Bear Country Neighborhood Fire Plan

2015

Salmon River Fire Safe Council

Aerial view of the Bear Country Neighborhood looking up Negro Creek toward Godfrey and Harris Ranches with the South Fork Salmon River below. Photo by Scott Harding/LightHawk, April 2015.

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Introduction

Purpose

What is a Neighborhood Fire Plan?

This neighborhood fire plan is a localized, strategic plan that identifies wildland fire hazards and risks facing the Salmon River watershed's Bear Country Neighborhood and provides prioritized mitigation recommendations to reduce the identified hazards and risks as well as opportunities moving forward to create a more fire adapted community and landscape. The plan also collects and presents useful, geographically specific fire-related data in a single document that can be updated on an ongoing basis as mitigation actions are completed, as fire history and fuels conditions change, or as newly identified hazards and risks emerge. Similar to a Community Wildfire Protection Plan (CWPP), this neighborhood fire plan is adopted by members of the community, who then take responsibility for implementing the action items in the plan. Although this neighborhood fire plan is more localized and geographically specific than the Salmon River CWPP, it does not supplant the CWPP but rather provides greater detail and more specific information and mitigations to assist the Bear Country Neighborhood in becoming better adapted to the presence of fire while maximizing safety and minimizing negative impacts.

Need for Neighborhood Fire Plans

The characteristics unique to the different areas in the Salmon River watershed that make up distinct residential areas, or neighborhoods, define different needs for wildfire planning and hazard reduction. For example, a neighborhood containing 15 adjacent residences along a paved road beside the river will have quite different vegetation types, fuels conditions, fire history, risks, and emergency access than a neighborhood of ten scattered residences located mid-slope with rough dirt road access. Fire plans specific to each uniquely different neighborhood will help focus resources and actions most effectively for fire preparedness, emergency response, public safety, and resource protection.

Reasons to Group These Neighborhoods Into One Plan

The Bear Country Neighborhood consists of Godfrey Ranch, Harris Ranch, Blue Ridge Ranch, and Black Bear Ranch. These private properties are all private property in-holdings surrounded by the Klamath National Forest and occupy mid-elevation areas well above the South Fork Salmon River. The Bear Country Neighborhood shares a common network of dirt access roads. Godfrey, Harris, and Blue Ridge Ranches share a fairly similar vegetation type, fuels conditions, and fire history with Black Bear Ranch occupying a different vegetation type with a different fire history. Most significantly, if any of these areas are threatened by wildfire, they are all threatened and, therefore fire response and fire preparedness are, by necessity, common to all areas within the greater neighborhood.

Goals

The primary goal of the neighborhood fire plan is to increase the neighborhood's fire preparedness and ensure the safety of residents, structures and infrastructure, as well as wildlife and habitat, in the event of a wildfire. Because this area is located within a fire-evolved ecosystem and because the neighborhood occupies mid-slope locations where fire naturally had a high recurrence interval, genuine fire preparedness requires that the neighborhoods become adapted to living with and through fire, rather than by avoiding it.

The plan seeks to:

- identify risks to life, property, community-identified values,
- prioritize areas of greatest risk,
- identify desired future conditions,
- develop mitigations and plans for implementation,
- disseminate the information in the plan, and,
- maintain the benefits of the accomplished actions through time.

Relationship to the Salmon River CWPP

The 2007 Salmon River CWPP is the current wildfire-planning document covering the entire Salmon River watershed. The Bear Country Neighborhood Fire Plan augments the CWPP with neighborhood-level assessments and mitigations. Due to the fact that the neighborhood plan is eight years more recent than the CWPP, it does vary in some ways from the CWPP and utilizes different approaches and methodologies at times. It is expected that the next revision of the Salmon River CWPP will incorporate most of these changes and will reference the Bear Country Neighborhood Fire Plan.

Planning Methodology/Process

The need for a Bear Country Neighborhood Fire Plan was identified in the Salmon River CWPP, where it was rates as one of the highest risk neighborhoods in the Salmon River. To accomplish this, Salmon River Restoration Council staff and Salmon River Fires Safe Council members worked with the Bear Country Neighborhood landowners and residents to create this neighborhood Fire Plan. The process was as follows:

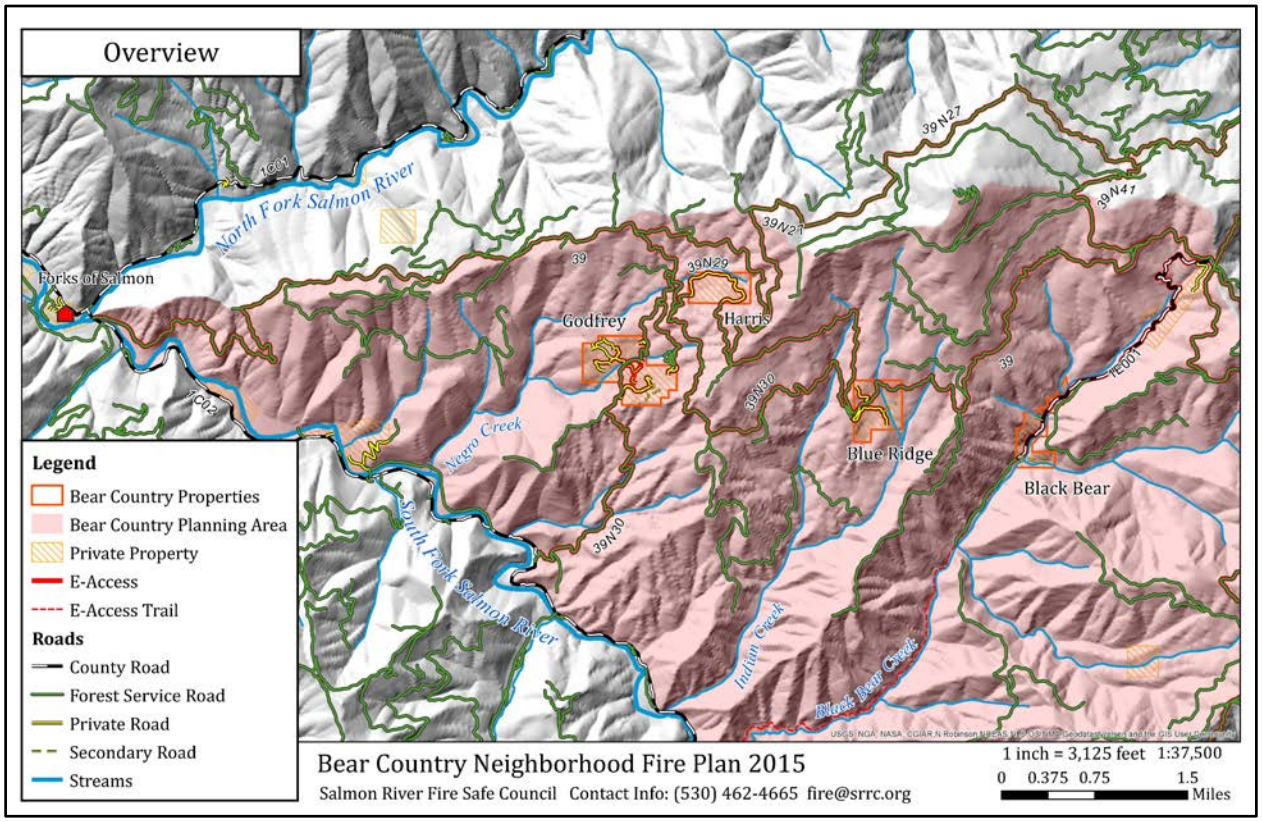
Project leads convened the neighborhood residents and landowners in a series of meetings, group discussions, mapping exercises and individual assessments. At these meetings project leads got buy-in for the project, its need, and the process from all landowners → collected existing information and identified data gaps → conducted risk assessment and filled data gaps in the field → sought input from US Forest Service on draft plan and surrounding federal lands, the risks they pose and potential mitigations → established priorities and recommendations → created GIS maps to reflect and finally developed an action plan and neighborhood fire plan. At most steps along the way, project leads brought information and data collected and/or analyzed back to the stakeholders for input, assistance, and clarification.

Our particular process was detoured slightly when the Salmon River Complex wildfires threatened the neighborhood in August of 2013. During this time we adapted the process to have a real life drill of active fire planning and preparation. Several of our initial meetings were focused on doing quick risk assessments for individual properties and neighborhood fire safety needs prioritization. The group prioritized where Incident Management Team structure protection crews and local landowners should focus their efforts to best prepare the neighborhood for the possibility of wildfire. This was a particularly salient exercise, giving everyone a real life experience of both what is most important in the event of wildfire and the real need for a comprehensive neighborhood fire plan.

Characteristics of the Bear Country Neighborhood

Geographic Setting

The Bear Country Neighborhood is located in the central portion of the Salmon River watershed on the southern side of Blue Ridge Mountain within the South Fork Salmon River drainage (see Overview Map). Elevations of private lands range from approximately 2700 feet at the southern end of Black Bear Ranch to approximately 4200 feet at the northern end of Harris Ranch. The elevations of the planning area range from ~1200 feet at Forks of Salmon to 5950 at top of Blue Ridge Mountain. A complex pattern of conifer and mixed conifer/hardwood forest, chaparral, meadow and other open areas characterize the landscape. The area is heavily impacted by past mining, ranching, and loggings practices and by high intensity wildfires that occurred in 1977 and 1987.



Overview map showing location of Bear Country Neighborhood properties and planning area.

