California Cooperative Forest Management Plan

Property Name: Tahoe Donner Association

Property Location Address: 11509 Northwoods Boulevard, Truckee, CA 96161

Owner Name (s): General Manager: Robb Etnyre

Plan Author: William H. Houdyschell

Signature:_____

Phone: 530-587-9432 RPF#: 2270

This management plan outlines the conditions and capability of property resources, documents the landowner's objectives and decisions and identifies potential resource improvement projects. It is meant to be a flexible and educational document that considers a planning horizon of at least 5 years but may include objectives that require a much longer time period.

This management plan template meets management plan requirements for grant agreements and other provisions available through CAL FIRE, NRCS, USFS, and the American Tree Farm Association. Signature Pages are provided to document acceptance of this management plan in meeting those requirements.

This management plan is a tool for and belongs to the landowner. Signatures are only required for that entity providing funding as requested by the landowner.

SIGNATURES AND APPROVALS

This Forest Management Plan is provided as a guide to help you accomplish the objectives that you have for your forest. This Forest Management Plan will guide you in achieving the benefits of managing your forest and forest related resources. With this Forest Management Plan, you are eligible to participate in the California Department of Forestry and Fire Protections California Forest Improvement Program (CFIP), US Forest Service's Forest Stewardship Program (USFS), the American Forest Foundation's American Tree Farm System (ATFS) and The Natural Resources Conservation Service (NRCS) programs. This plan will need to be reviewed and approved by representatives for each of the programs that are providing funding.

I have reviewed this plan and approve its content.

_____**General Manager for Tahoe Donner Association**

Landowner (s) **Date**

USFS Forest Stewardship Program

I certify that this Forest Management Plan meets the requirements of the federal Forest Stewardship Program.

_____ _____

Plan Preparer Date

I certify that this Forest Management Plan meets the requirements of the federal Forest Stewardship Program.

_____ _____

Stewardship Forester Date

Forest Stewardship Tracking Number: _____

NRCS Cost Share Programs including EQIP

I certify that this Forest Management Plan meets the requirements of the USDA-NRCS Programs and/or the Quality Criteria for forest activity plans in Section III of the USDA NRCS Field Office Technical Guide.

_____ _____ _____

Technical Service Provider Date RPF Number

I certify that this Forest Management Plan meets the requirements of the USDA-NRCS Programs and/or the Quality Criteria for forest activity plans in Section III of the USDA NRCS Field Office Technical Guide.

_____ _____

District Conservationist Date

ATFS Program

I certify that this Forest Management Plan meets the requirements of the American Forest Foundation's American Tree Farm System.

_____ _____ _____

ATFS Inspecting Forester Date Number

Certified Tree Farm Number: (e.g. AL 1234) _____ Date of ATFS Certification: _____

CAL FIRE CFIP MANAGEMENT PLAN CERTIFICATION PAGE

California Registered Professional Forester (RPF) Certification: I certify that I, or my supervised designee, personally inspected this California Forest Improvement Program (CFIP) plan area, and that the plan fully complies with the CFIP and Professional Foresters Law, and meets Federal Forest Stewardship Management Plan Standards. I further certify that this plan is based upon the best available site and landowner information, and if followed, will not be detrimental to the productivity of the natural resources associated with this property.

Name (print or type): William H. Houdyschell

Signature: _____ Date: _____

Organization or Company: Tahoe Donner Association

Address: 11509 Northwoods Boulevard, Truckee, CA 96161

Phone: 530-587-9432 RPF#: 2270

CAL FIRE Unit Certification: I certify that I, or my supervised designee, personally inspected this California Forest Improvement Program (CFIP) plan area, and that the plan fully complies with the CFIP and Professional Foresters Law, and meets Federal Forest Stewardship Management Plan Standards.

Name (print or type): _____

Signature:_____ Date: _____

California Department of Forestry and Fire Protection

Unit: _____

Address: _____

CAL FIRE STATE OR REGION CFIP COORDINATOR: I certify that the plan fully complies with the CFIP and Professional Foresters Law, and meets Federal Forest Stewardship Management Plan Standards.

Name (print or type): _____ RPF#: _____

Signature:_____ Date: _____

TABLE OF CONTENTS

This Multi-Agency Cooperative Forest Management Plan was developed for use in California by CAL FIRE, the US Forest Service and Natural Resources Conservation Service using information from a national joint Forest Stewardship, American Tree Farm System, NRCS Planning Process and the California Forest Improvement Act.

Landowner Information

Landowner(s): Tahoe Donner Association

Tahoe Donner Association is a property owners association that is a non-profit mutual benefit corporation with a federal tax exemption (501.(C)(4)). Construction related to the development of the property started in 1970 with Tahoe Donner Association being incorporated in 1971. Today, the association has approximately 25,000 members owning 6,472 membership properties. The association owns, operates, maintains and manages common area, other association property and facilities. The facilities include an administrative office, two pool facilities, a tennis center, a recreation center, driving range, an 18 hole golf course, a facility maintenance yard, forestry facility, a downhill ski area, a cross country/equestrian facility, marina and a campground.

The association operates under an annual budget approved by the Board of Directors. The budget includes an operating fund, a reserve replacement fund and a development fund for the maintenance of the facilities mentioned above, their associated programs and support departments. The operating budget funds the day to day operations and their maintenance. The reserve/replacement budget replaces large component items that have reached their useful life. The development budget funds facilities and infrastructure. Each membership parcel has an annual assessment that funds a portion of the association's annual budget.

The forestry department is one of the support departments with the mission of reducing the effects of catastrophic wild land fire and creating a "healthy" working community forest. The department's 3-year average budget is approximately $875,000. The forestry department budget funds the property owner forest health and defensible space inspection programs, a free curbside chipping program, the maintenance of the 40 mile trail system and related forestry/fire projects along with their maintenance completed on association property. Staffing includes a full-time forester and assistant forester, and a seasonal staff of two part-time foresters, a trail manager, a trail steward, a trail maintenance worker, a defensible space compliance inspector and ten seasonal forestry workers.

Mailing: 11509 Northwoods Boulevard, Truckee, CA 96161

Phone: 530-587-9400 **E-Mail:** info@tahoedonner.com

Landowner's Representative (if applicable): William H. Houdyschell

RPF# (if applicable): 2270

Mailing Address: 11509 Northwoods Boulevard, Truckee, CA 96161

Phone: 530-587-9432 **E-Mail:** forestry@tahoedonner.com

Management Plan History

Does a Management Plan exist for this property?: Yes X **No** ___

If Yes:
Type of Plan: (CFIP, EQIP, NTMP, FSP, CAP, Other): CFIP

Date of Original Plan Completion: 1990 **Revision Dates:** 1995, 2006

NOTE: Past Plans and Current Amendments are referred to in Appendix 6

Property Facts

Legal Property Description: see tables below

Nearest Town: Truckee **County:** Nevada **Assessor's Parcel Number:** see below

GPS Coordinates: 39 21' 22.6" N, 120 14' 39.72" W (center of property)

Tahoe Donner property within the Town of Truckee (Common Area)

APN#	Acres	Legal Description	Zoning
Various		portion of section 1, T17N, R15E	REC
Various		portion of section 4, T17N, R16E	REC
Various		portion of section 5, T17N, R16E	REC
Various		portion of section 6, T17N, R16E	REC
Various		portion of section 7, T17N, R16E	REC
Various		portion of section 8, T17N, R16E	REC
Various		portion of section 9, T17N, R16E	REC
Various		portion of section 31, T18N, R16E	REC
	1,338.10 acres		

Other Association Owned Property within the Town of Truckee limits

APN#	Acres	Legal Description	Zoning
18-010-10	161.76	portion of section 8, T17N, R16E	RR-0.05
18-180-01	2.28	portion of section 7, T17N, R16E	RR-0.05
18-180-02	2.53	portion of section 7, T17N, R16E	RR-0.05
18-180-03	24.15	portion of section 7, T17N, R16E	RR-0.05
Various	211.04	portion of section 7, T17N, R16E	RR-0.05
	401.76 acres		

Tahoe Donner property outside of the Town of Truckee

APN#	Acres	Legal Description	Zoning
16-060-14	558.56	portion of section 36, T18N, R15E	IDR
16-060-15	272.90	portion of section 35, T18N, R15E	FR 160
16-060-16	38.00	portion of section 35, T18N, R15E	FR 160
16-060-20	40.90	portion of section 35, T18N, R15E	FR 160
16-060-21	121.34	portion of section 26, T18N, R15E	FR 80 PD
16-060-23	82.01	portion of section 26, T18N, R15E	FR 80 PD
16-060-24	199.65	portion of section 35, T18N, R15E	FR 160&80 PD
16-060-28	289.70	portion of section 25, T18N, R15E	FR 80 PD
16-060-29	69.87	portion of section 36, T18N, R15E	FR 40 PD
17-020-05	385.05	portion of section 2, T17N, R15E	FR 160
17-020-06	40.00	portion of section 2, T17N, R15E	FR 40 PD
17-020-27	520.00	portion of secs. 11 & 12, T17N, R15E	FR 160
17-020-34	20.00	portion of section 12, T17N, R15E	AG 10 PD
	2,637.98 acres		

Total ownership acreage: 4,378 acres, total including private lots 7,038 acres

See Appendix 1 - Tahoe Donner Management Plan Maps

Does Landowner reside on the property?: Yes, either full-time or part-time.

Describe the overall topography including slope, aspect and elevation: The property lies on the eastern slope of the Sierra Nevada mountain range. Slopes range from flat to 60 percent, with the majority of the slopes being less than 35 percent. The aspect is variable; however the property primarily slopes towards the east. The elevation ranges from approximately 6,200 to 7,825 feet above sea level.

Estimate percent of total acreage that is:

Simple topography (few ravines and changes of aspect) 80**%**

Percent of Land: Flat (<5% slope) 10, **Gentle (< 35% slope)** 60, **Steep (> 35% slope)** 30

Transportation System:

Vehicle Access (check): X **Excellent (80% accessible) Good (at least 50%) Fair (at least 25%) Poor (less than 10%)**

Estimated improved road length (paved surface): 62 miles

Estimated improved road length (rock surface): 1 mile

Estimated unimproved road length: 34 miles

Watershed Information:

CALWATER 2.2 planning watershed: The property is divided into five Calwater version 2.2 watersheds, they are: Donner Lake 8635.200201, Trout Creek 8635.200202, Frog Lake 8635.200301, Alder Creek 8635.200303 and Prosser Creek Reservoir 8635.200304.65372101

Acres within these watersheds: Donner Lake, 743 acres; Trout Creek, 2,429 acres; Frog Lake, 1,295 acres; Prosser Creek Reservoir, 122 acres; and Alder Creek, 2,449 acres.

Is there a 303d listing on watershed? No **What are the factors?:**

Tract and Farm number (if suitable):4269 and 364

PROPERTY HISTORY

• This section is based on personal knowledge from landowner, neighbors and others, property records, and local information sources as well as evidence seen on the ground; stumps, skid trails, etc.

• Discuss past management history including past timber harvests (include THP # after 1970s), conservation practices (include those completed under public incentive agreements) and catastrophic events.

The pre-historic use of the property was by the Washoe Tribe living and gathering food from early spring to early winter. The dominant form of historic land use in the area was logging and ranching/dairy operations. The forest on the property has gone through many changes over the last 130 years. A lumber mill owned by Elle Ellen operated along Trout Creek from 1876 to 1883 supplying lumber, snow shed timbers and cordwood for the railroad. A forest survey was conducted by the Crown Willamette Paper Company during the summer of 1912 for their holdings, which now comprise the western portion of the property. The survey reported that most of the ground which sloped into Trout and Alder Creeks had been cut over, leaving young to mature red and white fir. Crown Willamette Paper Company then logged their holdings in the 1920's transporting pine logs to Hobart Mills and fir logs to their pulp mill in Floriston. Aerial photographs from 1939 support these statements, showing a large amount of logging activity with scattered trees in the 24" size-class with a large amount of pole-sized timber and brush covering the property, except on the steeper north facing slopes south of Euer Valley that were not logged. In 1960, the Donner Ridge Fire burned through the western half of the property, which, in turn, was salvage logged over the next two years. This is when the seasonal road system on the property was constructed to facilitate a salvage logging operation. The area which burned is now a mosaic of brush fields, plantation/fuel breaks and small fire-damaged timber stands. Construction and logging related to the development of the property started in 1970 with Tahoe Donner being incorporated in 1971. Since the creation of Tahoe Donner timber has been harvested in several ways. Two Emergency Notices were completed due to insect activity, #2-90EM-57(3)NEV and 2-93EM-522(3)NEV. Almost yearly, since the 1980's, there has been a 10% dead and dying exemption covering the property. A timber harvest plan was granted in 1996 and was completed in 2001 after two extensions, THP# 2-96-319-NEV3. An additional property totaling 161 acres was purchased in 2011 that had THP #2-96-193-NEV completed in 1996 and 1997. A second additional property totaling 480 acres was purchased in 2012 that had THP#2-91-241-NEV completed in 1992 and 1993.

<u>Conservation practices under public incentive agreements:</u>

California Forest Improvement Program, California Department of Forestry and Fire Protection
90/91-II-NEV-65; 36 acres of site preparation and tree planting

Forestry Incentives Program, Natural Resources Conservation Service
92 0020; 40 acres of site preparation and tree planting

Forest Stewardship Program, California Department of Forestry and Fire Protection
8CA97071; 45 acres of site preparation and tree planting; and 30 acres of mastication to extend a fuel break

Forestry Incentives Program, Natural Resources Conservation Service
unknown; 35 acres of tree planting

National Fire Plan/Community Protection Grant, United States Forest Service
02-DG-11051750-025; 5.5 acres of site preparation; 44 acres of pre-commercial thinning; 56.5 acres of creating a fuel modification zone

Forest Reserve Funds, Nevada County
03-133; 15 acres of site preparation and tree planting; and 40 acres of brush mastication

Environmental Quality Incentives Program, Natural Resources Conservation Service
20020117; 10 acres of pre-commercial thinning, pruning and slash disposal; 27 acres of site preparation and tree establishment; and 40 acres of brush management

Environmental Quality Incentives Program, Natural Resources Conservation Service
20040183; 30 acres of pre-commercial thinning and pruning; 4 acres of fuel break; 35 acres of spraying and tree establishment; and 4 acres of spraying, mastication and tree establishment

California Forest Improvement Program, California Department of Forestry and Fire Protection
05-CRN-NEV-01; 44 acres of pre-commercial thinning, pruning, follow-up and release; 18 acres of site preparation and tree planting; 7 acres of release, follow-up and pruning and 35 acres of spraying and tree planting

Environmental Quality Incentives Program, Natural Resources Conservation Service
749104071LH; 10 acres of mastication, spraying and tree establishment; and 20 acres of mastication, pre-commercial thinning and pruning

California Forest Improvement Program, California Department of Forestry and Fire Protection
07-CRN-NEV-03; 22 acres of pre-commercial thinning, pruning and follow-up; 22 acres of site preparation, follow-up and tree planting; and 14 acres of release, follow-up slash and pruning

Cooperative Fire Protection (Emergency Supplemental) Grant, Funded by US Forest Service, Administered by California Fire Safe Council
#10USFS-ES571; creation of a shaded fuel break with pre-commercial thinning, pruning mastication and chipping

California Forest Improvement Program, California Department of Forestry and Fire Protection
11-CRN-NEV-08; 63 acres of pre-commercial thinning, follow-up/slash disposal and pruning; and 5 acres of mechanical release and follow-up/slash disposal

Catastrophic events: 1960 Donner Ridge Fire, 1977 Flash Fire, 1994 Armstrong Fire, 2003 Donner Fire and 2007 “80” Fire.

CURRENT PROPERTY CONDITIONS

Property Infrastructure

• Discuss existing improvements (including dwellings, roads and access, outbuildings, fencing, water improvements, tanks including stock ponds, wells, power lines, etc).

