to the local community in terms of creation and maintenance of jobs is limited to these few employees.

Indirect impacts are much more significant. FWS FORESTRY strives to use local contractors for all aspects of forest management, be that THP writing, Spotted Owl surveys, inventory cruising, logging, and road building. This may account to up to 50 additional jobs depending on the season and year. The fiber material harvested from the forest is sold to multiple manufacturing facilities in Siskiyou, Shasta, and Trinity Counties in California, and Douglas, Klamath, and Jackson Counties in Oregon. These manufacturing facilities provide jobs for thousands of employees in those communities.

FWS Forestry employees are encouraged to participate in local social and economic development programs. SCT and FWS Forestry are also a financial contributor to many of these programs. FWS Forestry employees have served active roles on the Siskiyou County Economic Development Council, Cycle Siskiyou Advisory Board, Siskiyou County Fish and Game Commission, Siskiyou County Wildfire Protection Panel, Shasta Valley Resource Conservation District, various watershed partner groups, and the Upper Sacramento Integrated Regional Watershed Management Plan.

E. Cultural Resources

Most, if not all, of SCT were used at times by Native Americans prior to European arrival. Evidence of their use of the land is frequently found. Prior to each harvest entry, State database searches and field reviews are conducted to identify and document important sites. SCT and FWS Forestry appreciates Native American issues and has worked with local groups on individual situations.

SCT lands also contain several important historical sites, most notably Terry Mill, north-east of Redding and its associated rail lines, and a portion of the long flume that conveyed rough boards and timbers to Bella Vista. This endeavor was active in the late 1880s and early 1900s.

F. Research

SCT and FWS Forestry intend to continue the long-standing tradition cooperating with scientists and educators on regional landscape issues. Company employees have been involved in several research projects, such as: herbicide treatment effects on hardwoods; release effects on conifer growth; shrub and herbaceous development following wildfire; canopy cover/water temperature relationships in relations to tailed frogs; seed orchard and growth-and-yield research; and soil compaction effects on seedling growth.

G. Dispute Resolution

FWS Forestry will openly accept any complaint on its management of the SCT lands or its employees. Disputes should first be directed to FWS Forestry through the SCT websites Contact Us Section https://www.shastacascadetimberlands.com/. The SCT Office Manager can also be contacted at P.O. Box 492709 Redding, CA 96049 Cell: (530) 701-0500. The Resource Planning Manager should attempt to resolve the dispute to the best of his/her ability. This communication will be documented in either the THP Correspondence File (if related to an individual THP) or an electronic Stakeholder/Complaint File.

Forest Growth and Yield

In 2001 the California Department of Forestry approved Roseburg's company-wide "option (a) growth and yield document. It states that the land would be managed as commercial forest land. SCT has a clear corporate management objective for owning these lands--to meet our wood needs today and tomorrow, while ensuring that future generations will benefit from those sustainable forestry and landscape practices, and good resource stewardship.

Shasta Cascades Timberlands provides a variety of forest products to mills in California and Oregon in a sustainable manner. This has been accomplished while being vigilant and responsible regarding the protection and management of wildlife, water, cultural resources, soil productivity, recreation, visual amenities, and community values.

SCT has adopted the Roseburg Sustained Yield Plan which had analyzed the commercial forest resources; assessed the rate of growth; and quantified the environmental constraints likely on the forest resources that stem from the California Forest Practice Rules and protection elements highlighted in this management plan. The result was a projected volume yield that can be expected from these lands. The intricacies of the inventory, modeling, and scenario-development are described in the Option "A" document.

As of mid-2022, FWS is in the process of updating inventory and revising the sustained yield harvest level calculation. That process is described in memos related to inventory history and inventory process. These memos are considered a component of this management plan. The sustained yield harvest calculation is expected to be completed by the end of 2022, and during the process a reduced harvest tactical plan has been implemented.

Implementation Strategy

This Management Plan outlines several strategies to accommodate environmental and social factors; reduce risks to the forest resources; and accomplish the forestry outputs projected. The coordination of these inter-related factors, and their timely

implementation, will require highly qualified personnel, training, and up-to-date technology. Because several the approaches and projected results or outputs are merely best-guesses, this implementation strategy will involve monitoring that will detect whether SCT's goals are being met. The following sections will give guidelines on some of the internal processes and capabilities that will be necessary to implement of this Plan.

A. Periodic Harvest Planning Documents

Each year FWS will produce revised timber harvest implementation plans. These plans will show the areas in which harvest is planned and the volume of forest products estimated to be produced. These plans will be developed by analyzing most current inventory data regarding the various cruise tracts and the projected outputs determined in the current SCT option "a" Growth and Yield Document. The planning documents provide a basis for employees to determine work plans for such items as: environmental inventories and analyses; Timber Harvest Plan preparation; and reforestation needs. In addition, these plans will aide in budgeting.

The plans need to be flexible and constantly updated, to reflect the fine-tuning necessary to compare actual outcomes with the projections and to reflect changes that inevitably will occur based upon unforeseen events. Past experiences of FWS Forestry staff on this ownership have illustrated that wildfire, drought-induced mortality, and changing economic conditions can have very significant impacts on the forest resources and lead to major changes in plans.

B. Organizational Structure

SCT's landbase is geographically scattered and consolidation of lands is expected in the future, it is likely that the landbase will continue to be dispersed. For the foreseeable future there will likely continue to be at a main office to administer the lands in Redding with additional staff support within the surrounding area.

Several disciplines have responsibilities on each of the districts, including reforestation, forest inventory, computer/Geographical Information Systems (GIS), and environmental services. Each will report to the FWS Timberland Manager. At certain times of the year and for specific projects, the district boundaries will dissolve, for efficiency. For example, all personnel will provide support during wildfire or other catastrophic events, regardless of where they may occur. Also, depending on district workload, personnel may respond to short-term staff needs on other districts. This flexibility is critical for smooth functioning of the company and personifies the FWS land management ethic.