Climate

The Bear Country area is characterized by a Mediterranean climate with hot, dry summers and cool, wet winters, and it is classified *Csa* (hot-summer Mediterranean) under the Köppen climate classification. Transitional weather conditions prevail in spring and fall. Mean annual precipitation in the Bear Country Neighborhood is 45.75 inches, and 95% of annual precipitation occurs between October 1 and May 30 (based on the 30-year average, 1981-2010). The months of June through September average less than one inch of rainfall per month. Cloudless skies dominate the summer months when extended periods without measurable rain are punctuated by convective storm events that may or may not produce precipitation and are often accompanied by lightning. When precipitation does accompany these storm events it is often localized and not spread across the landscape.

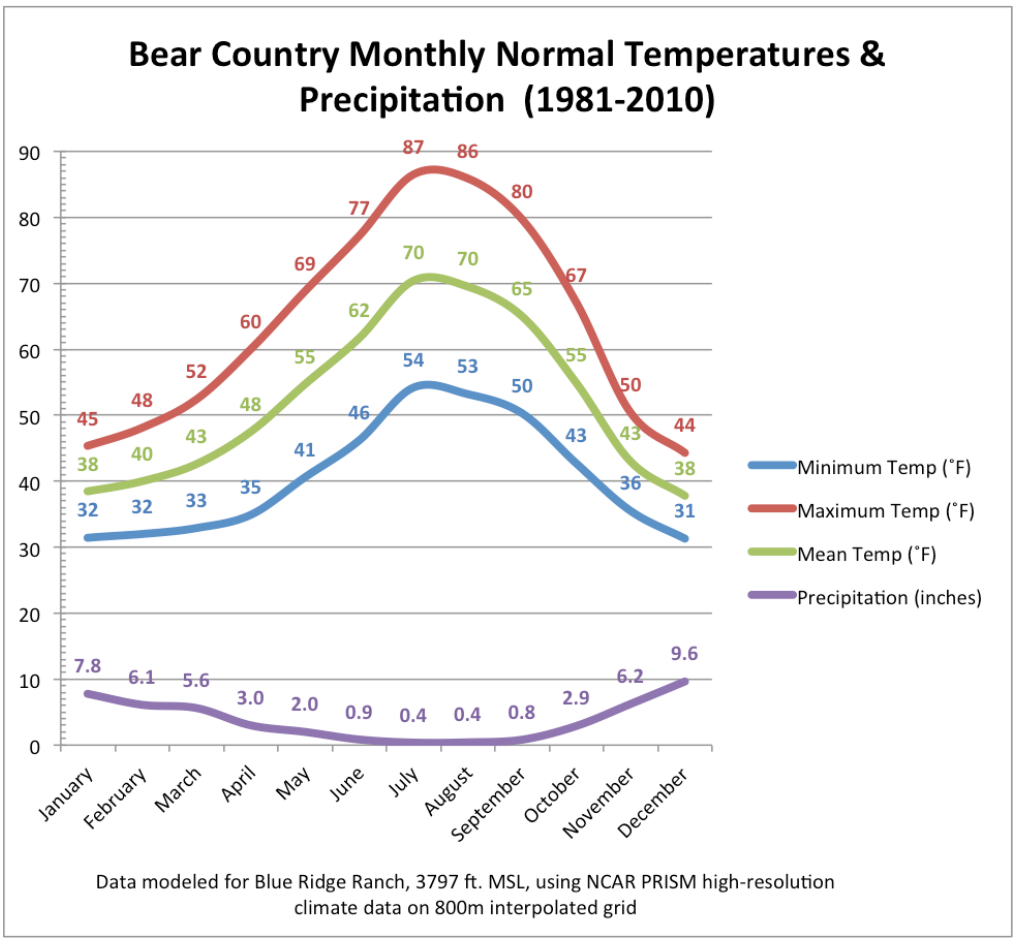


Figure 1: Monthly Normal Temperatures & Precipitation (1981-2010).

The occurrence of lightning strikes in the Bear Country Neighborhood area is highly variable from year to year but distinct in seasonality. Between 2000 and 2014, there were an average of 10.3 strikes annually, however, there were no strikes recorded in two of those years while one year had 26 strikes. In that same time period, there were no recorded lightning strikes between November through February of any year, while nearly 80% of all recorded strikes occurred in June, July, and August (NOAA Severe Weather Data Inventory).

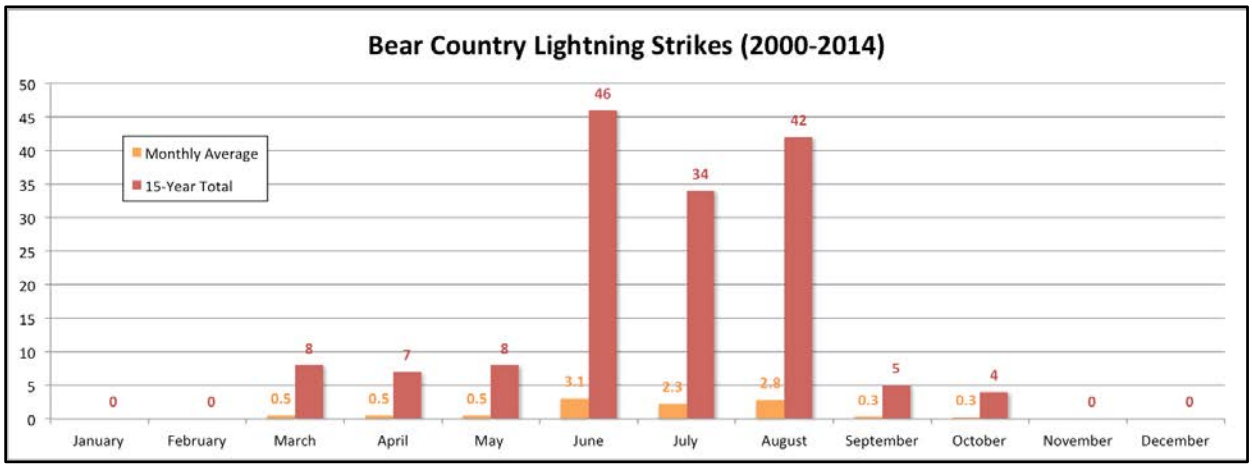


Figure 2: Lightning Strikes (2000-2014, National Lightning Detection Network)

Vapor pressure deficit, an absolute measurement of the moisture deficiency of the atmosphere, increases dramatically in the Bear Country area during the summer months, peaking in August with a 30-year average value of 33.7 hPa. This significant vapor pressure deficit draws moisture from vegetation and fuels, increasing their flammability and receptivity. Vapor pressure deficits have been increasing since 1961 in the region (Seager et al. 2015).

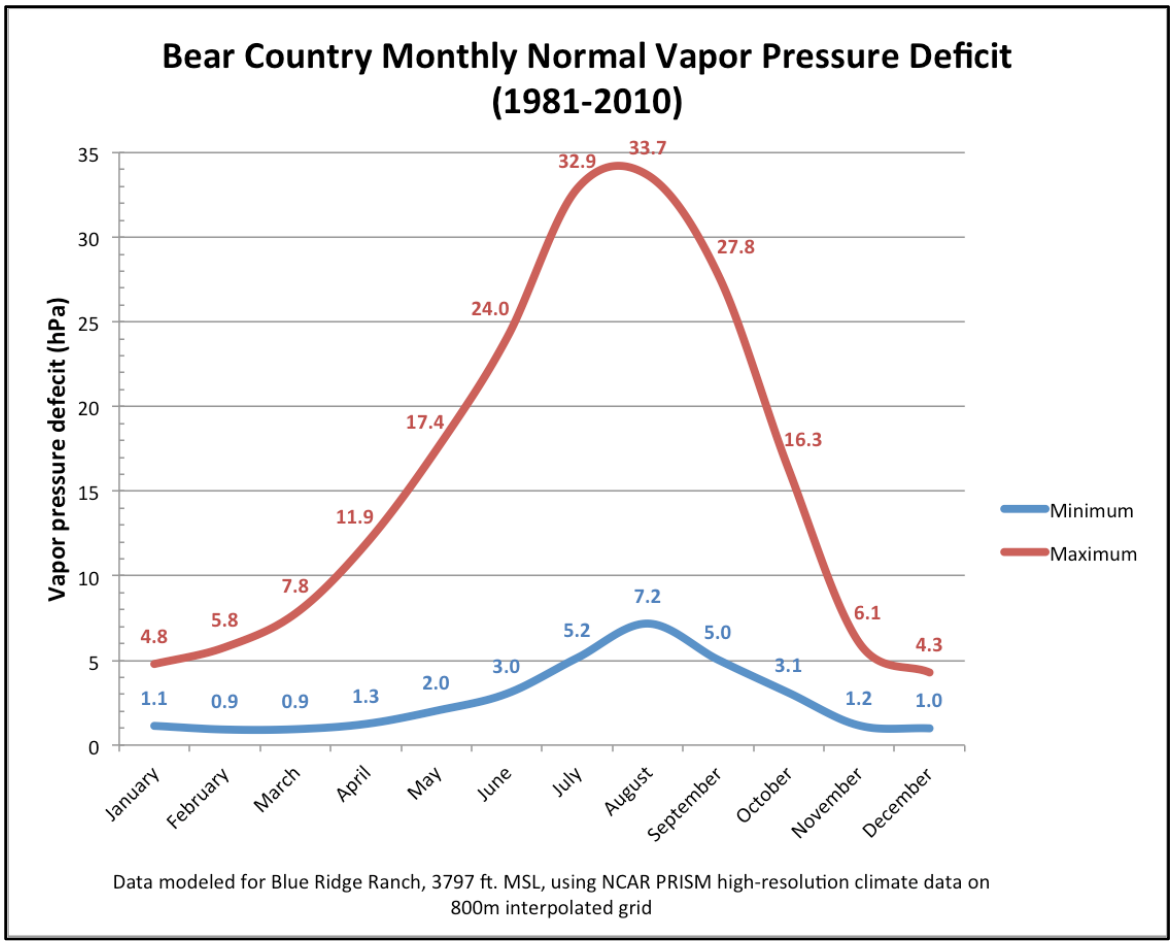


Figure 3: Bear Country Monthly Normal Vapor Pressure Deficit (1981-2010) from NCAR PRISM data set.