General location: Tahoe Donner is located approximately one-half mile northwest of downtown Truckee in eastern Nevada County. The property is accessible to vehicles from the south via Northwoods Boulevard off of Donner Pass Road. A north access to the property can be found via Alder Creek Road off of Highway 89N. Access for heavy equipment to the property is afforded by the following route: From Interstate 80 take Highway 89N for approximately two miles, turning left onto Alder Creek Road. Two entrances are located off of Alder Creek Road, one by turning left on Schussing Way at approximately one-and-one-half miles from the intersection with Highway 89N, the other by continuing on Alder Creek Road an additional mile and entering the northern portion of the property.

The USGS Quadrangle maps on which the property is located are; Truckee, CA, Norden, CA and Independence Lake, CA.

The Tahoe Donner development totals approximately 7,038 acres and falls under the jurisdiction of both the Town of Truckee and the unincorporated area of Nevada County. Within the boundary of the Town of Truckee is the developed portion of the development. The development is made up of private lots owned by members of the association, utility company property, a few private parcels and 62 miles of paved public roadway. There are 5,498 parcels, some with multi-family dwellings, owned by the members of the association. These parcels are serviced with water, power and natural gas by local utilities. These properties range in size from one-quarter to 9 acres, but average one-quarter to one-third acres in size. The association owns approximately 1,338 acres of common area (open space) and an additional 402 acres of other property within the town limits. The association-owned acreage consists of parcels that are 0.1 to 219 acres in size. These parcels are located throughout the developed portion of the property. The association owns, operates, maintains and manages facilities that include an administrative office, two pool facilities, a tennis center, a recreation center, driving range, an 18 hole golf course, a facility maintenance complex, forestry complex, a ski hill, a cross country/equestrian facility and a campground. There are two wells located on the golf course, for golf course irrigation only, and three transmission power lines traverse the property in an east west direction going from Reno Nevada to Sacramento California. Two fence lines exist on the property; one a people control fence between Tahoe Donner and a neighboring property and one cattle drift fence. Both fence lines are located in section 35 of the property.

The 62 miles of paved roads on the property were constructed during the development period in the 1970's and are maintained by the Town of Truckee. The 35 miles of seasonal road was mostly constructed after the Donner Ridge Fire of 1960 to facilitate the salvage logging operation. These newly constructed roads did not address erosion concerns and the stream crossings consisted of placing logs into the streams and covering them with dirt. The road system was re-constructed in the mid 1990's removing vegetation, placing culverts, constructing erosion interception devices, out-sloping the road bed and placing gravel over a few sections.

LAND STATUS	ACRES
Mature Forest	1,834
Site Preparation and Plant	1,322
Young Developing Forest	475
Tahoe Donner Private Lots	2,154
Private Property within Tahoe Donner Boundaries	55
Improved Roads within Tahoe Donner Boundaries	451
Tahoe Donner Facilities	115
Down Hill Ski Area	82
Golf Course	66
Meadows and Wet Areas	284
Non Commercial Soils	200
TOTAL	7,038

Forest Infrastructure

• Discuss overall forest structure, percent of productive forest soils, regeneration levels and current silvicultural practices.

• Note current conservation practices for forest lands, including insect or disease problems.

Existing commercial forest stands are located on approximately 3,631 acres. There are 200 acres of non-productive land. The forest types were classified using the wildlife habitats discussed in A Guide to Wildlife Habitats of California. The forest habitats represented on the property are Red fir, Lodgepole pine, Sierran mixed conifer, Aspen, Montane riparian, Montane chaparral and Wet meadow.

Red fir type is found at the higher elevations of the property, predominately on the north-facing slopes. The stands are dominated by red fir (*Abies magnifica*) with a few associated trees, including mountain hemlock (*Tsuga mertensiana*), western white pine (*Pinus monticola*) and white fir (*Abies concolor*). The understory is typically barren due to the lack of sunlight, however, if there are any openings in the canopy, snowbrush (*Ceanothus velutinus*) and pinemat manzanita (*Arctostaphylos nevadensis*) represents the major understory species. Most of the property covered with this forest type was heavily logged in the early 1920s or burned over during the Donner Ridge Fire of 1960. Today, most of the pure stands of red fir are now approximately 40 years old but, where the fire missed, there are a few small isolated mature stands, located throughout the property. One larger stand of mature red fir exists on adjacent Forest Service property to the west, on Donner Ridge.

Lodgepole pine type is found adjacent to the riparian areas associated with Trout, Alder and the South Fork of Prosser Creeks, and on sites disturbed by early logging and fire. Lodgepole pine (*Pinus contorta*) dominates the site with other associated species being present including red fir and white fir. The understory contains creeping snowberry (*Symphoricarpos mollis*), with grasses and forbs. Many times, an understory is not present due to the closed canopy and lack of sunlight. Most of these lodgepole stands that can be reached with ground-based equipment have been thinned in the past ten years.

Sierran mixed conifer, or an eastside version thereof, dominates the property. The major tree

species include Jeffrey pine (*Pinus jeffreyi*), red fir, white fir, lodgepole pine and the occasional incense cedar (*Calocedrus decurrens*), sugar pine (*Pinus lambertiana*) or western white pine. The understory is made up of snowbrush, green-leaf manzanita (*Arctostaphylos patula*), bitter cherry (*Prunus emarginata*), mountain whitethorn (*Ceanothus cordulatus*), gooseberry (*Ribes roezlii*) and wax current (*Ribes cereum*). Most of these mixed conifer stands have been thinned in the past twenty years.

Aspen type is found along Alder Creek and in an area of concentrated springs that feed Alder Creek. Along with quaking aspen (*Populus tremuloides*), the major tree species include willows (*Salix* spp.), mountain alder (*Alnus tenuifolia*), lodgepole pine, Jeffrey pine, and red and white fir. The understory includes creeping snowberry, western serviceberry (*Amelanchier alnifolia*) and willows.

Montane riparian type is found along Trout, South Fork of Prosser and Alder Creeks. Here the tree species consist of black cottonwood (*Populus trichocarpa*) and lodgepole pine. The brush species include red twig dogwood (*Cornus sericea*), willows and mountain alder.

Montane chaparral type is found on sites burned by the Donner Ridge Fire. In some portions of the property, red and white fir are growing through the thick brush, mostly on north-facing slopes. However, on south-facing slopes, very few trees exist in the brush fields. Here snowbrush dominates the landscape with mountain whitethorn, green leaf manzanita, bitter cherry, pinemat manzanita, huckleberry oak (*Quercus vaccinifolia*) and sierra chinkapin (*Castanopsis sempervirens*) mixed throughout.

Wet meadow type can be found along Trout, Alder and the South Fork of Prosser Creeks in low lying areas adjacent to the creeks. A great variety of plant species can be found here, with the most recognizable being members of the willow family.

Timber harvest before the Forest Practice Act and under regular THPs has produced an uneven aged, unchanged timber component. The Donner Ridge Fire of 1960 burned approximately 3,075 acres of the western portion of the property and created a mosaic of brush fields and young regeneration. Over time, work projects along with natural processes were encouraged to rehabilitate the property back to timber production. The majority of merchantable trees on the property show an age of 50 to 120 years.

For the red fir stands, the basal area runs between 140 to 400 square feet per acre, with the merchantable trees averaging 95 years old and an average height of 95 feet. The average site index using Schumacher (1928) yield and volume tables is 40. These stands, if fully stocked, can produce 695 board feet per acre, per year.

For the mixed conifer stands, the basal area runs between 50 to 320 square feet per acre. The merchantable Jeffrey pine trees average 90 years old with those trees averaging 85 feet in height. The average site index using Meyer (1938) yield and volume tables is 90. These stands, if fully stocked, can produce 450 board feet per acre, per year. The merchantable white fir trees average 90 years old and 90 feet in height. The average site index using Schumacher (1926) yield and volume tables is 60. These stands, if fully stocked, can produce 725 board feet per acre, per year. These growth projections can be surpassed and the land can produce even higher yields if the regeneration is allowed good growing conditions and the levels of growing stock is intensively managed with reduced competition.

Insects and disease take a toll on the timber stands each year depending on drought conditions of the surrounding area. The major insects and diseases are discussed below.
Mountain pine beetle- (*Dendroctonus ponderosae*) this beetle can attack and kill lodgepole pine, sugar pine, western white pine and ponderosa pine. In Tahoe Donner, the primary host is the lodgepole pine tree. The attacks are usually heaviest along the main trunk of the tree, within three feet of the ground to the middle of the tree. During endemic infestations the beetle tends to attack the smaller, weaker trees. Infested trees are recognized by pitch tubes on their trunks and red boring dust in bark crevices and on the ground at the roots – later by decolonization of the foliage. The female creates egg galleries that run up and down the tree, while the young bore perpendicular to the tree. One generation per year is the general rule. Early detection and removal of the infested tree is crucial to stem the tide of the spread of this beetle. The association will lose a few small pockets of trees to this beetle every year in the lodgepole stands. During drought years, the number of trees that will be infected will increase.

Fir engraver beetle – (*Scoyltus ventralis*) this beetle can attack and kill white and red fir. It attacks pole-sized trees to those at full maturity. Outbreaks of this beetle occur during periods of drought. Although the fir engraver beetle can kill a tree outright, it generally attacks and kills the top of the tree first. An attack can be recognized by pitch running down the younger or smoother portions of the bark located at the top of the tree. The boring dust is flesh colored and collects in the ridges of the bark. The female creates an egg gallery that runs perpendicular to the grain of the wood, with the young carving up and down the tree. This beetle can have as many as three generations per year.

Jeffrey pine beetle – (*Dendroctonus jeffreyi*) this beetle only attacks and kills Jeffrey pine trees. This beetle generally attacks mature and over mature trees that have a retarded growth rate. During epidemics, the beetle attacks groups of up to twenty trees. The attacks are usually heaviest along the main trunk of the tree, within three feet of the ground to the middle of the tree. The beetle generally attacks trees greater than twelve inches in diameter. The entrance hole usually occurs in bark crevices, with the initial attack associated with pitch tubes and later by red boring dust. The female creates egg galleries that run up and down the tree with a slight turn at the bottom of the egg gallery, which then proceeds up the tree. One generation per year is the general rule. Early detection and removal of the infested tree is crucial to stem the tide of the spread of this beetle. This beetle should not be a problem unless the area is experiencing a prolonged drought.

Red turpentine beetle – (*Dendroctonus valens*) this beetle can attack all pine species. It normally attacks injured, weekend or dying trees. This beetle usually does not kill trees, but weakens them to be attacked by other beetles. This beetle creates large reddish pitch tubes located on the lower portion of the bole. The egg galleries are short and irregular in shape running up and down the tree. This beetle will usually appear around construction sites.

White pine blister rust – (*Cronartium ribicola*) a fungus that attacks the five needle pines, sugar and western white pine. This fungus is an exotic introduced from Europe. Attacks are recognized by flagging or killing of individual branches or tops of infected trees. Upon closer examination, the dead branches or portions of the bole of the tree may have cankers with dead roughened bark, with margins of yellow to orange spores attached. To complete the life cycle of the fungus, a *Ribes* species (wax current or gooseberry) and a five needle pine must be present. To control the fungus, either re-forest with rust resistant seedling or other species of trees, or remove the *Ribes* species. This disease occurs throughout the association property, where sugar pine and western white pine exist.

Dwarf mistletoes – lodgepole pine dwarf mistletoe (*Arceuthobium americanum*), true fir dwarf mistletoe (*Arceuthobium abietinum*) and western dwarf mistletoe (*Arceuthobium campylopodum*). This disease, a true parasite, under severe infections of the host tree, can cause growth loss, wood quality reduction, and in the case of less vigorous examples, tree death. Each species of dwarf mistletoe is tree species specific, with the true fir infecting the red and white fir, lodgepole infecting lodgepole pine and the western infecting Jeffrey pine. All of the dwarf mistletoes are similar in appearance, with two-and-a-half to 6 inch long yellow to olive-green leafless shoots attached to the branches or boles of its host. The only way to manage the dwarf mistletoe is to remove the infected trees and plant a species of tree different than those removed. The dwarf mistletoes appear throughout the association in defined pockets.

Stalactiform rust – (*Peridermium stalactiforme*) is a fungus that attacks lodgepole pine. The infections when young are spindle-shaped swellings on the stems or branches of the tree. When old, they appear as long yellowish pitch covered areas on the bole of the tree. The bark on the canker surface has sloughed off and the cankers can be up to 25 feet long. Yellow spore pustules form on the edge of active cankers in early summer. This disease will not cause the tree to die, but will reduce the vigor of the tree and could be confused with western gall rust or white pine blister rust. To reduce the occurrence of this fungus the infected trees should be removed during a thinning operation.

Western gall rust – (*Peridermium harknessii*) is a fungus that attacks Jeffrey pine and lodgepole pine. The rust can be recognized by galls on branches or stems that, in time, form large, hard burls that may partially girdle or fully girdle and kill the tree. Yellowish-orange spore pustules appear in the cracks of the galls in the spring of each year. The spores become airborne and infect adjacent trees. The fastest growing trees are more susceptible to the disease. If the fungus is in the branches, the individual branches can be removed to stop the spread. If the rust is in the bole of the tree, the tree should be removed during a thinning operation. Large trees with large burls are a hazard to adjacent homes, as the burl causes a weak area in the tree and should be removed. This disease is in all of the lodgepole stands and in some of the Jeffrey pine.

Annosus root rot – (*Fomes annosus*) a fungus that attacks the root system of all conifers. Pine trees infected with the fungus show decreased terminal growth, needle yellowing and a general decline in health. In non-resinous hosts, it exhibits stain or white stringy rot in the roots. Wind throw of trees infected for some time is common. The disease is spread from root to root of another tree or from freshly cut stumps. When logging or using other equipment in an area infected with the fungus, one needs to be careful not to cause damage to the trees, and those damaged should be removed. Also to stop the spread, the freshly cut stumps can be treated with Sporax. This disease can be found in pockets mostly in the developed areas of the property.

Roads

• Describe road system including major trails (see Appendix 2 - Tahoe Donner Management Plan Road and Water Map). Discuss stream crossings and drainage improvements. Are culverts and other crossings are adequately sized for 100 year storm events?

• Describe current road maintenance for erosion reduction, road surface condition, weed control, and time-of-year (seasonal) use.

The 62 miles of paved roads on the property were constructed during the development period in the 1970's and are maintained by the Town of Truckee. The 35 miles of seasonal road was mostly constructed after the Donner Ridge Fire of 1960 and was re-constructed in the mid

1990's.

All roads on the property have been in place since the time of the original purchase, no new roads have been constructed. There is approximately ½ mile of rocked road off of Glacier Way and along a few wet areas on the roads south of Euer Valley. There are 72 road water crossings on the property with one being a bridge, 40 crossings are culverts and 31 are fords. All crossings are designed for greater than a 100 year storm event. All culverts are inspected every fall and spring under a maintenance program with repairs happening immediately. Roads are bladed as needed and steeper areas have rolling dips, are out sloped or with shallow water bars in place. Seasonal roads are used only when the surface is dry and soils are not wet or saturated. The property owner maintains 20 gates, most of which are locked, and 2 chained and locked entry points to limit access for administrative use only on the seasonal road system.

The property owner also maintains a system of 40 miles of trail for hiking, biking and equestrian use. Some of the trail system is located on the seasonal road system.

Road maintenance is sporadic and some of the road surfaces are deteriorating.

Access and Security

• Are property boundaries identified including fences, gates, and boundary or corner markers?

• Discuss trespass problems.

• Review how current property management interacts with neighboring properties.

All main property corner markers have been located on the property including all of the corners for the private lots. Along most of the outside property lines metal T-posts with signs delineating the property boundary have been installed. Some of the T-posts were installed in the early 1970"s and are in disrepair due to being pulled from the ground or from winter damage. One fence exists between the association and another property owner in the northwest corner of the property in section 35. This fence serves to keep the membership of Tahoe Donner from trespassing on the adjacent neighbor. Also in section 35 one cattle drift fence exists that will be removed in 2015.

There are no major trespass issues at this time. Motorized vehicles are not allowed over the seasonal road system except for those used for administrative use. Currently there is some trespass of motorized vehicles, motorcycles and snow mobiles, from adjacent U. S. Forest Service property. All entry points along seasonal roads are signed.