Currently a re-organization of personnel is underway with increased emphasis on project teams to accomplish long-term projects and goals, and increased specialization in day-to-

day work. Emphasis on team planning procedures will facilitate accomplishment of the action items described in this management plan.

C. Project Accomplishment

Most projects, whether planning or field implementation, can be done either by company personnel, seasonal employees, or contractors. Specific decisions regarding the means to accomplish projects will be made on a case-by-case basis, by assessing current staffing levels and current and projected workloads. In addition, the decision whether to complete work by company or vendor will weigh the importance of company involvement to ensure the required quality of end-product. Some projects or type of work may require a high degree of continuity or accountability, in which case FWS Forestry employees will solely be used. In other cases, accountability and continuity are less of an issue and contractors may efficiently be used. Regardless of the degree of contractor involvement, external sources of assistance will continue to be an important tool for work accomplishment.

D. Employee Attributes and Supplied Tools

FWS Forestry's employees are the most critical element in accomplishing the goals of this Management Plan and ensuring that SCT are well managed. Because of that, FWS Forestry will employ the best available personnel and will provide training to keep all employees at the peak of their profession. The company will provide a degree of cross-training that is exceptional in the field—the result being that the employees will continue to have a holistic view of forestry and resource management. When new sources of information or training are required, FWS Forestry will provide training opportunities for their employees. In situations where external training cannot be found, vendors will be retained for company-specific training.

An increasingly important aspect of forest management is collecting, storing, and analyzing data. To this end, employees are provided with personal computers and training allowing their efficient use. Specific uses of the computers include word processing, database and spreadsheet manipulation, and GIS. All employees will have a working knowledge of GIS, that will allow updates of spatial data pertaining to the company landbase; creating maps of projects; and simple queries of spatial data. Support will be provided by the GIS specialist for all these efforts, as well as the maintenance and update of the system. It is expected that monitoring of forest resources, in part related to concepts presented in this Management Plan, will be managed in GIS layers. Therefore, the use of GIS will increase in importance as time progresses.

New technology and processes will be evaluated and used, when appropriate. It is understood that frequently acquired aerial photographs, Planet Imagery, orthoquadrangles, and other items are critical in being able to manage a complex forest resource.

E. Equipment Used During Operations

FWS Forestry utilizes local contractors for all logging, site preparation, road building, and road maintenance. These contractors use both conventional and mechanical means to conduct the timber harvest operations. Mechanical "sides" are used on gentle terrain where tracked and wheeled equipment can safely operate.

Conventional "sides" are felled by hand using two-stroke chainsaws. On some occasions the trees are bucked in the woods and other times they are whole tree yarded to the landing. Skidding is accomplished using John Deere 648 wheeled skidders and both D-6 and D-7 Caterpillar dozers. Landing equipment includes John Deere 2554 boom loaders for both de-limbing and loading log trucks.

Mechanical sides are felled using TimberPro 475 and 473 Feller Bunchers, John Deere 648 skidders, and Caterpillar D-6 dozers with winches. Landing equipment is identical to the conventional sides.

Cable yarding is used on steeper terrain to avoid excessive soil disturbance and erosion problems. FWS Forestry's contractors generally use Thunderbird 255 Swing Yarders with a LinkBuilt 240 de-limber and a Caterpillar D-7 as a tail hold.

Road building and maintenance is accomplished using Caterpillar 325 type excavators, D-6 and D-7 dozers, backhoes, 140 style graders, and both tandem axle and belly dump rock trucks.

Mechanical site preparation is conducted on almost all harvest units where ground compaction may have occurred either in the most recent harvest or in past historical harvesting operations. This is accomplished using Caterpillar D-7 style dozers with 20" subsoiling ripper bars.

Monitoring and Evaluation Systems

Ultimately, the only way to know whether Shasta Cascades Timberlands and FWS Forestry, are successful in accomplishing the goals of this Plan and that the Plan assumptions were reasonable is by monitoring key components or actions. These key components or actions need to "test" trends regarding important aspects of forest management.

All aspects of the business are monitored on a continual but unscheduled basis. As mentioned in other sections of this plan, managers are responsible for monitoring the work done by their employees and contractors on a continual basis. This may take the

form of daily or weekly visits to the job sites or may be by occasional status reports submitted by the contractors.

The most rigorous monitoring is conducted by the Logging, Forestry, and Inventory departments. Logging is monitored by frequent visits to the logging sites to check on things such as safety, log quality, and adherence to the contract by the FWS Contract Administrators. FWS Contract Administrators complete checklists at the commencement of operations and throughout through Harvest Inspections. The Silviculture department oversees all reforestation activities to ensure all contract conditions are being met. Check cruises are conducted by the Inventory department to ensure accuracy in the data being collected.

Other documents that are related to this FMP that direct monitoring on SCT include (but are not limited to) the Master Agreement for Timber Operations MATO, the Water Boards General Orders, the PLM Management plan through CDFW, the Bear Creek Working Forest Conservation Easement, the California's Forest Practices Rules (FPR's), the Snag Management Policy, the Retention Area Designation Guide, and the FSC Riparian Management Zone Requirements.