There is a limited yet important marine influence on weather in the Bear Country Neighborhood, which is located approximately 45 air miles from the Pacific Ocean. During summer, when prevailing winds in the region are west to northwest, marine air is able to push inland to the Salmon River watershed via the Klamath River corridor as well as directly over terrain. This has multiple effects upon the weather including the occasional presence of high marine fog layers and the influence of marine air on the formation of inversions. When present, spring and summertime fog layers usually burn off quickly in the morning, however, inversion layers tend to erode more slowly, sometimes taking until mid-day to break at which point diurnal convective winds typically begin. Fire behavior is usually subdued when a strong inversion is in place over the Salmon River watershed and smoke limits solar heating and wind. As the inversion erodes, temperatures, wind, and ventilation increase and fires burn more actively. The Bear Country Neighborhood (with the exception of Black Bear) is often above the elevation where these inversion layers set in.

Topography, Slope, Elevation, and Aspect

Topography, slope, elevation, and aspect, are important factors in dictating vegetation types, fuels characteristics, and the behavior of wildland and prescribed fire and also influences the availability of water, variations in microclimates, and patterns of land use.

Overall, the Bear Country Neighborhood is situated mid-elevation on the southwest-facing slopes of Blue Ridge. A variety of other aspects are present on the ridgelines defining individual drainages within the area.

Topography within the Bear Country Neighborhood consists of moderate slopes (10-55%) and steep slopes (>55%) with occasional areas of nearly flat to gentle slopes (<10%). Each of the private property parcels in the Bear Country Neighborhood came into private ownership as individual Homestead Act grants due to their agricultural uses, and, as such, these properties occupy some of the less steep topography in the area. In general, residences and other structures are immediately exposed to slopes less than 30%, however the mid-slope location of Bear Country Neighborhood properties has them situated above and below steeper terrain that reaches 50-100% slope in many areas. Each neighborhood area contains varying proportions of meadows and flats with gentle slopes.

Godfrey, Blue Ridge and Harris Ranches are located around mid-slope, open meadows within their respective watersheds and take in small ridges within their boundaries, whereas Black Bear is located at the bottom of a valley. This topographic difference makes Black Bear an outlier in the neighborhood, varying greatly in vegetation, wind and weather patterns, and fire conditions.

Black Bear Ranch occupies the lowest elevation in the Bear Country Neighborhood (approx. 2700 feet at its lowest point) while Harris Ranch occupies the highest elevation at approximately 4200 feet at its highest point. By comparison, the South Fork Salmon River is at approximately 1500 feet below the Bear Country Neighborhood and the summit of Blue Ridge is 5940 feet.

Forest Stand and Vegetation Conditions

The vegetation and forest types in the Bear Country Neighborhood are typical of mid-elevations on the central Klamath Mountains and display a heterogeneous character both in the distribution of the various vegetation communities and within the particular assemblages of each community. Forest types may be categorized as conifer-dominated, hardwood, and mixed hardwood/conifer.

In conifer stands, the dominant tree species is most often Douglas-fir (*Pseudotsuga menziesii*) with ponderosa pine (*Pinus ponderosa*) frequently dominating in drier locations. Sugar pine (*Pinus lambertiana*) and incense cedar (*Calocedrus decurrens*) are less frequent components of conifer stands but may be locally significant, with incense cedar tending to favor serpentine areas more than other conifers. In a few locations, gray pine (*Pinus sabiniana*) and knobcone pine (*Pinus attenuata*) form nearly homogenous stands and may also mix with other conifers and hardwoods. Grey pine is particularly prevalent on serpentine areas, within the southern portion of the neighborhood; and doesn't extend north beyond Godfrey Ranch. The structural characteristics of the conifer-dominated forests vary from even-aged, dense stands of nearly uniform height to more complex, multi-tiered forests with a mix of age classes and understory species. In addition, abundant managed conifer stands (plantations) are located throughout the Bear Country Neighborhood on public land managed by the Klamath National Forest. Most of these plantations are in post 1987 fire salvage units and were re-planted almost exclusively in ponderosa pine. These plantations are all around 25 years old. Conifer regeneration varied significantly in these plantations, in many areas there was a strong hardwood component within the plantations. Some of the plantations received pre-commercial

thinning via mastication in the early 2000's. In the earlier of these units strong preference was given to conifers and almost all of the hardwoods were removed. With local input, the later treatments allowed for some hardwoods to remain, especially black oak.

The generally southwestern aspect of the Bear Country Neighborhood area is conducive to the formation of hardwood forest stands. Many hardwood stands are dominated by California black oak (*Quercus kelloggii*) and/or Oregon white oak (*Quercus garryana*) and are commonly referred to as oak woodlands. This distinct subtype of hardwood forest is found throughout the Bear Country Neighborhood area and favors hotter, drier slopes absent of serpentine and is evolved to thrive in the presence of frequent low intensity fires. Other significant hardwood species include Pacific madrone (*Arbutus menziesii*), canyon live oak (*Quercus chrysolepis*), bigleaf maple (*Acer macrophyllum*), and, less frequently, giant chinquapin (*Chrysolepis chrysophylla*) while minor species include Pacific dogwood (*Cornus nuttallii*), hazel (*Corylus cornata*), and western redbud (*Cercis occidentalis*). In steep, rocky terrain within the drainages below the private inholdings there is a significant portion of hardwood stands dominated by canyon like oak with a dense understory of ceonothus.

Mixed conifer/hardwood forests are composed of varying mixtures of conifer species and hardwood species. Hardwood species often dominate the understory of this forest type but also occupy edge habitats and clearings and openings within the coniferous canopy cover. A common assemblage in the Bear Country Neighborhood area is a Douglas-fir, ponderosa and sugar pine conifer overstory with an understory of madrone, black, white, - and live oaks.

In addition to the common forest types, a diverse variety of shrub vegetation communities occupy more exposed locations and those that have been impacted by high severity fires and clear-cut logging practices in the past. In some areas these vegetation assemblages represent a post-fire or post-logging succession prior to the reestablishment of forest cover and in other areas shrub communities occupy areas with inadequate moisture to support forests or where serpentine geology has favored plant communities adapted to its unique and relatively uncommon soil types. Various species of Ceonothus and manzanita are common shrubs in the Bear Country Neighborhood and may form dense homogenous or heterogeneous brush fields.

The Bear Country Neighborhood is also characterized by periodic open meadows that typically occupy the flattest portions of the properties. Historic aerial photo analysis show that these meadows persisted at least as far back as the early 1940's. They were likely maintained as meadows, surrounded by oaks, by indigenous inhabitants of the area prior to European colonization.

Fire Environments & Fire History

The entire Salmon River watershed is naturally a fire-adapted landscape with a relatively frequent occurrence of low- and mixed-intensity wildfire (see Fire History Map). The natural fire regime has been disrupted by aggressive fire suppression and land management practices that have altered fuel and vegetation characteristics in favor of less frequent but high-intensity fire. The Salmon River watershed has one of the highest risks of wildfire within the 1.8-million acre Klamath National Forest (U.S. Forest Service 1994). Within the Salmon River watershed, the Bear Country Neighborhood area (and Godfrey Ranch, in particular) are recognized as having one of the highest fire hazard potentials. Despite advances in wildfire suppression techniques, wildfires on the Salmon River continue to burn and are burning with a greater frequency, size, and intensity than in the past. Nearly 43% of the Salmon River watershed has burned since 2000.

The Bear Country Neighborhood has been negatively impacted by the alteration of the natural fire regime and has experienced two large, high-intensity wildfires—the first in 1977 and the second in 1987—that have had a controlling effect on fuels conditions, vegetation, and residents' perspectives on wildfire to this day. Additionally, the subsequent salvage logging and creation of hundreds of acres of plantations in the area have contributed to high fuel loadings, worsening the potential effects of future wildfires.

Historical Fire Environment

Fire plays a critically important role in the ecology of the Klamath Mountains, including the Bear Country Neighborhood area. This includes strong influences on the species composition and structure of forests and shrub habitats, landscape patterns, wildlife habitat, soil properties, hydrology, and the cycling of nutrients as well as a multitude of other ecosystem processes (Frost and Sweeney 2000).

The historical fire era is defined as the time prior to widespread fire suppression in the area. Although fire suppression had become fairly effective in accessible areas in the region by the 1920s, it wasn't until about 1945 that suppression became successful in more remote areas (Skinner 2006). Thus, the historical fire era for the Bear Country Neighborhood area and the rest of the Salmon River watershed is considered to be prior to 1945, although localized areas were impacted by fire suppression before this time. This is also prior to widespread logging in the area.

