Butte Falls Community Forest Plan

Prepared for:

The Trust for Public Lands

and Town of Butte Falls

Prepared by:

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Introduction

Butte Falls is a forest community in every sense of the word. It was originally a MEDCO company town in which every family was involved in the timber industry. Over the years it has evolved into an independent town steeped in and part of the forest that surrounds it. Our residents are not tourists in the forest, they are a part of it. Many of us work in the forest or are retired from that work. All of us actively interact with our forest environment hunting, fishing, camping, hiking and just being. As we look at developing a community forest, for us, the two terms “community” and “forest” are equal. We want to nurture a mature diverse sustainable forest and we want the community to be nurtured in the process of creating and living in that forest environment. We envision a recreation system of hiking trails, and parks to enhance health and well-being; a education and research component to stimulate our understanding of natural systems; the growth of tourism to improve our economic viability; the maintenance of the forest to improve fire resistance and ecological sustainability; and a residential component that is innovative sensitive to and part of nature. We want our community forest to reflect our love of the forest and our understanding of ourselves as a part of it.

Linda Spencer, Mayor
Town of Butte Falls

Community Overview

The Town of Butte Falls hosts a current population of 450 people, based on the 2017 census, and is the smallest incorporated city in Jackson County, Oregon. It was incorporated in 1911 and is a historically significant logging town with an immense amount of history for a town of this size. Butte Falls is the only town in the USA that has a fence completely around it. The town is located on the Big Butte Plateau in the Oregon Cascade Range and contains adjacent forests that are extremely productive. The town's name comes from the nearby falls on Big Butte Creek.

The Butte Falls Community Forest Plan is meant to guide the implementation of land management in the newly acquired properties centered on the community-based objectives and goals.

The small working-class community exploded after its incorporation. In the early 1900s, forests in the Butte Falls area and adjacent lands were booming with logging and milling. The Butte Falls Sugar Pine Company built a sawmill at the falls and established the original town survey for the layout of the town above Big Butte's canyon; once logs were flowing from the region, a subsequent mill soon followed attracting, numerous men working the forests and mills. The Pacific & Eastern Railroad lines arrived, connecting Butte Falls to the main rail line in Medford, and providing critical access to the extensive old-growth stands of pine and fir on the upper plateau, both on national forest and private lands. The residents of Butte Falls flourished during the early days, from the 1920s through the 1960s, because of Medco's sustained-yield operations and rapid growth.

In the 1980s, Medco was purchased through a hostile takeover. With new ownership, the clear-cut model of forestry was put in full force and virtually all of Medco's commercial-sized timber surrounding Butte Falls was cut over in a short time. Soon after, they sold off their land holdings and mills. As a result of that policy, and with the introduction of restrictions on federal timberlands to protect plant and animal species on public lands, logging jobs became scarce with harvests reduced to a fraction of the previous annual cut. The economy for the Town of Butte Falls has suffered ever since.

Community Forest Description

The Butte Falls Community Forest is in Jackson County, Oregon located approximately 30 miles northeast of Medford. The legal description of the property is Township35S-Range2E-Section10 taxlots 300, 604 and 605 totaling approximately 391 acres, and an adjacent property T35-R2E-S05 taxlot 800 totaling approximately 55 acres. The main parcel surrounds the Town of Butte Falls outside the existing boundary. The South Fork of Butte Creek runs through the property. This property is currently owned by Chinook Forest Partners, LLC and has historically been used for timber production. Chinook has agreed to sell this property to the Town of Butte Falls. The general landscape surrounding the parcel is primarily mid-elevation mixed-conifer forest, comprised of mixed-use timberlands and Bureau of Land Management (BLM) lands, as well as a large holding of the Medford Water Commission that houses the watershed and spring source for the primary water supply for the city of Medford and others.

Infrastructure and Public Access

The Butte Falls Community Forest and Town of Butte Falls is accessed off State Highway 62, via Butte Falls Highway. The primary access to the main forest parcels are on Falls Road, which allows vehicle access to the falls on Big Butte Creek at the center of the new land acquisition, as well as access to the Eagle Point Irrigation District water plant. The Falls Road access also would provide future public access to new hiking trails as part of the community recreation vision. The second access to the northern portion of the property is accessed from Butte Falls-Prospect Highway to Fredenburg Road, to BLM Road 35-2E-11 and Road 35-2E-2.2, which ends at the northern boundary of the parcel. The third access is off Plumb Creek Lane at the Southeast corner of the parcel which ends at a Chinook gate, while the road continues up and into the property. The fourth access is on the southwestern corner of the property accessed via Butte Falls Highway to Hukill Creek Road to Truck Road to BLM road # 35-2E-10. The small 55.26 acre parcel on taxlot #800 is accessed off of Butte Falls Highway to Obenchain Road. Due to the main parcel enveloping the Town of Butte Falls, there are numerous additional access points throughout the town and off the various streets and Butte Falls Highway for walk-on access. The parcel has a long history of previous logging activity, and therefore, has an extensive network of existing skid roads and landings and general logging infrastructure which could be used for future land management activities. These roads could also be used to create hiking and biking trail access to the forest. There are no existing structures on the parcel besides the relics of the old mill on Butte creek. Future infrastructure could be developed as part of the planning efforts surrounding recreation and the potential Falls Park concept.

The Railroad

The Medford and Crater Lake Railway began in 1904 with the vision of connecting Medford, Eagle Point, and Butte Falls with Crater Lake. The rail line was completed to Eagle Point in 1906. Shortly after, the railroad went into receivership. The railroad became the Pacific & Eastern, and was financed by the SP&S RR. Construction of the rail line into Butte Falls was completed on November 15, 1910. It continually operated at a deficit and was ordered shut down in 1919, but was then purchased by lumber interests and operated as a logging railroad until 1962.

The railroad grade remains an important historical relic to the town's rich history, and plans to revive the railroad are being developed by the Southern Oregon Historical Railway Society and the Town of Butte Falls. The goal of the project is to rebuild the line and operate as a tourist excursion railroad on the segment of what was once the Medford Corporation (Medco) logging railroad, using locomotives and other equipment originally used in the region. The objective for this project is to create a living railroad museum in its original forested environment. This development along with the Butte Falls Community Forest and other recreation and community development resources are part of the Town's broader economic and community development planning. A website will be developed and the final plan will be available upon request following completion.

Residential Development

The Town of Butte Falls is looking at the feasibility of annexing a small area (17 acres) of the new land acquisition to expand a residential footprint. Currently there is no room to increase the size of the population; therefore a small annex along the western edge of town, off of the Butte Falls Highway in the low-productivity forest zone (# 0137) is considered an option for analysis. A small increase in the residential footprint of the town enhances the ancillary Community Forest goals of economic sustainability and opportunity. In addition to providing revenue, the

development could attract a demographic with the ability for remote work, the desire to live in a small town, and the appeal of adjacent forest resources and newly developed recreational opportunities. The creation of new economic opportunities along with new residential additions could attract younger entrepreneurs looking for a change from their current urban setting.

Community Forest Goals and Objectives

The goal of the community forest is to create an innovative approach to the stewardship of local forestlands that would become a model for how rural, remote communities can use their forests to develop a sustainable economy, foster a sustainable community, and encourage the ongoing development of sustainable forest research and knowledge. The town aims to manage with a carbon conscious and sustainable approach to the management of the forest. The main Community Forest goals are as follows:

- Protect the town and adjacent forest and waterways from increasing fire threat using an all lands approach to holistic forest management
- Develop a long-range stewardship ethic
- Protect and enhance the town's and upper watershed's water resources
- Promote climate resilience
- Promote and enhance soil productivity
- Promote economic opportunities and living wage jobs
- Promote and enhance local infrastructure, insure safe access to forests, the falls and other community assets
- Expand educational opportunities in cooperation with local schools
- Use the community forest as an outdoor classroom

Community Engagement Process

To engage the community in the development of the goals listed above as well as to steer the Community Forest Plan and subsequent restoration work, the Town of Butte Falls adopted Ordinance #342 creating a Butte Falls Community Forest Commission. The Commission manages the work of the Community Forest, listens actively to the public in public forums and advises the Town Council on issues requiring their involvement. The Commission consists of seven commissioners responsible for the management and budgetary matters in the following sectors:

- Commissioner of Forest Management
- Commissioner of Parks and Recreation
- Commissioner of Economic Development
- Commissioner of Residential Development
- Commissioner of Special Projects (currently, the historic railroad)
- Commissioner of Education and Research
- Commissioner of Marketing and Communications

In addition to the community members actively participating in the various commissions, the following tools have been utilized for active engagement and participations:

In addition to the community members actively participating on the various committees, the following tools have been utilized for active engagement and participation.

- Public forums and community towns halls
- Field trips to the community forest
- Fireside Chats (community events open to all to discuss local business and issues-specific chats were developed to discuss the Community Forest vision)
- Direct mailing
    - A call for comment letter was sent to all residents in the Town of Butte Falls asking for feedback on the development of a Community Forest.
    - The Mayor's Corner in the Butte Falls Bulletin talks about the project and current expectations every month. It is mailed to residents and the surrounding community.

The Covid-19 pandemic has put a halt to any public forums, community town halls and fireside chats. The cold weather has postponed field trips to the community forest. At this point there is no end in sight to the restrictions placed by the pandemic, so we expect there will be more direct mailings and that field trips will resume in the spring.

Land Use History and Management

Early settlers arrived in the Butte Falls area in the 1860s and established logging camps to harvest the extensive natural resources, mainly sugar pine trees. Early logging and lumbering were associated with the cutting of sugar pine shakes, cedar posts, and cord wood. In 1904, the Big Bend Milling Company built a water-powered sawmill at the falls on Big Butte Creek. The company was sold in 1905 to the Butte Falls Sugar Pine Lumber Company who also initiated the land survey for the town site above Butte Creek. The Town of Butte Falls was finally incorporated in 1911 and encompassed approximately 50 acres of land.

During the early 1900s the logging industry boomed, and the completion of the Pacific and Eastern Railroad from Butte Falls to Medford provided an efficient way of getting wood from the Butte Falls area to the broader markets. The boom time of the region's early years for logging and milling was short-lived, and by the 1920s the lumber mills in Butte Falls had closed, having expended vast resources on their development. During the 1920s the logs were shipped by railroad to the larger capacity mills in Medford for processing. In 1924 the Butte Falls Lumber Company was dissolved and with that and the Great Depression of the early 1930s the Town of Butte Falls fell on hard times. In the early 1930s the Medford Corporation (Medco) purchased these lands. The next several decades saw even-age timber management under Medco as the preferred management method, and another small boom was seen as the logging industry again flourished and MEDCO provided stable, good paying jobs. By the mid-1940s much of the mature timber on MEDCO land had been harvested and the demand for harvest on federal lands increased. The history of timber management beginning under MEDCO and continuing under subsequent timber companies has largely produced the forest we see today.

In addition, fire exclusion contributed to the current high-density and multiple-layered stand conditions throughout the watershed in general.

Goals and Uses

Recent logging and planting activity on the parcels demonstrate overall productive growing conditions and sustainable timber growth value over time. All the stands are actively maintained and have been managed to produce timber volume at various strategic points of their past harvest rotations. Moving forward under new management, the site will be managed to promote forest health, disease control, Fire resiliency, soil health and recreational opportunities. Additional maintenance, including routine thinning, will need to be completed to meet these objectives.

Overall, the best way to describe the properties goals and uses is that the Community Forest will be a model recreational, educational, protective and beneficial forest, with ongoing activity such as some sustainable logging and thinning and maintenance to promote its continued sustainability and social community value.

Water Resources

The Butte Falls Community Forest has substantial water resources impacting the property ranging from small creeks and wetlands to a larger fish-bearing stream. Two main streams and one secondary stream affect the main parcel. The South Fork Big Butte Creek is a large fish-bearing stream that flows through the northern portion of the Community Forest property, and Hukill Creek is a medium stream that flows through the western portion of the property into the South Fork. The secondary stream is essentially a seasonal draw draining into the large meadow abutting the town. Additionally, the meadow has seasonal wetlands.

The subject property is part of the Big Butte Creek sub-watershed, which encompasses approximately 247 square miles and is located in the southeast portion of the Upper Rogue Watershed. The elevation range of the Big Butte Creek sub-watershed is 1,500 feet at the lower elevations to 9,495 feet at the highest elevation at Mount McLoughlin, and the mean elevation is 3,528 feet. Just over half of the land is federally owned, with the entirety of the upper elevations of the sub watershed comprised of National Forest System land. The remainder of the federally owned land is BLM land, which is spread in patchwork fashion (see landscape-level ownership map appendix C), interspersed with private and other ownerships. The Town of Butte Falls is located in the center of the sub-watershed along Big Butte Creek. Several significant springs provide groundwater to the Big Butte Springs sub-watershed. The Big Butte Springs system (managed by the Medford Water Commission) is of particular importance because it is the source for most of the drinking water to the City of Medford. The Medford Water Commission has water rights for 30 to 60 cubic feet per second of water in the Big Butte Creek sub-watershed and serves the communities of Medford, Talent, Phoenix, Jacksonville, Central Point, White City, and Eagle Point.

Wildlife Resources

Current GIS (Geographical Information System) layers and statewide datasets from the Bureau of Land Management, Oregon Department of Fish and Wildlife (ODFW) and Oregon Department of Forestry (ODF), which aggregate existing surveys and available data, show no known wildlife issues related to threatened and endangered species on the parcels. As mentioned in previous sections, the South Fork Butte Creek is a primary fish-bearing stream and is rated as “large” for ODFW fish populations. Additional secondary drainages contain medium and small ratings. The

forest in general does support a wide range of wildlife species and obvious signs of deer, elk and bear were noted on field reconnaissance. The parcels and upper Big Butte Sub-watershed are part of ODF's Oregon Conservation Strategy[1]. The area is specifically included in the Big Butte Conservation Opportunity Area (COA), COA i.d # 122. The recommended conservation actions for the COA are to:

- Mimic the historic disturbance regime using mechanical and fire treatments to restore *Ceanothus* shrublands
- Obtain additional in-stream water allocation to increase spawning habitat for spring Chinook salmon
- Protect, maintain, or enhance pine-oak woodlands and oak savannah

Archaeological Resources

According to the Oregon Department of Forestry archaeological survey layer[2], there are no known sites previously recorded on the parcels. However, due to the logging history and the historic sawmill along Butte Creek, the parcel does contain visual remnants of the Butte Falls Lumber Company sawmill dating from 1907. Concrete foundation remains, various concrete, metal and rubble and a distinct ditch for carrying water to the mill, as well as concrete footings adjacent to the falls can be seen. Other BLM surveys conducted in the broader watershed, show signs of pre-settlement use of the area by local Tribes.

Soil Resources

The general soil condition on the parcels, confirmed from field assessments and available data, shows that the soils are heavy in winter conditions, with some of the soils containing a clay element that would limit ground-based operability during wet-weather periods. Normal walking and driving along several roads within and surrounding the properties demonstrated some wet and slippery navigation. It was easy to leave somewhat deep tire ruts on un-graveled roads.

The following soil descriptions are provided from USDA Jackson County Soil Survey documents[3]. This section includes a soil map (appendix B) for the defined area of interest, including a list of soil map units. The maps describe the soils on the main parcel and the western parcel separated.

Table 1. Map Unit Legend (Butte Falls Community Forest, Close Proximity)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
35A	Cove clay, 0 to 3 % slopes	52.3	8.0
63E	Freezener gravelly loam, 12 to 35 % north slopes	132.6	20.3
66G	Freezener-Geppert complex, 35 to 60 % north slopes	16.2	2.5
70E	Geppert very cobbly loam, 12 to 35 % south slopes	27.4	4.2
70G	Geppert very cobbly loam, 35 to 60 % south slopes	11.9	1.8

[1] www.OregonConservationStrategy.org
[2] https://www.oregon.gov/oprd/OH/pages/archaeology.aspx
[3] https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
86C	Hukill gravelly loam, 1 to 12 % slopes	367.0	56.2
192A	Terrabella clay loam, 0 to 3 % slopes	45.6	7.0
Totals for area of Interest		652.9	100.0

Table 2. Map Unit Legend (Butte Falls Community Forest, Western Parcel)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
86C	Hukill gravelly loam, 1 to 12 percent slopes	40.2	82.2
120B	Medco clay loam, 3 to 7 percent slopes	8.7	17.8
Totals for Area of Interest		48.9	100.0

On-the-ground field assessments, review of recent inventory data and National Resources Conservation Service soil surveys indicate a desirable range of site indexes (III, IV, and V) for both ponderosa pine and Douglas-fir species. Preliminary review of the available soils data indicates that there is soil potential to sustain about 80 cubic feet of growth in 1 year, or 1 MBF per acre of timber on the majority of stands across the Community Forest property. These estimates are describing the future potential and mature capacity, noting that there are several very young stands. Soil maps of both the parcels are included in appendix B.