Recreation

• Describe current recreational opportunities including supporting resources.

Recreation on this property includes downhill skiing, cross country skiing, snow shoeing, hiking, biking, horseback riding, tennis, golf, fishing, camping and associated outdoor activities. Hunting is not allowed on the property.

Invasive Species

• Discuss invasive species found and current eradication measures.

Invasive species located on the property include bull thistle, C*irsium vulgare*; musk thistle, *Carduus nutans*; Canada thistle, *Cirsium arvense*; and spotted knapweed, *Centaurea maculosa.*

All of these species have been treated in the past by Nevada County Department of Agriculture in some locations. The forestry department has started a public information program for invasive species and control methods for the property owners.

Soils:

• Describe and map (see Appendix 3 – Tahoe Donner Management Plan Soils Map) soil types, site class, estimated growth/acre/year, erosion hazard ratings, equipment limitations, known geological hazards and landslides. Place supporting soil data and any other available ecological site descriptions (ESDs) in Appendix 3.

Most of the soils on the property originated from volcanic parent material while some originated from glacial-alluvial parent material. The soils on the property are made up of nine soil series. Below is a brief discussion of each:

Jorge series is identified by a brown sandy loam surface layer and a yellowish-brown, cobbly sandy loam subsoil. The soil depth is 40 inches or more and formed from volcanic parent material. These soils are well drained, with permeability rated moderate, and are found on slopes of 30 to 50 percent within an elevation range of 6,000 to 8,000 feet. The effective rooting depth is 40 to 60 inches, has a low water holding capacity, and usually supports a stand of mixed conifer.

Sierraville series is identified by a grayish-brown, stony sandy loam surface layer and a light brownish-grey, stony sandy clay loam subsoil. The soil depth is 40 inches or more and formed from volcanic parent material. These soils are well drained, with permeability rated moderately slow, and are found on slopes of 2 to 30 percent within an elevation range of 5,500 to 6,400 feet. The effective rooting depth is 40 to 80 inches with a low to high water holding capacity and usually supports a stand of mixed conifer.

Tahoma series is identified by a brown, gravelly loam surface layer and a weakly structured red clay subsoil. The soil depth is 40 to 60 inches or more and formed from volcanic parent material. These soils are well drained, with permeability rated moderately slow, and are found on slopes of 2 to 50 percent within an elevation range of 6,000 to 8,000 feet. The effective rooting depth is 40 to 60 inches, with a low water holding capacity and usually supports a stand of true fir.

Windy series is identified by a dark-brown, gravelly sandy loam surface layer and a brown, gravelly sandy loam subsoil. The soil depth is 40 to 60 inches or more and formed from volcanic parent material. These soils are well drained, with permeability rated moderately rapid, and are found on slopes of 2 to 50 percent within an elevation range of 6,000 to 9,000 feet. The effective rooting depth is 40 to 60 inches, with a low water holding capacity and usually supports a stand of red fir.

Fugawee series is identified by a dark-brown, sandy loam surface layer and a reddish-brown gravelly clay loam subsoil. The soil depth is 20 to 40 inches or more and formed from volcanic parent material. These soils are well drained, with permeability rated moderate to moderately slow, and are found on slopes of 2 to 50 percent within an elevation range of 6,500 to 8,000 feet. The effective rooting depth is 20 to 40 inches, with a low water holding capacity and usually supports a stand of mixed conifer or red fir.

Waca series is identified by a grayish-brown, gravelly sandy loam surface layer and a yellowish-brown, very gravelly sandy loam subsoil. The soil depth is 20 to 40 inches or more and formed from volcanic parent material. These soils are well drained, with permeability rated moderately rapid, and are found on slopes of 2 to 50 percent within an elevation range of 6,000 to 8,000 feet. The effective rooting depth is 20 to 40 inches, with a low water holding capacity and usually supports a stand of red fir.

Meiss series is identified by a brown, sandy loam surface layer. The soil depth is 0 to 20 inches and formed from volcanic parent material. These soils are well drained, with permeability rated moderately rapid, and are found on slopes of 2 to 60 percent within an elevation range of 6,000 to 9,000 feet. The effective rooting depth is 12 to 20 inches, with a very low water holding capacity. These soils are non-timber producing and usually supports a field of wyethia.

Lorack series is identified by a brown, gravelly loam surface layer and dark-brown, gravelly clay loam subsoil. The soil depth is greater than 40 inches and formed from glacial-alluvial parent material. These soils are moderately well drained, with permeability rated moderately slow, and are found on slopes of 2 to 30 percent within an elevation range of 5,500 to 6,500 feet. The effective rooting depth is 33 to 40 inches, with a low water holding capacity and usually supports a stand of mixed conifer or Jeffrey pine.

Tallac series is identified by a dark-grey, gravelly sandy loam surface layer and pale-brown, cobbly loam subsoil. The soil depth is greater than 40 inches and formed from glacial-alluvial parent material. These soils are moderately well drained, with permeability rated rapid, and are found on slopes of 30 to 60 percent within an elevation range of 6,000 to 8,500 feet. The effective rooting depth is 40 to 60 inches, with a low water holding capacity and usually supports a stand of mixed conifer or alders and willows.

The site classification as described by Public Resources Code 4582 (d) ranges from site II to IV (Dunning, Duncan) depending on the soil type and depth throughout the property. The majority of the property has a site class III designation. Growth on these acres is approximately 84 to 119 cubic feet per acre per year (USFS "*Forest Survey Site Classes and Their Equivalents in Local Site Classifications)*" from the meadow edge to the ridge tops.

Forested acres on this property support a good duff cover with scattered large down woody material except in the reforestation/fuel break areas. Soil compaction is low due to well-spaced logging entry and keeping equipment off of wet soils. The meadow areas are well vegetated and high water runoff in natural rills and low spots show no channel erosion. There is minor bank cutting in all watercourses except the South Fork of Prosser Creek where the bank cutting is major.

Streams, Wetlands, and Ponds

• Describe water resources present including streams, wetlands and ponds. Show State and Federal classifications.

Using CAL FIRE classifications, there are three Class I watercourses on the property; Trout Creek, Alder Creek and the South Fork of Prosser Creek. There are a few Class II streams feeding each of these creeks and many small Class III watercourses that drain into these three creeks (see Appendix 2 - Tahoe Donner Management Plan Road and Water Map). A few springs on the property were improved prior to 1950. Many of them are still providing water for wildlife and domestic use.

Air Resources

• Discuss how unwanted vegetation is currently treated or removed from property.

Today slash from logging and timber stand improvement work is either chipped and blown over the forest floor or piled and burned as permitted by the air resources control board. In 2006 a tracked chipper was purchased to reduce the amount of material burned yearly. The free property owner chipping program produces approximately 660 tons of material that is hauled to a local co-generation facility. During the initial phase of the defensible space program, 2008 to 2011, approximately 1,200 tons per year was delivered to a co-generation facility.

Fish & Aquatic Species

• Identify fish streams and note streams with anatropous fish or listed fish species as well as other significant aquatic species using the water resources and riparian area(s)

• Describe general condition of the fish habitat including large wood, pools, riparian cover, migration barriers and current or desired buffer widths.

The three Class I watercourses within the property support fish. They run year round but become very low in late July through September. Trout Creek has brook trout and rainbow trout; Alder Creek has brook, rainbow and brown trout and the South Fork of Prosser Creek has rainbow trout. Both Trout Creek and Alder Creek were visited by Department of Fish and Wildlife biologists in 1998 and they reported both streams to be functioning well. Great Basin cutthroat trout and Pauite sculpin may exist in the South Fork of Prosser Creek according to the California Department of Fish and Wildlife NDDB.

Upland Wildlife

• Identify bird and animal species observed or known to be present

• Describe general condition of habitat and the habitat elements such as den sites, snag retention, downed wood, migration corridors and water sources.

Other species of animals found on this property, by common name include:
Black Bear
Mountain Lion
Bobcat
Coyote
Grey Fox
Mule Deer
Skunk
Beaver
Cottontail Rabbit
Snowshoe Hare
California Ground Squirrel
Western Grey Squirrel
Northern Flying Squirrel

Douglas' Squirrel
Raccoon
Porcupine
Brown Bat
Dusky Footed Wood Rat
Meadow Vole
Gopher
Various mouse species
Red Tail Hawk (nesting sites on property)
Coopers Hawk (nesting sites on property)
Great Horned Owl (nesting sites on property)
Great Blue Heron
Mountain Quail
Valley Quail
Various song birds
Various Duck Species
Canada goose
Mourning Dove
Band-Tail Pigeon
Several lizard and snake species including:
Rubber Boa
Western Rattle Snake
California Mountain King Snake
Gopher Snake
Garter Snake
Northern Alligator Lizard
Western Fence Lizard
Western Skink

There are approximately 18 miles of edge habitat where forest land meets meadow edge and approximately 44.2 miles of riparian habitat. Riparian habitat is along watercourses that run surface water until June 15 of any "normal" snow melt event spring/early summer and is mostly dry in the summer months. Within this riparian area, approximately 10.5 miles currently supports permanent surface water in the form of creeks, springs and a portion of the Class II watercourses that are fed by springs.

While the association manages 1,096 acres of re-forestation/fuel breaks on the property and manages most of the common area as fuel reduction zones, the general forest component is managed to allow den sites, snag retention and downed woody material.

Federal Threatened or Endangered Species - plants or animals
• In Appendix 8, discuss T&E species observed or known and provide the results of the California Department of Fish and Game NDDB and BIOS information sites including within three miles of the property boundary.

LANDOWNER MANAGEMENT OBJECTIVES

Desired Forest Condition For:

Fire protection objectives:
Increase the level of vegetation and fuels management to help lessen the effects of a wildfire on the property, subdivision, association common areas and facilities. Wildland fire typically travels in a northeast direction due to prevailing winds coming out of the southwest on the eastern slope of the crest of the Sierras. The association has created and manages 1,096 acres of re-forestation/fuel break areas located at strategic locations throughout the property. There are additional possibilities for the creation of these type areas. The unimproved road system needs to continually be maintained or improved. Mastication of the timberland understory under the mature forests will be of great value to forest health and wildfire security.

Forest Health objectives including insects and disease concerns:
Thinning and pruning along with understory competitive brush removal will help reduce the impact of insects and disease normally found in a mixed conifer stand. The owner would like to increase the productivity of the property through intensive forest management; managing a vigorous, healthy forest through; site preparation and tree planting, pre-commercial thinning and pruning, commercial thinning and vegetation management. Continue to re-forest areas burned over by wildfires of the past. Advance a program for planting rust resistant sugar and western white pine along with incense cedar to maintain a diverse forest.

Invasive plant and animal, concerns:
The owner would like to eradicate any populations of invasive plants to allow the native species to thrive.

Recreation concerns:
Increase the recreational opportunities within the open space of the property. These opportunities will include hiking, mountain biking, horseback riding and downhill and cross-country skiing.

Wildlife:
Forest lands can be improved by removing or modifying large areas of green-leaf manzanita and/or snow brush which pose a threat from wildfire. Current management practices along with unmanaged adjacent areas help maintain suitable habitat for a wide variety of species including those with large home ranges. The owner would like to continue current management practices and improve the overall wildlife and fish habitats throughout the property.

R and E as well as other desired species habitat improvement:
This is an excerpt of a report prepared by Lorna Dobrovolny, staff environmental scientist, of the California Department of Fish and Wildlife: “There are many plant and wildlife species that depend on diverse habitats for their survival. The Tahoe Donner Community lies within the range of wildlife species considered to be in a precarious state of decline. Examples of special-status wildlife include wolverine (*Gulo gulo)*, Sierra marten (*Martes americana sierrae)*, great gray owl (*Strix nebulosa)* and Sierra Nevada red fox (*Vulpes vulpes necator*). These species

can have home ranges that extend for miles. They need forests that contain critical habitat elements such as snags, down logs, high density cover and most importantly food resources (prey). At this time, Euer Valley provides these elements. Euer Valley in its current state is an important biological resource. It also provides a connectivity corridor to and from northern sections of land with known occurrences of special-status species. Until such time as wildlife and/or rare plant surveys are completed, DFG recommends a purposeful neglect strategy or, in other terms, minimal forest management. If surveys are conducted in the future and special-status species are observed, management activities should favor improving habitat for them." The goals outlined by Lorna are in line with the goals of the association for this portion of the property.

Additional Objectives For:

Aesthetics: Will improve as other measures are initiated on the property.

Income: Not highly important except to maintain property investments and assist the annual budget to push projects in a more timely manner.

Family Legacy: Very important as new family members take interest in continuing to own property in Tahoe Donner.

MANAGEMENT PLAN IMPLEMENTATION

Constraints and Proposed Alternatives

- **List land use alternatives to current use and landowner objectives.**
- **Discuss the desired alternative including a cost/benefit analysis of property improvement investments**
- **Discuss the "no action" alternative.**
- **If Forest Vegetation Simulation (FVS) or CRPTOS is executed, the generated results of the alternative selection should be appended to help document the alternative decision.**

Various alternatives to the current landowner objectives include:

1) Do not alter the current management strategy. Manage the property as it has been since 1993 under the original forest management plan.
2) Sale of some or all of the property.
3) Stop or alter current management strategy.

1) Continue the current management strategy and stay on course with the forestry' departments 10-year plan for forest management. The plan will need to be updated every 2 to 3 years in order to keep the plan current.

2) Tahoe Donner Association has no intention of selling any portion of the property. In fact the association has a yearly budget to acquire additional adjacent properties.

3) If current management is ceased this land will become a tinderbox for wild fire possibilities due to natural understory growth and competition along with insect and disease damage to the forest. With the growing number of dwellings adjacent to this property and increase recreational users, wild fire becomes more of an issue each year.

Implementing the practices proposed in this document will take the following approximate investment:

- The cost of increasing productivity, improving forest health and catastrophic security implementation as desired in this management plan may amount to as much as $365,000/year over the next ten years. Planning beyond the next ten year period will need to be re-evaluated.
- The cost for signing, including the cost of surveying from known property corners, the property boundaries is expected to be approximately $10,000.00/ mile. Currently seven miles of posted property boundary is in disrepair.
- The cost of improving the fishery and decreasing the bank erosion in the South Fork of Prosser Creek is hard to estimate but could run as high as $250,000.
- Maintenance of the seasonal road system with adding gravel to the surface would cost approximately $875,000.

The approximate cost for implementing this plan to bring about the interests of the land owners and to improve resources on the property may cost as much as $4,845,000 out of pocket over the next ten year period.

The out of pocket cost of these activities may be less depending on resource sales from the forest on the property, available grants as well as portions of the work that may be accomplished by a hands-on approach by the land owner.

Economic Sustainability

• Discuss the value of a business plan and potential resource development.

With the recent loss of lumber mills and co-generation facilities in this area the possibility of future log and chip sales has somewhat diminished. The association does not solely rely on income from the forest to fund and maintain the forested property. Any revenue from the forest helps push the forestry programs forward at a faster pace.

The forestry department and programs are funded from the annual budget. The annual assessment of the 6,472 membership properties contributes 52 percent of the annual budget. The remaining 48 percent of the annual budget is generated through non-assessed operating revenue. The association continues to look at other possibilities to reduce the burden on its membership. Additional programs and group sales at some of the facilities, renting facility space for weddings, parties and meetings and microwave cell tower lease are some of those possibilities.

Discuss tax liability and tax saving opportunities (see appendix 5).

This property is broken into many parcels with various zoning districts (see tables on page 7). Most of the timbered property within the boundaries of Tahoe Donner is zoned by Nevada County as Forest (FR). Nevada County zoning Regulations Chapter II of the Land Use and Development Code states “the forest district provides areas for the protection, production and management of timber, timber support uses, including but not limited to equipment storage and temporary low intensity recreational uses, and open space”. This zoning district allows for agricultural uses and support structures, crop and tree farming, wineries, home businesses, single-family dwelling, community care facilities for less than 6 people, day care home for fewer than 8 and trails for pedestrian and equestrian. With a use permit and public hearing private airports; development and processing of natural resources; commercial kennels; power plants; subsurface mining; surface mining; commercial stables; wood yards; bed and breakfast inns; cemeteries; community meeting and social event facilities; vet hospital; multiple-family dwellings; community care facilities for more than 6 people; day care center for more than 14 children; employee housing; public airports, campgrounds, camps, churches, communication towers emergency service station, parks and playgrounds schools and ski tow facilities are allowed.