Prior to settlement of the region by miners and ranchers in the 1850s, Native Americans ignited fires to clear brush, improve forage, and to favor the growth of desired food and fiber species. The exact extent and locations of indigenous fire use are not well known today, however, it is certain that oak woodlands and areas in proximity to villages and gathering sites were commonly burned, sometimes annually. Given that the Bear Country Neighborhood area is located in upslope proximity to several former Konomihu and Shasta Indian village sites and contains numerous oak woodland stands, and some of the only large upland meadows, it can be reasonably assumed that the area was intentionally burned at times by Native Americans, and perhaps frequently. The significant disruption of Native American fire use occurred simultaneously with the influx of miners in the early 1850s and by the turn of the century Native American fire use had practically ceased. However, anthropogenic fires continued throughout the region in the form of accidental and intentional ignitions by miners and settlers. These fires differed in periodicity and seasonality from those lit by Native Americans (LaLande 1995, 1980, McKinley & Frank 1995). Despite the change in anthropogenic fire ignitions after settlement, Wills and Stuart (1994) found no statistically significant difference between pre-settlement and post-settlement mean fire return intervals in the South Fork Salmon River watershed, however a significant alteration in fire return intervals was found later when fire suppression efforts became successful in the area.

The Klamath Mountains historically existed in a regime of frequent low- to moderate-intensity fires of varying sizes (Skinner et al., 2006) with patches of high severity fire to created overall mixed-intensity wildfires. Wills and Stuart (1994) analyzed tree rings in a Douglas-fir/hardwood forest on Hotelling Ridge, approximately four miles south of the Bear Country Neighborhood and determined a mean fire return interval of 13.6 years prior to the era of fire suppression with a range of 5-41 years.

Landscape-level studies conducted in the Happy Camp, California area, approximately 37 miles north/northwest of the Bear Country Neighborhood determined median fire return intervals of eight to thirteen years on south- and west-facing slopes, respectively, whereas north-facing slopes and east-facing slopes had median fire return intervals of fifteen and 8.5 years, respectively (Taylor and Skinner 1998).

The predominant southwestern-facing aspect of the Bear Country Neighborhood suggests that the area likely experienced natural fire return intervals on the shorter end of the historical range, and perhaps much shorter still when Native American fire use is considered as well. The open meadows and surrounding oak woodlands characteristic of the private lands within the neighborhood likely saw more frequent cultural burning to manage for these important foodsheds.

Under this fire regime, frequent low- and moderate-intensity fires periodically thinned undergrowth and overstory trees and helped created uneven aged stands with varying tree heights and age classes. In Douglas-fire dominated forests, the landscape was likely exceptionally patchy with complex mosaics of different age and size classes (Wills and Stuart 1994). Fire created and maintained gaps and openings in forest cover and was integral to the development and succession of many types of vegetation communities, especially hardwood stands, shrub, and grassy meadows. The relatively frequent return of fire kept fuel-loading levels relatively low across the landscape with pockets of higher loads in areas that had not experienced recent fire. Large, severe fires such as those commonly experienced in the present day, were uncommon (Taylor and Skinner 1998).

Suppression Era (Present) Fire Environment

The fire suppression era in the Salmon River watershed began at the close of World War II in 1945 due to a combination of factors including the accumulation of infrastructure in the area (roads, guard stations, firefighting apparatus, etc.), the availability of a large post-war workforce to fight fires, and the inclusion of air support for reconnaissance and firefighting. Although recent fire management strategies have shifted to allow beneficial fire use and other management tools other than complete suppression, most fires are still fully suppressed (or attempted to be suppressed) and, as such, the fire suppression era continues to the present day.

Not surprisingly, during the era of fire suppression the fire return interval has lengthened and fire-free periods are generally longer than they have been in over 400 years. Wills and Stuart (1994) reported a range of mean fire return interval of 37.4 years during the suppression era with a range of 3-71 years. This anthropogenic disturbance of fire return intervals has resulted in changes to forest conditions, vegetation patterns, and fuel loading. During the suppression era, the formerly heterogeneous pattern of vegetation and forest types has been replaced by a less diverse pattern containing smaller openings within a matrix of denser forests (Skinner 1995). The decrease in fire frequency has also led to an increase in fuel loading on forest floors. Taken together, there is greater connectivity from ground fuels through the dense understory and into forest canopies than had previously existed in the historical fire era. Forest management practices, in addition to fire suppression, play a role in these changes.

During the century-long period of reliable record keeping of fires in the region, there has been a trend toward increasing average and maximum fire size as well as total area burned annually. Anthropogenic effects on forest and fuels characteristics as well as changes in climate likely combine to cause this trend (Miller et al. 2012). Although fires have grown larger and more intense during the suppression era, the average annual area burned is still smaller than it was before fire suppression.

The Bear Country Neighborhood has experienced two wildfires during the fire suppression era, the Hog Fire (1977) and the Glasgow Fire (commonly known as the 1987 Fire). Not all areas in the neighborhood burned in either of these fires, some in just one, and other areas in both fires. These fires have had a controlling effect on the vegetation and forest stand composition seen today as well as a profound effect on neighborhood residents' perspectives on wildfire. This is perhaps most evident in the Negro Creek drainage where high intensity fire caused the conversion of late seral mixed conifer/hardwood forests with an open understory to an early seral stage of recovery

dominated by grass, brush fields, and hardwoods with very few large coniferous trees remaining.

Desired Fire Environment

The desired fire environment is one in which the residents of the Bear Country Neighborhood can comfortably live with the presence of fire without need to fear for their safety or their property.

The first step toward the desired fire environment is the development of the neighborhood as a fire-adapted community that is fully and continually prepared for wildfire. This includes preparation of the neighborhood's people, homes and other structures, infrastructure, businesses, cultural resources, natural areas, and other areas and values identified as being at risk. Over the past twenty-five years, the Bear Country Neighborhood has made significant strides toward becoming a fire-adapted community by treating fuels, creating defensible space, creating and maintaining water systems and storage, developing safety zones, maintaining ingress and egress routes, and by informally planning emergency procedures in the event of a wildfire. However, significant work remains within the private property boundaries and much more work remains on National Forest land surrounding the Bear Country Neighborhood. A major objective of this neighborhood fire plan is to identify, plan, and implement needed fire-adapted community preparation actions on all lands.

The second component of the desired fire environment is the return to a fire-resilient landscape in the greater area surrounding the Bear Country Neighborhood. A fire-resilient landscape is adapted to the recurrence of fire as a necessary agent for maintaining the structure and function of the ecosystem, and fire is permitted and managed to perform its role on the landscape. Past land management actions and fire suppression have disrupted the fire resilience of the area and considerable effort will need to be put forth the restore fire resilience. This will include the thinning of forests, reduction of fuels, and extensive use of prescribed fire. Once restored, land managers will be able to use ongoing prescribed fire and beneficial fire use of unplanned ignitions to provide resource benefits and continually reduce fuels.

A considerable investment in time, effort, and financial resources will be needed both to develop the Bear Country Neighborhood as a fire-adapted community and to restore the natural fire resilience of the surrounding landscape. However, this investment is expected to pay off by significantly reducing future costs of wildfire suppression.

Values at Risk

As in any case, the safety and welfare of residents and emergency responders is the highest value and top priority.

Common values at risk throughout the Bear Country Neighborhood include:

- Life
- Homes and outbuildings
- Residential and community infrastructure
- Water supply and delivery systems
- Gardens and agricultural production
- Small businesses
- Wildlife habitat
- Vegetation and forest health
- Watershed health
- Water quality

- Aesthetics
- Historic structures
- Cultural resources
- Recreational opportunities

Emergency Wildfire Response Resources

Due to the remote location and low population of the Salmon River watershed, immediately available local emergency wildfire response resources are limited compared to other areas facing similar wildfire threats. The Salmon River Volunteer Fire and Rescue (SRVFR), based in Forks of Salmon, provides EMT-level ambulance service and volunteer firefighting services with a single fire engine, wildland firefighting initial attack truck, and a water tender. SRVFR has additional resources in Cecilville and Sawyers Bar, however lacks staffing to operate all resources concurrently to their capacity. The US Forest Service has seasonal firefighting resources based in Somes Bar, Sawyers Bar, and Petersburg including two Hot Shots crews and an engine crew. Additional nearby resources are stationed in Orleans and Ti Creek on the Klamath River and in Fort Jones in the Scott Valley.

The Bear Country Neighborhood is in CALFIRE's Northern Region and is within a State Responsibility Area under the jurisdiction of the Siskiyou Unit. The nearest CALFIRE station is in Fort Jones, approximately 60 driving miles from the Bear Country Neighborhood. In practice, however, the US Forest Service provides the overwhelming majority of initial attack and wildfire preparation and defense services in the Salmon River watershed since any fire of significant size will invariably involve National Forest lands.

Mercy Flights and Cal-Ore Life Flight provide air ambulance services to the Salmon River watershed; most serious medical emergencies utilize air ambulance services when possible. Ground transport ambulance may be used for less time-critical transportation or when air ambulances are unavailable or unable to fly due to weather.

Structure Ignitability

The importance of fuels reduction around structures is well known and essential, however, the attributes of the structure itself significantly determine its ignitability in a wildfire. Experiments and studies of structure survivability in wildfires indicate that structures constructed with noncombustible roofing materials and a minimum of 30 feet defensible space have an 85% likelihood of wildfire survival and are likely even to withstand the radiant heat of a crown fire just 30 feet away so long as there is no direct flame contact (Cohen and Saveland 1997; Foote 1996). Vegetation and limbs close to homes need to be maintained within a reasonable distance away from the structure in order to prevent embers or radiant heat from igniting them, causing direct flame contact with homes.