Fire Resilience and Climate

The Town of Butte Falls intends to align the Community Forest and ongoing restoration using the best available science to protect the community's natural resources in a rapidly changing climate. The Northwest Climate Science Center[4], a leading science-based consortium of universities, agencies, and organizations projects climate to have a vast impact on northwest forests and watersheds. The Center, as well as other leading groups, advises that projected changes in climate threaten the productivity of the Northwest's ecologically and economically important tree species. Increasing temperatures, declining snow accumulation and changes in soil moisture are likely to alter the growth and distribution of Northwest tree species. Increased forest mortality is also expected as a result of increasing drought stress, insect pests, diseases and wildfire. As is the case for much of the western United States, wildfires are of particular concern, as the frequency and extent of wildfires are expected to increase in the future. These fires have the potential to threaten property, human lives, and important habitat areas; increase soil erosion and sediment in streams; negatively affect various industries and lead to major public health and safety concerns. The Town aims to align restoration efforts using this science as well as active management to protect critical watershed and forest resources, creating a fire resilient and climate adapted forestry model. By recognizing climate change as a threat to these lands the Town aims to model the Community Forest to conserve and enhance carbon stocks over time through sustainable land management, while also using restoration efforts to preserve and enhance trees, waterways and wildlife habitat.

[4] https://www.cakex.org/community/directory/organizations/northwest-climate-science-center

FIREWISE USA® Community

The community of Butte Falls is actively adopting a Firewise Community strategy, and is in the process of registering as part of the FIREWISE USA® program[5]. The strategy will complement the restoration efforts on the Community Forest and is strategically important from an overall forest management perspective and all lands restoration approach.

The FIREWISE USA® program provides a flexible template for residents of neighborhoods and home-owners associations to improve their wildfire readiness, and works as an organizing mechanism for initiating wildfire mitigation actions for communities.

It is a national program sponsored by the National Fire Prevention Association (NFPA). Initiated at the grass roots level, the FIREWISE USA® Program empowers homeowners to help protect their neighborhood.

Association with this program is specifically critical for the town's safety, especially with the potential for dryer more severe fire seasons and fire events, and certainly shows to be of the utmost importance after this summer's South Obenchain Fire, which threatened the Town directly requiring level 3 evacuation procedures.

South Obenchain Fire – Lessons Learned

The South Obenchain Fire was part of a series of fires in southern Oregon that began on September 8th, 2020. The weather pattern was part of an extremely dry, hot, low humidity and high wind 10-year weather event. The fire burned over 32,000 acres and destroyed 90 structures. The clear message heard from talking to local residents who were on the front lines battling the fire as well as State and local fire officials is: *Southern Oregon is seeing hotter, drier temperatures, and we need to start strategically planning for more significant high-intensity fires on the landscape in the years ahead.*

Strategic planning for catastrophic fire means taking a landscape approach to fire mitigation treatments in strategic locations to be better prepared for the inevitable. The Town of Butte Falls would be on the right track for fire safety and prevention by adopting the FIREWISE USA® Program, completing fuels treatments on the Community Forest in collaboration with adjacent federal and private landowners to build a better chance of protecting people, property, and infrastructure in the future.

All Lands Forest Restoration

All lands forest restoration is a holistic land management approach that recognizes that fire, forests, water, and wildlife do not see property boundaries. The concept started as a strategic land management initiative between the United States Forest Service (USFS) and The National Resource Conservation Services (NRCS) to successfully manage across-boundary restoration work between private, state and federal lands. This concept is applicable to the goals and objectives identified in this plan for fire resiliency and forest management efforts because there are a lot of shared boundaries. A successful all lands effort would be collaboration between the Town and private residents, the BLM and Lone Rock Timber Company, as well as the Forest Service for work in the upper watershed reaches.

[5] https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA

The work would also compliment ongoing land management efforts by the Medford Water Commission on watershed holdings. See appendix C for ownership connectivity.

One of the limiting factors to a successful implementation of an all lands initiative would be the large amount of private industrial holdings between the Town and federal ownerships creating a checkerboard of lands with potentially different land management directives. However, with proper design and collaboration the potential for a successful project is in the future. The implementation of long-term restoration as identified in the goals and objectives (page 3) to protect the upper watershed would provide for reduced risk from wildfire to the town, private and public ownerships, as well as help protect the valued municipal watershed for the city of Medford.

Current Stand and Forest Characteristics

Several categories of mixed-conifer timber stands exist on the Community Forest parcels with a wide-range of age classes due to the previous ownership land management and subsequent harvest rotations. The stands have been delineated (See figure 16-stand delineations map) based on age group, species composition and stocking attributes. Most of the stands range from one to one-hundred-years old and are primarily Douglas-fir plantation; with the exception being the riparian stands along Butte Creek and the falls, and the adjacent north slope stand above the creek. Both stands have timber harvest potential and with proper design could meet community objectives, while also bringing some monetary value that could fund some of the non-commercial work on the remaining stands. Historically some of the stands were mixed-conifer/hardwood stands containing ponderosa pine, black oak and pacific madrone. For the most part, on the plantation stands the prescription would be to conduct incremental stand maintenance to grow out these stands into healthy productive forests. A large percentage of these stands are ready for fuel reduction treatments to lower stocking levels. All stands where hardwoods are present will favor treatments leveraging any hardwood diversity.

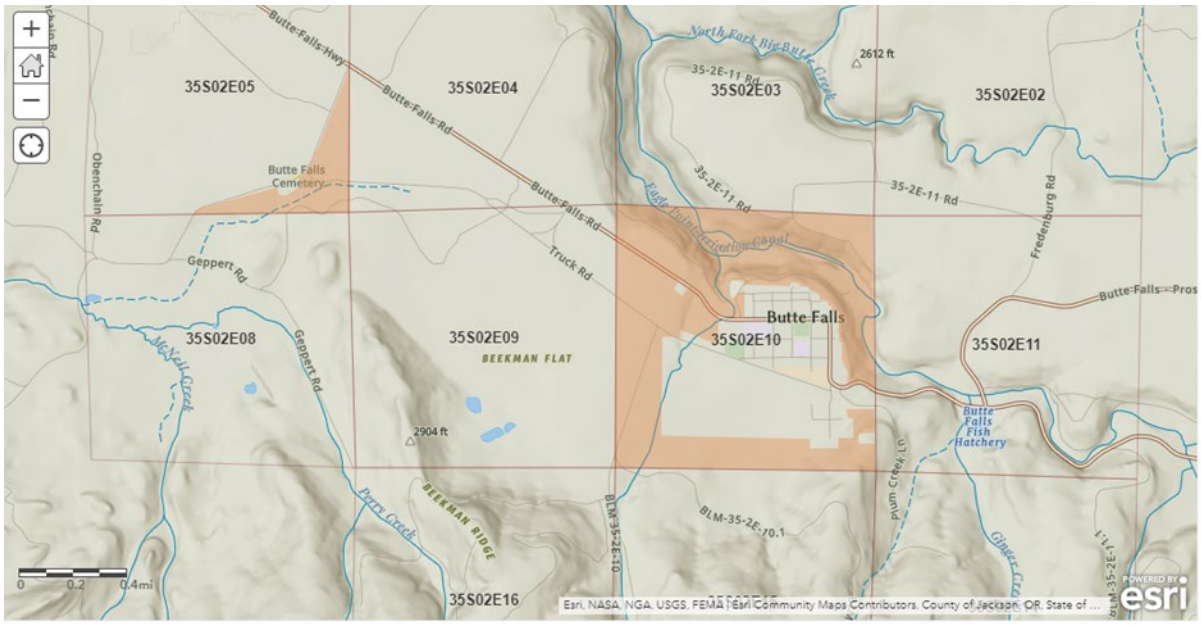


Figure 1. Chinook parcels under consideration for Butte Falls Community Forest. Main parcel around Butte Falls and triangular western parcel

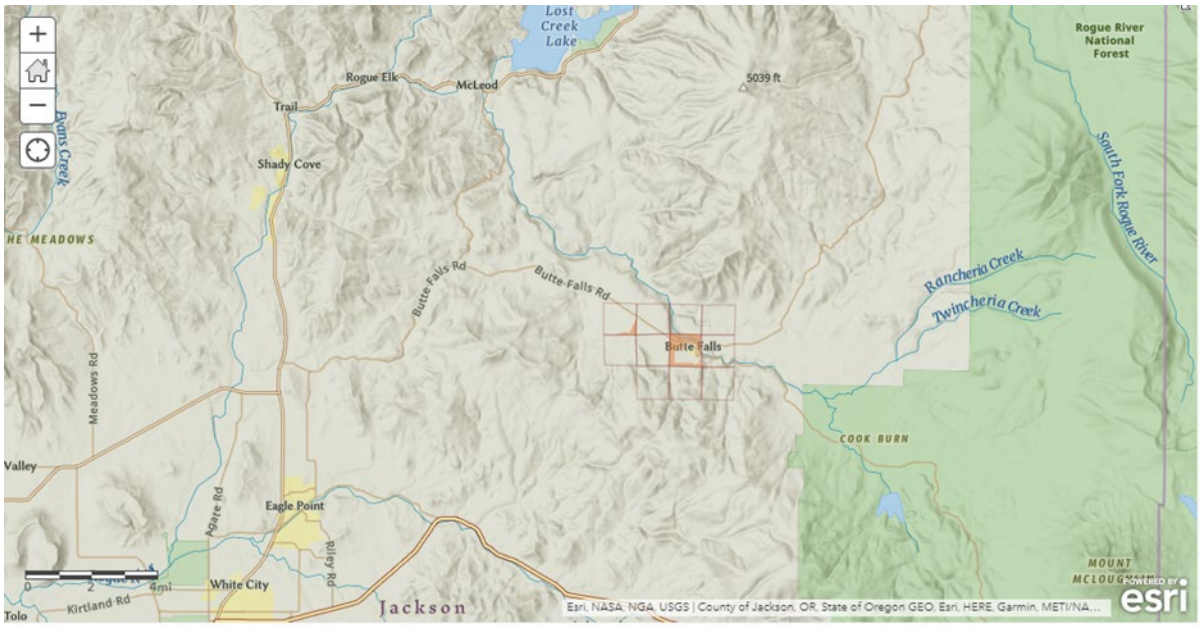


Figure 2. Location of Chinook parcels in relation to the Rogue River Siskiyou National Forest and White City, Oregon

Table 3. Western parcel stands 0933, 1303, 0928, 1301, 0436 volume summary and attributes

Medium-age dense forest of mixed conifer Douglas-fir and ponderosa pine				
MBF/Acre	Basal Area	Site Index	Average Age	Size/Acres
4.7	125	79	36	55.26

Beginning with the western most parcel of the forest in section 5, all the stands in figure 3 are considered very similar and can be described as one combined entity for planning purposes.

The noticeable characteristic of these combined stands is that they are medium-aged and densely stocked. Small dimensional timber is immediately available to harvest in these stands, but thinning maintenance should be the priority. Stand 1303 does have a designated seasonal small non-fish-bearing stream and soft soils, but can still be managed the same, and combined with the other comparable and surrounding stands. The trees-per-acre value is high for all these continuous stands (table 3). Stand 0933 is exceptionally high at about 600 trees per-acre and needs treatment soon. See the full stand inventory data table 13 for details.

Figure 3 contains typical photos of stand characteristics of the western parcel. The remainder of the categories covers the area that surrounds the Town of Butte Falls.

Figure 3. Map showing combined section 5 timber stands 0933, 1303, 0928, 1301, 0436.

Figure 4. Examples of Section 5 combined timber stand conditions in the western parcel.

Table 4. Productive timber stand 1841 trees per acre and attributes

Young, dense forest, established plantation, Douglas-fir				
Trees/Acre	Basal Area	Site Index	Average Age	Size, Acres
425	2	103	12	20.5

The trees in Stand 1841 residing in the NW portion of section 10 (figure 5) are productive and young, densely stocked, and contain a moderately steep aspect. This stand can be considered "good" future timber harvest potential. The trees-per-acre value is somewhat high and pre-commercial thinning measures should be taken in the near future (1-3 years). There is an unimproved area at the top of the unit that can be used in dry weather. Wet season operations would leave the road deeply rutted if traveled. This road needs gravel for improvement if routine access is desired or can be kept as is for light use recreational access (primarily non- motorized). This is a slightly older plantation stand, with Douglas-fir as the primary planted species. In addition to road improvement, future harvesting methods may be technical in nature because of the slopes. Lastly, the boundary of this stand approaches the riparian area of South Fork Big Butte Creek, so special considerations and forest practices may have to be incorporated into any future activity.

Figure 5. Left, location of Stand 1841-Right, example of Stand 1841

Table 5. Riparian Stands 1846, 0792, 0789, 0543, 0794, 1837, 1840 combined volume summary and attributes

Mature timber, riparian, mixed conifer–Douglas-fir, ponderosa pine				
MBF/Acre	Basal Area	Site Index	Average Age	Size/Acres
6.8	154	86	71	49.9

The above referenced riparian stands are all relatively similar and surround the town (see figure 6). Tree stocking and species mix are consistent in these stands with a mix of mature Douglas-fir and ponderosa pine timber, small openings and patches of young timber exist. A large amount of the existing timber is unobtainable because of ODF Forest Practices Act riparian protection zones up to 100 feet from stream edge on each side. Routine thinning and cutting may be permitted within these zones with prior written approval at the discretion of local ODF forester. This group of stands offers the greatest opportunities for recreation resources. Social trails already exist. A significant waterfall (figure 6, right) and abandoned historic infrastructures are present. This is also the location of a proposed park and trail system described later in this report.

Figure 6. Left, location of riparian timber stands 1846, 0792, 0789, 0543, 0130, 0794, 1837, 1840 surrounding Town of Butte Falls-Right, the falls on Big Butte Creek

Table 6. Productive Stands 1847, 1848, 0136, 1844 combined volume summary and attributes

Young mixed conifer-Douglas-fir, ponderosa pine				
MBF/Acre	Basal Area	Site Index	Average Age	Size/Acres
7.0	145	70	51	52.8

The north side of section 10 has two distinct, highly productive areas. Stands 1847 and 1848 combined are productive and steep. Stand 0136 is much more flat, contains mixed species conifer with open spots, but still has good growth potential. Stand 1844 is flat and young as well, but somewhat isolated in terms of access.

A grown-over road separates stands 1848 and 0136. Stand 136 has inter-plantings of young ponderosa pine. Stand 1848 has the most immediate and reasonable accessible quality timber. Stands 1847 and 0136 have a lesser extent of timber volume. Both stands will benefit from thinning operations, both commercial and non-commercial.

Stand 1848 is a moderate timber volume site, but the stand presents the greatest opportunity to start some sustainable log removal in the very near future due to the age and size class (see figure 10). Based on field observations, soil surveys, and on-site visits, it is possible to acquire as much as 2MBF/acre in a routine commercial thinning operation. The top side road is operable in the drier months, and the slightly steep stand itself may require some technical cable layout or other equipment to gather logs, overall an operation is highly feasible and economical with proper design.

Figure 7. Left, location of productive timber Stands 1847, 1848 and 0136- Right, example of timber stand 1848

The following maps (figure 8) shows the location of non-productive stands 0544 and 0541. These stands consist of grasslands and municipal facilities and no volume exists.

Stand 0544 (left map) includes six non-productive patches totaling 6.3 acres. Stand 0541 (right map) is 1.5 acres of developed land related to the city's water treatment facilities. These stands are established with grass or are areas used for structures and tangible facilities. Extra-wide rights-of-way and grassy openings account for many of the patchy and open characteristics.