The Master Agreement for Timber Operations, (MATO) is a long-term streambed alteration agreement with the CA Department of Fish and Wildlife, (CDFW) for SCT. This requires monitoring and annual reporting. Projects that involve discharges to waters of the State in more than one region are the jurisdiction of the State Water Resources Control Board (State Water Board) require General Orders. The General Orders for SCT require monitoring of roads, watercourse crossings and areas of potential sediment discharge for annual reporting. The Pondosa tract of SCT is part of the Public Land Management, (PLM) program through the CDFW. This program requires a management plan that's updated every 5 years with monitoring and reporting of restoration work for Elk and mule deer habitat that occurs over the tract. All these reports are kept as electronic files within the various programs of FWS Forestry. The Bear Creek Working Forest Conservation Easement through Pacific Forest Trust requires annual monitoring and a management plan that's updated every 10 years. This baseline monitoring in conducted and administered by the Pacific Forest Trust and includes GPS photo points and review of all THPs with the Bear Creek Working Forest Conservation Easement. The California's Forest Practices Rules (FPR's) require CAL FIRE to monitor all THPs compliance with their road work plan before a completion report is filed with the Department and to monitor each THP for 1-3 years following for their prescribed maintenance period. Following the Completion Report a report must be filed with the Department within 5 years certifying that the THP area has been reforested per the FPR's. All these reports and THPs are on the CAL TREES website. The Snag Management Policy, the Retention Area Designations, and the FSC Riparian Management Zone Requirements are all included and adhered to in all the THPs on SCT.

The results of monitoring are considered in management decisions and inform all management planning including periodic updates to this management plan.

Regulatory and Certification Compliance

Shasta Cascades Timberlands and FWS Forestry, Inc fully intend to comply with all pertinent State and Federal laws germane to forest management on SCT. In addition, the policies and procedures spelled out in this Management Plan will be followed, to the extent possible. The laws that are encountered in day-to-day business include:

- California Forest Practice Rules—These rules apply to forestry actions, as defined in the Rules
- California Environmental Quality Act (CEQA)—This act must be followed for forestry actions.
- Endangered Species Act (ESA)—This act must be followed regarding federally-listed fish and wildlife species.
- Clean Water Act (CWA)—This act must be followed regarding federal water quality standards.
- Clean Air Act (CAA)—This act must be followed regarding federal air quality standards.
- Forest Certification—The policies and procedures spelled out in this Management Plan will be followed.
- Business Laws—These include the IRS code; State Board of Equitization-Yield Tax laws; pertinent aspects of the forest Products Commission; Workman's Compensation; Insurance laws; and Employment/hiring laws.

CERTIFICATION PROGRAMS STATEMENT

F&W Forestry Services Inc. manages group and other certificates in the Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI), and American Tree Farm (ATF) Forest Management Certification Programs, on behalf of clients who desire to obtain third-party forest management certification through one of these systems.

Achieving certification on managed lands is a mandate from the client. As such we are dually obligated to reflect our clients' objectives and to comply with the relevant certification standard in the management of their forests. All three programs include measures to protect water quality, biodiversity, wildlife habitat, species at risk, and forests with exceptional conservation value, and F&W Forestry is committed to achieving these goals on these forests.

F&W Forestry, when directed to do so by our clients, is committed to providing a system of management reflecting the relevant certification standard, and to reflect that standard in our consultation with, and management services provided to, our clients.

Participants in these programs, including SCT, commit to following the requirements of the certification programs in which they are enrolled.

Reference is made to the F&W Policies and Procedures for the three certification programs, which are integral to the management of all properties within these programs.

APPENDIX I. Ownership-Wide Snag Management Policy

Per 14 CCR 919, 939, 959 – Timber operations shall be planned and conducted to maintain suitable habitat for wildlife species as specified by the provisions of Article 9 of the Forest Practice Rules.

Within the logging area all snags shall be retained to provide wildlife habitat except for snags for safety reasons Per 14 CCR 919.1, 939.1, 959.1(a)-(f)

Appendix II. Retention Area Designation Guide

- Barring operational constraints, Retention Areas should focus on important habitat attributes such as large hardwoods (preferably oaks; black, white or live-avoid using maple), large green culls, large woody debris, legacy trees, sensitive plant populations and increased Class I stream buffers (**see FSC Riparian Management Requirements in Appendix II at end of this document**),
- A minimum of 10% of the pre-harvest basal area must be retained in both dispersed retention and clumped or aggregated retention in all even aged units greater than six acres.
- Acreage can be used as a surrogate for basal area when calculating aggregate retention needs.
- Retention of species and size classes must approximate the preharvest stand condition. No more than 50% of the HRA's in any given unit will be "advanced regen". Due to their wildlife value, oaks may be retained in higher proportions than they occur within the stand.
- Retention should be interior to the unit but can be along unit boundaries in case of increasing WLPZ widths. When counting WLPZ retention we must also have upslope aggregate retention areas that are easily visible to the passerby and from aerial imagery.
- Equal consideration can be given to both habitat attributes and operational constraints when designating HRA locations.
- Avoid placing HRA's next to roads and landings if possible.
- Do not place HRA's at the top of cable units unless cleared with the logging supervisor.
- Do not place HRA's or dispersed retention within 200' of power line ROW's
- Avoid small ridge top HRA's as they are more prone to windthrow.

- Take advantage of difficult operating areas i.e., blind leads on cable units, wet areas, archeological sites, unstable areas, Class III's above 30% slope when designating retention trees and areas. But remember they must be interior to the unit.
- When retention is not contributing to larger WLPZ's, HRA's can touch the unit boundary but the area touching the unit boundary must be small compared to the total area (Figs 1-4).
- HRA's will not be used to avoid adjacency constraints.