Many structures at in the Bear County Neighborhoods are constructed on post and pier foundations or otherwise have open space beneath them. Embers may blow beneath buildings during a fire and ignite the structure from below. Closing off all entryway to embers beneath buildings is critical for fire safety. Metal roofing panels or other non-combustible materials should be used and ventilation openings should be covered with ¼" or smaller screen with louvers or covers ($_{1/8}$" is recommended).

Godfrey Ranch Neighborhood

Background

Godfrey Ranch comprises seven privately owned residential parcels that collectively occupy 180 contiguous acres in the upper Negro Creek watershed, a tributary to the South Fork Salmon River. These seven properties are subdivisions of the Leroy Godfrey's Homestead Act claim (1911) and adjoining patented mining claim (1923) that formed the original Godfrey Ranch. The private land is completely surrounded by public land managed by the Klamath National Forest.

A variety of aspects are present on the landscape, however, the overall aspect of Godfrey Ranch is southwest facing. Elevations range from approximately 3000 feet to 3600 feet and the terrain varies from nearly flat in several open meadows to moderately steep (10-55%) on hillsides with limited areas exceeding 55% slope. Nearly all of Godfrey Ranch sits atop ancient landslide deposits and this accounts for the fact that the ranch's topography is gentler than much of the surrounding area.

The mid elevation location and southwest aspect together expose Godfrey Ranch to the prevailing upriver afternoon winds for much of the year, most notably in the summer months when convective heating causes diurnal winds to flow up the Salmon River and continue up the South Fork. These winds are a significant factor for fire weather.

Godfrey Ranch Fire History

Several attributes of Godfrey Ranch suggest that indigenous people burned the area frequently to clear brush, improve forage, and to favor the growth of desired food and fiber species. The ranch was in close proximity to several Shasta and Konomihu Indian villages and possesses favorable aspect, terrain conditions, forest types, and vegetation communities for indigenous burning. The current presence of knobcone pine, large oaks, and open meadows all suggest that the area has had a frequent fire return interval for a long period of time.

Godfrey Ranch has experienced three recorded wildfires, the first of which occurred in 1919 when a disgruntled neighbor started seven fires downslope of Godfrey Ranch. This fire burned 35 acres and destroyed the gold ore processing stamp mill in the southwestern corner of the property but efforts by local firefighters spared the houses, barns, outhouse, and garden. The fact that the fire could be contained with nothing more than human power and hand tools indicates that forest and fuels conditions were very different in this era than they are in the present day.

The 1977 Hog Fire crossed the North Fork Salmon River and burned into the Negro Creek drainage and onto Godfrey Ranch (See Fire History Map). One home was destroyed in the fire but otherwise most of the ranch remained intact as an island of green within the heavily burned Negro Creek watershed. The Hog Fire and subsequent intensive salvage logging operations on national forest lands surrounding Godfrey Ranch caused drastic changes in forest cover vegetation types, and fuel loading that would significantly contribute the next high intensity wildfire ten years later.

The 1987 Glasgow Fire reburned much of the 1977 fire footprint including the Negro Creek drainage where accumulated fuels and logging slash ignited under extreme fire conditions, causing a firestorm that rapidly pushed upslope toward Godfrey Ranch. Nine of 13 homes were quickly burned to the ground and 95% of the ranch's vegetation was consumed in the rush of a crown fire. None of the original Godfrey Ranch buildings that survived the 1919 and 1977 fires survived the 1987 fire. One Godfrey Ranch homeowner lost a home in both the 1977 fire and the 1987 fire. The 1987 fire altered the physical landscape at Godfrey Ranch as well as the makeup of the community and residents'

perspectives on wildfire.

Current fuel loading is at an unnaturally high hazard level in the Negro Creek watershed, and it threatens to severely damage the recovering landscape (U.S. Forest Service 1997) and poses a critical wildfire threat to Godfrey Ranch.

Available Emergency Resources & Logistics

There are no neighborhood wide emergency resources at Godfrey Ranch. Individually, most landowners have at least one pump, a tank of at least 1200 gallons of water and varying amounts of 1" and 2" fire hose. There are two trailers with 300 gallon tanks, a pump, and hose ready for assemblage. These are usually set up for use during fire season.

Access Routes

Godfrey Ranch is accessible via county and National Forest Transportation System roads from Forks of Salmon, Cecilville Road, Sawyers Bar, and Cecilville (see Emergency Access Map). The condition of these access routes vary widely but all have sections with high fuel loading and heavy brush encroachment.

From Forks of Salmon and the Lower South Fork Salmon River

Residents most commonly access Godfrey Ranch via the Godfrey Ranch Road (39N30) off of Cecilville Road on the South Fork Salmon River. This is the most direct route from Forks of Salmon, the lower North Fork, and the South Fork. Of all routes to Godfrey Ranch, this one involves the shortest distance of unpaved road and approaches from below so it avoids reaching elevations higher than the ranch, however, it is the steepest and roughest route and is generally better suited to passenger vehicles and smaller trucks. Gaining 1680 vertical feet fairly evenly over 2.55 miles of unpaved roadway (12.5% average grade), Godfrey Ranch Road is a rough road for automobiles but with slow, careful driving it is passable by most cars. Trucks and emergency vehicles should have no issues with the quality or grade of the road, however, numerous blind curves, steep grades, and rough surfacing make passage in either direction a slow endeavor. Other routes to Godfrey Ranch are less steep and traverse better-surfaced roadways and are overall more suitable for large emergency vehicles and heavy loads but are not necessarily faster. Approximate drive time from Forks of Salmon to Godfrey Ranch on this route is 30 minutes for a pickup truck and longer for emergency response vehicles.

Figure 4: Forks of Salmon - Godfrey Ranch (via Cecilville Road and Godfrey Ranch Road) route elevation profile.

Alternate access from Forks of Salmon is possible via the Picayune Road (Forest Road 39). This 8.3-mile route is similar in length to the Forks of Salmon to Godfrey Ranch route via Cecilville Road/Godfrey Ranch Road (7.67 miles), but averages 8.6% grade over the first 6.3 miles before topping out at 4100 feet elevation. It then descends 885 vertical feet (-8.8% average grade) over the next 1.9 miles on 39N67 and 39N30 to reach Godfrey Ranch. The Picayune Road (built for hauling logs), is generally wider with longer lines of visibility and more pullouts than the Godfrey Ranch

Road, making it an easier drive for any vehicle and the preferred route for heavily loaded vehicles such as water tenders. Approximate drive time from Forks of Salmon to Godfrey Ranch on this route is 40 minutes for a pickup truck and longer for emergency response vehicles.

Figure 5: Forks of Salmon - Godfrey Ranch (via Picayune Road) route elevation profile.

From Sawyers Bar

Godfrey Ranch is reached from Sawyers Bar via Eddy Gulch Road (County Road 2E001) off of the Sawyers Bar Road. The typical route uses Eddy Gulch Road to Lewis Memorial Road (39N27) and 39N29 down to Godfrey Ranch Road (39N30). The route climbs 3400 vertical feet on its 8.8-mile ascent (5.9% average grade) before dropping 1685 vertical feet over the next 7.1 miles (-4.5 % average grade). This 15.9-mile route reaches 4905 feet in elevation as it traverses the northern flank of Blue Ridge and is often unsuitable for winter travel with snow lingering into spring some years. Approximate drive time from Sawyers Bar to Godfrey Ranch on this route is 55 minutes for a pickup truck and longer for emergency response vehicles.

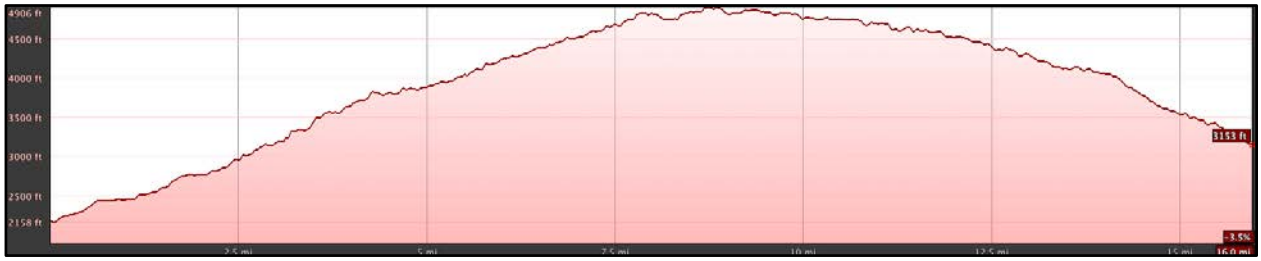


Figure 6: Sawyers Bar - Godfrey Ranch (via Louis Memorial Road) route elevation profile.

From Cecilville via Black Bear Summit

Godfrey Ranch can be reached from Cecilville via Crawford Creek Road and Forest Roads 39N23 and 39N28 on a 24.2-mile route that reaches 5200 feet elevation east of Black Bear Summit. From Cecilville it will be faster to access Godfrey Ranch from the Cecilville Road and Godfrey Ranch Road rather than driving Crawford Creek Road. This route is useful if other access routes to Godfrey Ranch are compromised or if access to other Bear Country Neighborhood properties is desired en route to Godfrey Ranch. Winter and late season snows can impact this route. Approximate drive time from Cecilville to Godfrey Ranch on this route is 1 hour, 15 minutes for a pickup truck and longer for emergency response vehicles.