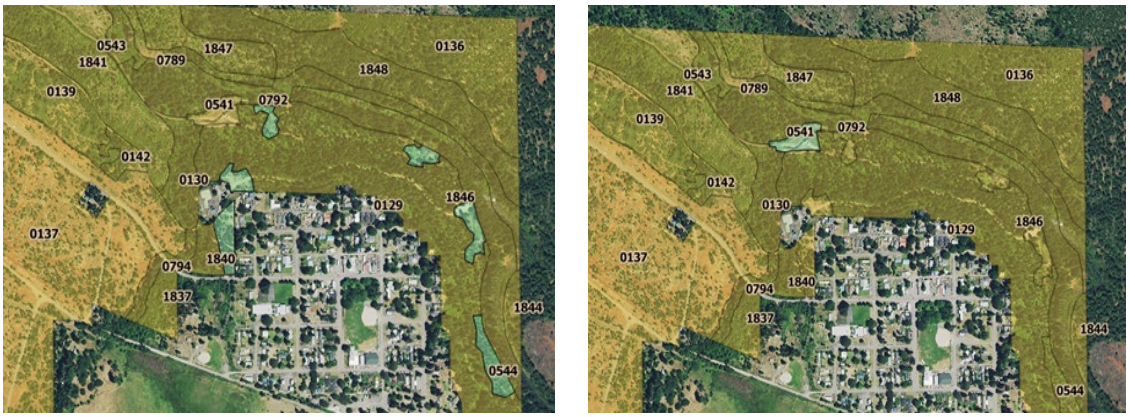


Figure 8. Left, location of unproductive stand 0544-Right, location of unproductive stand 0541

Table 7. Stand 0129 volume summary and attributes

Mature Douglas-fir, regeneration in understory mixed conifer–Douglas-fir, ponderosa pine, western hemlock				
MBF/Acre	Basal Area	Site Index	Average Age	Size/Acres
15.7	131	88	93	43.3

Stand 0129 is the most valuable timber asset in the ownership. The large trees do present operability challenges because of close the proximity to residential and riparian areas (figure 9). Additionally, there is a modest slope. The main road traversing through the stand is in excellent shape. See table 13 for volume totals. The stand was cut about 10 years ago. Aggressive understory regeneration of Douglas-fir and some western hemlock needs to be maintained within about 5 years. Quality log potential is exceptional, even though a future extraction may be small, it could be very valuable.

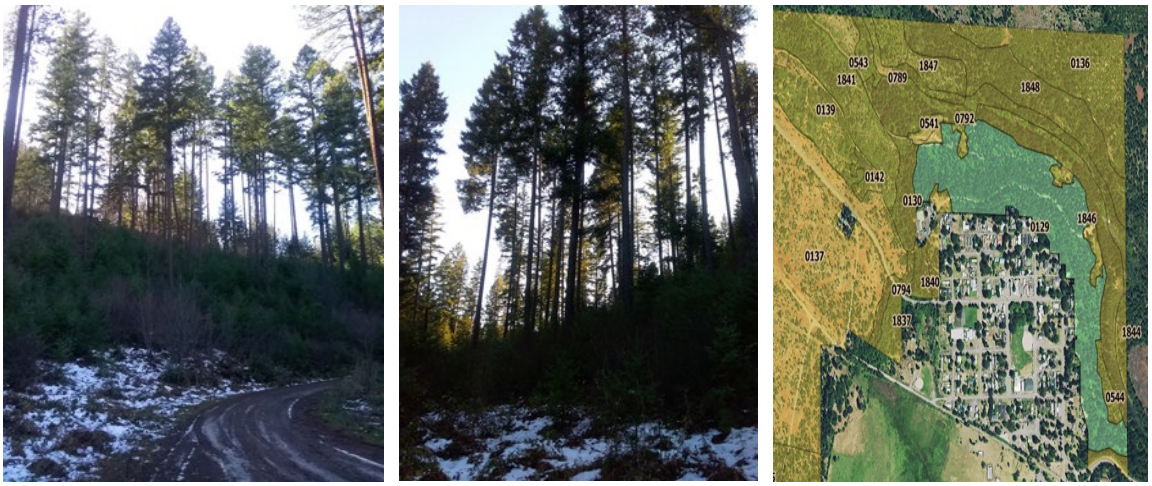


Figure 9. Left and center shows regeneration typical of stand 0129-Right shows location of stand 0129 adjacent to Town of Butte Falls

Table 8. Underdeveloped Stands 0356, 0031 combined volume summary and attributes

Open grasslands and failed plantations, mixed conifer – Douglas-fir, ponderosa pine				
Trees/Acre	Basal Area	Site Index	Average Age	Size/Acres
200	20	97	7	9.8

Stands 0356 and 0031 consist of open and grassy patches, and portions represent failed plantation conversion (figure 10). A reasonable tpa value is shown, but they consist of scattered over-browsed seedlings and damaged residuals. Strong consideration should be made to attempt more interplanting, remove damaged residuals, and maintain as an opening to encourage grasses, brush and forage.

Figure 10. Left, location of stands 0356 and 0031-Right, example of grasslands and failed plantations representing stands 0356 and 0031

Table 9. Poorly Developed Stand 0251 volume summary and attributes

Heavy soils and riparian areas, mixed conifer-Douglas-fir and ponderosa pine				
MBF/Acre	Basal Area	Site Index	Average Age	Size/Acres
3.3	124	80	12	22.8

South of the large meadow (pictured below) is an unproductive stand 0251 (figure 11). Heavy, wet soils and riparian features on this stand present seasonable operability issues. Very low, if any timber production should be expected in this stand, and extra efforts to acquire profitable harvests are not likely to occur. Any additional efforts should be directed towards protecting the riparian areas, controlling excessive non- native grass and blackberry encroachment. Furthermore, snags and dead stems are mixed sporadically throughout. Many of these dead trees, in excess of needs for wildlife should be removed to promote health and abate fire. The recommended density of snags is about 2 to 5 dead stems per-acre. This stand also is in need of general fuel reduction maintenance.

Figure 11. Left, location of stand 0251-Right, timber, snags and grass typical of stand 0251

Table 10. Pole Timber Stands 0035, 0033, 1834, 1843 combined volume summary and attributes

Medium age, dense timber mixed conifer – Douglas-fir, ponderosa pine				
MBF/Acre	Basal Area	Site Index	Average Age	Size/Acres
3.5	100	78	55	57

These stands have dense overstocking and need improvement for forest health (figure 12). The stocking averages about 600 trees per acre, and they exceed desirable conditions. Current efforts should concentrate on non- commercial entries over the next five years. The site quality is good and future timber products are possible, especially after trees are released following thinning. There is a very small possibility to extract some merchantable volume during some initial treatment operations; however that may not be cost effective. The road access and the number of openings that can be used as landings are good for future work activities.

Figure 12. Left, location of stands 0035, 0033, 1834, 1843- Right, road access and openings typical of stands 0035, 0033, 1834, 1843

Table 11. Plantation stand 0137

Young plantation ponderosa pine seedlings and mixed conifer residuals				
Trees/Acre	Basal Area	Site Index	Average Age	Size, Acres
373	5	96	4	82

Stand 0137 east of Butte Falls, is the youngest stand on the community forest. The stand is mostly open with a mixed success plantation of ponderosa pine (figure 13). Significant residuals are present, but they are not the main contributing attribute.

Figure 13. Left, location of stand 0137-Right, example of timber plantation and residuals

Table 12. Neglected stands 0139 and 0142 combined volume summary and attributes

Varied species and ages mixed conifer Douglas-fir and ponderosa ping				
MBF/Acre	Basal Area	Site Index	Average Age	Size/Acres
5	61	100	51	14.5

Stands 0139 and 0142 have the most diverse mixture of tree species and varied ages (figure 14). Furthermore, the presence of open spots and brush competition suggests that future restoration efforts should be directed towards thinning and fuels control. The average trees per acre for these two stands are about 330. There is virtually no present timber value. Furthermore, brush and meadow grass competition will continue to impede growth. These two stands need immediate attention to correct brush competition and reduce fuels.

Figure 14. Left, location of neglected stands 0139 and 0142-Right, basic site condition of the stand

Table 13. Inventory and detailed stand data for all stands

StandID	Legal	CoverType	Age	SiteIndex	Productive AC	TotalTPA	TotalBA	Total MBF/AC	Doug Fir	White W	Cedar	HWD
31	sec 10	NP - Meadow		94.97	0							
33	sec 10	Douglas Fir	106	94.97	28.69	1055.39	74.77	2.5	1.2	0.7	0.4	0.1
35	sec 10	Ponderosa Pine	106	57	6.69	237.19	105.75	4	1.4	2.1	0.4	
129	sec 10	Douglas Fir	93	88	26.77	343.43	131.4	15.7	12.9	2.1	0.7	
129	sec 10	Douglas Fir	93	88	16.5	343.43	131.4	15.7	12.9	2.1	0.7	
130	sec 10	Douglas Fir	93	93	1.91	617.92	130.55	5.8	2.8	2.3	0.6	0.1
130	sec 10	Douglas Fir	93	93	3.16	617.92	130.55	5.8	2.8	2.3	0.6	0.1
136	sec 10	Douglas Fir	29	80	22.5	420.46	136.44	6.2	4.7	1.5	0.1	
137	sec 10	Mixed Conifer	1	102.71	3.39	373						
137	sec 10	Mixed Conifer	1	102.71	13.39	373						
137	sec 10	Mixed Conifer	1	102.71	64.9	373						
139	sec 10	Douglas Fir	15	102.71	11.95	371.28	25.1					
139	sec 10	Douglas Fir	15	102.71	0.25	371.28	25.1					
139	sec 10	Douglas Fir	15	102.71	0.31	371.28	25.1					
142	sec 10	Ponderosa Pine	106	94.97	0.97	298.51	114.36	5	2.1	2.7	0.2	
142	sec 10	Ponderosa Pine	106	94.97	0.99	298.51	114.36	5	2.1	2.7	0.2	
233	sec 10	Douglas Fir	106	94.97	1.25	1055.39	74.77	2.5	1.2	0.7	0.4	0.1
251	sec 10	Douglas Fir	12	80	22.78	413.16	124.14	3.3	1.8	1	0.2	0.4
356	sec 10	Doug Fir Plantation	7	98.9	4.04	861.1	20.15					
436	sec 05	Ponderosa Pine	51	85.71	0.42	336.44	108.8	3.5	0.7	2.6	0.2	
541	sec 10	NP - Utility ROWs		93	0							
541	sec 10	NP - Utility ROWs		93	0							
543	sec 10	Douglas Fir	93	75	2.41	2225.49	211.45	8.5	6.3	1.5	0.6	
544	sec 10	NP - General		None	0							
544	sec 10	NP - General		None	0							
789	sec 10	Douglas Fir	30	75	3.18	343.48	81.6	2.3	1.3	0.3	0.6	
792	sec 10	Douglas Fir	93	75	15.5	2225.49	211.45	8.5	6.3	1.5	0.6	
794	sec 10	Open Productive	2	102.71	2.26							
928	sec 05	Douglas Fir	40	77	5.71	498.65	158.66	5.6	3.2	1.8	0.6	0.1
933	sec 05	Douglas Fir	38	78.7	23.01	669.19	148.35	6.4	4.2	1.7	0.4	
1301	sec 05	Ponderosa Pine	29	76.07	10.67	254.01	74.2	2.1	0.3	1.5	0.3	
1303	sec 05	Mixed Hardwood	20	76.73	12.42	476.59	133.34	6	4.1			1.8
1834	sec 10	Douglas Fir	91	80	5	376.02	134.96	4.7	2.2	2.3	0.2	
1837	sec 10	Mixed Hardwood	34	72.56	3.18	738.33	169.39	4	1.9	2	0.2	
1840	sec 10	Douglas Fir	104	92.59	2.09	411.01	119.38	3.4	1.9	1	0.2	0.3
1841	sec 10	Doug Fir Plantation	12	102.71	20.45	425.46	1.53					
1841	sec 10	Doug Fir Plantation	12	102.71	0.87	425.46	1.53					
1843	sec 10	Douglas Fir	106	80	16.58	849.22	83.38	2.8	1.2	0.7	0.7	0.2
1844	sec 10	Douglas Fir	50	51	1.92	814.69	216.32	16	9.1	6.2	0.5	0.2
1846	sec 10	Douglas Fir	93	92.12	16.22	403.87	179.03	12.1	8.7	2.5	0.8	0.1
1847	sec 10	Douglas Fir	30	75	7.67	343.47	81.49	2.2	1.3	0.3	0.6	
1848	sec 10	Douglas Fir	93	75	20.73	214.63	147.37	8.4	6.7	1.6		0.1
2152	sec 10	Douglas Fir	106	80	13.85	411.21	117.14	3.2	1.8	0.9	0.2	0.3

Forest Management Recommendations

General Prescription All Stands.

The general prescription for the Butte Falls Community Forest focuses on fire hazard reduction and wildfire resiliency, as well as overall stand health and the promotion of a diverse forest structure and understory. To achieve this condition, overstocked forests require the removal of ladder fuels, generally smaller suppressed trees under 8 inches diameter and intermediate trees in older overstocked stands that can carry ground fires into tree canopies. At the same time, smaller vigorous/healthy individual and grouped seedlings and saplings would be retained to create future older trees and start to build the complex groupings seen in older-successional forests. A large amount of the Community Forest acreage was actively managed for timber in the past, and lacks species diversity and overall structural diversity. Species diversity will be promoted by retaining healthy minor species, including hardwoods, as well as thinning treatments that aim to reduce densities and break up fuels connectivity while leaving healthy trees in "groupings" to promote future old-growth characteristics. These treatments will be extremely important in the Community Forest older stands. These stands (primarily in priority 2) should be designated or marked to ensure the prescription goals are met. The remaining fuels stands can be implemented by a general fuels prescription: reducing trees to a desired trees-per-acre (tpa) target while leaving vigorous trees in logical clumps where applicable. The main goal of the fuels treatments will be to break up fuels connectivity. All stands in the Community Forest are shown in the following tables as "current condition" and followed by "desired condition," which lists the desired tpa in that stand, while following the general prescription guidelines and leaving all healthy minor species. All other management recommendations or objectives will be outlined in each unit's "desired condition" table or associated text. All treatment units strive to create a "varied" structure outlined below as "variable density thinning"

Variable Density Treatments to Achieve Structural Diversity

The western United States forests were developed over time by fire. Southern Oregon and northern California, specifically, had frequent fire that burned with mixed severity across the landscape, creating a mosaic of spatial patterning. This mosaic created a mixed species/mixed age composition with a variety of fire intensities, leaving some areas and trees unburned while burning other patches entirely.

Variable density thinning as a forestry concept varies in applied practice, but generally the concept mimics fire's mosaic patterning with a manual approach. The goal is to produce a highly diverse and rich forest. Although the majority of the Butte Falls Community Forest is relatively young, we can begin to replicate this patterning through creative thinning. Prescriptions focusing on variable density thinning promote quality and vigor versus spacing-based targets, encouraging a basic trees-per-acre target or end-result basal area. Thinning crews would focus on retention of healthy, vigorous trees of all desired species regardless of overall tree spacing. The prescription would keep the best trees, regardless of how close together they were or what spacing there was. The end result would be clumps of vigorous and healthy trees with intermediate singular spaced healthy trees, and naturally created openings where disease, insects, soils or other factors were affecting the stand. This must be done while meeting fuel reduction objectives, such as breaking up fuels and reducing overall tress per acre, so sample marking or full marking of the stands is recommended prior to cutting of fuels by a contractor, until the prescription goals are understood.

Commercial Treatments

A combination of thinning-from-below, radial thinning, and variable density thinning will be implemented to reduce stand densities. Desired retained basal area averaging 70-100 ft^2/acre. Actual tree density targets will be listed in the table for each priority's unit treatment target. Healthy, vigorous, dominant and co-dominant Douglas-fir, ponderosa pine and hardwoods are the desired leave trees in most of the units.

Removal will focus on intermediate and suppressed Douglas-fir and pine primarily up to 12 inches dbh (diameter breast height). Retain all pines if they are vigorous, at least 30 percent crown ratios, especially in more open stand conditions. Trees over a larger diameter, generally 14-16 inches dbh can be cut in older stands. Again, retain all hardwoods and minor species throughout the stand. Thin aggressively in older stands around the drip line of minor species when applicable to promote species diversity.

Logging Methods for Commercial Treatments

Logging equipment to be used on any commercial treatment implemented on the forest should at minimum follow best practices of the local land management agencies (USFS, BLM, ODF). Due to the restoration goals of the Community Forest, light touch or strategically developed logging operations should be developed to minimize soil and resource impacts. If yarding or skidding is necessary, skid roads or yarder corridors should be as small and infrequent as possible to protect soils and leave-trees as well as protect the community view shed. Logging machinery (such as tracked and rubber-tired equipment) should be used on existing roadways or designated skid trails where possible and operate generally on slopes less than or equal to 20 percent. Due to the limited amount of commercial material on the property logging impacts should be small with proper layout and design. Commercial harvest should contain detailed contract terms and conditions and specifications for allowable activities, and require a logging contractor submit a harvest plan and map or layout all infrastructure for approval as part of the contract. All operations including fire reduction and logging must be in line with Oregon Department of Forestry's Forest Practices Act and have an approved "notice of operations" on file with the State.