The forest zoning could be changed to Timberland Production Zone (TPZ) to create a tax saving opportunity. If zoned TPZ the land would be taxed on the basis of only growing and harvesting timber. Nevada County zoning Regulations Chapter II of the Land Use and Development Code states “The TPZ District provides for prudent and responsible forest resource management and the continued use of timberlands for the production of timber products and compatible uses. It is established in conformance with the Forest Taxation Reform Act of 1976 and all requirements and restrictions therein apply. It is intended to be a district where the land is devoted to the growing and harvesting of timber and for such compatible uses that do not significantly detract from the use of the land for the growing and harvesting of timber. This zoning district allows for agricultural uses and support structures, crop and tree farming, single family dwelling, community care facilities for less than 6 people, day care home for fewer than 8 and trails for pedestrian and equestrian. With a use permit and public hearing private airports; development and processing of natural resources; subsurface mining; commercial stables; wood yards; bed and breakfast inns; multiple-family dwellings; employee housing; public campgrounds and camps; communication towers emergency service station, parks and playgrounds are permitted.

Lands to be zoned TPZ must meet the following standards: all parcels must meet the stocking standards set in section 4561 of the Public resources Code or meet them by the fifth anniversary of the agreement signing; all parcels must be at least a Site IV quality or higher; a timber management plan completed by an RPF must be submitted; and the parcel size must be 10 acres or more. These requirements have been met on this property.

Desired Forest Condition (Reforestation and Afforestation):
• Discuss areas desired for regeneration practices with specifications for natural seedling recruitment, site preparation, planting and/or follow-up.
• Forest Stand Improvement
• Describe the area to be improved including practice specifications for fire protection, thinning pruning and regeneration.

Rehabilitation (Site Preparation, Planting and Follow-up): Within the timberland on this ownership there are approximately 1,122 acres of snowbrush, green leaf manzanita, cherry and under stocked plantations that require site preparation, planting and follow-up. Site preparation will be accomplished using a masticator to treat the brush on slopes <40%. Site prep will also come in the form of herbicide application of re-sprouted vegetation before planting and two years after site preparation. Also grass species may need to be sprayed in older site prep areas to reduce completion and ensure the survival of seedlings. There are areas where regeneration has seeded in and is topping out over the brush. In these areas young regeneration will be maintained as needed for proper spacing, but several of these trees will be taken along with the brush due to terrain and cost concerns. Conifer planting will be done at a rate of approximately 435 trees per acre. Planting will be done with Jeffrey pine, red fir and incense cedar depending on elevation and aspect. Seedlings will be grown from seed zone 772 with the elevation between 6,200 to 7,800 feet. Tree shelters may be used after planting. Follow-up with herbicides will be required to control brush re-seeding and sprouting. The target species is cherry, snowbrush and green leaf manzanita. After consulting with a local Pest Control Advisor (PCA), a herbicide follow-up application will be done within 3 to 5 years after planting.
On slopes >40% (approximately 200) acres brush will be retained for wildlife.

Thinning and Pruning: Throughout the timbered areas as well as portions of the rehabilitation areas, there are approximately 1,597 acres that will require thinning and pruning. These areas will be thinning to a spacing of 16 to 20 feet depending on the average DBH of the stand involved. Pruning will then be done to 50% of tree height or 10 feet whichever is less. Slash from thinning and pruning will be chipped and spread over the thinned area. Biomass possibilities will be reviewed prior to thinning to see if it will be at least a break even opportunity. If so, the proper permits will be obtained from CAL FIRE. The closest co-gen plant is located approximately 48 miles from this property but is closed at this time.
There will be herbicide application release possibilities within the thinning and pruning area. However with the spacing indicated, release can be optimized using mechanical means (masticator) as well as herbicide application. Herbicide application will be under the advice of a PCA.

Release and Shaded Fuel Breaks: Within the 1,834 acres of mixed conifer there is a need to masticate throughout. Mastication or hand labor will remove small intermixed stands of cherry, snowbrush and green leaf manzanita as well as thin conifer regeneration. Thickets of brush and young conifers will be retained for wildlife habitat at a rate of 1/2 acre to every 5 masticated.

Large down logs will be retained as well for habitat retention. Snags will be left spaced throughout the stands as long as safety is not an issue. Fuel breaks will be created along main ridges, access roads or next to the developed portion of the subdivision. A swath 300 feet wide will be created by mastication, hand labor or a combination of the two practices. The only vegetation left within these 300 foot shaded fuel breaks will be Jeffrey pine, white fir, red fir or lodgepole pine with a DBH of 10 inches and spaced 16 to 20 feet apart.

Soils:

• Discuss conservation practices for steep slopes, woody debris retention, nutrient cycling, vehicle travel, soil compaction, flood runoff, and livestock issues.

There are several areas containing slopes over 50% on this property. Only hand work will occur in these areas if any work is needed. All down woody debris and snags will be retained within the forest stands. Vehicle travel will be confined to the established seasonal road system. Soil compaction will be of minor circumstance considering spacing of logging entry, fuel reduction activities and vehicle travel restrictions. Cattle will not be allowed on the property after 2014 and horseback riding will occur mostly to designated trails.

Roads

• Point out possible access and road location improvements including stream, wetland and pond issues. Map improvement areas including water crossings and other needed drainage improvements.

• Describe conservation practices for general maintenance, erosion reduction, road surface condition, drainage-dips, culverts, stream crossings, weed control, and time-of-year use. Size replacement culverts for 100 year storm events

For the most part the seasonal road system is well designed. The 35 miles of unimproved road was mostly constructed after the Donner Ridge Fire of 1960 and was re-constructed in the mid 1990's. These roads have maintained drainage dips, culverts and stream crossings. The road system and all culverts are inspected every fall and spring under a maintenance program. Unimproved roads are bladed as needed and have rolling dips, are out sloped or with shallow water bars in place. Seasonal roads are used only when the surface is dry and soils are not saturated. The property owner maintains 20 gates along with 2 chained and locked entry points to limit access for administrative use only on the seasonal road system. There are three possibilities of converting small sections of road to single track hiking trail and the entire seasonal road system needs to have gravel placed on the surface. Of the three possible road closures one is scheduled to happen in 2013 in section 2 and the other two are located in section 11 and 12, see Appendix 2 - Tahoe Donner Management Plan Road and Water Map.

The property owner also maintains a system of 40 miles of trail for hiking, biking and equestrian use. Maintenance of any erosion issues happens every spring and fall on the trail system. Sections of the hiking/biking and equestrian trail system are located on the seasonal road system. A few sections of the trail system have erosion issues due to slope or use of the trail. Following guidelines in the upcoming Trails Master Plan will decrease any conservation issues.

The cross country trail system utilizes some of the seasonal road system and manages the intruding vegetation as needed.

Pests

• Note known and/or potential insects, diseases, animals, weeds, and invasive species on property.

• Discuss prevention guidelines including how to inventory, control, and monitor infestations.

• Describe the range of integrated pest management tools, including mechanical, physical, biological, cultural or chemical management.

Invasive species located on the property include bull thistle, C*irsium vulgare*; musk thistle, *Carduus nutans*; Canada thistle, *Cirsium arvense*; and spotted knapweed, *Centaurea maculosa.*

All of these species have been treated in the past by Nevada County Department of Agriculture. The association has started a public information program for invasive species and control methods. None of these species has been completely eradicated from this property. The association does need to establish a management plan to deal with the invasive species on the property.

Insects take a toll on the timber stands each year depending on drought conditions of the surrounding area. The major insects to be found are fir engraver beetle in the fir trees and mountain pine beetle in the lodgepole stands. Early detection and removal of infected trees is very important. The property is inspected yearly and work priorities are shifted if a problem is found to try to keep the insect outbreaks as small as possible.

Disease is less apparent, although it is part of the stand condition with the major problem coming from Annosus root rot. Annosus root rot is found mostly in the residential portion of the property probably spread during the development phase. It would be impossible to remove all the infected trees and not disturb the aesthetics of the area. The removal of trees showing the effects of the disease is very important. Sugar and western white pine are susceptible to white pine blister rust as are many white pine stands throughout the state. The forestry department is looking into a planting program to plant white pine blister rust resistant seedlings. Mistletoe can be found in the pines, fir and cedar growing on low productive soils. Removal of heavily infected trees will help stop the spread of the disease.

Fire Protection

• Discuss fire protection practices and specifications for mechanical, hand work, herbicide application and/or broadcast burning for stand/habitat improvement, fuel reduction and fire-wise safety.

• Describe and discuss local fire history, potential sources of fire ignition, fuel hazards, and infrastructure for protection including access and evacuation routes.

• Discuss the values of shaded fuel breaks, fuel breaks in strategic locations, and potential to connect with neighbors or a community effort.

Wildland fire typically travels in a northeast direction due to prevailing winds coming out of the southwest on the eastern slope of the crest of the Sierras. Main sources of fire ignition come from Interstate 80 and the subdivisions located south of Tahoe Donner. Other potential sources are lightning and the membership of Tahoe Donner recreating or vacationing in their homes. The forestry department has created and manages 1,096 acres of re-forestation/fuel break areas located at strategic locations throughout the property but found mainly along the southern border. The common area located adjacent to the developed portion of the property is managed as fuel reduction zones with an increased level of vegetation and fuels management.

Outside contractors are hired to complete various forest projects and are required to have firefighting equipment at the job site. Tahoe Donner crews are equipped with firefighting equipment while completing work in the forest.

Tahoe Donner maintains a defensible space inspection program inspecting 750 properties a year helping the owners become compliant with PRC 4291. Tahoe Donner is also recognized as a Firewise Communities/USA community, participates with the Fire Safe Council of Nevada County and gives input to USFS projects planned adjacent to the property.

Catastrophic events: 1960 Donner Ridge Fire, 1977 Flash Fire, 1994 Armstrong Fire, 2003 Donner Fire and 2007 "80" Fire all burned portions of Tahoe Donner. Two of the fires, Donner and "80" were slowed down by fuel breaks created by Tahoe Donner so local firefighting agencies could stop the progress of the fire.

While the association is aggressively managing the forest to reduce the occurrence and spread of wild land fire a continued program is needed as there are additional possibilities for the creation of fuel reduction zones. The unimproved road system needs to continually be maintained or improved. Mastication of the timberland understory under the mature forests will be of great value to forest health and wildfire security.

Security

- **Discuss fencing, gating, signing and other forms of trespass control.**
- **List local protection agencies for landowner contact.**

There are no major trespass issues at this time. There is some trespass of motorized vehicles, motorcycles and snow mobiles, from adjacent U. S. Forest Service property. This is difficult to control as the owner does not wish to gate these locations and all entry points are signed.

Along the main property lines metal T-posts with signs have been installed. Some of the T-posts were installed in the early 1970"s and are in disrepair due to being pulled from the ground or from winter damage. These T-posts should be repaired and signed properly.

One fence exists between the association and another property owner in the northwest corner of the property in section 35. This fence serves to keep the membership of Tahoe Donner from trespassing on the adjacent neighbor. At some point this fence may need to be extended. Also in section 35 one cattle drift fence exists but will be removed in 2015 when the agreement to run cattle expires with the original owner.

(Police non-emergency)
Nevada County Sheriff – 530-582-7838
Town of Truckee Police Department – 530-550-2323
(Police emergency)
Central dispatch for both – 530-265-7880

(Fire non-emergency)
Truckee Fire Protection District – 530-582-7850
CALFIRE – 530-582-9471

(Fire emergency)
Central Dispatch for both – 530-477-5761

Streams, Wetlands, and Ponds
• Discuss conservation practices for riparian habitat, wetlands road crossings, and water protection zones.

All roads on the property have been in place since the time of the original purchase, no new roads have been constructed. There is approximately ½ mile of rocked road off of Teton Way and where the seasonal road system intersects wet areas located south of Euer Valley. There are 72 road water crossings on the property. One is a bridge, 40 are culverts and 31 are fords all set for greater than a 100 year storm event.

Riparian areas, wetlands and water course protection zones (WLPZ) as described by the Forest Practice Act are excluded from any forest enhancement project.

There are three management practices that will help the watershed on this property:

1. Removal of cattle starting in 2015 from grazing in the wet areas and meadows along the South Fork of Prosser Creek.
2. Future elimination of three sections of seasonal forest road that are unnecessary and either too steep or along routes of spring run-off.
3. The addition of crushed rock to the surface of the seasonal road system.

Wildlife
• Discuss potential fish and aquatic habitat improvement including water quality and quantity as well as riparian habitat. Include other wildlife and endangered species concerns and habitat improvement.
• Discuss potential habitat improvements such as access, nest boxes, hunting potential, water development and domestic animal control.

The fish populations of the south Fork of Prosser Creek can be greatly enhanced by introducing structure back into the system. Wildlife improvement will be met with the implementation of various practices mentioned in previous items in this section. Habitat for all animals discussed in this document will be retained, including habitat for those species that were previously known to exist on this property.

In the past, the association has invited fisheries and wildlife biologists from the California Department of Fish and Wildlife to the property for their comments and suggestions regarding habitat, and the desire to reduce fuels and increase the health of the forest. The following is a list of recommendations from those visits:

- Maintain riparian corridors of 300 feet, but at least 50 feet on Class I and II streams.
- Manage the riparian corridors to preserve natural vegetation. These corridors are most functional when they contain grass-sedge communities intermixed with low stream side canopies of willow or alder. Standing or fallen snags should be maintained in these corridors. Upper Trout Creek is a great example of this.
- Beaver ponds, with their attendant woody litter, often provide good habitat for trout, waterfowl and water-loving wildlife. The stair-step ponds are part of the ongoing process of landscape

evolution. Someday these ponds may become a wet stringer meadow.

- The meadow and stream habitat near Bennett Flat Road is in good condition. The biologists considered this meadow a model for other high mountain meadows.
- The vegetation along Alder Creek should be thinned to promote its growth, which would improve the shading along the creek. Along sections of Trout Creek, it is recommended to thin the shade canopy over the creek to allow some sunlight to filter its way down to the water. This will increase the amount of algae in the stream providing more food for, and increase the population of, insect life which, in turn, will benefit the fish population.
- Create mosaic patterns in the brush fields when developing zones of lower fuel loading or re-forestation projects. When possible masticate, or burn the brush instead of using the practice of tractor pile and burning, in order to rejuvenate native plant species.
- Remove encroaching lodgepole in meadows as part of the fuels reduction program to enhance the meadow habitats.
- The mountain quail population will benefit if brush piles are created and not burned near streams. Also snags and large downed logs should be left, where they do not pose a threat to humans or fire safety, for the wide variety of wildlife that utilizes them.

Recreation and aesthetics

• Discuss potential recreational opportunities including supporting resources. Discuss aesthetic qualities of property.

New sections of trail could be constructed as outlined in the nearly completed Trails Master Plan for Tahoe Donner.

Aesthetics and recreation are very important at Tahoe Donner. Tahoe Donner is a resort community, with approximately 80 percent of the property owners maintaining their principal residence outside of the Truckee area. These people generally come here to relax and enjoy the mountains of the Tahoe-basin region on weekends. While the forest management program will improve the aesthetics over the long term, it is known that, during the short term, the aesthetics will be impacted. However, care will be given to lessening the short-term impacts through many activities. Fuel reduction projects will follow timber harvesting projects, informative signs will be placed along trails next to project areas, and projects will have irregular boundaries in order to blend into the natural landscape. In many cases, the length of view will be increased as the wall of brush will be removed, and the trees thinned and pruned, allowing for the managed stands to provide a more park-like atmosphere.

Air Resources

• Discuss smoke management issues with prescribe fire or pile burning and unwanted biomass removal alternatives. List air quality entities and permit requirements.