Examples of good HRA's

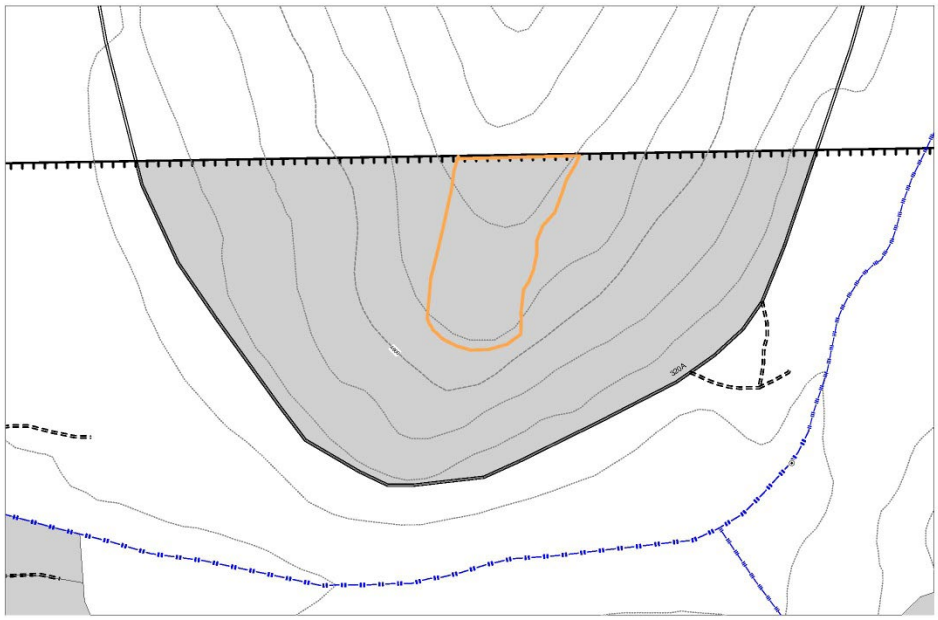


Figure 1. HRA (in orange) in the top middle of a cat unit. HRA consists of steep rocky area with large decadent trees. HRA is away from roads and landings. HRA does share a small common border with unit boundary.

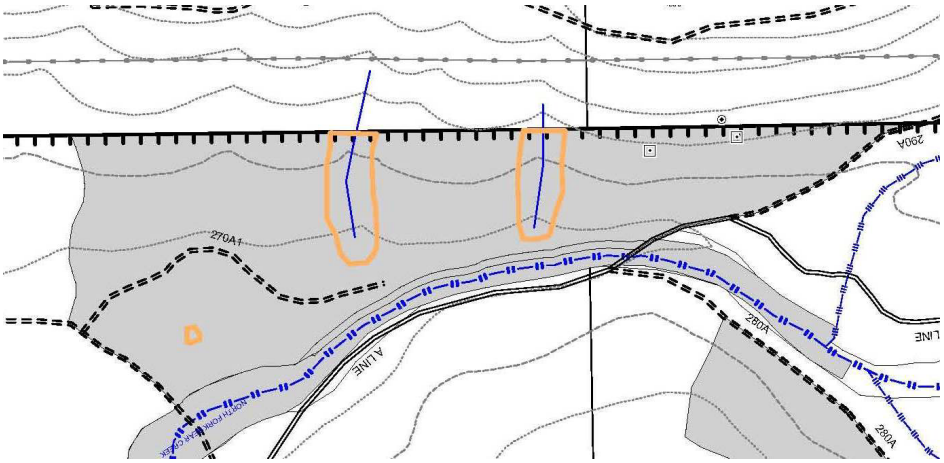


Figure 2. HRA's placed around unclassified draws that run significant water. The HRA's breakup the perceived size of the unit and help meet the stream protection measures required under FSC.

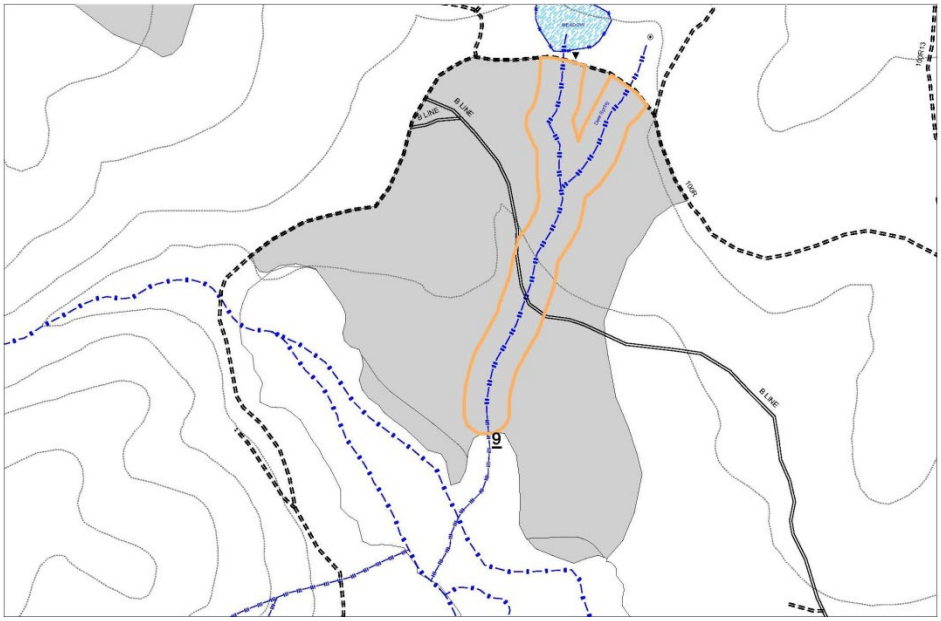


Figure 3. HRA overlaps entire Class II or III WLPZ that is interior to the unit.