Engine Fill Sites

There are no reliable, year-round engine fill sites at Godfrey Ranch or anywhere upslope of the river. In exceptionally wet years there may be sufficient water in the small pond located on Klamath National Forest land immediately north of Godfrey Ranch, which is part of a private water system.

The only commonly-used fill site for Godfrey Ranch is at the Forks of Salmon river access off Salmon River Road, approximately 9.0 miles from Godfrey Ranch via the recommended Picayune Road route (see above description). Approximate drive time from the Forks of Salmon river access fill site to Godfrey Ranch on this route is one hour for a full water tender. There are three potential fill sites on the private property out of existing storage tanks and the above mentioned pond that could be used with landowner permission in case of an emergency. These consist of, a 2500 gallon tank that is fitted with fire hose fittings on the Brucker/Greenberg residence directly on the side of the main road, a ten thousand gallon tank on the Brucker family property off of the main road (needs to be tested for functionality), and the pond that is used for agricultural water. None of these sites have fast refill rates.

Communication

The Bear Country Neighborhood does not have regular phone service, i.e. there are no phone lines nor any other utility lines. Additionally there is no cell phone service for the entire Salmon River, including the Bear Country Neighborhood.

Residences have varying access to phone and internet via private satellite services. Though the majority of the residences have some access to satellite internet, only two residences have somewhat reliable satellite phone service at Godfrey Ranch, and this comes at a high cost. The neighborhood communicates internally via CB radios, which most residences have in their homes. This mode of communication is relatively reliable within Godfrey Ranch, as long as people are home and have their radios on. It is less reliable within the greater neighborhood, i.e. from Godfrey to Blue Ridge and visa versa. Additionally there are several residents who can only be reached by personal contact. The Bear Country neighborhood is able to contact the USFS operated Eddy Gulch Look Out via CB Radio, and visa versa. This can be an important line of communication, especially during the fire season. Emergency communications tend to come and go via internet and phone calls (to or from the existing phone numbers) and from there out the neighborhood via CB Radio or personal contact. This neighborhood is one of the more isolated neighborhood on the Salmon River. That said, the community is tight knit and residents generally do a good job of keeping in communication, especially during emergency situations.

The SRRC and SRFSC run a joint Community Liaison Program within the Salmon River Watershed. The lead liaisons keep the community well informed during fire incidents. The purpose the of the CLP is to facilitate timely and transparent communication and information exchange between the incoming Incident Management Teams (IMT's), the local Forest Service (USFS), and the communities affected by these fires and firefighting activities during and after a wildfire event. Liaisons are often trusted community members with ample fire, natural resource and community knowledge who can be effective at getting real time information out to local and interested audiences, assure that place based and accurate local knowledge and information is available for teams, and ease tensions as they arise in this stressful environment. There is a designated Neighborhood Liaison for the Bear Country Neighborhood.

Areas of Increased Consideration

Certain areas demand increased consideration in fire planning efforts, prevention activities, and emergency response due to their extraordinary significance for the protection of life, property, and other identified values at risk.

High Value Areas

The following high value areas have been identified:

1. Residences: twelve residences and numerous out buildings are located at Godfrey Ranch
2. Open space and community safety areas: large meadows and open areas
3. Water systems and other infrastructure
4. Gardens and orchards
5. Historic and cultural sites: including two known cemeteries
6. Oak woodlands
7. Riparian areas, wetlands and springs

Emergency Access & Egress Routes

The identified and mapped emergency access and egress routes for Godfrey Ranch are of critical importance during a wildfire (see Emergency Access & Resources Map and Godfrey Ranch Safety Priorities Map). These areas need special consideration and high prioritization for the implementation and maintenance of fuels reduction. These routes must be kept free of encroaching fuels that would prevent or compromise their use during a wildfire emergency and imminent hazard trees and snags that will pose a safety threat should be removed.

Current conditions of the emergency access and egress routes to and from Godfrey Ranch are poor in many locations. Residents generally maintain fuel loads along access routes to a minimum on private property, however many of the US Forest Service roads leading to the private land are poorly maintained. All access routes to Godfrey Ranch have extensive areas of heavy fuel loading with brush and trees encroaching into the roadway. Many areas have snags within 150 ft. of the roadway. For the safety of residents and fire fighters, the condition of emergency access and egress routes is critical.

Safety Priority Areas

Areas identified and mapped as safety priorities include defensible space around homes, outbuildings, water system infrastructure as well as a fuels-reduced buffer on public land around the perimeter of Godfrey Ranch (see Godfrey Ranch Safety Priorities map). Many identified high value areas fall within safety prioritized zones and received increased consideration in the fire planning process.

Desired Future Conditions

Ultimately, the desired future conditions at Godfrey Ranch will allow fire to perform its natural role in the ecosystem without threatening the safety, wellbeing, and property of Godfrey Ranch residents or the values identified as being at risk. The suite of prioritization maps and treatment maps are the result of intensive analysis of the various factors involved in achieving the desired future conditions.

In recognition of the reality that Godfrey Ranch is located in a fire-adapted and fire-dependent ecosystem, residents identified desired ecological conditions for their properties that will harmonize with and improve current ecological conditions while aiding the return to a naturally fire-adapted ecosystem in order to reduce the risks of catastrophic wildfire.

The desired ecological conditions are a mosaic of different vegetation and forest types that vary according to their geographic location, aspect, soil and rock type, past and/or current vegetation types, proximity to homes and infrastructure, and other factors (see Godfrey Ranch Ecological Desired Conditions Map). Open areas are highly valued for the utility of their space, natural resilience

to fire, and various roles in the ecosystem and, as such, these areas are desired to remain as meadows, open ground, and clearings of various sizes throughout Godfrey Ranch. Areas that are currently dominated by brush are generally desired to be encouraged to transform to hardwood stands while the relatively few areas occupied by conifer forests are desired to remain as such. Mixed conifer and hardwood forests are desired where this forest type currently exists as well as in some areas that are currently sparsely forested or dominated by a mix of brush and hardwoods. A few small areas are desired to be oak stands. Riparian areas on Honky Creek and its tributary forks are desired as riparian vegetation. This mosaic of vegetation and forest types across Godfrey Ranch will provide variations in habitat with spaces and gaps that will also serve to reduce fire behavior and connectivity of fuels.

Treatment Prioritization

Manual fuels reduction treatment areas are ranked to prioritize implementation of areas currently in greatest need of treatment and expected to deliver the greatest benefit (See Godfrey Ranch Treatment Priorities Map). This approach takes into account areas that have received recent fuels reduction work and areas that are maintained for fire safety. Past work by Godfrey Ranch residents and the Salmon River Restoration Council has accomplished 100-foot defensible space around all occupied residences and many other structures as well as fuels reduction along key portions of access routes. Current priorities include a significant amount of additional fuels reduction along access routes including the Godfrey Ranch Road, defensible space around water infrastructure, and expanding defensible space outward from homes beyond the 100-foot range. The Godfrey Ranch Treatment Priorities Map shows the ranking for implementation of manual fuels reduction work that considers the prioritization shown in the Safety Priorities map with respect to the current status of fuels reduction work already completed and maintained.

Emergency Response, Safety Zones, Procedures, & Evacuation

If all communication lines are working properly, it would take a minimum of one hour for Salmon River Volunteer Fire and Rescue to reach the Godfrey Ranch. Under normal circumstances, emergency response times are more likely 1 ½ to 2 hours for SRVFR. The nearest USFS engines are located at the Sawyers Bar work station and the Petersburg Workstation above Cecilville during fire season. These resources are 1 hr and 15 minutes from Sawyers Bar, and 1 hr and 30 minutes from Cecilville, and available seasonally from 11:00am – 3:00pm daily, if they are not on other fire assignments. The next nearest emergency response units for fires would be USFS in Fort Jones, ~ 2.5 hours away. Cal Fire Engines do not normally respond to emergencies or fire starts on the Salmon River given the long travel time, and instead rely on the US Forest Service engines.

Given the long emergency response times, Bear Country Neighborhood residents have historically been the first to arrive on the scene of a fire start.

There is a designated and recognized Safety Zone at Godfrey Ranch (See the Godfrey Ranch, Infrastructure Map). It is located in the largest open meadows in the neighborhood, consists of ~20 acres of open meadow with low, grazed grass. It is accessible from several directions. This Safety Zone is also a known Emergency Helicopter landing area, and has been used for medical emergencies.

Godfrey residents are fortunate to have three main emergency access and egress routes, outlined above, giving them options depending on what direction a fire was traveling. All access/egress routes are along poorly maintained USFS roads and have areas of significant brush encroachment and heavy fuel loading.

Infrastructure

Each of the seven parcels of private property that compose Godfrey Ranch are developed with one or more residences, road access, and waterlines. Most properties also contain water storage tanks and residents plan several additional tanks for installation on some of the parcels (see Godfrey Ranch Infrastructure Map). Residences are built with varying materials and construction methods and occupy different settings, aspects, and slope positions on the landscape, depending upon the unique characteristics of their location.

Water storage and delivery systems are, for the most part, specific to individual properties rather than being shared by the community. The lack of plentiful surface or spring water has led residents to develop water systems from several different sources. Taken together, these factors have led to a complex array of independent water systems at Godfrey Ranch. Some waterlines are buried, however, many of the waterlines are laid upon the surface of the ground utilizing black polyethylene piping of varying sizes. Additionally, several ponds are used for water storage, although all but one of the ponds is typically dry by mid-summer.