With the purchase of the tracked chipper in 2006 the amount of slash burned from logging and timber stand improvement work has greatly reduced. However, slash created from projects, either due to poor logistics, desired future condition of the forest floor or the amount created during the season, will still need to be burned. Slash that is piled and burned is permitted by the California Air Resources Board and the Northern Sierra Air Quality Management District. Burn days are checked each day by calling a hotline at 530-582-1027. The Northern Sierra Air Quality management District can be reached at 530-274--9360.

Biomass removal as an alternative is a costly proposition and until biomass utilization for various products including but not limited to the production of electricity becomes at least a break even possibility without depending on government incentives, it will not be a true option for land owner to participation. However, material created by the property owner chipping program will continue to be hauled and sold to the nearest co-generation facility.

Climate Considerations and Carbon Sequestration
Discuss practices for the possibility of implementing carbon sequestration and climate amelioration activities.

Definition of Amelioration: Amelioration may refer to one of the following:
1. Amelioration (health) means "to make better" or "to improve upon" most often in context of or in reference to ill health of a person but could also be in reference to healing the land, plant, tree, etc.
2. An alternative name for land improvement
3. A specific type of semantic change — the introduction of positive connotations or removal of negative ones for a word or expression.
4. Amelioration patterns, a software design pattern
5. Amelioration Act 1798, a statute enacted in the Leeward Islands regarding the treatment of slaves

For this item, the definition for amelioration is not considered correct for bullets 3, 4 or 5. Both bullets 1 and 2 are possible. The author assumes though that bullet 1 is the proper definition and comments will follow based on that assumption as in health of the climate.

Vegetation is known to use CO2 from the atmosphere to derive carbon used to build various structure requirements for the plant involved. Oxygen from this molecule is expelled from the plant back into the atmosphere. Vegetation therefore lowers the amount of CO2 while increasing oxygen in the atmosphere therefore helping to maintain the preferred balance of the elements air is made of.

As carbon is used by vegetation, it is currently labeled “sequestration”. Keeping vegetation in optimum growth conditions stores sequestered carbon and keeps it from returning to the atmosphere. Using plant parts as in lumber from trees, keeps the storage of carbon safe from re-entry to the atmosphere. In order to improve air quality from an abundance of CO2 timber should be grown harvested and made into various products that will be kept as long as possible from decomposing. When timber is harvested and stored in products, it allows new growth (regeneration) to begin sequestering and storing more carbon from CO2 in the atmosphere.

Problems with sequestering and storing carbon come from plant death and decomposition. The direst circumstance to sequestered carbon in growing timber stands is the catastrophe of wild fire. Wild fire will always be present. However with the use of timber stand management, damage and tree death from fire is greatly diminished.
At this time there is no market for logs that will pay enough to use this stand as an income value. The best current use of the stand is carbon sequestration or, as stated in past terms, fiber growth until the market returns to a better situation or there is a true value for sequestered carbon.

Management of the timber stand as stated within this document will provide optimum stand growth as well as protection from insects, disease and catastrophic fire over time.

Family Legacy:
• Discuss opportunities for family legacy including conservation easements and other ways to keep property safe from development.

Development of the property that is not common area is a decision of the Board of Directors. At this time there is no move to develop any of the forest land and it is not desired by the membership.

Livestock (optional): Discuss livestock plan(s) and issues.

Livestock will not be a part of the property in the future.

Other (optional):

FOREST MANAGEMENT UNIT INFORMATION:

Add as many pages of this section as there are management units designed for the ownership

For each forest management unit, write management objectives and a brief description of the management unit and its condition. Further detailed inventory/plot data can be included if desired. FVS or CRPTO forest modeling outputs can be appended to each unit description.

Name or Unit # __A__, Site Preparation and Planting **Acres** __1,382__

Location (describe and map): Located throughout the property but found mostly in the western one-half. (See Appendix 1a - Tahoe Donner Management Plan Map (orthographic) or Appendix 1b - Tahoe Donner Management Plan Map (planimetric) for Site Prep and Planting Areas.

Objectives: (Describe type of silvicultural treatment including pre and post-harvest activities and slash management).

Within the timberland on this ownership there are approximately 1,382 acres that either are predominantly snowbrush and greenleaf manzanita or created plantations that have not met stocking standards. These acres also support scattered natural regeneration and Scouler's willow. These areas require some combination of site preparation, planting and follow-up in order to improve fire security, wildlife habitat and timber production.

Site preparation will be accomplished using a masticator to re-arrange the brush species into chips. There are areas where natural regeneration has seeded in and is topping out over the brush. In these areas the natural regeneration will be maintained. After mastication, planting will be completed at a rate of 435 trees per acre. The species planted will be Jeffery pine and red fir depending on the site, aspect and elevation.

The regeneration will be thinned to a spacing of 12 to 20 feet depending on the average DBH of the stand involved. All Scouler's willow will remain un-treated. Pruning will then be done to a height of at least 10 feet. Slash from thinning and pruning will be chipped and blown over the forest floor.

Herbicide application may work best if used prior to planting but after mastication, once the brush has re-sprouted. In areas where site preparation has previously occurred there may be a need to spray 5 foot circles around planted seedlings to reduce the completion with grass species.
If the application is done post planting it will be accomplished within 1 year after planting as a follow-up application. Herbicide release will be practiced on these acres within 5 -10 years after planting.

There will be herbicide application release possibilities within the thinning and pruning areas. Herbicide application will be under the advice of a PCA. Follow-up with herbicides will be required to control brush re-seeding and sprouting.

Description of whole timber stand:

Stand history, age and desired rotation cycle:

These units are recovering from past fire events and currently support brush species as the main component. The resulting stands from planting will be even aged.
Tree species present, forest type and/or ecological site description (ESD): Jeffrey pine 15%, white fir 30%, red fir 30%, lodgepole pine 25%. Stand is considered east side Sierra Mixed Conifer.

Site index, soil type, elevation, slope:
Site Index is II, III or IV depending on elevation. Soil type is either Fugawee sandy loam or Jorge sandy loam. Elevation is 6,200 to 7,200 feet. Slope is 0 to 45%.

DBH/size class, basal area, trees/acre, stocking, growth/yield potential: Current stocking is approximately 50 board feet per acre. Growth per acre is minor due to a heavy brush component and young slow growing conifers. Regenerating these units will increase overall stocking on these 1,382 timbered acres to approximately 45,000,000 board feet.

Regeneration and stand improvement needs: 1,382 acres to be site prepared and planted.

Riparian, meadows, aquatic habitat, stream and other watercourses:
During project implementation all watercourses and riparian areas will be excluded from the unit boundary following the forest practice rules.

Understory, downed woody debris, snags, wildlife habitat:
Not expected to be present but if they are present they will be protected.

Unit Management Resource Concerns and Recommendations:

Erosion concerns: None

Domestic uses: None

Other conservation issues: None

FOREST MANAGEMENT UNIT INFORMATION:

Add as many pages of this section as there is management units designed for the ownership

For each forest management unit, write management objectives and a brief description of the management unit and its condition. Further detailed inventory/plot data can be included if desired. FVS or CRPTO forest modeling outputs can be appended to each unit description.

Name or Unit # __B__, Young Developing Forest **Acres** __475__

Location (describe and map): Located throughout the property but found mostly in the western one-half. (See Appendix 1a - Tahoe Donner Management Plan Map (orthographic) or Appendix 1b - Tahoe Donner Management Plan Map (planimetric) for Young Developing Forest Areas.

Objectives: (Describe type of silvicultural treatment including pre and post-harvest activities and slash management).

These areas are currently fully stocked plantations and natural stands that range from 10 to 50 years old. The plantations are under intensive management and will require some or all of the following work to be completed; thinning, punning, mastication, and herbicide application for brush control.

Thinning in these areas will be done using a spacing 16 to 20 feet depending on the average DBH of the trees involved. Pruning will then be done to a height of 10 feet or to one-half of stem height. Slash from thinning and pruning will be chipped and blown over the forest floor. Biomass possibilities will be reviewed prior to thinning to see if it will be at least a break even opportunity. If so, the proper permits will be obtained from CAL FIRE. The closest co-gen plant is located approximately 48 miles from this property.

There will be herbicide application for follow-up and release in these units. Herbicide application will be under the advice of a PCA.

Description of whole timber stand:

Stand history, age and desired rotation cycle:
Average stand age is approximately 50 years. This stand is managed as even aged.

Tree species present, forest type and/or ecological site description (ESD): Jeffrey Pine 55%, Sugar Pine 5%, White fir 15%, Red fir 15%, Lodgepole pine 10%. Stand is considered east side Sierra Mixed Conifer.

Site index, soil type, elevation, slope:
Site Index is II, III or IV. Soil type is Fugawee sandy loam or Jorge sandy loam. Elevation is 6,200 to 7,200 feet. Slope is 0 to 35%.

DBH/size class, basal area, trees/acre, stocking, growth/yield potential:
These areas are fully stocked with seedling, saplings and pole sized conifers. The approximate potential growth is 119 cubic feet per acre per year.

Regeneration and stand improvement needs: 475 acres to be thinned and pruned, with mastication and herbicide application for brush control and with follow-up slash disposal

Riparian, meadows, aquatic habitat, stream and other watercourses:
During project implementation all watercourses and riparian areas will be excluded from the unit boundary following the forest practice rules.

Understory, downed woody debris, snags, wildlife habitat:
There should be no disturbance of these values during implementation of the practices proposed for these units.

Unit Management Resource Concerns and Recommendations:

Erosion concerns: None

Domestic uses: Possible grazing opportunities as a result of release activities.

Other conservation issues: None

FOREST MANAGEMENT UNIT INFORMATION:

Add as many pages of this section as there is management units designed for the ownership

For each forest management unit, write management objectives and a brief description of the management unit and its condition. Further detailed inventory/plot data can be included if desired. FVS or CRPTO forest modeling outputs can be appended to each unit description.

Name or Unit # __C__, Mature Forest **Acres** __1,974__

Location (describe and map): Timbered units amounting to 1,974 acres located throughout the property. (See either Appendix 1a - Tahoe Donner Management Plan Map (orthographic) or Appendix 1b - Tahoe Donner Management Plan Map (planimetric) of Mature Forest Areas.

Objectives: (Describe type of silvicultural treatment including pre and post harvest activities and slash management).
Within the 1,974 acres of mature forest there is a need to masticate or hand treat ladder fuels throughout. Mastication and hand work will remove small intermixed stands of brush and saplings as well as thin conifer regeneration. Thickets of regeneration and brush will be retained for wildlife habitat at an approximate rate of 1/2 acre to every 5 masticated.

At strategic locations (ridge tops, along roads and trails and within 500 feet of any permitted structure) on the property. These fuel reduction zones will be 300 feet wide. The only vegetation left within these 300 foot treated areas will be Jeffrey pine, white fir, red fir and lodgepole pine with a DBH of 10 inches and greater spaced at least 20 feet apart.

There will be herbicide application for follow-up and release in these units especially for control of green leaf manzanita and snowbrush. Herbicide application will be under the advice of a PCA.

Description of whole timber stand:

Stand history, age and desired rotation cycle:
The stand age is approximately 50 to 125 years. This stand is managed as uneven aged.

Tree species present, forest type and/or ecological site description (ESD): Jeffrey pine 40%, lodgepole pine 15%, sugar or western white pine 5%, white fir 25%, red fir 15%. Stand is considered east side Sierra Mixed Conifer.

Site index, soil type, elevation, slope:
Site Index is II, III or IV depending on elevation. Soil type is Fugawee sandy loam or Jorge sandy loam. Elevation is 6,200 to 7,200 feet. Slope is 0 to 45%.
DBH/size class, basal area, trees/acre, stocking, growth/yield potential: Stocking is approximately 32,000 board feet per acre on each fully stocked acre. Growth is approximately 119 cubic feet per acre per year as per USFS forest survey site class tables.

Regeneration and stand improvement needs: 1,974 acres to be released using masticator or hand work and herbicide treatment where necessary.

Riparian, meadows, aquatic habitat, stream and other watercourses:
During project implementation all watercourses and riparian areas will be excluded from the unit boundary following the forest practice rules. These watercourse buffer strips will add to wildlife habitat.

Understory, downed woody debris, snags, wildlife habitat:
Thickets of regeneration and patches of brush will be retained for wildlife habitat at an approximate rate of 1/2 acre to every 5 masticated. All Scouler's willow plants will be left un-treated. Also, throughout these units all Ribes and elderberry species will be retained where located. Large down logs will be retained as well for habitat retention. Except for ridge tops, snags will be left spaced throughout the stands as long as safety is not an issue.

Unit Management Resource Concerns and Recommendations:

Erosion concerns: None

Domestic uses: Possible grazing opportunities as a result of release activities.

Other conservation issues: None

MANAGEMENT ACTIVITY DECISIONS, SCHEDULE AND TRACKING

See Appendix 9 for a copy of Tahoe Donner Association Forestry Department's 10-year Plan

PLANNED MANAGEMENT ACTIVITIES AND REQUIRED PERMITS

Management Recommendations:

Include discussion of project specification, priorities, feasibility and alternatives as well as a project map and a schedule of proposed activities covering at least five years. Identify which management unit/stand you are describing for your activities. If a subset of the stand is being treated, the area can be described and/or identified on a project map. Design an orderly timeline using the Management Activity and Tracking Form below.

Please see Tahoe Donner Association Forestry Department's 10-year Plan in Appendix 9.

Once a conservation project is selected, the site specific environmental/cultural (CEQA/NEPA) documentation will need to be competed with the schedule of activities, project map and project specifications.

Harvest Documents:

Most commercial biomass removal activities need a CAL FIRE permit or other entity permit. Identify needed of current CAL FIRE THP, NTMP and/or Categorical Exclusion for proposed timber management activities. Other agency permits may be necessary for proposed management activities related to other types of conservation projects such as but not limited to water drafting, ponds, road maintenance, crossing replacement and dust control.

On a yearly basis the association forestry department applies for an Exemption From Timber Harvesting Plan Requirements per section 1038 (b) from CALFIRE to remove dead and dying trees from the property. When needed the forestry department applies for an maintains an Exemption From Timber Harvesting Plan Requirements per section 1038 (i) from CALFIRE to create fuel breaks and an Exemption From Timber Harvesting Plan Requirements per section 1038 (c) from CALFIRE to eliminate the vertical continuity of fuels and horizontal continuity of tree crowns within 150 feet of a permitted structure.

Road maintenance would require permits from Nevada county and Lahontan Regional Water quality Control Board.

New stream crossings or the repair of stream crossings would require permits from the California Department of Fish and Wildlife, Army Corps of Engineers and Lahontan Regional Water quality Control Board.

Monitoring:

Discuss both proactive and required monitoring for regulatory compliance.

Contact CAL FIRE or a Registered Professional Forester for help in this area. Permits will be required for water projects. Contact NRCS or CDFW as well as Nevada County Resource Authorities.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) and NATIONAL ENVIRONMENTAL PROTECTION ACT (NEPA) information

Forest management activities including conservation practices may impact special environmental and/or cultural values such as threatened or endangered species and archaeological sites. Landowners need to know locations of these values and what they can do to protect them. Landowners also need to know that environmental and cultural reviews by regulatory agencies are required when a ground practice is proposed, and a permit and/ or government assistance becomes part of the project.

The landowner must be made aware that any future ground practices to implement this plan using public entity reimbursement funds requires a signed CAL FIRE CFIP Environmental Checklist (CEQA) or an NRCS CPA-52 (NEPA) Checklist. Along with this checklist a process of "discovery" or survey for unknown values along with a discussion of possible mitigations is required. Additionally the landowner must be made aware that the checklist must be filled out by an RPF or Certified Planner. In addition archaeological values require an Archaeological Records Check, an entity Archaeologist review and Native American notification for the practice area.

For this management plan, the following confidential information is required and will be placed in Appendix #8.