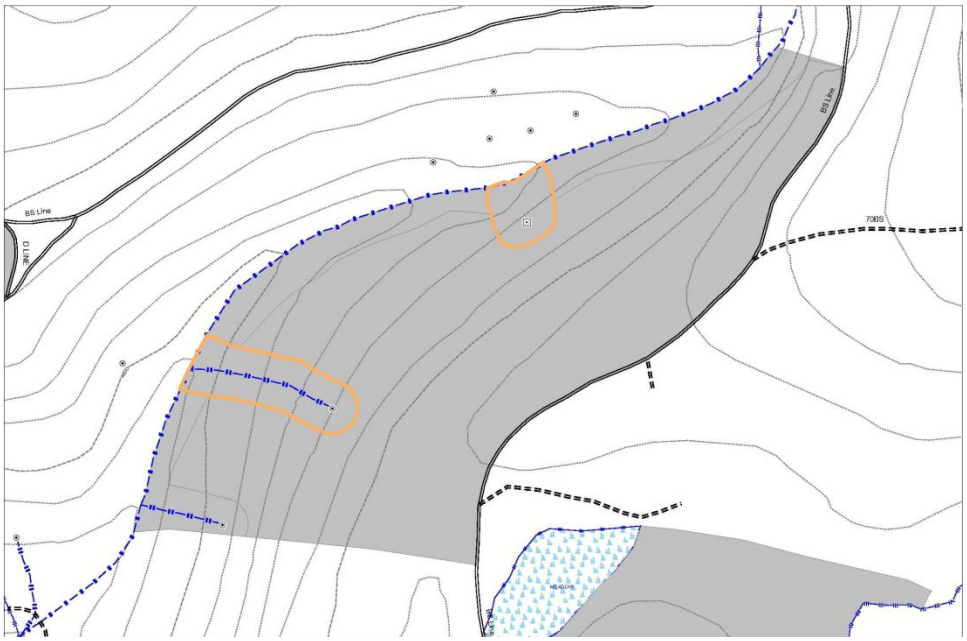


Figure 4. HRA's placed around a Class II and a spring at the bottom of a cable unit.

Figure 5. HRA centered on concentration of oaks in middle of ground-based unit. HRA is away from roads and landings.

Examples of poor HRA's

Figure 6. HRA overlaps entire area of Class I or II WLPZ where WLPZ is also the clearcut unit boundary. This type of HRA should only be used on a very limited bases such as yarder units. Even when this type HRA is used there will still be some upslope aggregate retention areas.

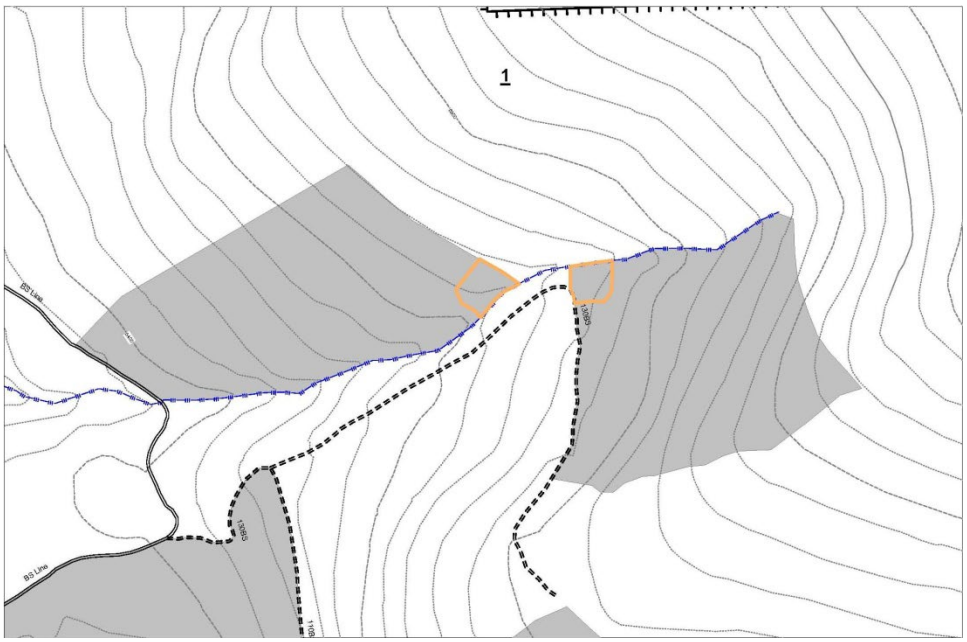


Figure 7. HRA's placed in the corners of units to overcome adjacency constraints. HRA's should be considered part of the clearcut units. Placing HRA's in the corners of units makes them impossible to see and

increases the possibility that they will be harvested when the adjacent stands are clearcut.

Figure 8. HRA's placed at the top of cable unit and at corner of unit. HRA placement makes yarding areas below HRA's impossible or extremely difficult. The HRA in the middle of the unit would be good if this were a ground-based unit.

Appendix III. FSC Riparian Management Zone Requirements.

PACIFIC COAST REGION

PC Applicability note: The following water quality requirements of this Standard are superseded when and where state or federal laws, regulations, or other contractual requirements are more stringent.

PC Guidance: This section uses the following definitions:

Category A stream: *A stream that supports or can support populations of native fish and/or provides a domestic water supply.*

Category B stream: *Perennial streams that do not support native fish and are not used as a domestic water supply.*

Category C stream: *An intermittent stream that nevertheless has sufficient water to host populations of non-fish aquatic species*

Category D stream: *A stream that flows only after rainstorms or melting snow and does not support populations of aquatic species*

6.5.e.1.a (PC only) For Category A streams, and for lakes and wetlands larger than one acre, an inner buffer zone is maintained. The inner buffer is at least 50 feet wide (slope distance) from the active high-water mark (on both sides) of the stream channel and increases depending on forest type, slope stability, steepness, and terrain. Management activities in the inner buffer:
maintains or restore the native vegetation
are limited to single-tree selection silviculture
retain and allows for recruitment of large live and dead trees for shade and stream structure
retain canopy cover and shading sufficient to moderate fluctuations in water temperature, to provide habitat for the full complement of aquatic and terrestrial species native to the site, and maintain or restore riparian functions
exclude use of heavy equipment, except to cross streams at designated places, or where the use of such equipment is the lowest impact alternative
avoid disturbance of mineral soil; where disturbance is unavoidable, mulch and seed are applied before the rainy season
avoid the spread of pathogens and noxious weeds
avoid road construction and reconstruction.