Risks & Mitigations

Risks, or hazards, are the identifiable and definable characteristics of the landscape, community, structures, infrastructures, and activities that create or enhance potential for the loss of life, property, or other values in a wildfire. Mitigations are actions taken to reduce or eliminate exposure to risks. Most basically, effective mitigations enable residents to evacuate safely while homes withstand the occurrence of wildfire and enable firefighters to safely defend structures where possible. Ideally, mitigations also create a safe environment in which fire can be introduced or otherwise allowed to burn on a recurring basis in order to reduce fuels across the landscape and allow fire to resume its natural role in the ecosystem. In other words, successful mitigation is a cornerstone of a fire-adapted community.

Risk	*Mitigation*
Lack of water in dry seasons Lack of reliable year-round engine fill sites	• Increase water storage capacity with additional tanks kept full and fully plumbed for use. Given the long distance to tanker fill sites and slow recharge rates, it is recommended that each main residence keep a minimum of 5,000 gallons of water on hand for fire use and structure protection. It is also recommended that a tank of at least 5,000 gallons be obtained, plumbed and filled as a neighborhood tanker fill site. This tank should be located centrally along the main road and be plumbed with fire hose fittings, and filled during winter months when water is plentiful.
Low recharge rates for stored water	• Fill tanks and ponds to capacity in winter when flows are more substantial and ensure all water storage is at capacity before dry season arrives; continue to trickle-fill and recharge water storage as possible in dry season.
Unburied water pipes exposed to fire	• Bury all exposed pipes to 12-18" depth in mineral soil. • Use galvanized metal pipe for any sections unable to be buried and maintain 4-5' width of fireline on each side of any exposed metal pipe.
Lack of communications	• Restart process for obtaining landline telephone service from Siskiyou Telephone. • Increase number of satellite phones and satellite Internet connections available to residents. • Utilize large antennae for CB communications. • Obtain individual ham radio licenses and VHF radios capable of communicating on repeater networks. • Create and maintain a phone tree and communications plan for the neighborhood.
Long distance to emergency response resources; long response times	• Locate important emergency response equipment on-site such as a fire engine, water truck, pumps, hoses, nozzles, and hand tools. • Train residents in NWCG-standard wildfire suppression methods. • If possible have at least one resident trained as an emergency first responder and/or EMT. • Work with SRVFR to maintain communications. Have at least one VHF Radio that can communicate with SRVFR.
Numerous stacked structures, many with ignition sources such as woodstoves, cooking stoves, etc.	• Ensure all structures have well-maintained 100-foot defensible space at minimum. • Implement Firewise buildings practices and retrofit non-conforming structures.
Heavy fuel pockets on private lands	• Treat high priority areas individually and/or continue to work with SRRC & SRFSC to find funding to have local crews treat high priority areas strategically.

Risk	*Mitigation*
Fast and continual re-growth of brushy fuels in a heavily fire impacted environment that lacks shaded fuel break characteristics to keep brush down	• Use manual fuels treatments as a first step in preparing distinct units for prescribed fire. Lay out work strategically, creating a network of permanent roads, firelines, trails, ridges and openings to safely contain Rx Fire within the appropriate burn windows, thus maintaining fuels with fewer resources for over time. • Work with TREX and other local resources to burn units during appropriate burn windows for little expense. • Landowners and residents participation in TREX to increase their own Rx Fire qualifications. • Once units are established in a rotation and safe, local resources could be ready to burn whenever the conditions are right. • Take advantage of the late winter early spring burn windows that are common in the Bear Country Neighborhood. • Encourage the re-growth of shaded fuel breaks where appropriate by removing brush and thinning tree clumps to fewer stems.
Heavy fuel loading on surrounding federal lands	• Work with Klamath National Forest and Western Kalamath Restoration Partnership to prioritize, plan, and implement landscape-scale manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals.
Unsafe Emergency Access/Egress route	• Work with KNF to prioritize, plan, and implement manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals, along critical access/egress routes. • Work with USFS and SRFSC to prioritize access/egress route for increased roadbed maintenance.
Short notice and evacuation time in event of fast-moving wildfire approaching from below.	• Maintain an evacuation kit with essentials such as clothing, medications, and irreplaceable valuables. • Improve communication capabilities (see above). • Ensure that vehicles are fueled and able to be used for evacuation on short notice. • When possible, evacuate those in need of assistance, children, livestock before this point. • Conduct neighborhood fire drills, including evacuation for those who evacuate. • Keep an accurate census, have people sign in/ out. • Use safety zones when necessary.

Table 1: Godfrey Ranch risks & mitigations.

Recommendations

Godfrey Ranch is at high risk of burning in another wildfire. The properties are located in the upper half of the watershed, a high-risk slope position in terms of fire behavior, and are surrounded by high fuel loading on the surrounding national forest lands. In this fire prone environment, it is important to learn to live with fire and not just live in fear of it. It is not a question of if the Bear Country landscape will see another fire, but when, and how prepared the community will be.

Godfrey Ranch landowners have made significant headway in treating fuels on the private lands and are highly commended for their proactive efforts and encouraged to continue to treat high fuel areas and maintain treated areas into the future. It is recommended to treat areas in definable units that can be followed up with prescribed fire when the conditions are right. Frequent, low intensity prescribed fire can be a very efficient and effective way to treat large acreages with minimal resources. Godfrey Ranch, with its extensive winter sun and southwest aspect, seems particularly well suited to take advantage of the late winter – early spring burn windows, where fuels can be removed while minimizing impact to desired trees.

Given the high risk location, it is highly recommended that Godfrey Ranch residences expand the required 100' defensible space to 200' wherever possible. Even if the watershed burns, homes with extensive defensible space have the highest likelihood of surviving the blaze undamaged. This is especially true of structures that area located at the top of steep drainages or ravines that could funnel and intensify fire effects. Additionally treated forest stands have a higher likelihood of remaining and becoming mature forests than untreated ones. It is recommended that all new structures and remodels use firewise building principals and fire safe building materials.

Emergency access and egress are of critical importance for Godfrey Ranch residents and firefighter safety. Landowners should maintain their access/egress routes on private property. The overwhelming majority of access/egress route length for Godfrey Ranch residents is on US Forest Service roads with inconsistent maintenance. Many lengths of road would not meet critical access route safety standards, due to high fuel loading, brush and tree encroachment, and roadbed conditions. It is recommended that Bear Country residents and landowners work with the USFS and partners to strategically plan for and treat primary access/egress routes within the neighborhood. This will benefit the safety of everyone.

The greatest fire risk posed to Godfrey Ranch comes from the surrounding US Forest Service lands. Landscape level fire planning and strategic fuels treatments are critical to reducing fire risk to the neighborhood. Landowners are encouraged to work with the USFS and partners, such as SRRC and the Western Klamath Restoration Partnership to get this planning off the ground.

Water is of critical importance for Godfrey Ranch in regards to fire safety and fire suppression. The supply is limited, with some water sources drying up during the most critical times of the year. For these reasons, it is highly encouraged that residents and landowners have a minimum of 5,000 gallons of water storage capacity available for use during a fire event. Since recharge rates tend to be low during fire season, it is highly recommended that this water be collected in the winter and spring when flows are high. The neighborhood could look into funding for a community tanker fill site, in the form of a storage tank that is explicitly available for fire suppression efforts on or around the ranch. It is highly encouraged that any surface waterlines be buried 12" – 16".

There is also a good opportunity for coordination between the landowners and the US Forest Service on mutually beneficial activities. Landowners' are encouraged to update this plan every five years to account for changes and accomplishments or sooner if conditions dictate.

Black Bear Ranch Neighborhood

Background

The 70-acre Black Bear Ranch property was a mining town from 1862 until the 1950s, supporting the highly productive Black Bear Mine located just to the northeast of the ranch. At the peak of its operation in the late 1800s, Black Bear had a post office, sawmill, trading center, iron foundry, church, school, general store, and a bustling population. The property was highly impacted during this time as trees were logged and milled for use in the mine and on the ranch, meadows were plowed and farmed, and trails, roads, and ditches were constructed. Historical photographs depict large treeless areas on the hillsides surrounding the ranch.

The ranch property was sold to a group of hippies from San Francisco who started the Black Bear Commune in 1968. The commune is still in existence and the Black Bear Family Trust now owns the land. The property features several historical buildings from the mining era including the Daggett house, the original schoolhouse, barn, and general store. Additionally, there a numerous newer vintage cabins, sheds, and outbuildings. The original ditch system is still used to convey water for extensive gardens and orchards.

Black Bear Ranch is located at approximately 2750 feet elevation along Black Bear Creek, slightly more than one half the distance and elevation from the South Fork Salmon to the top of the Black Bear Creek drainage. Unlike the other Bear Country Neighborhood properties, Black Bear Ranch is situated in a conifer forest and has not been heavily impacted by wildfire. With over 150 years of occupancy, fifty years of woodcutting and maintenance, intermittent goat grazing, and the absence of over-story removal for over seventy-five years, the forest under-story is quite clear of brush and fuels. The forest is generally mature, second growth conifer stands with scattered hardwoods primarily on south and west facing slopes.

The Black Bear Creek drainage runs north-south and is roughly perpendicular to the South Fork Salmon River canyon. This orientation and surrounding terrain protects Black Bear Ranch from diurnal upriver winds in the summertime, however, the unprotected ridge tops and slopes above the ranch are still affected by convective winds. The ranch's riparian location aids in overnight humidity recovery during fire season. Slopes are generally less than 50%.