Environmental

- **Map the location of known geological, biological, or ecological values.**
- **Discuss T&E species observed or known and provide the results of the California Department of Fish and Wildlife NDDB and BIOS information sites for within three miles of the property boundaries.**
- **Provide guidelines on how proposed practices might affect or be affected by observed or known species.**
- **Provide possible mitigation practices to protect those species.**

Archaeological

- **Included landowner information about known archaeological, cultural or historical sites along with location maps.**
- **Attach (if available from landowner) existing record checks or surveys entitled Confidential Archaeological Report.**
- **Provide guidelines on how to proposed practices might affect or be affected by observed or known sites.**
- **Provide possible mitigation practices to protect those sites.**

ADDITIONAL CEQA/NEPA NOTIFICATION FOR GROUND PRACTICES

Any future ground practice to implement this plan using public entity reimbursement funds requires a signed CAL FIRE CFIP Environmental Checklist (CEQA) or an NRCS CPA-52 (NEPA) Checklist. Along with this checklist a process of "discovery" or survey for unknown values along with a discussion of possible mitigations is required. Additionally the checklist must be filled out by an RPF or Certified Planner. Archaeological values require an Archaeological Records Check, an entity Archaeologist review and Native American notification for the practice area.

PROVIDE A PROJECT NOTIFICATION TO THE FOLLOWING AGENCIES

- **County Clerk**
- **CA Department of Fish and Wildlife**
- **Lahontan Regional Water Quality Control Board**
- **If the project adjoins public land (for example, the US Forest Service, US Fish and Wildlife Service, BLM, National, State or local parks, ECT.) notify that agency**
- **If the project adjoins a State Highway, contact CALTRANS**
- **If the project is in the Coastal Zone, contact the Coastal Commission**

FOR GROUND-DISTRUBING PROJECTS, PROVIDE A PROJECT NOTIFICATION TO

- **Native American Heritage Commission**
- **Tribal contacts**
- **Local Historical Society**

ADDITIONAL PROFESSIONAL ASSISTANCE

Management recommendations and assistance for other lands or non-forested areas

Land owner must consult with different agencies depending on practices performed.

List

Natural Resources Conservation Service
Jason Jackson
District Conservationist
530-272-3417 ext 101

California Department of Fish and Wildlife
North Central Region
916-358-2900

CAL FIRE
Jeff Dowling
Area Forester
530-587-8926

Ed Crans
Forester, Forestry Assistance Specialist
530-889-0111 ext 128

US Forest Service
530-587-3558

Nevada County Resource Conservation District
Lesa Osterholm
530-272-3417 ext 107

Community/agency cooperation Mechanisms

List:

Fire Safe Council of Nevada County
Joanne Drummond
Executive Director
530-272-1122

Appendix 1a - Tahoe Donner Management Plan Map (orthographic)
Appendix 1b - Tahoe Donner Management Plan Map (planimetric)

Appendix 2 - Tahoe Donner Management Plan Road and Water Map (planimetric)

Appendix 3 - Tahoe Donner Management Plan Soils Map

Appendix 4 - Selected Conservation Standards and Specifications

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

666B - FOREST STAND IMPROVEMENT
PONDEROSA PINE/JEFFREY PINE/
SIERRA NEVADA MIXED CONIFER

I. SCOPE
The work shall consist of conducting the operations specified within this Practice Specification at the locations as shown on the drawings or plans.

II. FOREST LAND WEEDING
Scalping will be a minimum of 5 feet in diameter with all the surface vegetation removed. If a mulch which will persist more than 3 years is used, the scalps may be a minimum of 4 feet in diameter.
Hardwood treatment: Cut or sever the stems or sprouts at the base within a minimum 5 foot diameter. If a mulch will persist more than three years is utilized the area may be a minimum of 4 feet in diameter.
Follow-up: Follow-up original weeding method once each year to determine results and recovery of released trees.

III. PONDEROSA PINE AND ASSOCIATED SPECIES
a. Start thinning operations in Ponderosa Pine at 15 to 20 years of age. Because the cost of thinning needs to be curtailed, only one thinning operation should be considered before the stand reaches merchantability. The thinning practice is based upon one operation in tree sizes of average stand diameter from 6 to 10 inches D.B.H. Thinning intensity should consider the minimum sized merchantable products. Stands averaging less than 6 inches DBH may require two thinning operations.
b. Timing thinning operations during November through April will lessen the possibility of bark beetle damage to the residual stand.
c. Ponderosa Pine, and the species associated with it, can sometimes and in some areas be sold as poles, piling, firewood, and Christmas trees. Where this is the case, thinning can begin at or before the time the trees reach the size of the merchantable product.
d. The spacing distance between leave trees is based upon maintaining a level of basal area that will reduce competition until the stand reaches merchantable size. Several different methods can be used to do this.
(1) A simple method is to cut a pole the length of the spacing desired, and use this as the spacing distance between the leave trees. This is a particularly good system in young stands where the trees have not expressed dominance.
(2) Use a standard D+ factor, where "D" is the diameter in inches changed to feet, plus the standard factor. Example: Ponderosa pine, D+6, . Diameter is 7 inches. 7 feet + 6 feet = 13 foot spacing distance.
(3) Spacing by a calculated and tabulated guide, based upon Site Index: Using any method, favor leave trees of superior form and vigor, rather than trying to achieve exact spacing. For example: Assume desired spacing is 14 feet. Some trees may actually be 12 feet apart, and others may be 15 feet apart, etc.

e. Tabulated in Table 1 are recommended thinning spacing guides for stands of ponderosa pine by Site Indexes. The calculations are based on the assumption that the rate of diameter growth will be increased 100 percent or more.
f. For pure stands of interior Douglas-fir, use Table 2.

IV. SLASH DISPOSAL
Slash disposal methods may include lopping and scattering, burning, chipping, etc.
Overall slash height will not exceed 30 inches.
Slash along public roads and main haul roads. All slash within one chain (66 feet) horizontally on each side of the road center will be reduced to a level acceptable to the local fire district or CDF within 3 months after operations

Ips (bark beetles) Control. Ips pini, pine engraver, found throughout California with the exception of the coastal ranges, normally only has one generation per year. Ips paraconfusus, California fivespined Ips, found west of the summits of the Cascades and Sierra Nevada's, including the Coast range, may have multiple generations per year depending upon locality and season. Ips mexicanus, Monterey pine Ips, is found in the coastal ranges. Up to three generations per year may occur.
The possibility of increased Ips activity is dependent upon site characteristics such as open or closed canopy, aspect, precipitation zone, and elevation. Forest management activities in low elevation ponderosa pine (below 3500 feet) and Jeffrey pine can be more susceptible to Ips than similar activities at higher activities. The best time to thin and avoid Ips beetle damage from thinning activities is from September through April. If Ips is anticipated to be a major problem slash from thinning activities will be treated.

Where Ips is considered to be a major problem:
(a) all pine slash from 3 to 9 inches outside bark diameter will be cut into pieces no longer than 30 inches.
(b) all pine slash exceeding 9 inches outside bark diameter will be cut into pieces no longer than 18 inches.
(c) all pine slash will be monitored for infestations of Ips for a period of 1 year after thinning operations are complete. If the slash becomes infested, CDF will be notified for assistance in treating the infestation.

V. BASIS OF ACCEPTANCE
Upon completion of the work conducted by the owner/client, a field inspection will be made to determine if 85 percent of the planned work as described within the Plan has been satisfactory completed.

VI. OPERATION AND MAINTENANCE
Once a year after the completion of the work, the owner/client will conduct a field inspection to determine the area that require additional attention to advance the Forest Stand Improvement, and to identify locations that need work to reduce soil erosion.

Eastside Pine Type;

SI 85+ (D+7 Spacing when average diameter exceeds 6 inches [Growing Stock Level 82])

Diameter in inches	No. of Trees Per Acre to Leave at Average Spacing Any Age Up to 10-Inch D.B.H.	Distance Between Leave Trees (Feet)
1-3	360	11
4-5	303	12
6	250	13
7	222	14
8	194	15
9	170	16
10	151	17

SI 57 - 84 (D+8 Spacing when average diameter exceeds 6 inches [Growing Stock Level 73])

Diameter in inches	No. of Trees Per Acre to Leave at Average Spacing Any Age Up to 10-Inch D.B.H.	Distance Between Leave Trees (Feet)
1-3	303	12
4-5	250	13
6	222	15
7	194	16
8	170	15
9	151	16
10	134	17

SI 43 - 57 (D+ 10 Spacing when average diameter exceeds 6 inches [Growing Stock Level 60])

Diameter in inches	No. of Trees Per Acre to Leave at Average Spacing Any Age Up to 10-Inch D.B.H.	Distance Between Leave Trees (Feet)
1-3	222	14
4-5	194	15
6	170	16
7	151	17
8	134	18
9	121	19
10	109	20

SI 42 or less (D+12 Spacing when average diameter exceeds 6 inches [Growing Stock Level 50])

Diameter in inches	No. of Trees Per Acre to Leave at Average Spacing Any Age Up to 10-Inch D.B.H.	Distance Between Leave Trees (Feet)
1-3	194	15
4-5	151	17
6	134	18
7	121	19
8	109	20
9	99	21
10	90	22

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

612A - TREE / SHRUB ESTABLISHMENT BAREROOT/CONTAINERIZED STOCK

I. SCOPE

The work shall consist of furnishing and planting trees and/or shrubs at the locations as shown on the drawings or as staked in the field.

Planting will be done to establish or increase the numbers of plants for proper stocking levels; to conserve soil and moisture, beautify an area, protect a watershed, or produce wood crops.

Tree planting is applicable in open or understocked areas, beneath less desirable trees in areas suitable for producing wood crops, where erosion control or watershed protection is needed, where greater natural beauty is wanted, or where a combination of these is desired.

II. MATERIALS

Plants and numbers shall be as stated on the Practice Requirements Sheet.

Plants found to be root or pot bound will not be acceptable. Plants shall be vigorous and free of disease, insect pests, eggs, or larvae. Plant materials shall be grown in nurseries which have been inspected by the State Department of Agriculture.

Water shall be free of injurious amounts of oil, salt, acid, alkali, or any other toxic substance.

III. TIME OF PLANTING

The time period for planting shall be as stated on the Practice Requirement Sheet.

Surface soil should be moist, not saturated or dry. Care should be taken to ensure proper spacing.

Plantings will be made after the danger of heavy freezing has passed and soil moisture conditions are proper. Soil moisture conditions may be waived if plants are watered at the time of planting.

IV. TEMPORARY STORAGE OF PLANTING STOCK

Only viable planting stock grown from locally adapted seed shall be planted. Planting stock should be maintained in good condition from the time received until planted. This will include, but is not limited to, unpacking, storage, heeling in, transport to the planting site, and keeping plants protected and moist until and during planting.

- Care for stock before planting shall include:

Bareroot stock:

If seedlings are planted within a few days after they are received, they may be left in the shipping container and stored in a cool, moist environment (preferred temperature of 34-40

degrees F.). Open the container (stock may be tied in bundles and should remain so) and check root moisture and lightly water as needed. Do not stack bundles.

When planting is delayed more than 1 week:

- Store plants in enclosed areas from 34 to 40 degrees F. off the floor.
- If ice is utilized, do not allow contact with the roots.
- Bales of plants should not be stored higher than 3 feet.
- Roots will be facing one way for periodic watering and fungicide treatment. Seedling roots will be kept moist.

Or

- Heel-in beds. Make a trench with one 30 to 45-degree backslope. Remove seedlings from the shipping bundles, line out planting stock against sloped side and backfill. Pack soil firmly around the roots. Keep roots 1 to 2 inches below the ground line. Water as needed. A moderately course-textured soil is preferred.

2. Container Stock: Place in the shade or protected area (preferred temperature of 34-40 degrees F.) and water as needed.

3. Care for seedlings during planting shall include:

a. Bareroot: Keep seedlings covered and moist while planting. Ample water, or a water-saturated material (burlap, sawdust moss, etc.) must be kept in all planting containers to insure the seedlings remain moist.

b. Containerized Stock: Leave seedlings in the planting container until time to be planted. Then take them out of the container just prior to placing them in the planting hole.

V. PLANTING PROCEDURES

The plants shall be planted according to the arrangement as shown on the plans.

Spacings for beatification, recreation and restoration plantings will vary depending on objectives, and site conditions.

Spacings for Windbreak /Shelterbelt plantings are found in Practice #380 Windbreak/Shelterbelt Establishment. Windbreaks will be staked or otherwise marked to assure proper alignment of rows and spacing.

Spacings for wildlife plantings are found in Practice #645 Wildlife Upland Habitat Management.

Plant seedlings in a vertical position with the root collar approximately one-half inch below the soil surface. Plant seedling roots straight down, not twisted, balled or J-shaped. Lateral roots will be spread to the sides.

Plant in adequately sized, sod-free holes or furrows for proper root development. The planting hole must be deep and wide enough to permit the roots to be spread out as naturally as possible.

After planting, pack the soil firmly around each seedling to eliminate air pockets.

On certain site, all species will be subject to unacceptable damage while on other sites no species may be subject to damage and plant protection may not be necessary.

Protect the plants by controlling rodents, and excluding livestock from original planting. Protect until planting has reached a height where it will not be browsed.

Potential mortality, weed competition, and pest populations may require additional seedlings initially or replanting later.

Replant, as necessary and practicable, to maintain a fully productive stand. Replacement seedlings should preferably be of the same age as the planting seedlings.

VI. SEEDLING PROTECTION

1. COMPETING VEGETATION CONTROL

Physical Removal - Use planting hoe, shovel, brush cutting tool, chemicals, or chain saw to clear competing vegetation in the immediate area (a minimum of 3 feet in all directions) of the seedling.

NOTE: Restricted use chemicals can only be recommended or applied by licensed applicators, and are subject to Federal and State regulations.

Mulch - Spread mulch material (paper, plastic, geotextile, etc.) around base of seedlings at least 1.5 feet in all directions from the seedling. Mulch must have good contact with the soil to allow rainfall to percolate through rather than run off. (See Mulching Specification 484 for additional specifications.)

2. BROWSING OR FORAGING ANIMAL CONTROL

Physical Barriers - Erect physical barriers where animals are causing damage to seedlings. Physical barriers include: fences, nets, tubes, sleeves, and budcaps.

a. Material Specifications

- Fencing - (See Fencing #382 for specifications).
- Whole tree nets shall be of 6-15 mil photodegradable polypropylene fine mesh.

- Whole tree protectors shall be:

- Photodegradable polypropylene mesh tubes of 30 - 50 mil, or of spun polyester (Reemay) sleeves, 5 inches in diameter, 2-3 feet in length. The tubes will be fastened to a 24 inch 1x2 stake with 18 inches extending above the ground by one staple or a tie wire. The tubes will be flush with the ground.

- Chicken wire tree protection: Chicken wire with a mesh that does not exceed 1 inch will be shaped to form a cylinder a minimum of 5 inches in diameter and 18 inches high. A minimum of one 24 inch 1x2 stake with 18 inches extending above the ground will be used to support the stake by 2 evenly spaced staples or tie wires. The chicken wire will be flush with the ground. The barrier must be removed when the trunk diameter is within one-half inch of the chicken wire diameter.

Terminal leader protectors shall be of 15 - 50 mil photodegradable polypropylene mesh tubes, or of spun polyester (Reemay) sleeves, 1-3 inches in diameter, cut to length to enclose the leader and leave 4-8 inches above the end of the leader to allow for growth.

- Budcaps shall be of spun polyester (Reemay) sheets or weatherproof paper cut into 4 by 5 inch rectangular pieces.

b. Method and Placement

- Apply tubes, nets, budcaps, and sleeves directly to seedlings to prevent browse damage.

- Fold budcaps lengthwise and staple around the terminal leader and bud, forming a protective cylinder.

- Staple leader tubes to small branchlets along the leader to prevent loss from wind.

- Secure net tubes with pins of 9 gauge wire, 14 inches long, hooked through the mesh and pressed into the ground.

- Support sleeves and tubes, on small seedlings (plugs and 2-0's), with a 3-4 foot stake (wood or bamboo) driven into soil next to the seedling to keep the seedling upright.

Repellents - Apply chemical repellents to control damage from browsing or foraging animals.

a. Materials

- Use commercially available repellents.

b. Application

- Follow label instructions. Repellents must be applied correctly, or damage to seedlings or injury to the applicator may occur.