6.5.e.1.b (PC only) For Category A streams, and for lakes and wetlands larger than one acre, an outer buffer zone is maintained. This buffer extends from the outer edge of the inner buffer zone to a distance of at least 150 feet from the edge of the active high-water mark (slope distance, on both sides) of the stream channel. In this outer buffer, harvest occurs only where:
single-tree or group selection silviculture is used
post-harvest canopy cover maintains shading sufficient to moderate fluctuations in water temperature, provide habitat for the full complement of aquatic and terrestrial species native to the site, and maintain or restore riparian functions
new road construction is avoided, and reconstruction enhances riparian functions and reduces sedimentation; disturbance of mineral soil is avoided; where disturbance is unavoidable, mulch and seed are applied before the rainy season

6.5.e.1.c (PC only) For Category B streams, a 25-foot (slope distance) inner buffer is created and managed according to provisions for inner buffers for Category A. A 75-foot (slope distance) outer buffer (for a total buffer of 100 feet) is created and managed according to provisions for outer buffer for Category A.

6.5.e.1.d (PC only) For Category C streams, and for lakes and wetlands smaller than one acre, a buffer zone 75 feet wide (on both sides of the stream) is established that constrains management activities to those that are allowed in outer buffer zones of Category A streams.
6.5.e.1.e (PC only) For Category D streams, management:
maintains root strength and stream bank and channel stability
recruits coarse wood to the stream system
minimizes management-related sediment transport to the stream system.

Streams, vernal pools, lakes, wetlands, seeps, springs, and associated riparian areas are managed to maintain and/or restore hydrologic processes, water quality, and habitat characteristics (see NMFS (1996); state water quality standards; Karr (1981) which may include: the capacity for water to infiltrate the soil; habitat for riparian species; moderating water temperature; controlling sedimentation; clean gravel for spawning; physical structures to protect the integrity of the stream channel; including pools used by anadromous fish.

Forest owners or managers retain and recruit sufficient large, green trees; snags; understory vegetation; down logs; and other woody debris in riparian zones to provide shade, erosion control, and in-channel structures.

Appendix IV. Climate Risks, Mitigations and Adaptations

Climate Risks, Mitigations and Adaptations

Introduction

Climate change resulting from the emission of excess carbon dioxide and other greenhouse gases into the atmosphere by human activity presents several substantial risks to the natural world and to human populations and cultures. These risks include but are not limited to:

- Increasing global temperatures
- Forest fire risk
- Increasing extreme weather
- Droughts and desertification
- Sea level rise and inundation of coastal areas
- Maladaptation to changes by native plants and animals
- Migration of non-native and invasive species
- Plant diseases and pest insects

Forest management has a unique position in the various responses to climate change. Forest management can be adapted to respond to and mitigate these risks (such as through enhancing resilience in systems), but it can also be adapted as a strategy to address the foundational cause of climate change: the level of atmospheric carbon dioxide.

Forest landowners and forest managers are therefore key players in the response to climate change, and can influence both the climate risk to their forests and the effect of their forest management on the climate broadly, through their actions.

Climate Risks

The following table demonstrates an assessment of climate change related risks for the Shasta Cascade Timberlands Forest.

Ranking	Climate Change Risk	Rating (Severity / Likelihood)
1	Increased wildfires	High (Severe / Very Likely)
2	Extreme Weather	High (Severe / Very Likely)
3	Drought / Mortality	High (Major / Very Likely)
4	Heavy Rainfall	Med High (Major / Likely)

5	Increased Invasives, Pests and Pathogens	Med High (Major / Likely)
6	Changes in Forest Habitat and Composition	Med (Moderate / Likely)
7	Warming temperatures	Med Low (Minor / Likely)

Opportunities to enhance ecosystem resilience in the face of Climate Change

Forest management can be adapted to enhance the resiliency of natural ecosystems.

Resiliency can be understood as broad forest health, adaptability to changing conditions, and sufficient systems to avoid the risk of catastrophic losses from stresses and damaging elements (fire, insects, disease, drought, etc.). Forest management can enhance resiliency in many ways and there are opportunities for action at several points within forest management systems.

1. Maintain and enhance diversity, diverse forests and diverse landscapes are generally more resilient than homogenous ones. Diversity can be enhanced by:
    a. Planning for a diversity of age classes and forest types in the planning process.
    b. Maintaining multiple species within stands and forests
    c. Protecting and encouraging habitat features such as snags and cavity trees, CWD, and structural diversity
    d. Protecting RTE species and habitats
    e. Protecting special sites and old forests
2. Prompt Successful Reforestation: Well-stocked healthy forests are generally more resilient and provide more benefits than understocked or unsuccessfully regenerated forests. Successful regeneration can be achieved through such practices as:
    a. Prompt reforestation or planned natural reforestation as per SFI Indicator 2.1.1;
    b. Adequate regeneration and appropriate actions to correct understocked areas;
    c. Evaluation for afforestation of areas that are not ecologically important;
    d. Protection of desirable or planned advanced regeneration during harvest and the retention of vigorous trees during partial harvest;
    e. Participate in seedling coops and research into improved varieties of planting stock.
3. Maintenance of Forest Health:
    a. Address any identified forest health issues in a timely manner
    b. Maintain a robust monitoring program.
4. Participation in Forest Protection Programs
    a. Participation in forest protection research programs,
    b. Cooperation with local, regional, State and Federal Forest protection agencies and programs (such as USDA APHIS and State fire agencies).

Adaptation Plan to Address Climate Change for the Shasta Cascade Timberlands Forest:

The following mitigations and adaptations address both the climate risk to this forest and the effect of forest management on the climate broadly.