Slash Cleanup Following Thinning

Following any operation with significant tree thinning, hand or machine piling of generated slash material (trees and brush up to 8") should be considered. Lop and scatter treatments may be an option in light fuel reduction units where thinned slash can be sufficiently cut and left on the ground or disbursed to not increase the fuel loading. Light fuel loadings, generally would consist of less than 20 hand piles per acre if piled, with 10 or less being ideal. Generally, slash is defined as all cut brush, and tree limbs and tree boles that have been produced from mechanical or non- mechanical thinning activities. Hand pile placement and creation should generally follow federal agency specifications.

Generally, piles should consist of "cut material and brush, free of dirt and shall be created to be as compact as possible. Pile height shall be no less than 4 feet and no greater than 6 feet. Width shall not exceed 7 feet with piles being conical in shape with some sort of approved cover (generally polyethylene plastic or slash paper) to keep the pile dry until burning. Material sticking out over 1 foot beyond the pile shall be cut off and placed on top of the pile to hold down the cover. All piles should be placed an adequate distance away from the crown and boles of trees so that burning operations do not affect the trees. Generally, piles should range from 10-100 piles an acre depending on fuels density. Treatment units with less than 10 piles an acre could be candidates for lop and scatter treatments to reduce treatment costs. Generally, the amount of hand piles created is a good metric for fuels density and costing. With 0-20 normally no need to pile, 20-40 piles per acre being

light density, 40-60 piles an acre being moderate, 60-80 being heavy and 80-100 piles being extreme. The piles per acre also align with acreage treatment costs with lighter treatments being around $500 per acre, and heavier treatments being $800-$1000 per acre and extreme can be upwards of $1,200 per acre. The majority of the Community Forest treatment units are in the moderate type with some heavy fuel types.

Hand Pile Burning Season

Prime burn season for southwest Oregon is during November and December, with January through March providing difficult windows for smoke clearance within the Air Quality Maintenance area (AQMA). Outside of this area conditions permitting burning may occur at any time from late October through late May depending on Oregon Department of Forestry fire season rules. Hand pile burning is the primary method for treating generated slash on fuel reduction projects. Hand piles are ignited by a crew sufficiently trained to monitor safe conditions. This is a safe and efficient way to treat generated fuels.

Chipping of generated treatment slash is also a viable option in areas that have road access, existing skid road infrastructure and or gentle slopes to allow for chipper access.

Prescribed Burning

The Butte Falls Community Forest's use of prescribed fire will offer countless ecological benefits if properly implemented. Where applicable, in treated stands there should be a follow up maintenance underburn within 5-7 years after the initial treatments are completed. Following initial treatments, it is recommended to implement underburning rotations on a 10-15- year interval to build stand diversity and resilience. Units in close proximity to the town or other infrastructure may need to be excluded; however with a proper burn plan developed by a fire specialist burn treatments could be highly effective to achieve the desired goals.

Any burn activities considered, should utilize practices to insure low fire intensity. This is generally achieved with careful planning and watching of weather conditions and the practice of slow and careful ignition patterns.

Community Forest Stand Prioritization and Prescription Units

The goal of the prioritization of the stands (figure 15 that follows) in the Butte Falls Community Forest is to match up community objectives with the restoration needs of the incorporated stands over a defined period of time. The overall objective would be to treat the entirety of the delineated stands over a 5-year timeframe, beginning with the highest priority stands first. The prioritization also allows the town to budget on an annual basis to cover treatment costs based on the ranking of the priority.

Priority #1:

Priority # 1 focuses on community wildfire protection and resiliency. The stands adjacent to homes and community infrastructure would be treated first with prescriptions of these stands focusing on the treatment of "primarily" understory vegetation and fuels. The priority #1 zone generally consists of older timber stands and has little or no timber removal needed at this time to achieve the desired results. All roads and otherwise identified critical infrastructure not residing in the priority #1 zones, will be treated alongside the other Priority #1 zones, to insure proper "defensible space" and fire

safety across the Forest. Although priority #1 is a high priority from an overall proximity perspective, well over half the acreage is not in need of immediate fuels reduction.

Treatments will be sporadic in these zones, targeting subunits with high densities and riparian areas where there is potential in allowance with State regulations. Roadside defensible space treatments will be prioritized regardless of what priority they are mapped.

- Total acres: 104 acres (plus roadside defensible space)
- Timeline: Priority #1 would be ideally carried out over the course of the first year following acquisition
- Estimated cost: treatments costs are estimated to range between $500-800 per acre for manual thinning

Priority #2:

Priority #2 treatments will focus also on fuels reduction, with stands less prone to "defensible space" needs of the town's infrastructure. Stands generally are still very susceptible to wildfire and are thick with understory and vegetation and high tree densities. The Priority #2 stands are also in need of some level of stocking control of mid-diameter trees, which could provide some commercial timber. Restoration goals for these stands will focus on stand health and vigor as well as species composition to achieve goals, coupled with general wildfire safety treatments. Although the stands have some commercial timber removal, due to the smaller diameter of the trees to be removed it is not expected for these stands to be profitable overall, barring a few profitable stands.

Additional goals:

During the priority #2 phase, coordination would begin on the recreation plan, including a conceptual plan and design for a trail system, as well as the development of the educational component and other project priorities. Additional coordination of working with Federal and State/local parties on an all lands restoration approach will begin as well. Ideally, planning would be done during year one of this phase (primarily for the park and recreation aspects) and some implementation of trail infrastructure would be completed during year two of this phase. An assessment of noxious weed issues on the forest as well as a management plan will also be developed during this phase.

- Total acres: 193.8
- Timeline: Priority #2 would be ideally carried out over the course of years 2-3 following acquisition to allow for any commercial treatments and to secure adequate funding. For the non-forestry components, planning, assessments, and design would be year 1 with implementation year 2 of the phase.
- Estimated cost: (costs estimates are pending)

Priority #3:

Priority #3 treatments are the lowest priority on the Community Forest as the stands consist of very young plantation stands, and lack an immediate need from a fuels or stand health treatment requirement, or are so far removed from the town they are labeled as a lower priority. There are a few distinct stands that would be bumped to priority 2, if funding resources were adequate, due to heavy fuel loads and trees per acre. Treatments would focus on species composition primarily, with the reintroduction of desired species such as pine and oak to promote a healthy and diverse forest. Some understory thinning and forest health treatments will be recommended especially on the stands comprising the boomerang shaped parcels surrounding the cemetery. The auxiliary stands

around the cemetery may eventually be included in earlier phases to conduct thinning of rare hardwoods in certain portions of the parcel. All priority #3 stands will need some noxious weed management as well.

Additional Goals:

In addition to the forestry goals outlined above, during this phase it is anticipated that a recreation and trails plan would be completed, and all initial forestry work would be active and completed. Ideally some level of a recreational trail system, and a park plan for the falls area would be would be in place. Additionally, all strategies for educational components, "All lands" restoration priorities would be in swing and a robust monitoring of work done in previous phases would be included.

- Total acres: 148.72
- Timeline: Priority #3 treatments would take place over years 4-5 following acquisition
- Estimated cost: (cost estimate pending)

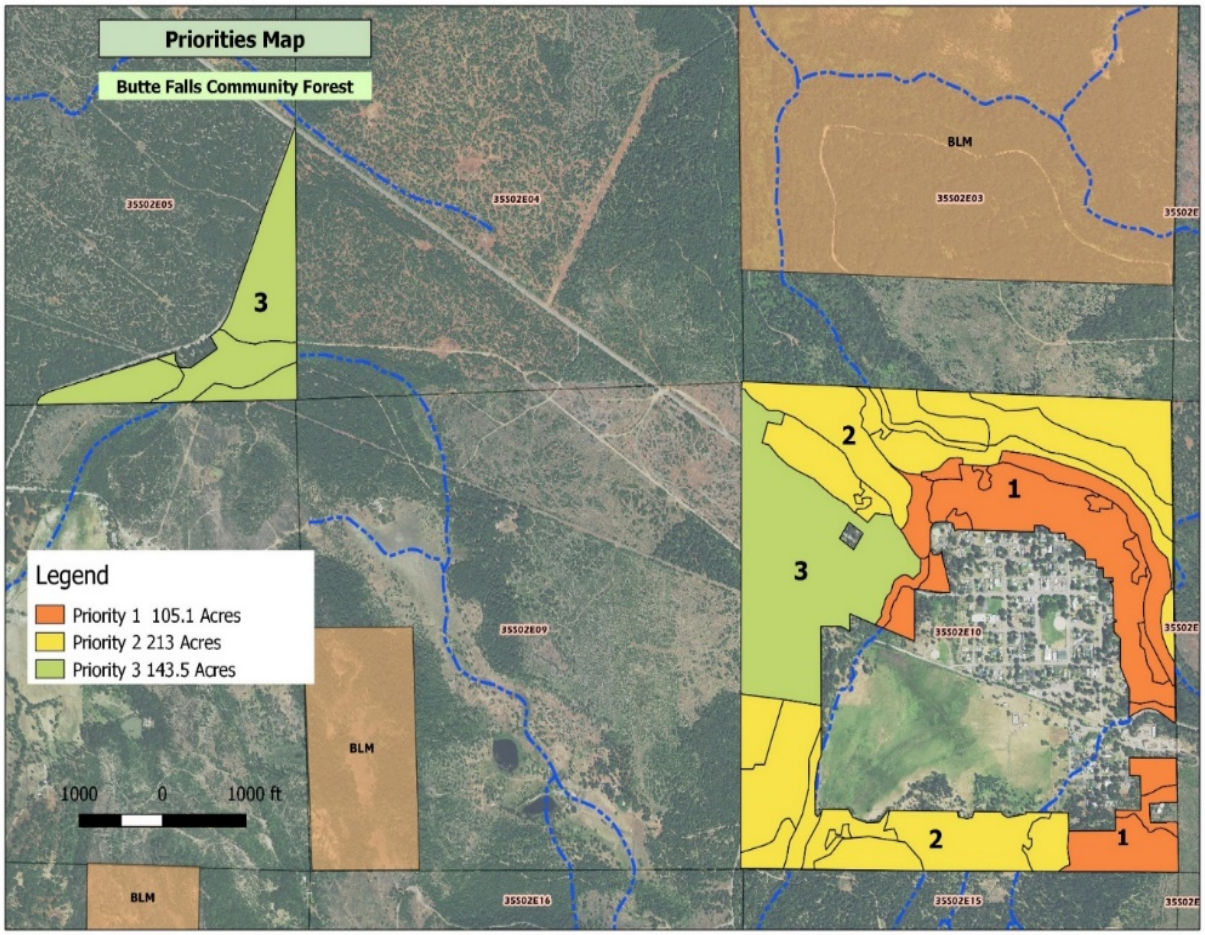


Figure 15. Butte Falls Community Forest Priorities Map

Current Stand Conditions and Treatment Recommendations

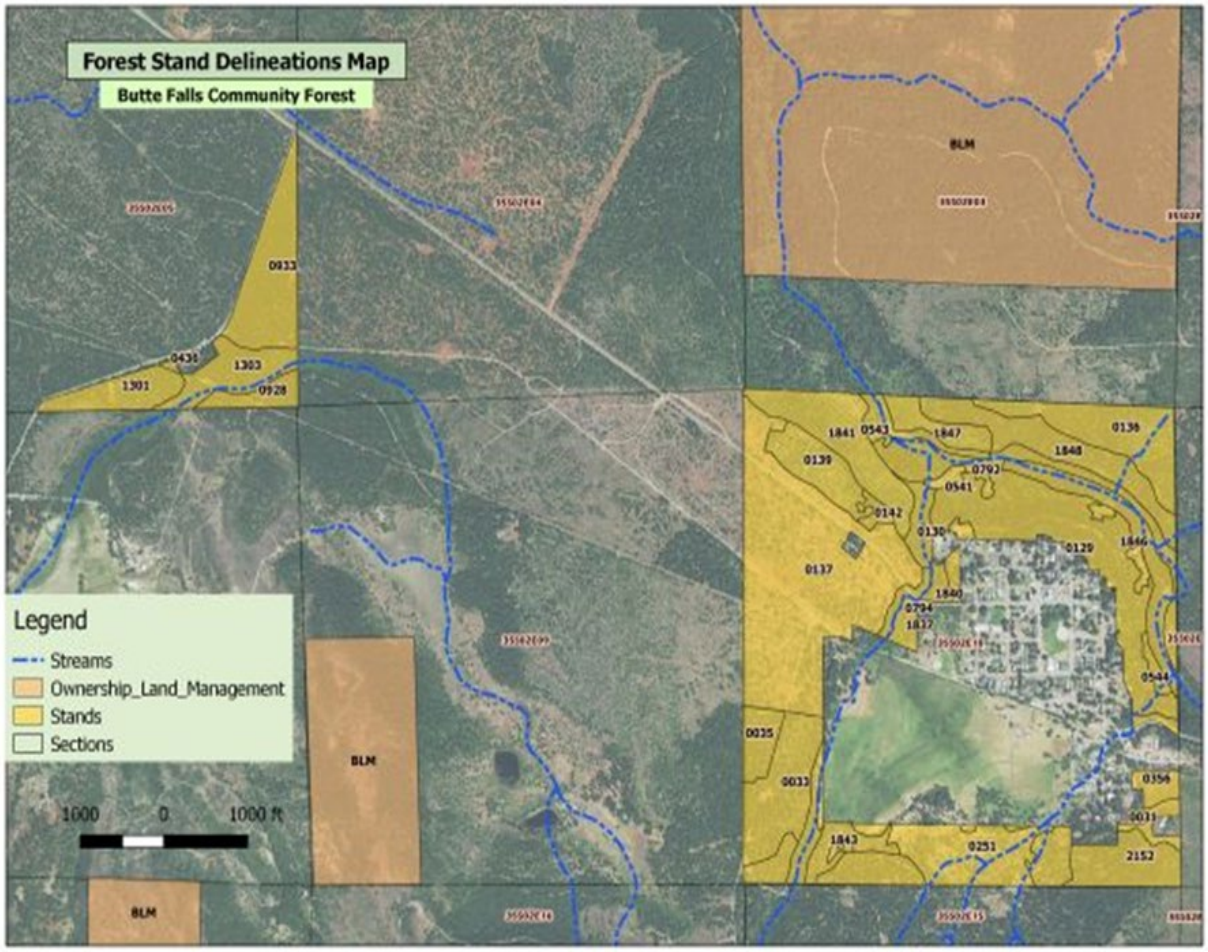


Figure 16. Forest Stand Delineations Map

Property Description Details

Figure 16 shows the largest and most encompassing parcels are surrounding the city of Butte Falls and are in Section 10, of Township 35 South, Range 2 East. They total approximately 391 acres. A separate parcel is about 1 mile west, and is irregularly triangular in shape, and is approximately 55acres, and is in Section 5, of Township 35 South, Range 2 East. Total acreage of all properties is approximately 446.5.