NOTE: Restricted use chemicals can only be recommended or applied by licensed applicators, and are subject to Federal and State regulations.

Physical Removal -

Animal Pests - Physically remove animal pests causing damage to seedlings (foraging or browsing animals, or rodents) by trapping or hunting. Follow State and local hunting and trapping regulations.

Insect and Disease Pests - Physically remove insect or disease pests by:

- removing the affected branches, leaves or needles by pruning or by burning of forest floor litter (See Tree/Shrub Pruning #660 and Prescribed Burning #338 for specifications). Removing the affected individual trees or groups of trees (See Forest Stand Improvement - 666 for specifications).

Chemical Control - Apply chemical toxicants to control insect or disease pests.

a. Materials

- Use commercially available pesticides.

b. Application

- Properly identifying the pest.

- Apply chemical according to label instructions. - Follow proper container disposal procedures.

NOTE: Restricted use chemicals can only be recommended or applied by licensed applicators, and are subject to Federal and State regulations.

Biological Control - Use biological control to achieve protection from pests and to decrease the need for chemical use. Integrate biological control with other pest management practices.

a. Methods

- Introduce disease-causing organisms (i.e., Bacillus thuringiensis).
- Encourage increase of natural enemies through habitat enhancement.
- Introduce natural enemies from other areas.

b. Application

- Identify the causal agent and consult with a pest management specialist to identify disease causing organisms, natural enemies, or habitat requirements of natural enemies, and for treatment specifications.

Habitat Manipulation - Modify site conditions that are favorable to the destructive pests. Use habitat manipulation if the specific treatments do not contradict site limitations or landowner objectives.

a. Methods

- Plant forage species preferred by large game to reduce browsing of seedlings (See Wildlife Upland Habitat Management - 645 for specifications).
- Improve the quantity and quality of forage away from the damage-susceptible sites (See Prescribed Grazing #528, and Forest Stand Improvement #666 for specifications).
- Plant species not browsed by the pest species
- Leave logged areas unburned to restrict movement of browsing animals.
- Eliminate preferred habitat of pest species.

b. Application

- Identify the pest.
- Determine its habitat needs.
- Alter the affected site to discourage continued residence by the pest or to alter the feeding patterns of the pest.

EXCESS HEAT

Artificial Shade - Apply shade cards or collars where moisture is limiting and planting occurs on a south facing slope and if natural shade (debris or stumps) is not available.

a. Material Specifications

- Shade cards and collars shall be made of heavy weatherproof cardboard, wood, Styrofoam or other suitable material.
- Minimum dimensions of cards shall be 8 inches by 12 inches; collars shall be 3 inches in diameter and 4 inches in height.
- Cards will be held in place by stake (wire or wood) attached to the card or inserted into the card.

b. Application

- Shade cards shall be placed 3 inches from seedling.
- Shade cards shall be placed to the south of seedlings with an east-west orientation.
- The bottom edge of the shade card shall be placed as close to the ground as possible.
- Shade collars shall be placed around the base of the seedling.

DROUGHT

If irrigation water is available irrigate at a rate of 1 gallon per tree soon after planting. (See Irrigation System #441/442/443 and Irrigation Water Management #449 for specifications). Apply supplemental water at the following rates when more than 2 months of the growing season are droughty.

Recommended irrigation rates:

- Establishment year:

  1 gallon per seedling per week.

- Second growing season:

  2 gallons per seedling per week.

- Third growing season:

  4 gallons per seedling per week.

Discontinue watering in the late summer to allow trees and shrubs to harden off. In the late fall, if soil moisture is depleted, a deep watering is beneficial in preventing winter desiccation damage.

VII. BASIS OF ACCEPTANCE

After the trees and/or shrubs have been planted, and after and establishment period of 12 months, an on-site inspection will be conducted to determine if 80% of the plants have survived, and are healthy with signs of good growth.

VIII. OPERATION AND MAINTENANCE

Plants shall be protected from fire, insects, disease, and animals until established.

Replanting will be required when survival is inadequate. Replant, as necessary and practicable, to maintain a fully productive stand. Replacement seedlings should preferably be of the same age as the plantation seedlings.

Control of noxious weeds must be conducted.

Damaging pests will be monitored and controlled.

Competing vegetation will be controlled until the woody plants are established.

Supplemental watering may be desirable to ensure adequate survival.

Periodic applications of nutrients may be needed to maintain plant vigor.

Maintenance

Weed Control: Cultivation, cutting, scalping, placement of geotextile, herbicides or mowing may be used to control competing vegetation adjacent to and in between plants to a diameter of 3 feet for wildland plants. When cultivation is used, the tillage depth must not exceed four inches. The planted area may need to be marked with flagged stakes or lathe to avoid accidental tillage. Continue weed and grass control until unwanted vegetation no longer interferes with seedling growth. Follow specific herbicide instructions on the label and/or recommendations provided by your local Agricultural Commissioner.

Pest Control: Control harmful animals, diseases and insects by using rodent guards, trapping, fencing, removal of habitat or proper use of approved chemicals as appropriate to the identified pest. Pests include cattle, deer, rabbits, grasshoppers, squirrels, mice, gophers, and porcupines, etc.

Physical Barrier Maintenance:

Budcaps and sleeves:

- Inspect the treated area annually to assess need to repair, replace, remove, or adjust physical barriers.
- Budcaps and sleeves may need annual replacement or adjustment until trees grow beyond the reach of grazing or browsing animals.
- Nets and net tubing may require physical removal in areas of heavy shade (generally north slopes greater than 20% slope) to prevent girdling.

Repellants:

- Inspect the treated area annually to assess need to reapply.

Chemical control:

- Inspect the treated area annually to assess need to reapply or adjust treatment.

Biological control:

- Evaluate biological control measures annually for effectiveness and adjust practices as necessary to achieve desired results.

Habitat manipulation:

- Evaluate habitat manipulation measures annually for effectiveness and adjust as necessary to achieve desired results.

Excess Heat:

- Inspect the treated area annually, until seedling establishment is assured, to assess need to repair, replace, remove, or adjust shade cards.

Mortality: Assess mortality 1 year after planting. Consider 80 percent survival after two years to be adequate.

Fire Hazard: Maintain firebreaks, and/or fuelbreaks adjacent to and surrounding the planted area.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

660 - TREE / SHRUB PRUNING

I. SCOPE

The work shall consist of pruning trees and/or shrubs at the locations as shown on the plans or drawings.

II. TIMING OF PRUNING

Specific dates or time periods shall be as stated on the Practice Requirement Sheet.
Trees. Except for some Christmas tree species, pruning will be done during dormancy. Pruning during this time reduces disturbance to nesting birds. Pruning in the spring or periods of active shoot growth will be avoided to reduce harm to the trees.
See attached exhibits for proper methods to prune conifers and hardwoods.
Shrubs. Normally deciduous shrubs are pruned at two different times of the year. Early flowering shrubs are pruned immediately after pruning. The remainder are pruned in the late winter or early spring. Exceptions are plants that bleed when pruned. Because the sap loss is unsightly and to

prevent sap loss these plants can be pruned when fully leafed out. Remove dead, diseased and broken parts when they are first noticed.

III. TOOLS TO USE

Pruning tools include a curved pruning saw 14 to 18 inches long and with 5 to 8 points per inch. The first 6 to 8 feet above the ground can be pruned with a hand saw. In open stands the remainder of the pruning up to 19 feet in height can be done with a pole saw. For large acreage it is more efficient to use a power pole saw. Be careful not to harm the tree or yourself.

IV. PRUNING FOR QUALITY SAWLOGS

Sawlog pruning will only be done in Douglas-fir, Jeffrey, incense-cedar and ponderosa pine stands when the site index exceeds 70 (McArdle) (Meyer).

Pruning is designed to provide a clear butt log in 8 foot multiples up to a height of 18 to 19 feet. Under ideal conditions natural pruning removes the limbs providing clean boles. Because spacing and other considerations are seldom perfect, pruning may be required to produce high quality clean bole trees. Dead limbs exceeding two inches in diameter tend to persist indefinitely. They form loose knots, which degrades wood quality. Pruning may begin when the tree has reached a dbh of 3 inches. No pruning will be accomplished when the dbh exceeds 9 inches.

The smaller crop trees can not be pruned to 18 or 19 feet in one pruning operation. Ideally, pruning is completely accomplished in 2 to 3 operations spanning 5 to 20 years. The first pruning removes the lower limbs and subsequent pruning extend the pruning height. Prune high sites first and only the dominant and co-dominant trees.

No more than 100 to 150 well spaced crop trees will be pruned per acre.

Branches will be pruned or be removed in lifts until a height of 19 feet is reached.

Remove no more than one-third of the live crown in one pruning.

Branches will be sawed off just outside the branch flare of the limb collar without damaging it (See attached). Lower dead branches may be carefully removed with a lightweight axe.

V. PRUNING CHRISTMAS TREES

Pruning (selective removal or cutting back of individual branches) or shearing (clipping of both terminal and lateral shoots) does the shaping. The intent is to produce an ideally shaped tree, or one which has a 66 2/3 percent taper, and meets the Agricultural Marketing Service grades for Christmas trees.

A. Pines

1. Shaping will be done when the new growth (candles) snap off easily and cleanly with the fingers. The new growth must not have hardened to woody material.

2. The leader will be pruned to control height growth. The maximum distance from the branch whorl will be 12 inches and the cut will be at a 45-degree angle. If the leader is pruned, the top whorl must be pruned to 6 to 8 inches in length to prevent them from taking over terminal growth.

3. Shear current year's growth on a lateral branch to maintain a cone-like symmetry.

4. If a lateral branch must be removed it will be cut off near a side branch so a stub of dead wood will not be left.

5. Basal pruning will be done to form a handle of 8" to 12" in length.

B. Spruces and Firs

1. Shaping will be done after periods of active growth during dormancy (late summer, fall, winter, early spring).

2. The leader will be pruned to control height. The distance from the branch whorl will be 8 to 12 inches. The cut will be made at an angle 3/8 to 1/2 inch above a live single bud. If two or more buds are present, all but one bud will be removed. The top whorl must be pruned to 3 to 5 inches shorter than the leader to prevent it from taking over terminal growth.

3. Shear the lateral branches to maintain a cone-like symmetry without regard to individual

branches.
4. Remove the bottom whorl of branches to form a handle.

VI. PRUNING TO REDUCE TO REDUCE WILDLAND FIRE THREATS

A. Trees

Removing the lower limbs provides protection from fire, and allows for an increase in understory production

Pruning will be done during dormancy (fall, winter, early spring) or late summer.

Pruning in the spring or periods of active shoot elongation will be avoided. Pruning in pines should be accomplished after the new growth has elongated and the new growth hardens to woody material.

All trees exceeding 20 feet in height will have all limbs within 10 feet of the ground removed.

Remove no more than one-half of the live crown in one pruning.

B. Shrubs

All:

Cut out dead, diseased, or damaged branches. Cut back to healthy wood at the point of origin or back to a strong lateral branch or shoot below the injury or disease.

Remove all branches that cross or rub against each other (These activities may open up the canopy sufficiently so that no further pruning is necessary).

Manzanita and other broad leafed evergreens:

Use the thinning out method to remove branches to open up the plant and make it more open and airy (this method allows for a more open plant while not stimulating excessive top growth and without changing the plants natural appearance or habit of growth.).

Deciduous shrubs:

Use gradual renewal pruning techniques:

Remove a few (no more than 1/4) of the oldest, tallest branches at or slightly above the ground. Thin to shorten the longest branches or to maintain shape.

VII. DISPOSAL OF DEBRIS

See Forest Slash Disposal Specification 384.

VIII. SPECIAL CONSIDERATIONS

Do this unless otherwise noted. Pruning any pine limb releases primary attractants (odors) which may attract bark beetles, Ips spp., on small diameter trees (less than 9 inch d.b.h.) and Dendroctinous spp., mountain pine beetle, on large diameter trees (greater than 9 inch d.b.h.).

When the threat of beetles is a consideration:

1. Timing of the pruning operation will coincide with the periods of lowest beetle activity, normally when temperatures are not conducive to beetle flights (November to March).
2. Slash treatment will follow guidance in Forest Stand Improvement Specification (666) to reduce the threat of population increases of beetles.

IX. BASIS OF ACCEPTANCE

After pruning has been completed, an on-site inspection with the Contractor to determine the condition of the trees and adherence with practice specifications.

X. OPERATION AND MAINTENANCE

Inspect annually and reprune as needed for the prescribed purposes.

Prune plants damaged by storms or vandalism or ones with dead limbs as soon as possible to avoid additional insect and disease problems that may develop.

EXHIBIT A — HARDWOOD PRUNING

Trees and other woody plants respond in specific and predictable ways to pruning and other maintenance practices. Careful study of these responses by Dr. Alex Shigo has led to pruning practices which preserve and enhance the beauty, structural integrity, and functional value of trees. His research discovered that the collar is an area of tissue, which contains a chemically protective zone for the rest of the tree. Naturally, as a dead branch decays, the decay moves downward. It then meets an internal protected zone, with an area of very strong wood meeting an area of very weak wood. The branch then falls away at this point leaving a small area of decayed wood within the branch collar. This decay is walled off from the remainder of the tree by the collar. If the collar is removed, the protective zone is also removed. Wood-decay fungi can easily infect the trunk. If the branch is living, removing the collar also still causes injury and can allow entry by fungi.

Pruning Techniques:

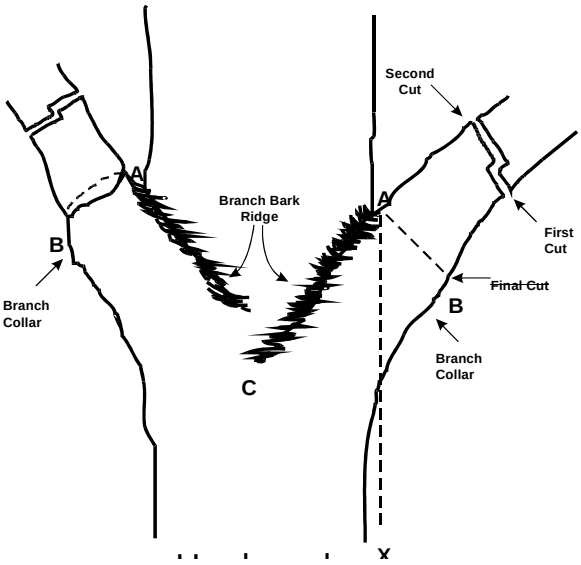
When cutting branches over 1-½ inches in diameter use the three-part cut technique:

Step 1: Locate the branch bark ridge and collar. Find the outside edge of the bark ridge (A). Then locate the swelling where the branch meets the branch collar (B). Move up the branch 6 to 12 inches from this point. If no collar is visible, the angle of the cut should approximate the angle formed by the branch bark ridge and the trunk. (Figure angle X-A-B)

Step 2. Saw an undercut from the bottom of the branch about one third of the way through the limb. Make a second cut on the top about 1 to 3 inches further from the undercut until the branch falls away.

Step 3. Remove the stub by carefully cutting along angle XAB. Pruning cuts should be clean and smooth with the bark at the edge of the cut firmly attached to the wood.

When removing a dead branch, the final cut should be made outside the collar of live callus tissue. If the collar has grown out along the branch stub, only the dead stub should be removed, the live collar should remain intact, and uninjured.



Large or heavy branches that cannot be thrown clear should be lowered on ropes to prevent injury to the tree or other property.

Wound dressings and tree paints have not been shown to be effective in preventing or reducing decay. Therefor, they are not recommended for use when pruning.