- Periodic inventory and analysis of inventory to assess effects of current management and impacts of climate change influences.

- Analysis of growth and yield modeling to assess effects of current management and impacts of climate change influences.
- Document harvest trends per management plan.
- Incorporate the results of research into management.
- Work with state or federal governmental agencies or adjacent timberland owners to collaborate on fire suppression.
- Ensure prompt salvage and regeneration after events.
- Promote healthy stands: Manage to desired trees per acre, increase thinning, select proper species for the site, support improved tree genetics, and increase control of competition to reduce the effects of drought.
- Monitor road conditions.
- Use BMPs.
- Design and maintain infrastructure, including roads, buildings, and stream crossings, to accommodate increases in flooding and geologic hazards such as landslides.
- Support invasive eradication plans and treat seedlings against pests and pathogens.
- Support improved tree genetics, consider using a diversity of tree sizes, species, and ages in stands at a landscape level of planning where appropriate for management objectives to increase forest resiliency.
- Consider adaptive silviculture planning and operations, adjust mgmt. activities to accommodate precipitation variability, encourage stand species and age diversity, and increase use of soil stabilization techniques.
- Consider identifying and protecting ecologically significant areas such as spawning grounds, and areas of high species diversity and critical habitats as the locations of these areas change with climate and connect landscapes with corridors to enable migrations.
- Consider adjusting equipment mix to better handle less frozen ground conditions, upgrade road infrastructure to support wider seasonality, implement BMPs during harvest activities instead of waiting until the end.
- Consider identifying and protecting and restoring the structural complexity and biodiversity.
- Maintain onsite tools and protocols to fight wildfire.
- Consider increased thinning’s to reduce density of stands.
- Consider planting fire-adapted species and species native to lower elevations, drier, and/or warmer areas nearby, or areas with more frequent fire.
- Support outlets for salvaging timber.
- Manage harvest permits, (where applicable) for flexibility in timing and intensity to allow for agile responses to drought.
- Consider monitoring, and long-term research at experimental forests to evaluate the effectiveness of management actions to help ecosystems adapt to the effects of climate-driven disturbances.
- Increase forester training for early detection monitoring.
- Consider expanding the planning horizons of land use planning to incorporate longer climate predictions.

Appendix V. Fire Resiliency, Mitigations and Adaptations

Fire Resiliency, Mitigations and Adaptations

Introduction

The risk of undesirable impacts of wildfire varies based on climate and forest conditions, forest management practices, regional and public infrastructure related to fire management, and the surrounding landscape. Wildfire poses a risk to human health and safety, forest assets, and property.

Mitigations and Adaptations to Promote Resiliency

The following stand and landscape level management techniques, actions and policies may be used to promote forest health and resilience, and to mitigate the risk of undesirable impacts of wildfire. Risk is assessed based on specific circumstances, and some, none, or all of these actions may be appropriate in a given situation of risk.

- Prescribed fire
- Cultural burning
- Thinning
- Mastication or hazardous fuel reduction
- Pile burning
- Targeted herbicide use when burning isn't feasible based on risk
- Maintaining and brushing roads for fire control lines
- Creating and maintaining firebreaks and shaded fuelbreaks on the forest and in collaboration with adjacent landowners
- Maintaining updated locations of water sources, gates and codes, and property boundaries to share with local fire suppression agencies and personnel.

Regional Risks, Fire Resiliency Mitigations and Adaptations:

Pacific Northwest (Northern California and Southern Oregon)

Due to historic drought conditions and a history of fire suppression, the wildfire risk in the Pacific Northwest region is high. All risks are at a high level, including human health and safety, forest assets, and property. Fire awareness is also high and a culture of fire response and adaptation exists in this region. Fire response is directed by well-established State (CalFire) and Federal (USFS) programs. F&W Forestry collaborates with and participates in programs and fire suppression efforts with these programs. In addition, extensive fire mitigation practices are put in place on F&W Forestry managed lands, including brush control, woody debris control, thinning, operational restrictions during hot and dry times of the year, establishment of water drafting sites, etc.

In some situations, typical practices include the retention of stand features which would have typically been left following historic wildfires (e.g., snags for cavity-nesting birds, large woody debris, etc.) and regeneration that allows for early seral species to recolonize promptly.

Forest health is also addressed through tree density control with evenaged management and intermediate treatments that protect residual trees to reduce injury vectors for insect and disease.

Habitat elements associated with mature forest may be retained, and silvicultural techniques that mimic natural disturbance processes may be used to create a mosaic of forest conditions similar to what would exist under a natural disturbance regime.

F&W Forestry's program to assess the risk of undesirable impacts of wildfire in this region is structured by the landowners internal programs. F&W Forestry prepares a risk assessment for the forest annually and this assessment serves the SFI requirement for a program to assess the risk of undesirable impacts of wildfire.

Fire plays an important role in the natural ecology of the region. Historically, this area has supported a seasonally arid ecosystem which is prone to lightning-caused wildfire, generally in the summer and fall. Martin, Robinson and Schaeffer (1974) provided the following review of historical fire intervals in this region:

> Weaver (1959) reported fire intervals between 11 and 47 years on ponderosa pine stumps in the Warm Springs Indian Reservation in north central Oregon. Soeriaatmadja (1966) examined over 300 stump sections on the same reservation and arrived at fire intervals which were directly correlated with elevation and ranged from 6 to 36 years. His observation seems quite logical with the increased precipitation and fewer days of very low relative humidity at higher elevations. On the Klamath Indian Reservation, Weaver (1961) recorded a fire interval of just over 10 years on ponderosa pine.

Generally, these fires are thought to have played a role in forest regeneration and stand structure.

The current historically significant drought conditions have changed the role of fire in the region from one of relatively frequent and less damaging fires to potentially catastrophic fires threatening forest assets, and human lives and property in the "wildland/urban interface". As such, fire management must now include extensive mitigations and control measures, in which F&W Forestry participates.