Priority #1 Stands

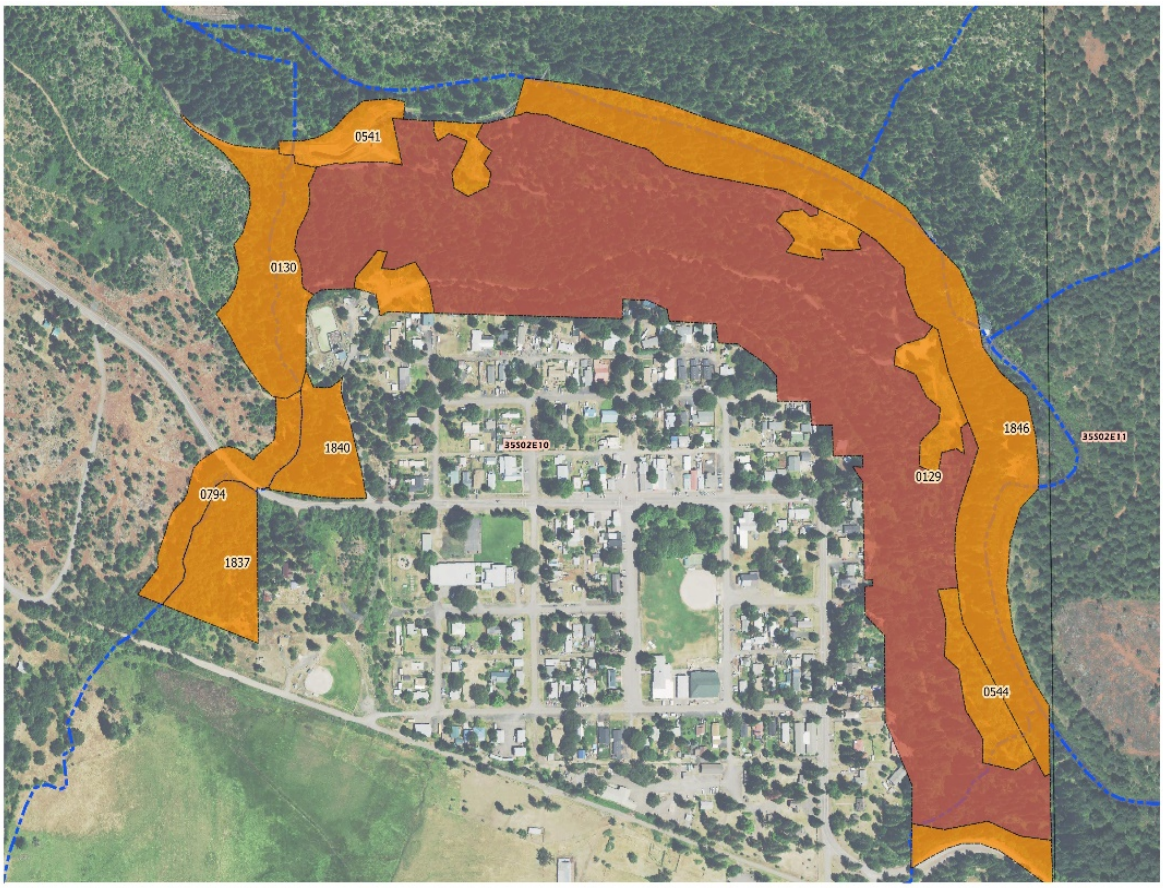


Figure 17. Priority 1 Stand #0129 highlighted in dark orange is 45.2 acres. The cumulative stands shown in regular orange are mostly riparian stands and total 29.5 acres.

The tables that follow summarize the current conditions.

Table 13. Current Condition: Priority 1, Stand #0129, 45.2 Acres, 95 years total age

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen Trees/Ac
Douglas-Fir	86	74	11200	78	22
Pine	25		3717	23	5
Sugar Pine	3		668	2	
White Fir					15
	114	**74**	**15585**	**101**	**42**

Treatment Recommendations

As mentioned previously, the main objectives for setting the Community Forest priorities are to control fuel loads and promote fire resiliency across the ownership with the object of these treatments to abate the potential for catastrophic wildfires and to maintain forest health by implementing forest restoration measures. The data shown above reflects the parameters for a normal stand, and the status of stand #0129 looks very acceptable in its current state. Field

observations, not picked up in typical cruise protocol, reveal minor weed (blackberries) problems in the understory. The prescription for stand #0129 is to control the weeds, and to monitor additional weed growth. While initiating the weed control, small amounts of tree thinning could also be performed. The overall tpa value is very acceptable, but if patches of small regeneration trees are continuingly being discovered, they should be thinned down to levels below 100 tpa. The large volume mature trees were logged about 5 years ago. No further extraction is recommended now. This particular stand has the most volume and quality of all stands in the Community Forest.

Table 14. Current Condition: Priority 1, Central Riparian Stands, 29.5 Cumulative Acres, 55 years total average age

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen tpa
Douglas-Fir	64	589	2576	47	92
Pine	72	627	2875	59	102
White Fir	56	410	2634	50	74
Hardwoods	26	238	328	22	15
	218	**1864**	**8413**	**178**	**283**

Treatment Recommendations

The riparian areas in priority 1 are of mixed age, but demonstrate similar characteristics in stocking. All the cumulative stands need some entry and control measures to maintain the basal area (ba) and tpa to more desirable levels. Aggressive practices could be used to control the ba and tpa down to half of the values shown in the table. However, most of these areas have restrictions due to being part of riparian setbacks. The suggested prescription is to reduce both the ba and tpa down to values of 150. Additionally, dimensional, and valuable logs exist here. There is potential to extract about 1000 BF/AC in correlation with the thinning efforts. Oregon Department of Forestry forest practices must be met because of the proximity of creeks. No cutting within 20 feet of a stream, and very limited cutting in buffers from 50 to 100 feet, depending on stream size. Additional planning and mapping will be needed in these riparian units.

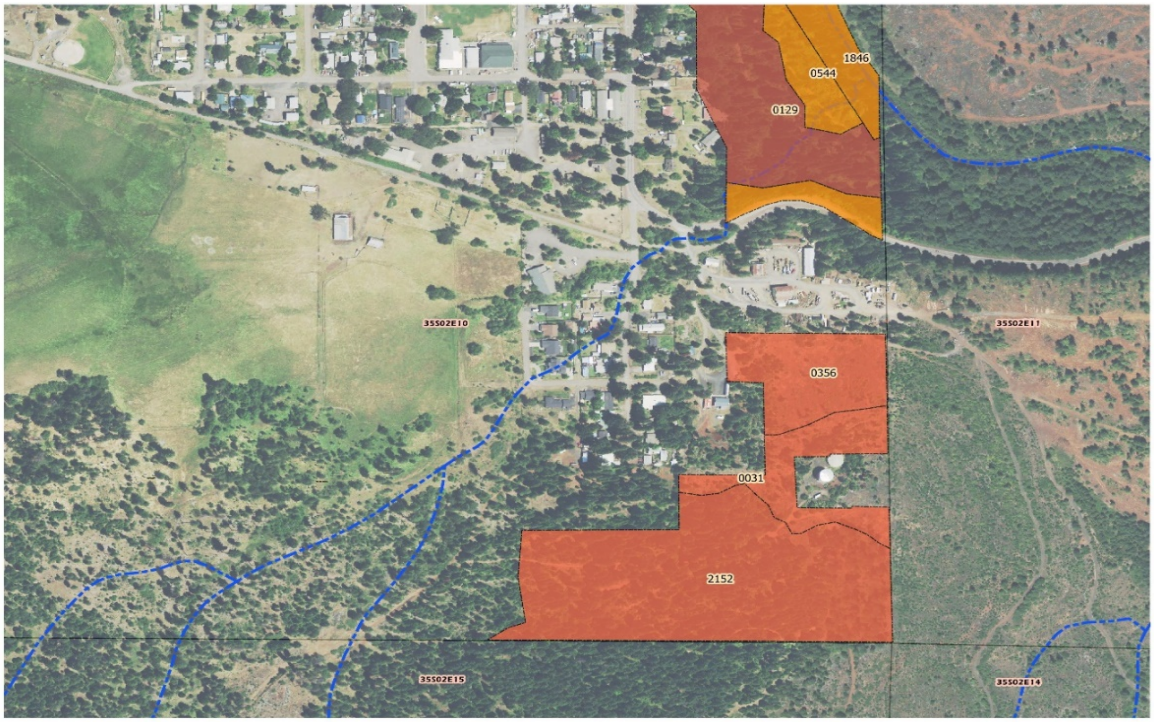


Figure 18. Priority 1 stand #2152 and additional neighboring SE stands of 0356 and 0031 are shown above in the salmon-orange color.

Table 15. Current Condition: Priority 1, SE stands #2152, 14.7 Acres, 72 years total age

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen Trees/Ac
D Fir	56	90	4315	63	34
Pine	22		2139	24	29
W Fir	8		1145	4	48
	86	**90**	**7599**	**91**	**111**

Treatment Recommendations:

Stand #2152 is a mature conifer stand, and demonstrates that it has a fair amount of volume. Target ba and tpa are already met, and the stand was recently maintained for timber production. The only prescription needed now is to control any encroachment of small understory trees. Once again, the target for small trees is currently at a very acceptable level. However, possible thick patches of encroaching regeneration have been observed on the very southernmost boundary. The specific prescription for stand #2152 is to thin dense young trees on the south property line to maintain proper stocking levels and also create a buffer from public lands to the south.

Stands 0031 and 0356 also shown in the salmon-orange color on the SE portion of the map comprise an area of 7.3 acres. Both these lessor stands are similar in that they are struggling young areas with much competing grass and brush. Treatments for these stands are to control brush and competing grass. Low-level fuels will then be controlled, and the stage can be set to perhaps re-plant desirable conifer species at proper stocking for future stocking, or continue to manage as a more open patch.

Priority #2 Stands

The 2nd priority, shown by the yellow shaded stands, has similar concerns that need to be addressed such as forest fire fuels control and restoration of forest health. One of the only differences is that it is somewhat not as much of an impact due to the proximity to the town limits.

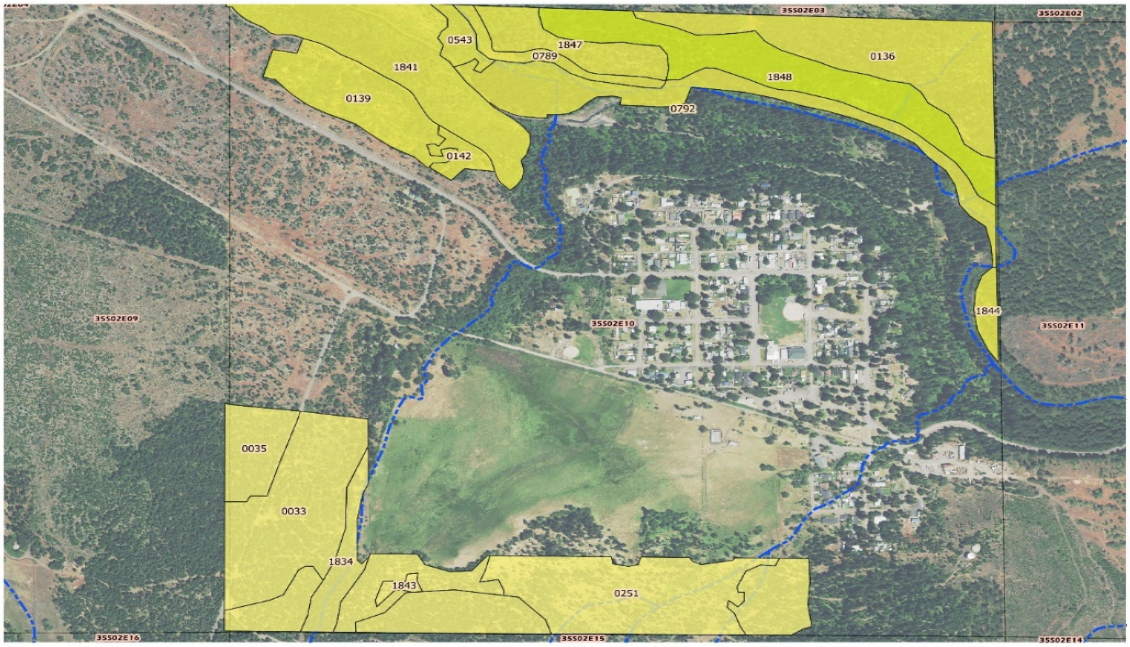


Figure 19. Priority 2 stands, shown by the yellow shaded areas

Table 16. Current Condition: Priority 2, Stand 1848, 21 Acres, 62 years total age

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen Trees/Ac
Douglas-Fir	**134**	**634**	**8956**	**210**	**32**
Pine					
White Fir					

Treatment Recommendations

The most mature, and fully stocked, and merchantable stand of priority 2 is #1848, shown in the lime-yellow color and the above map. No overstocking or fuels issues are occurring at this point in time. However, all the surrounding stands due have overstocking and excessive tpa counts. Since stand #1848 has merchantable volume that can be extracted, it would be advantageous to take advantage of this revenue generating opportunity, and treat stand #1848, plus any other surrounding stand that directly influences it. The recommendation is to remove as much as 2000 BF/AC using traditional selection techniques. Details of this prescription are to eventually have a target ba of 90 sq. feet, and thin from below to maintain and promote the larger healthier trees. The treatments of these units would follow the general prescription selection guidelines outlined previously.

Table 17. Current Condition: Priority 2, NW Pre-Merch Stands, 66 Cumulative Acres, 30 years total age

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen Trees/Ac
D Fir	46	768	761	19	140
Pine	37	531	794	23	94
W Fir	29	297	670	20	68
	112	**1596**	**2225**	**62**	**302**

Treatment Recommendations:

All the remaining NE stands can be categorized into one 66 acre portion of priority 2. These stands are relatively young and are shown in the NE or the map in standard yellow color. All these stands have the characteristics of approaching overstocked limits. Many were initially planted at proper parameters of about 400 tpa, but are in need of scheduled thinning. Furthermore, these stands have clumps of brush, and residual larger trees that were not harvested during the original entries over 30 years ago and are generally in poor condition. The suggested action to be taken is to thin undesirable/ unhealthy young stems down to levels of about 130 tpa. Old residuals that are damaged beyond the potential for release should be eliminated. The recent cruise shows there is some volume, plus biomass material available for chipping, however it may not be enough to warrant the cost for harvest.

The lower SW portions of priority 2 are also classified altogether, and have a cumulative area of 60.5 Acres.

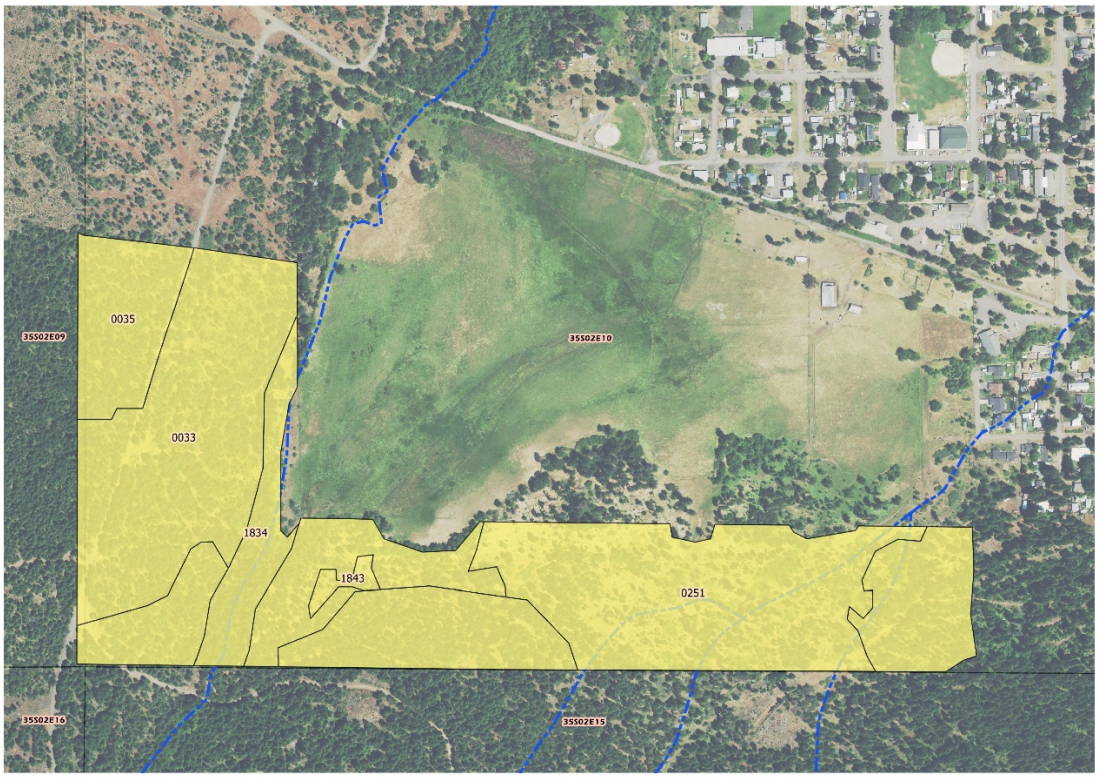


Figure 20. Priority 2 stands, shown by the yellow shaded areas

Table 18. Current Condition: Priority 2, SW Corner Stands, 60.5 Cumulative Acres, 39 years total age

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen Trees/Ac
D Fir	32	421	790	86	22
Pine	34	330	1183	92	18
W Fir	19	128	767	43	87
	85	**879**	**2740**	**221**	**127**

Treatment Recommendations:

The SW corner stands of priority 2 have some of the most heavily stocked conditions that exist on the community forest and are in immediate need of thinning, Stands near the lower pasture have clumpy stocking of neglected residuals and hardwoods, and have uncontrolled brushy patches. Shown in the flat-yellow color in the map (above), these stands do not have the direct impact and close proximity to the city however still require a high degree of attention, and may need the most amounts of physical hand-crew effort and mechanized work to achieve proper forest restoration to acceptable levels. If adequate funding is available these units should be considered to be treated along with priority 1.