EXHIBIT B — CONIFER PRUNING

Trees and other woody plants respond in specific and predictable ways to pruning and other maintenance practices. Careful study of these responses by Dr. Alex Shigo has led to pruning practices which preserve and enhance the beauty, structural integrity, and functional value of trees. His research discovered that the collar is an area of tissue, which contains a chemically protective zone for the rest of the tree. Naturally, as a dead branch decays, the decay moves downward. It then meets an internal protected zone, with an area of very strong wood meeting an area of very weak wood. The branch then falls away at this point leaving a small area of decayed wood within the branch collar. This decay is walled off from

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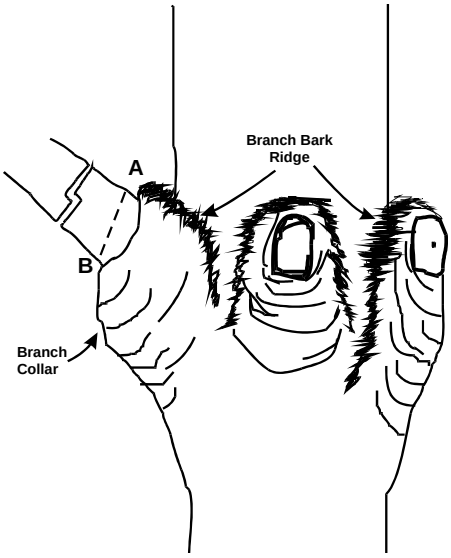

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Step 2. Saw an undercut from the bottom of the branch about one third of the way through the limb. Make a second cut on the top about 1 to 3 inches further from the undercut until the branch falls away.

Step 3. Remove the stub by carefully cutting along angle XAB. Pruning cuts should be clean and smooth with the bark at the edge of the cut firmly attached to the wood.
When removing a dead branch, the final cut should be made outside the collar of live callus tissue. If the collar has grown out along the branch stub, only the dead stub should be removed, the live collar should remain intact, and uninjured.
Large or heavy branches that cannot be thrown clear should be lowered on ropes to prevent injury to the tree or other property.
Wound dressings and tree paints have not been shown to be effective in preventing or reducing decay. Therefore they are not recommended for use when pruning.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

490B - FOREST SITE PREPARATION

I. SCOPE

The work shall consist of site preparation at the location and layout as shown on the plans, staked in the field or drawings.

II. SITE PREPARATION - FORESTLAND

One or more of the following methods will be performed as specified on the Performance Requirements Sheet:
Tractor Disking
Tractor Piling and Burning
Tractor Crushing and Broadcast Burning
Mastication

Broadcast Burning
Herbicide Application
Herbicide Application and Broadcast Burning
Scalping or Hand Scalping

III. SPECIAL MEASURES

Methods shall be incorporated as needed and practical that enhances fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food and den trees.

IV. CONDUCT OF WORK

Operations shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits. The owner, operator, contractor or other persons will conduct all work and operations in accordance with proper safety codes for the method being performed with due regards to the safety of all persons and property.
The completed job shall be workmanlike and present a good appearance.

V. OPERATION AND MAINTENANCE

The area will be inspected and determination made of 'spots' where additional treatment is necessary. Additional work will be scheduled to meet planting date requirements.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

394A - FIREBREAK

I. SCOPE

The scope of work shall consist of removing and properly treating trees, shrubs, brush, and other vegetative growth to provide an effective barrier on the area of land as shown on the attached plan map or as staked in the field.

II. FIELD WORK

A firebreak will slow or stop the spread of wildfires. It is a wide strip of land cleared of all vegetation. The width of the firebreak is dependent on budget and terrain constraints. No firebreak is a wholly effective barrier to fire. They assist fire-fighting forces in fire control. The length and width of the strips shall be as stated on the Practice Requirement Sheet.

III. FIREBREAK

1. Types
   a. Natural ponds, lakes streams, rock barriers, permanently moist areas, and change in vegetative community (break in fuel continuity).

   b. Farm and ranch roads.

   c. Constructed by mechanical or chemical means.

2. Minimum Width - All firebreaks must be a minimum of 12 feet wide. The area devoid of flammable material must be a minimum of 6 to 8 feet wide.

3. Location - Firebreaks will be located on ridges or along roads and fences; and when a series of firebreaks are planned, they will not be further than 3 miles apart.

4. Erosion Control - Where slopes exceed five (5) percent, erosion control measures will be installed.

IV. BASIS OF ACCEPTANCE

The site will be inspected to determine if the work accomplished conforms to the specified required work to meet the purpose of the practice.

V. OPERATION AND MAINTENANCE

The strip of exposed mineral soil will be inspected at least semiannually. All flammable material (limbs, leaves, needles, etc.) will be removed.

Flammable vegetation within the firebreak boundaries exceeding 1 foot will be treated so that it does not exceed 1 foot.

Inspect for and remove woody materials such as dead limbs and blown down trees from firebreak.
Inspect annually and rework erosion control measures as necessary to ensure proper function.
Access by vehicles, people, or livestock will be controlled to prevent damage to the firebreak.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

314 - BRUSH MANAGEMENT

I. SCOPE

The work shall consist of furnishing material and equipment as required to control brush in the designated areas as shown on the plan map.
The species to be controlled, and the time of operations shall be as listed on the Practice Requirements Sheet.
When converting areas to herbaceous cover, areas treated will be continuously and completely deferred from grazing from the time of treatment to the establishment of an adequate stand of soil protecting vegetation. Additional deferment may be specified depending on the vegetation conditions.

II. CHEMICAL TREATMENT

Land users and applicators using chemical herbicides should be cautioned as follows:
All recommendations for the use of pesticides must be by a licensed Agricultural Pest Control Advisor, registered with the County Agricultural Commissioner, in the county where the pesticides will be applied.

All agricultural use recommendations must be in writing as a minimum follow the guidelines in regulations published by the Director, Pesticides Regulation.
For chemical treatment methods, the following will be specified on the Practice Requirement sheet:
Herbicide name
Rate of Application or spray volumes
Acceptable dates of application
Any special.....herbicide
If herbicides are handled or applied improperly, or if unused portions are not disposed of safely, they may injure humans, domestic animals, desirable plants, fish or other wildlife, and may contaminate water bodies, nearby crops or other vegetation. Follow the directions and heed all precautions on the container label. Herbicides should not be used over or directly adjacent to ponds, lakes or streams. Landowners and applicators should be aware of and adhere to the provisions of local, county, state or federal laws and regulations concerning the use of agricultural chemicals.
Conformance with permits of all local, state and federal regulations for use of chemicals shall be the responsibility of the landowner. Permits for use of chemicals will specify legally required setbacks from water courses, ponds, residences, etc.
Optimum time for treatment shall be as stated on the Practice Requirements Sheet.

III. MECHANICAL METHODS OF TREATMENT

A. Plowing or Rotary Tiller Equipment

Adaptation shall be used only on range sites with relatively stone-free soils and level to moderate slopes (0-30 percent).
The specified treatment period and follow up grazing activities shall be as stated on the Practice Requirements Sheet. (See PRESCRIBED GRAZING specification).
Time of Operation - shall be in late spring or early summer when soil conditions are favorable for plowing before shrubs have matured seed. (Soils should be dry enough that partly covered plants will not grow.)
Methods - Plow or rotary-till at a depth sufficient to sever crowns and taproots. (Operate disk-type plows at a sharp angle to insure completely cutting the roots and crowns. Sometimes treatment requires a follow-up disking in late August to complete the kill.) RANGE PLANTING will normally follow this practice. (See, 550 - RANGE PLANTING Specification.)

B. Railing and Dragging

Adaptation - Limited primarily to mature big sagebrush stands having a fair to good understory of desirable forage species. This method of brush management is not recommended if the site must be seeded. Not effective on shrubs such as snowberry, rabbitbrush and silver sage, or other species that sprout from roots when tops are killed.
Equipment - Heavy rails of various types and design and must be heavy enough to get satisfactory kills. Motor patrols and bulldozers when used for surface scalping are also adapted.
Time of Operation - After brush has become dry and brittle but before sagebrush has matured seed and replenished food reserves in the twigs, shoots, and roots. This date will vary widely with seasonal conditions and elevations. Average date is approximately mid-June to

September 1 for elevations up to 3,000 feet, and from mid-July to October 1 at elevations above 3,000 feet.

Methods - Rail or drag twice in opposite or diagonal directions. Preferred method is in 90^0 directions. Treated area will be deferred following treatment until the soil is adequately protected with a vegetative cover to prevent erosion and supply enough forage to meet animal needs.

C. Chaining

Adaptation - Chaining is most adaptable on decadent stands of sagebrush, chamise, manzanita, and juniper trees with fair to good understory of desirable forage species. Seeding should be planned if there is less than 25 percent desirable forage species. (See 550 - RANGE PLANTING Specifications.) It can be used on land too rough, or steep for other equipment. It is usually limited to slopes of 50 percent or less.

Equipment - Heavy anchor chains 25 to 90 pounds per link. The heavier chains (50 pounds plus) are better for big sagebrush and for making partial seedbeds. Use two crawler-type tractors and 150 to 200 feet of chain with swivel joints connecting the chain to the tractors. Percent kill can be increased by welding 18 inch to 30 inch pieces of rail to every second link. Ball and chains may use one crawler-type tractor.

Time of operation

a. Sagebrush - after sagebrush is brittle but before seed sets.

b. Juniper - early to late spring while moisture is still good.

c. For a satisfactory kill, chaining work be done first in one direction and a second time in the opposite direction.

d. Plant moisture content should be low in species such as chamise to insure desired plant damage. Plants should be brittle not limber.

Grazing treated area will be deferred for a period of time to allow for vegetative recovery for soil erosion protection. (See 528A - PRESCRIBED GRAZING Specifications) The period of deferment may be quite variable depending on the amount of soil surface disturbance, vegetative understory, and climate.

D. Cutting

Adaptation - On sites that have certain species that should be retained, or where reduced numbers of species are required, especially tree-types and large specimens such as manzanita, oaks, madrone, juniper, etc. Number, size, quality, and species to be saved should be determined before cutting begins. If necessary, saved trees should be marked to prevent unnecessary delay in selection by cutters.

Equipment - Chains saws, bow saws, axes, etc.

Operations - Material cut should be salvaged for fuelwood, sawlogs, poles, posts, chips, hogfuel, compost, particle board or other uses. Remaining tops and limbs should be lopped and scattered, or piled for burning or wildlife cover according to the amount of slash left. Stumps will be as low to the ground as possible with the equipment used. Material to be milled will be removed immediately or treated to prevent end checking.

Residual trees saved will be protected from damage during operations.
Wildlife and nesting den trees will not be cut.
Slash burning will be done in openings.

E. Beating

Adaptation - Limited to areas supporting stands of mature big sagebrush, greenleaf manzanita, or other non-sprouting species.
Equipment - Flail rotary and circular beaters, circular saw-type equipment, rotary mowers, brush hogs. All equipment should meet CAL-OSHA standards for operator protection.
Areas need to be free of rocks and on slopes less than 30^{O}
Methods - Set equipment to operate about four inches above the ground so that low brush will be cut or shattered. Reduce speed in heavy brush to insure all brush is cut.
Grazing will be deferred for a period of time to allow for vegetative recovery for soil erosion protection. (See 528A - PRESCRIBED GRAZING Specifications.) The period of deferment may be quite variable depending on the amount of soil surface disturbance, vegetative understory or climate.
F. Brush Raking
Adaptation - Effective on sagebrush, rabbit brush, and manzanitas.
Equipment - Bulldozer with brush rake. Rakes vary from front mounted to dump rakes that are towed.
Operation Brush rakes shall penetrate deep enough to pull brush roots out of the ground. Debris shall be push into windrows on the contour and allowed time to dry. Burn when debris is dry and weather conditions are favorable. Soil accumulated in windrows may need spreading following burning.
Drill or broadcast with adapted species of grass and/or legumes and/or browse plants. (See 550 - RANGE PLANTING specifications.)
Brush raking of manzanita will require follow-up treatment because the soil disturbance will significantly increase the numbers of young manzanita seedlings.
Grazing will be deferred following treatment until the soil is adequately protected with a vegetative cover to prevent erosion and supply enough forage to meet animal needs. (See 528A - PRESCRIBED GRAZING Specification.)

G. Pushing

Adaptation - Practical for juniper, oak, and tree type shrubs with large main stems. Stands of 20 to 30 percent canopy cover or less should not be considered if plants can be cut and salvaged for wood products.
Equipment - Bulldozer with blade, front end brush rake, or grubber.
Operation - Push debris when the soils are moist (not wet).
Uprooted trees may be left in place, pushed into piles, or into windrows.
Seeding of adapted forage species should be recommended where 50 percent or more of the soil surface is disturbed or if less than 25 percent desirable forage species are present. (See 550 - RANGE PLANTING specifications.)
Grazing will be deferred until midway through the growing season of the year following treatment or longer to allow for vegetative ground cover establishment to protect the soil and to provide for the livestock forage needs.
H. Crushing

Adaptation - Effective on chamise, manzanitas.
Equipment - Bulldozer with blade, brush rake, or equipped with ball and chain or similar piece of equipment.
Operation - Blade is set about 4 to 6 inches above the ground to minimize soil disturbance. The goal is to pop the root out of ground. It is normally done on mature, brittle plants before they become supple. It is not suitable on young flexible brush.
When using a ball and chain, the weight of the ball and chain shall be adequate to crush and uproot brush species.
Piles and windrows may be burned completely or selectively. Piles left may be good wildlife cover.

IV. DISPOSAL REQUIREMENT

The method of disposal shall be as indicated on the Practice Requirement sheet.

A. Pile and Burn - When disposing of brush, pile and burn in openings between trees to prevent scorching of bark and needles of standing trees. Burn piles during or immediately after a light precipitation. This will help keep the fires from creeping out of control along ground or blowing away from the pile into surrounding dry material. You may find it easier to cover a portion of the piles with small (4'x4') pieces of plastic sheets prior to precipitation so that you have a dry spot to start your fire.

   The piles shall be burned in accordance with the state fire laws as administered by your local fire control agency. Contact the County Air Pollution Control for burn days and applicable permits.

B. Removal - Complete removal of brush from the area to a location as staked in field or as specified on the Practice Requirement sheet.

C. Chipping and scattering of brush - Spread chips evenly over the treated area. If possible do not place chips closer than 4 feet to residual shrubs and trees.

D. Lop & Scatter - lop and scattering in areas not requiring the disposal of brush. Limbs are to be cut from the main trunk so that the material lies within 18" of the ground. Do not leave cut material under trees or near remaining brush clumps. For lop and Scatter requirements for tree species see 666 - FOREST STAND IMPROVEMENT, specifications.

E. Large stems and portions of the main trunk larger than 3" in diameter are to be removed from the area for firewood.

V. GENERAL

The designated agency will prepare a burn plan per 338 - PRESCRIBED BURNING.
On sites with soils that are subject to excessive erosion, a plan shall be prepared to prevent or control the erosion.
When using a ball and chain, the weight of the ball and chain shall be adequate to crush and uproot brush species.
Piles and windrows may be burned completely or selectively. Piles left are good for wildlife cover.

VI. BASIS OF ACCEPTANCE

Upon completion of the work, the area will be inspected to determine the percent of control attained, and compliance with the above specifications.

VII. OPERATION AND MAINTENANCE

At least annually, the area will be inspected, and determination made of 'spots' where additional treatment is necessary. And if so, the work will be conducted during the same year, unless the time has passed for proper treatment.

Appendix 5 - Tax and Business Management

- Timber harvest and other revenue generating activities generally produce a federal and state income tax liability. Tax credits may be available for some management activities.
- Good record keeping can help landowners manage their assets; increase their revenues; and minimize their tax liability.
- See page 24 of Management Plan Implementation above for TPZ zoning information.

Appendix 6 – Past Plans, Amendments and Updates

1990 TDA Forest Management Plan – hard copy available at the TDA Forestry Office

1995 TDA Forest Management Plan – hard copy available at the TDA Forestry Office

2006 TDA Forest Management Plan – hard copy available at the TDA Forestry Office or electronic copy is available

Appendix 7 - Addendum Supporting Data (growth model outputs, references, ect.)

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Copies of these references are available at the TDA Forestry Office

Appendix 8 - Confidential

Copies of all Archaeological Records Searches from the North Central Information Center are available at the TDA Forestry Office.

Copy of a report by Catherine Schnurrenberger Botanical Survey for TESC Plants and Noxious/Invasive Weeds on Forest Management Areas of Tahoe Donner is available at the TDA Forestry Office.

Appendix 9 – TDA Forestry Department's 10-year Plan of Management Activities

See attached data pocket.