COUNTY OF SISKIYOU
COMMUNITY DEVELOPMENT DEPARTMENT – PLANNING DIVISION
806 South Main Street · Yreka, CA 96097

REGISTERED PROFESSIONAL FORESTER CERTIFICATION OF LIST C

CONFORMANCE Project: Z2404 – Shasta Cascades Timberlands, LLC /Williamson Act Agricultural Preserve to TPZ Rezone
Property Owner: Shasta Cascades Timberlands, LLC

Assessor's Parcel Number (APN)	Existing Use / Land Cover	Current Zoning	Proposed Zoning	Approx. Acreage
014-350-050	Timberland / Grazing	WA – Ag Preserve	TPZ	160 acres
Total Acreage				160 acres

RPF Statement

I, John Vona, Registered Professional Forester No. 3044, have personally reviewed the

Shasta Cascades Timberlands Forest Management Plan prepared by F&W Forestry Services (August 2, 2023) and the associated maps and parcel information submitted for the above-referenced application, including the Zone Change Application for the Schulmeyer Gulch Parcel (April 23, 2025).

Based on my review and knowledge of the above listed properties, identified by their APN, I hereby certify that:

1. The subject parcels are devoted to and used for the growing and harvesting of timber, consistent with Government Code §§ 51104(f) and 51113.

2. The Shasta Cascades Timberlands Forest Management Plan meets the informational and technical content requirements of the Siskiyou County "List C" Criteria for Timber Preserve Zoning (adopted April 11, 1978).

3. The property currently meets the stocking standards of the California Forest Practice Rules (14 CCR § 932.7) and is managed to maintain those standards through periodic inventory and reforestation.

4. The forest stands, access, silvicultural systems, and fire-protection measures described in the plan and accompanying documents represent sustained-yield timber management appropriate for TPZ zoning.

RPF Certification

I certify under penalty of perjury that the foregoing statements are true and correct and that the management plan meets the applicable requirements of State law and County policy for List C conformance.

Signature: John Vona

Name (Print): John Vona

RPF No.: 3044

Date: 11/11/2025

Company / Affiliation: FWS Forestry , Managing consultant for Shasta Cascades Timberlands

Phone / Email: jvona@fwsforestry.com 206-384-7440

RESOLUTION ADOPTING THE CRITERIA
FOR LIST "C" FOR TIMBER PRESERVE
ZONING

WHEREAS, pursuant to Section 51100 of the Government Code the Board of Supervisors has adopted procedures for zoning Timber Land preserve and,

WHEREAS, the Board of Supervisors formed a Timber Advisory Committee and has requested said committee to prepare a criteria for inclusion of timberland under List "C", and;

WHEREAS, the Timber Preserve Advisory Committee on February 15, 1978 prepared said criteria for presentation to the Board of Supervisors and;

WHEREAS, the Board of Supervisors has reviewed said criteria and deemed said criteria appropriate;

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF SUPERVISORS has adopted the attached Exhibit "A" as the criteria for List "C" for Timber Preserve Zoning.

The foregoing resolution was adopted at a regular meeting of the Board of Supervisors of the County of Siskiyou, State of California, held the 11th day of April 1978 by the following vote:

AYES: Supervisors McArdle, Hayden, Belcastro and Torrey.

NOES: None.

ABSENT: None.

Signed and approved by me after its passage this 11th day of April 1978.

Chairman of the Board of Supervisors

ATTEST: Norma Price, County Clerk

by Lou Jurkovsky
Deputy

RESOLUTIONS
NO. 119
BOOK 8

EXHIBIT "A"

CRITERIA FOR LIST C

TO BE CONSIDERED FOR INCLUSION INTO TIMBER PRESERVE ZONING ALL APPLICANTS SHALL PROVIDE THE FOLLOWING INFORMATION AND/ OR MEET THE FOLLOWING MINIMUM STANDARDS:

1) Map showing legal description and the assessor's parcel number(s) and map(s). Additionally, as part of the management plans, the map shall contain the following elements.

   a.) stated scale (scale shall not be less than 4 inches per mile).
   b.) location of existing roads and principal streams.
   c.) broad timber types including any unstocked areas.
   d.) estimated site classes.
   e.) name of owners of surrounding lands and type of zoning.
   f.) total number of areas in parcel.
   g.) total number of stocked areas.
   h.) total areas of the various site classes.
   i.) date.
   j.) name of preparer.

2) A plan for forest management of the parcel prepared by, or approved as to content by a registered professional forester. The plan shall address the following considerations:

   a.) Status of access, both legal and physical.
   b.) Approximate age and condition of forest stands.
   c.) Statement of owner's objective in owning and managing the property.
   d.) Measures to be employed for the control of insects & diseases.
   e.) Measures, if any, for stocking understocked areas and for treating overstocked areas.
   f.) Plan for protection from fire, trespass and other agents.
   g.) Timetable for eventual harvest.
   h.) Schedule for inventory.
   i.) Evidence that the owner possesses the knowledge to manage the forest property, or has sought advice and information from appropriate sources.
   j.) Signature and License number of Registered Professional Forester.
   k.) Signature of owner
   l.) Date.

3) The parcel shall currently meet the stocking standards of the Forest Practice Rules, or the owner must enter into an agreement with the Board to meet the standards within five years.

4) The parcel shall contain a minimum equivalency to 40 acres of site Class III Timberland to the following productivity schedule:

Site Class	Minimum Number of Acres*	Minimum Parcel Equillivency
I	18 Acres	2.2:1
II	25 Acres	1.6:1
III	40 Acres	1:1
IV	80 Acres	1:2
V	120 Acres	1:3

* Based on Relative productivity of Site Classes. Tech. Bulletin #354 USDA Dunning & Reineke