Overall, the tpa value is very high, and thinning from below should be incorporated to target of level of 130 tpa. Large and small trees will be taken out, therefore, both the products of biomass from chips and small dimensional merchantable logs can be harvested. About 750 BF/ AC can be cut, sorted and hauled away as all part of the restoration effort, and perhaps contribute financially to the restoration in these particular stands.

Priority #3 Stands

Similar to the other prioritized areas, these priority 3 stands need attention as well. However, the proximity to the city limits is much more distant.

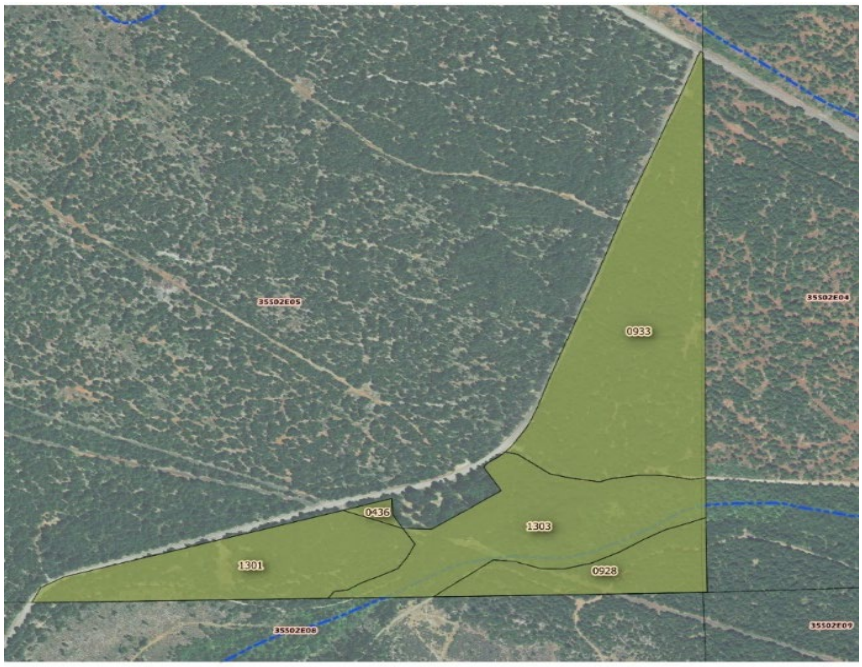


Figure 21. Priority 3 stand, shown by green shading

Table 19. Current Condition: Priority 3, NW Triangle Cemetery Stands, 56.7 Cumulative Acres, 44 years total age

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen Trees/Ac
D Fir	29	350	733	76	35
Pine	34	341	1056	92	35
W Fir	21	128	848	45	90
Hardwoods	3	62		4	2
	87	**881**	**2637**	**217**	**162**

Treatment Recommendations:

The five stands that compile the triangle piece of ownership that resides about 1 mile west of the city all have similar characteristics. The data is summarized in table 19. Pole sized timber is currently overstocked with young regeneration tree encroachment. Close to half of the tpa number can be eliminated and thinned out to obtain a desired target of about 150 tpa. Unique to these parcels is that they contain considerable amounts of hardwood. Efforts should be made to identify these bands of hardwoods and specifically thin the competing young fir and brush species to restore and promote this type of mixed diversity. Lastly, small dimensional saw timber products exist here, and about 1000 bf/ac can be extracted during routine thinning operations. The remaining potential products can be chipped or placed in burn piles.

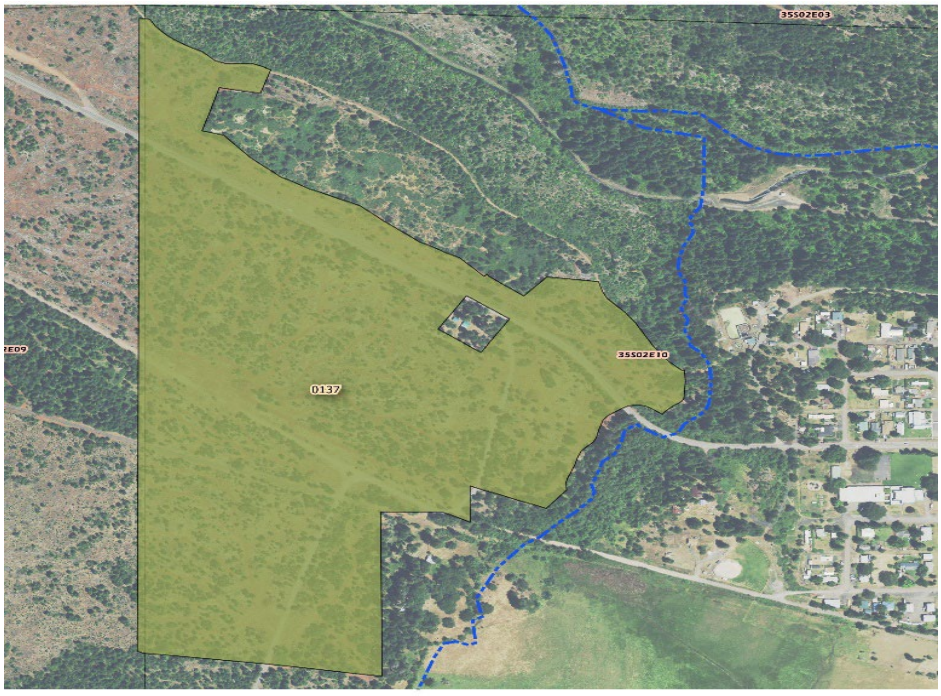


Figure 22. Priority 3 stand, shown by green shading

Table 20. Current Condition: Priority 3, Western young stand, #0137, 86.8 Acres

	BA	Bio Cubic Ft/AC	Volume BF/AC	Trees/AC	Small Regen Trees/Ac
Mixed Conifer	**0**	**0**	**0**	**0**	**373**

Treatment Recommendations

Stand 0137 is a struggling ponderosa pine plantation that is about 5 years old. Competing grassy patches and brush could be a problem if they eventually outgrow the young trees. Furthermore, widely scattered residual stems of pine and fir exist. They currently have no volume, and are mostly poor quality, and were not harvested during the operation over 5 years ago. Fuels control is not a large issue because of the openness of this stand. The recommendation is to monitor the encroaching grass and brush, and soon develop a strategy to eradicate competition if they impede on the stocked regeneration trees. The remaining residual trees can be thinned out in the future as needed. As mentioned, they are not a contribution to the stand, and are a catalyst for future disease and failure.

Treatment Conclusions

In conclusion, the 3 priorities have much of the same prescription based on proximity to city limits and the nature of having young overstocked stands. With the exception of a few mature stands, most stands should be thinned from below eliminating densely growing and less desirable species such as white fir and incense cedar. Not too many merchantable products such as chips and saw logs are plentiful, but they do exist, and can be a possible revenue venture if thinning and restoration is actively pursued. The modest stocked stands, or stands that are struggling because of brush and grass competition, can also be treated to be productive in the future.

Treatment Schedule and Objectives

Table 21. Initial Treatments (years 1-5)

Year of treatment	Stand #	Acres	Type Of treatment	Treatment objective
Priority 1 stands				
2021	129	45.2	Brush Control	Concentrate on brush only for fire resiliency and defensible space close to residential areas
2021	Cumulative 8 Central Stands in Priority 1	29.5	Mixed Age PCT	Target 120 to 150 ba, or about 120 TPA for fire resiliency and stand health
2021	2152	14.7	Brush Control, PCT on South Boundary	Concentrate on brush only for fire resiliency. PCT on south property line to create defensible buffer from public lands
2021	Remaining priority 1 stands	15.7	PCT	General brush treatment and noxious weed control
Priority 2 Treatments				
2022	North Cumulative Stands of Priority 2	66	PCT	Target 130 TPA of small diameter conifers, eliminate diseased/damaged residuals from past logging -consider design where applicable for commercial removal potential
2022-2023	South West corner stands of priority 2	60.5	PCT/limited commercial	Target 130 TPA of small diameter conifers, consider design where applicable for commercial removal potential

Year of treatment	Stand #	Acres	Type Of treatment	Treatment objective
2021	1848	21	Commercial Thin	Target 90 ba stocking, maintain stand for general health, generate revenue for future projects
2023	0136 – plus remaining stands	65.5	PCT-brush control	General young plantation and PCT-general target 100-130 trees per acre-leave hardwoods
Priority 3 Treatments				
2024	Northwest Triangle-Cemetery stands	56.7	PCT/limited commercial	Target 150 TPA of small diameter conifers, consider design where applicable for commercial removal potential – up to 1000BF per acre potential of small logs
2025	0137	86.8	PCT-brush control	Very limited PCT if needed.

Recreation

In 1999 an assessment was completed for the Town of Butte Falls by Robert Winthrop, Ph.D, that identified the purchase of the area around the falls and the adjacent timber stand to protect the view from the town, as well as the intact habitat and historical values. The assessment proposed the creation of a park, called "Falls Park," and highlighted both the historical as well as natural significance of the falls. The proposal suggested a campground, added parking, bathrooms, interpretive signage and trails. With the acquisition of the Community Forest, this park concept is still very relevant today and would provide meaningful recreation opportunities for the town and general population.

Additional opportunities also exist on and off the subject parcel for numerous recreation activities such as hiking and mountain biking. There is also an existing plan to develop the previous rail grade into a public attraction, taking people from Butte Falls out along the railway grade to Obenchain Road and back. The grade could also serve as a bike path and or walking trail as well.

The following recreation opportunities are potential options for the community.

- Loop trails for mountain bikes, running and walking access across the Community Forest
- Connector trails for multi- use activities, connecting the Community Forest to adjacent BLM, private and USFS lands. The South Butte general watershed has numerous options for recreation that could bring an immense amount of value to the region due to its mid-elevation
- Location and wealth of adjacent land features and topography.

Parks

As mentioned in recreation, the discussion of a park in the Town of Butte Falls, sometimes called "Falls Park" is a highly desirable concept. With the creation of the Butte Falls Community Forest and that the Falls on Big Butte Creek are in the center of the Forest make this a reasonable opportunity following the acquisition. The park would tie well to both the recreation and economic goals of the town. It is anticipated that sometime during the initial 5-year restoration work that a strategy and business plan would be developed.

Economic Opportunities

Butte Falls has an existing water bottling operation that comes out of Ginger Springs, a productive clear and clean spring that produces some of Oregon's best spring water. This is an existing operation that could be expanded. The community forest brings ample opportunity to springboard the community and economy forward with new approaches and ideas. The community has been developing a cohesive strategy to connect the community forest by a tourism feature using the past railroad spurs. This new railway would take sightseers from town approximately 1.5 miles to the taxlot #800 and back and would bring tourist and history buffs to the town. The town also is looking at successful towns in Oregon, such as Oakridge that improved their economy and brought new business via the recreation economy with world class mountain bike trails. Once acquired the hope would be to work with adjacent federal land managers on BLM land and National Forest Service land to create trail connection opportunities.

Another main goal of the Community Forest is to create new jobs in forest and watershed restoration. The hope is to create a model that provides living-wage jobs to members of the community and region. With the new community forest, amazing history, and proximity to BLM and National Forest land, Butte Falls is well positioned to thrive.

Community Benefit

A community forest has two co-equal parts: It seeks to benefit the forest through management practices, and it seeks to benefit the community through its shared vision and the actual process of working together toward a goal. The forest aspects are easy to see on the ground; however the community benefits are less tangible. Bringing together the community to come to consensus around setting goals; sharing a vision for the future; doing the hard work together of writing grants or cutting brush; all this builds community as nothing else can. As we work together, we gain respect of each other's talents. As we build vision for the future together, we grow together in that vision. The careful stewardship of the woodlands around us protects us from devastation of wildfire; reaps economic benefit in the sale of timber, firewood and forest products; improves our physical and mental health through recreation and just spending time in nature; attracts others to our area and increases the business within the town, which in turn increases jobs and the need for housing in the area. The educational component grows our natural resources charter school and our town. The community forest is a dynamic entity that will improve forest health and recreational opportunities while stimulating community economic growth and well-being.

Project Funding

The Butte Falls community land management goals (Priorities1-3, years1-5), recreation trails and infrastructure, a potential park, ongoing maintenance and other work needs to have a focused funding strategy to be successful.

This document is meant to be dynamic, with expected additions to the cohesive plan as opportunities present themselves. The following specific work items and infrastructure items will have budgets attached to them (see appendix E for funding resources).

1. Community Forest Initial Restoration Treatments in years 1-5 addressing priorities 1-3

   Estimated work activities on 460 acres of primarily manual Fuel reduction treatments – average costs should range from $500-700 per acre for lighter to moderate densities to $1000 per acre for heavier fuel densities.

The estimated average cost per acre is $800 per acre with approximately 100 acres of the community Forest needing little to no treatment due to the recent harvest and age of the stand. The Majority of this is in priority 3 stand #0137. The remaining acreage of 357 acres X $800 per acre would require a budget of approximately $ 285,600 or $300,000/ $350,000 with built in contingency. To ensure the entire Community Forest has prioritized treatments completed in 5 years, that would require and annual budget of around $70,000 for annual work not including city or consultant work to oversee the project.

2. Recreation Trails and Infrastructure:

   The goals and objective of the Community Forest outline the need for a multi -use trail system connecting the town, with the community Forest and eventually connecting to adjacent federal or other lands to provide active recreation opportunities to the community and eventually to the region. The goal would be to secure funding for a recreation plan addressing these opportunities, costs and barriers to implementation as well as work with connecting land ownership both industrial and Public lands to develop a cohesive phased approach trail plan. This iteration of the plan is not intended to address these opportunities and associated costs but is meant to highlight the community's intent with moving this forward. It estimated that funding would be secured to complete a trails and recreation plan with initial work (on the Community Forest only) to install trails and infrastructure taking place in years 3-5 following the acquisition.

3. Community Forest Park (Falls Park)

   The Butte Falls Mill Site Development Feasibility Study prepared by Robert Winthrop, PhD in May of 1999 contains a table of the costs per each option detailed in the study. It also contains a list of funding resources. As the options are refined and the creation of the park at the falls becomes viable these tables need to be updated and the funding sources explored. (A copy of this study is available from the Town of Butte Falls upon request).

4. Ongoing Maintenance and Work on the Community Forest

   Following initial treatments completed during years 1-5, subsequent maintenance and restoration will be needed to address forest health and other needs. Follow up treatments would consistent of primarily noxious weed management, thinning of the younger plantation stands not treated or had limited treatments in years 1-5 to achieve structural diversity, prescribed fire where applicable to control brush and promote understory health as well as some small tree removal in productive stands to achieve final Late successional characteristics or species diversity. In addition to the Forestry side, subsequent plans addressing the Recreation trails, infrastructure and parks would address any funding needs for those items.

5. General Community Forest Support Capacity and Project Management

   A budget will need to be developed to add capacity in some way to have a person in charge of overseeing the Community Forest restoration work, acting as liaison between the Town of Butte Falls, project partners and agencies, and any contractors implementing the scheduled work. This individual could be a Town of Butte Falls employee/staff, an independent contractor or any other arrangement that meets the cities need. The individual or individuals would insure work is completed as prescribed and on time,

provide reporting to the Town and any relevant partner, as well as serve in an overall capacity to meet the community objectives.

Education

Using the Butte Falls Community Forest, the goal is develop the skills, research and knowledge to engage in long-term stewardship of our forests beginning with the local youth. The Community Forest would serve as outdoor classroom, developing the next generation of land stewards and managers. The following educational goals have been identified by the community.

- Create a land lab for Butte Falls Charter School's natural resources education program.
- Offer a series of field trips for schools and colleges in the region.
- Provide research opportunities in woodland management, non-timber forest product
- Develop and market stream fisheries management and carbon retention.

Appendices

Appendix A— Community Vision

Linda Spencer, Mayor Bfmayor1@gmail.com, 541 865 3262

Butte Falls Community Forest Project Goal

> *Develop an innovative approach to stewardship of forest lands that will become a model for how rural remote forest communities can use their forests to develop sustainable economies.*

Objectives

1. Sustainable economy. We strive to create economic opportunity AND promote the health of our forests. We will:

a) Purchase the timber land surrounding the town – (391 acres) south section after logging, north section (Butte Creek Falls) before logging. We will explore grant opportunities to acquire the land.

b) Create jobs by sustainable timber harvesting; utilizing small, low-value tree products (firewood, Christmas trees, wood carving) and engaging in non-wood forest product gathering like mushroom and berries. Forest activities will provide modest incomes and local jobs.

c) Increase industrial capacity by adding 5-7 acres to the enterprise zone for water bottling plant expansion and new industrial activities.

d) Develop tourist activities by implementing "The Butte Falls Mill Site Development Feasibility Study" developed with Rogue Valley Council of Governments, Cultural Solutions, and the Bureau of Land Management creating a park at Butte Creek falls including historic interpretation, environmental education, camping sites, picnic tables, and biking and hiking trails. In partnership with the Southern Oregon Railway Historical Society develop an historic railway tourist train from the Landing to the cemetery and create a railroad logging museum.

2. Sustainable community. We are passionate about living close to nature in a remote rural environment. We will:

a) Adopt resilient forest practices to return forests to a healthy state and prevent catastrophic fires that could endanger the town and surrounding timberlands.

b) Increase the potential for town growth by expanding the urban growth boundary and our residential zones.

c) Develop management structures for the project in partnership with environmental, recreational development programs. We will utilize democratic process that will engage the public in land management decisions such as a non-profit board with management. Our priorities will be guided by public listening sessions and town/school as advisory committees.

3. Sustainable Knowledge. Develop the skills, research and knowledge to engage in long-term stewardship of our forests. We will:

a) Create a land lab for Butte Falls Charter School's natural resources education program.

b) Offer a series of field trips for schools and colleges in the region.

c) Provide research opportunities in woodland management, non-timber forest product development and marketing, stream fisheries management and carbon retention.

Appendix B—Soil Map and Description

Figure 26: Butte Falls Close Proximity Parcels Soil Map (Source USDA NRCS)

Custom Soil Resource Report
Soil Map (Butte Falls Community Forest, Close Proximity)

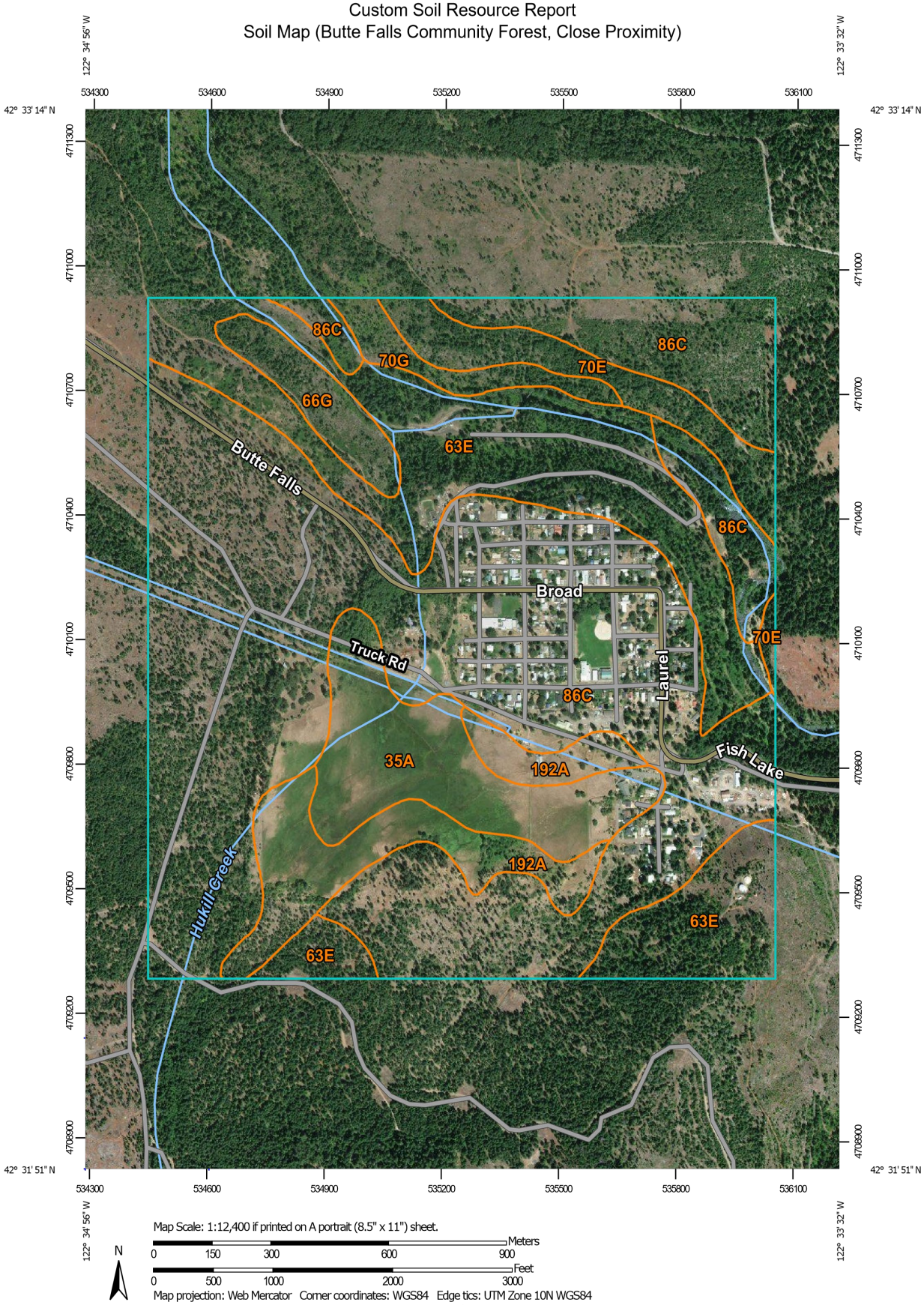
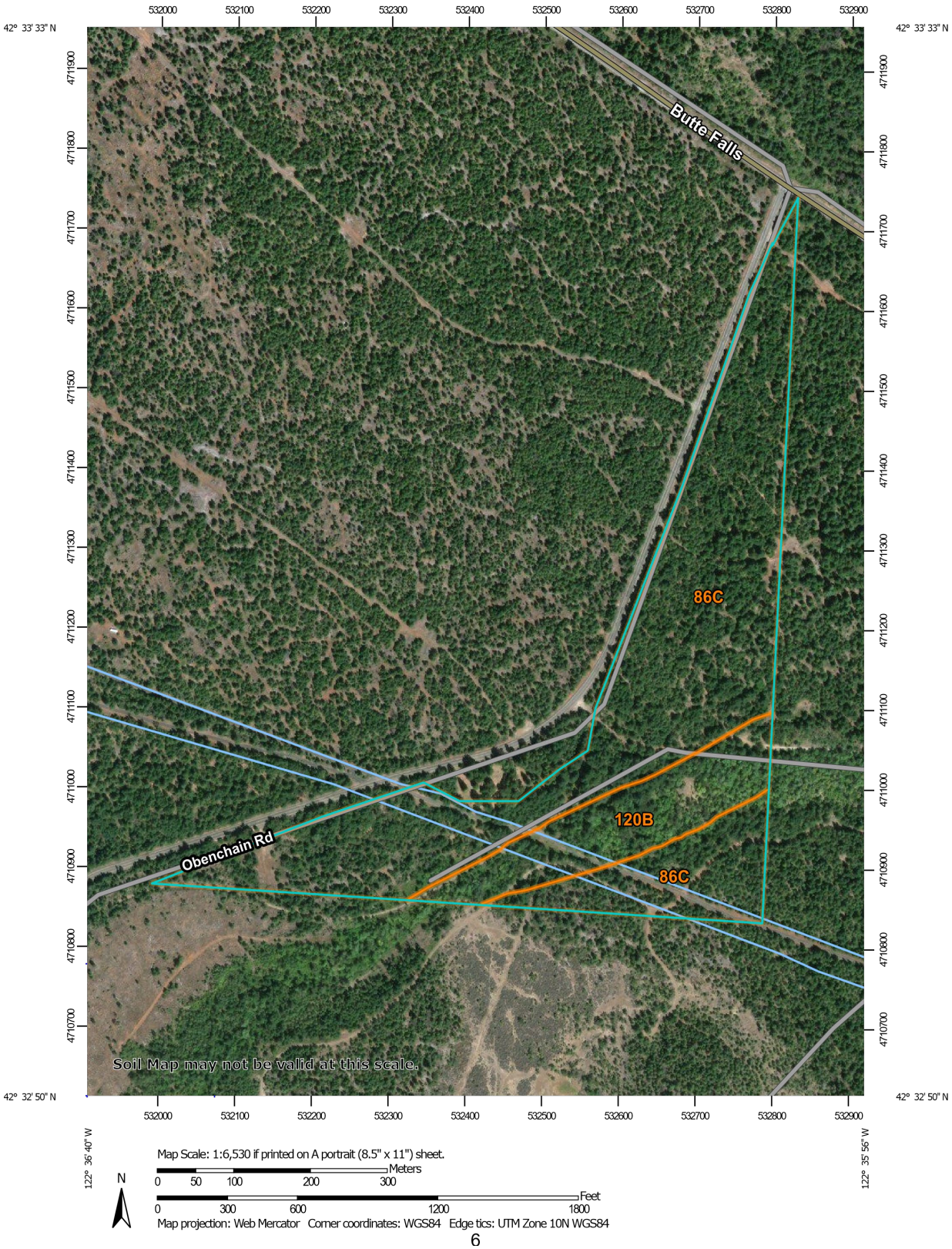


Figure 27: Western Parcel Soil Map (source USDA NRCS)

Custom Soil Resource Report
Soil Map



Map Scale: 1:6,530 if printed on A portrait (8.5" x 11") sheet.

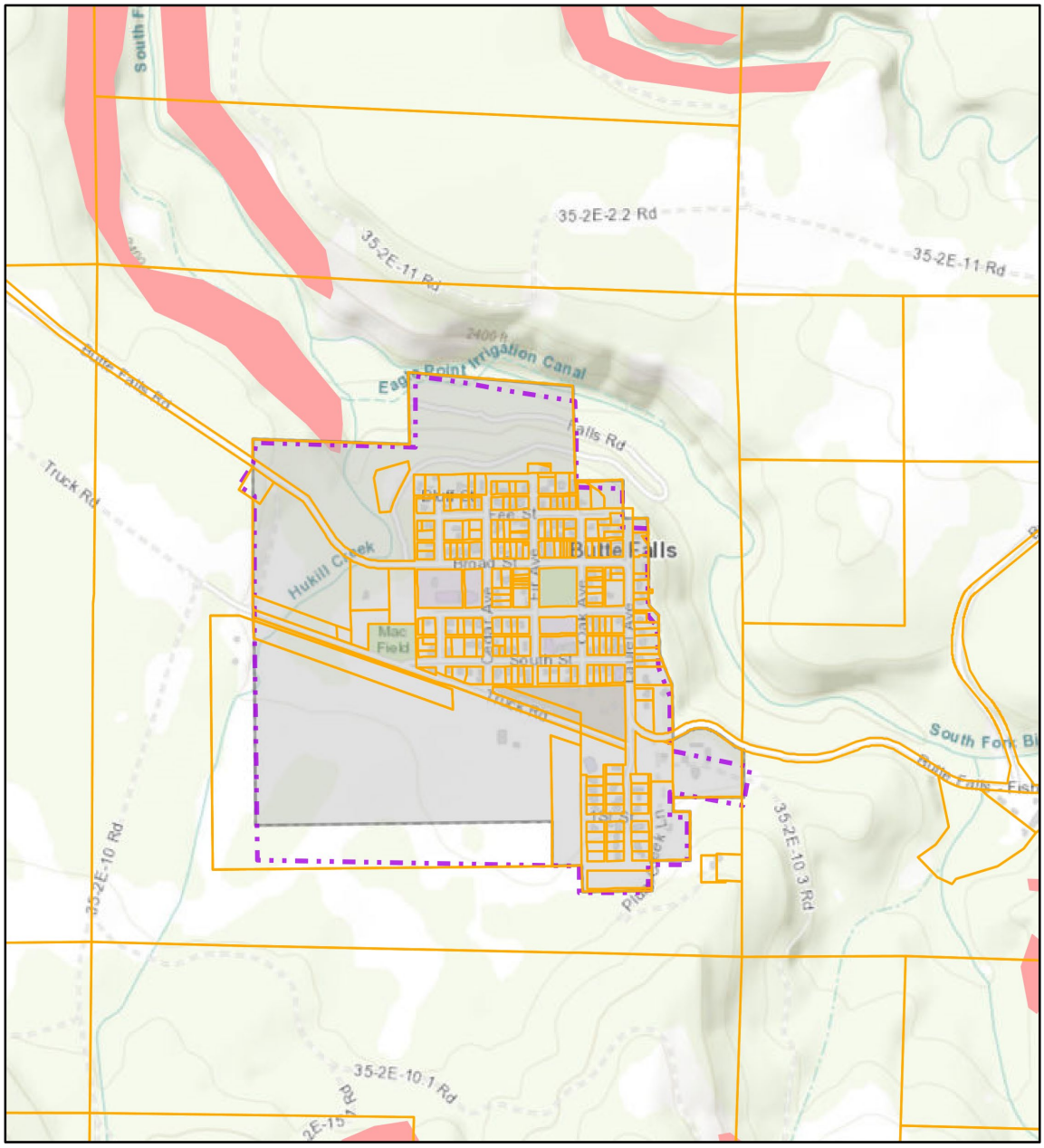
N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Figure 28: Steep Slopes



12/15/2019, 12:09:17 PM

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

County Boundary

City Limits

Tax Lots

Steep Slopes

Table 14: Forestland Planting and Harvesting

Jackson County Area, Oregon, Parts of Jackson and Klamath Counties

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35A:							
Cove	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.50
						Low strength	0.50
						Dusty	0.27
63E:							
Freezener, north	85	Well suited		Unsuited		Moderately suited	
				Slope	0.91	Slope	0.50
				Rock fragments	0.11	Dusty	0.02
66G:							
Freezener, north	65	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.11	Dusty	0.02
Geppert, north	27	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.92	Dusty	0.02
70E:							
Geppert, south	85	Moderately suited		Unsuited		Moderately suited	
		Rock fragments	0.50	Rock fragments Slope	0.92	Slope	0.50
					0.91	Dusty	0.02
70G:							
Geppert, south	90	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.92	Dusty	0.02
86C:							
Hukill	85	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Rock fragments Slope	0.32 0.11	Dusty	0.02
192A:							
Terrabella	85	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.75	Low strength Dusty	0.50 0.04
120B: Medco	85	Poorly suited	0.75	Moderately suited	0.50	Poorly suited	0.75

Forestland Planting and Harvesting

[The values range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil.]

Rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. "Well suited" "Moderately Suited" "Poorly suited" and "Unsuited"

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact

on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Ratings in the columns "suitability for hand planting" and "suitability for mechanical planting" are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to water.

Ratings in the column "suitability for use of harvesting equipment" are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. (http://soils.usda.gov/technical/nfhandbook/)

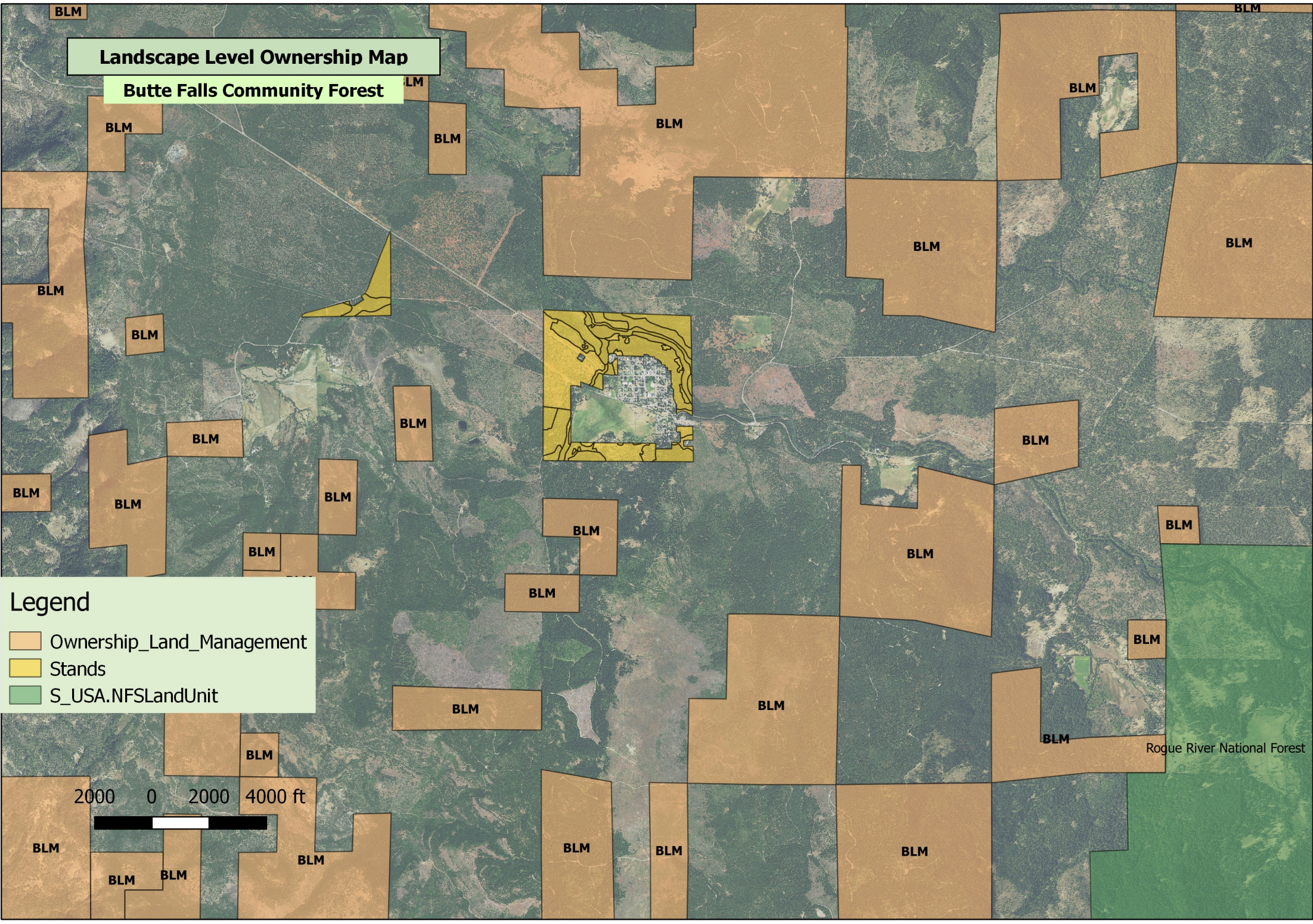
Table 15: Forestland Productivity

Forestland Productivity

Jackson County Area, Oregon, Parts of Jackson and Klamath Counties [This report shows only the major soils in each map unit]

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
Cu ft/ac				
35A:				
Cove	---	---	---	
63E:				
Freezener, north	Douglas-fir	105	143	Douglas-fir, Ponderosa pine
	Sugar pine	---	---	
	White fir	---	---	
66G:				
Freezener, north	Douglas-fir	105	143	Douglas-fir, Ponderosa pine
	Sugar pine	---	---	
	White fir	---	---	
Geppert, north	Douglas-fir	80	100	Douglas-fir, Ponderosa pine
	Sugar pine	---	---	
	White fir	---	---	
70E:				
Geppert, south	Douglas-fir	70	86	Douglas-fir, Ponderosa pine
Ponderosa pine	100	100	Sugar pine	--- ---
70G:				
Geppert, south	Douglas-fir	70	86	Douglas-fir, Ponderosa pine
Ponderosa pine	100	100	Sugar pine	--- ---
86C:				
Hukill	Douglas-fir	75	86	Douglas-fir, Ponderosa pine
Ponderosa pine	110	114	Sugar pine	--- ---
192A: Terrabella		---		--- ---
120b Medco		---	---	--- --- ---

Appendix C—Landscape-Level Ownership Map


Landscape Level Ownership Map
Butte Falls Community Forest
BLM
Legend
Ownership_Land_Management
Stands
S_USA.NFSLandUnit
2000 0 2000 4000 ft
Rogue River National Forest

Appendix D—Recreation Plan (Pending)

The Butte Falls Recreation Commission and the extended Recreation Committee are working toward the development of a Recreation Plan that would guide the placement of trails and the development of parks.

Appendix E – Funding Resources

Federal Resources				
Funding Source/Organization	**website**	**Support Offered**	**Terms/ Other**	**Deadlines**
Nation Forest Foundation	https://www.nationalforests.org/grant-programs	On-the-Ground Conservation and Restoration Projects that Improve Forest Health and Outdoor Experiences	Matching funds 1/1	Round 1 January 13, 2021; Round 2 TBD
Joint Chiefs landscape Restoration	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/features/?cid=stelprdb1244394	The Joint Chiefs' Landscape Restoration Partnership, is funded between two USDA agencies (USFS and NRCS) objectives are restoring landscapes, reducing wildfire threats to communities and landowners, protecting water quality and enhancing wildlife habitat.	Collaborative Forest restoration where public and private lands meet. Must have established partnership initiative in place	2021 TBD
State Resources				
Oregon Watershed Enhancement Board	https://www.oregon.gov/oweb/grants/Pages/fips.aspx	OWEB's Focused Investment Initiatives, support High Capacity partnerships in projects in line with the boards identified priorities that have clearly defined ecological outcomes	Must have strong partnerships and clearly defined ecological deliverables	2021-2023 funding announcement has been delayed-check website
Oregon Watershed Enhancement Board	https://www.oregon.gov/oweb/grants/Pages/grant-programs.aspx	OWEB has numerous programs supporting restoration projects with technical and financial assistance	Check specific grant categories	varied
Oregon Parks and Recreation	https://www.oregon.gov/oprd/GRA/Pages/GRA-overview.aspx	Oregon parks and rec awards more than $13 million of grant funding each year to Oregon communities to support recreation on public lands. The grants help acquire, develop, improve and maintain public recreation and facilities.	Numerous programs to support recreation and Oregon Heritage	Varied
Oregon Fish and Wildlife	https://www.dfw.state.or.us/wildlife/grants/	To qualify for A&H funding, a project must improve wildlife habitat, increase public hunting access to		Feb 15th, 2021

		private land or solve a wildlife damage issue.		
Oregon Department of Forestry	www.oregon.gov//odf	ODF provides technical assistance and some grant resources to communities and individuals	Contact Nick Haille or current local rep	
Foundations				
Carpenter Foundation	https://carpenterfoundation.org	Local foundation providing grants to support a wide array of program areas, youth, arts, education, environment.	contact Polly Williams	Revolving-board meets quarterly
Gray Family Foundation	https://grayff.org/grants/	The Gray Family Foundation works to encourage greater civic engagement in Oregon through investments that promote environmental literacy and giving back to the systems that nurture all of us: our culture, our natural environment, and our communities.	K-12 youth in the outdoors is a top priority of this fund.	2021 application is closed
Meyer Memorial Trust	Mmt.org	MMT hosts a variety of programs from housing to social justice to environmental- the Healthy environment program may provide resources	Various- see applicant resources	Revolving
Laird Norton Foundation	www.lairdnorton.org	Laird Norton is a Seattle based Family foundation funding Arts, Social, Climate and Watershed Stewardship	See Website	Currently not taking new partnerships
Jackson Soil and Water Conservation	Jcwsd.org	Jackson SWCD provides resources to landowners, communities and individuals to help put conservation on the ground	See Website	Contact for more info
Oregon Community Foundation	www.oregoncf.org	OCF provides numerous resources to organizations and people covering a wide array of issues-	See Website- numerous grants support, parks, restoration and education	various
Wildlife Conservation Society	https://www.wcsclimateadaptationfund.org/	WCS funds science driven conservation effort focusing on climate	grants for science based climate adap.	2021 not announced

Appendix F—Glossary of General Forestry Terms

Acre – A land area of 43,560 square feet (About 209 by 209 feet).

All-aged (or uneven-aged) forest management – Management of a forest by periodically removing some trees from the stand. (See also even-aged forest management.)

Alluvial – Pertaining to material that is transported and deposited by running water.

Anadromous fish – Those species of fish which mature in the sea and migrate into streams to spawn. Salmon, steelhead, and shad are examples.

Aspect – Compass direction towards which a slope faces.

Basal area (ba) – A. Cross-sectional area (in square feet) of the trunk *of one tree* at breast height (4.5 feet above the ground.) For example, the basal area of one tree 14 inches in diameter at breast height is approximately 1 square foot. B. *The sum of basal area of the individual trees on an acre of forest.*

Biological diversity or biodiversity – Refers to the variety of life. It encompasses the number and type of plants and animal species in a given area, as well as the interactions among them. Biodiversity recognizes the importance not only of individual organisms but also the connections and relationships among individuals that permit them to function and thrive as a community or ecosystem.

Board foot – A unit of measure for wood volume equaling 144 cubic inches, commonly used to measure and express the amount of wood in a tree, sawlog, veneer log or individual piece of lumber. For example, a piece of wood 1 foot by 1 foot by 1 inch or one measuring 1 foot by 3 inches by 4 inches both contain 1 board of wood.

Bole – Main tree trunk.

Breast height – See DBH

Canopy – Layer of tree crowns in a forest.

Clearcut – A harvesting and regeneration system which removes all the trees (regardless of size) on an area in one operation. Clear cutting is mostly used with species that require full sunlight to reproduce and grow well. Produces an even- aged forest stand.

Commercial cut – A cutting on a forested property that yields a net income (when product sale receipts exceed cutting cost).

Competition – The struggle for environmental resources among trees that require the same resources on the same land area, usually at the same time. *Crown:* Competition above ground for light, heat, carbon dioxide, space, and perhaps, oxygen. *Root:* Competition for soil, water, nutrients, oxygen, and space.

Conifer – A tree belonging to the order Coniferales – usually evergreen, cone- bearing, and with needles, awl, or scalelike leaves- for example, pine spruces, firs, cedars, and redwood; often called “softwoods.”

Conservation – Protection, improvement and wise use of natural resources to assure the attainment of their highest economic and social values in perpetuity.

Crown – Branches and foliage of a tree.

Crown class – Any class into which the trees forming a crop or stand may be divided on the basis of both their crown development and crown position relative to the crowns of adjacent trees and the general canopy. For example, dominant, co-dominant, intermediate or suppressed.

Cruise – A survey of forest land to locate timber and estimate its quantity by species, products, size, and quality, or other characteristics; the estimate obtained in such a survey.

Cubic foot - A unit of measure for wood volume containing 1,728 cubic inches – for example, a piece of wood measuring 1 foot on a side. A cubic foot of wood contains approximately 6 usable board feet of lumber rather than 12 board feet because wood is lost as sawdust and shavings during processing.

Cull – A tree or log of merchantable size useless for all but perhaps firewood because of shape, disease, insect infestation, or injury

DBH – Tree diameter at breast height (4.5 feet above the ground).

Defect – That portion of a tree or log unusable for the intended product and therefore, not measured. Defects are rot, crookedness, cavities, and excessive limbs.

Diameter – Tree diameter is usually measured 4.5 feet above the average ground level (see DBH).

Ecosystem – An interacting system of living organism (plants and animals), soil, and climatic factors. A forest is an ecosystem.

Environment – Prevailing conditions reflecting the combined influences of climate, soil, topography, and biology (other plants and animals) in an area. Environmental factors determine how well a particular species will grow in a given area.

Even-aged forest – A forest of trees all essentially the same age (within 10-20 years).

Even-aged forest management – Forest management with periodic harvest of all trees on part of the forest at one time or in several cuttings over a short time to produce stands containing trees all the same or nearly the same age. In California, this type of management is commonly applied to conifers using the clearcut, seed tree, or shelterwood silvicultural systems (see definitions). *(See also all-aged or uneven-aged forest management.)*

Forest – A plant community with trees and other woody plants dominating.

Forest management – Giving the forest proper care so that it remains healthy and vigorous and provides the products and amenities the landowner desires. *Technical:* Applying technical forestry principles and practices and business techniques (such as accounting and benefit-cost analysis) to forest management.

Forest type – A group of tree species that, because of shared environmental requirements and tolerances, commonly grow together. Three examples of forest types are the mixed conifer, true fir, redwood and Douglas-fir.

Forestry – The science, art, and practice of managing trees and forests and their associated resources for human benefit.

Habitat – Local environment of a plant of animal.

Harvest – As generally used, to remove all or portions of the trees in an area. *Technical definition:* To remove trees in an area (1) for financial gain; (2) to develop the environment necessary to regenerate the forest; and, (3) on occasion, to achieve some special objectives, such as the development of special wildlife habitat needs. Contrast with intermediate cut.

Hardwood – A term describing broadleaf (usually deciduous) trees such as oaks, maples, ashes, eucalyptus, and elms. Not necessarily the hardness of the wood.

Log – A piece of woody stem (trunk or limb) of a tree. The trunk portion of a tree.

Lop – To sever and sometimes scatter branches, tops, or small trees after felling, leaving the slash closer to the ground.

Mature tree – A tree that has reached the desired size or age for its intended use. Size or age will vary considerably depending on the species, intended use, and markets

MBF – Thousand board feet.

Multiple use – Land management for more than one purpose.

Plantation – An artificially reforested or afforested area established by planting or direct seeding. Contrast with a forest stand established naturally.

Pole stand – A stand of trees whose diameters range from 4 inches to approximately 12 inches.

Prescribed burning- The professional intentional application of fire to forest or range sites under specific conditions of weather, fuel conditions, moisture, time of day, and season resulting in a pre-designated fire intensity and rate-of-spread, generally detailed in a burn plan.

Riparian – Referring to the land bordering a stream, lake or tidewater.

Reforestation – Re-establishing a forest on an area where forest vegetation has been removed.

Restoration- The process of aiding the recovery of ecological integrity on a landscape.

Reproduction – (A) The growth process whereby young trees become the older trees in the future forest. (B) The process of forest replacement or renewal – either artificially by seeding or planting or naturally, by sprouting or natural seeding.

Sapling - A small tree, usually between 2 and 4 inches DBH.

Site productivity- The capacity of an area of land to produce biomass.

Slash- Tree tops, branches, bark, and other typically non-merchantable debris left after forest management activities.

Snag: A standing dead tree

Species composition- The variety of species in any particular vegetation type.

Stand- A grouping of trees in a forest of similar conditions that separate it from trees in other adjacent areas.

Stand density- A quantitative description of the number and size of trees in a stand.

Stocking level- The number of trees in any given area.

Sawlog – A log large enough to produce a sawn product -- usually at least 10 to 12 inches in diameter at breast height.

Seedling – (A) A tree, usually less than 2 inches DBH, that has growth from a seed not a sprout. (B) Nursery-grown trees that have not been lifted and replanted in the nursery.

Seral – A biotic community which is a developmental transitory stage in an ecologic succession.

Silviculture – The art, science, and practice of establishing, tending, and reproducing forest stands of desired characteristics based on knowledge of the characteristics and environmental requirements of the tree species.

Site index – An expression of forest site quality based on the height of the dominant trees at a specified age, usually 50 or 100 years.

Site preparation – Preparing an area of land for forest establishment, including mechanical clearing, vegetation control, or burning.

Skid – To pull logs from the stump to the skid trail or landing.

Slash – Residue left on the ground after logging, pruning, or other forest operations. Includes tree tops, branches, or bark.

Sprout – A tree growing from the base, stump, or root of another tree. Coastal redwoods sprout.

Stocking level – Number of trees in a forest stand. Often, stocking level is the term used for the desirable number of trees at a given age for best growth and management against which comparisons can be made, such as partially-stocked, well-stocked, or over-stocked.

Succession – Replacement of one plant community by another until a climax ecosystem in achieved.

Thinning – Generally, a cutting in an immature forest stand to reduce the tree density and concentrate the growth potential of fewer, higher quality trees resulting in larger trees with faster growth. *Commercial:* A thinning that pays for itself and then provides a profit for the owner. *Natural:* A natural process whereby a tree's branches or the tree itself dies as a result of root or crown competition. *Pre-commercial:* A cutting, which does not yield a net income, usually because the trees cut are too small, poor quality, or not marketable.

tpa – trees per acre

Tree – A woody plant having a well-defined stem, more or less definitely formed crown and usually at least 20 feet tall.

*Adapted from the definitive text on forest terminology published by the Society of American Foresters and the United states Department of Agriculture, Glossary of Forestry terms publication

1982 -leaflet 21319 and USDS Forestry Service- Forestry Engineering terms - https://www.srs.fs.usda.gov/forestops/glossary/

The Dictionary of Forestry, Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD 20814-2198. 210 pages and Glossary of Woodland Words, EC 1155.