In recent years, the Black Bear Commune has had three to fifteen year-round residents with a higher number in the warmer, drier months. Several gatherings each year bring an additional fifty to one hundred visitors. There is no landline or cellular telephone service to Black Bear and currently there is no satellite Internet or satellite telephone available.

Fire History

The only recorded fire to burn on Black Bear Ranch was the 1987 fire which burned lightly through the property on the east side of Black Bear Creek and the south side of Callahan Creek (see Fire History Map). Residents constructed firelines above the buildings on the southwest side of the property and prevented the fire from backing downhill into the structures. Two structures were lost during this fire. However, the fire burned with medium- to high-intensity on public lands downslope of Black Bear Ranch to the south and west. Post-fire salvage logging in the late 1980s and early 1990s removed much of the burned timber but left accumulations of slash and fuel that pose a fire hazard to this day.

Available Emergency Resources & Logistics

Black Bear Ranch has limited emergency resources on site. There are several caches of fire hose and fittings, but no pump. Yearly fire drills are carried out, however the population can be transient.

Access Routes

Access to Black Bear Ranch is limited, with access provided by a single, unpaved county road from the north and by a single-track trail from the south (see Emergency Access Map).

Black Bear Ranch can be accessed by road from the North Fork Salmon River side starting in Sawyers Bar and from the South Fork Salmon side starting at any of the roads that also access the other Bear Country Neighborhood properties. Regardless of the starting point, all routes converge at Black Bear Summit and the final 2.6 miles to reach Black Bear Ranch are on the Black Bear Road (1E001), which is maintained by Siskiyou County. Black Bear Summit is at approximately 4530 feet elevation and the road may be intermittently blocked by snow during winter; in years with substantial snows, the road may be blocked for extended periods of time during winter and into early spring until snowpack melts.

From Sawyers Bar

Black Bear Ranch is reached from Sawyers Bar via a 9.37-mile route beginning at Eddy Gulch Road (County Road 2E001/39N60/39N27) off of the Sawyers Bar Road. The route reaches Black Bear Summit approximately 6.6 miles from Sawyers Bar Road, after gaining 2345 vertical feet at a fairly steady grade of 6.9%. The final 2.77 miles from Black Bear Summit to Black Bear ranch follow Black Bear Road (1E001), dropping 1690 feet at an average grade of 11.6%. Approximate drive time from Sawyers Bar to Black Bear Ranch on this route is 45 minutes for a pickup truck and longer for emergency response vehicles.

Figure 7: Sawyers Bar - Black Bear Ranch route elevation profile.

From Other Bear Country Neighborhoods

A network or primary and secondary forest roads connect Godfrey, Harris, and Blue Ridge Ranches to Black Bear Summit and a variety of routes are possible. In general, regardless of the selected routes, these roads more or less maintain their elevation as the traverse the flanks of Blue Ridge to reach Black Bear Summit. A common 12.7-mile route from Godfrey Ranch to Black Bear Ranch utilizes Godfrey Ranch Road (39N30) to 39N29, Blue Ridge Road (39N28) and Black Bear Road (1E001), passing Blue Ridge Ranch on the way. Approximate drive time from Godfrey Ranch to Black Bear Ranch on this route is 45 minutes for a pickup truck and longer for emergency response vehicles.

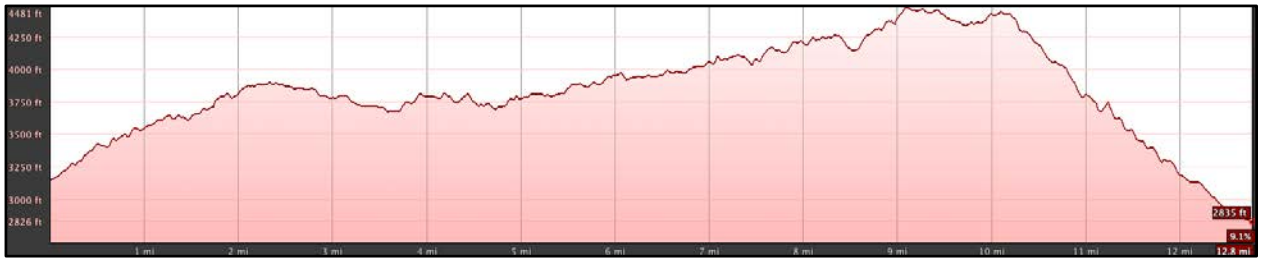


Figure 8: Godfrey Ranch - Black Bear Ranch route elevation profile.

From Cecilville

Black Bear is reached from Cecilville Road (1C02) in Cecilville via the Bacon Rind Road (39N23) to Black Bear Summit (14.3 miles) and then descending 2.77 miles on Black Bear Road (1E001). This route exceeds 5000 feet in elevation for several miles as it traverses the Bacon Rind before reaching Black Bear Summit, making winter and early spring travel challenging or impossible at times due to winter and early spring snow. Approximate drive time from Cecilville to Black Bear Ranch on this route is 1 hour, 10 minutes for a pickup truck and longer for emergency response vehicles.

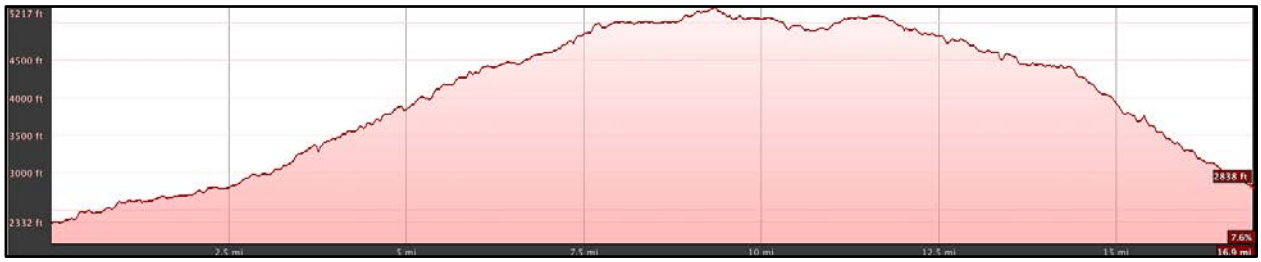


Figure 9: Cecilville - Black Bear Ranch elevation profile.

By Trail from Cecilville Road

Black Bear Ranch can be reached by foot via the Black Bear Trail, originating at the bridge over Black Bear Creek on Cecilville Road. This 3.9-mile single-track trail generally follows the creek as it climbs from 1660 feet elevation to Black Bear Ranch at 2750 feet elevation with an average grade of 5.3% (280 feet per mile).

Engine Fill Sites

There are potential engine fill sites at the ford directly below the main structures and at the Argus Creek culvert below the Gate House.

Communication

With no landline or satellite telephone service, no Internet service, and no to very poor CB radio reception and transmission, communication at Black Bear is often limited to in-person communication. This poses obvious and serious challenges during an emergency situation.

Black Bear Ranch can usually reach the Eddy Gulch Look Out and/or Blue Ridge Ranch via CB radio. These lines of communication are critical.

Areas of Increased Consideration

Certain areas demand increased consideration in fire planning efforts, prevention activities, and

emergency response due to their extraordinary significance for the protection of life, property, and other identified values at risk.

High Value Areas

The following high value areas have been identified:

1. Residences: eight cabins and two house sites are located at Black Bear Ranch or immediately adjacent . to the property (see
2. Community safety areas: two large meadows several other smaller clear areas.
3. Community water systems: three separate water systems provide water to different areas of the property for different purposes. Irrigation & Pond: the Main House garden, orchard and grounds are i
   Creek and carries it along the road, on the upper side of the grassy knoll, to a cistern above the orchard, garden, and main house. The Middle Garden is irrigated through a 1.5" line from lower Marley Gulch to a tank above the garden. The meadow garden has a 2" PVC line from Callahan Creek that runs in the ditch for part of the way and is buried through most of the meadow. The pond is fed from the same point in Callahan Creek, through a pipe and then ditched to the pond; the tail-out of the pond returns to Callahan Creek.
   Potable: The Main House water is piped from a spring box behind the house. Hydro and
   Fire Safety: the electricity at the Ranch comes from a small hydro system. The hydro line is a buried 2" line from Marley Gulch to the hydro-wheel, located on the southwest side of the Main House. This line also feeds a hydrant located behind the Main House. The hydrant is equipped with 600 feet of fire hose.
4. Gardens and orchards: there are four main garden areas and two orchards. The use of the gardens varies with the fluctuations in residency.
5. Historic sites: the old sawmill as well as other historic buildings and sites are included in other high value areas.

Emergency Access & Egress Routes

There are only two ways in and out of Black Bear Ranch, a narrow, steep, 2.77 mile road to Black Bear Summit, which then branches into several options and a 3.9 mile single track trail down the Black Bear drainage to the Cecilville Road. Given the very limited options for accessing Black Bear Ranch, both the road access and trail access are of exceptional value in the event of a wildfire. It is imperative that both routes are well-maintained and open for use at all times during fire season.

Safety Priority Areas

Areas identified and mapped as safety priorities include defensible space around homes, outbuildings, water system infrastructure as well as a fuels-reduced buffer on public land around the perimeter of Black Bear Ranch (see Black Bear Ranch Safety Priorities Map). Many identified high value areas fall within safety prioritized zones and received increased consideration in the fire planning process.

Desired Future Conditions

Ultimately, the desired future conditions at Black Bear Ranch will allow fire to perform its natural role in the ecosystem without threatening the safety, wellbeing, and property of Black Bear Ranch residents or the values identified as being at risk. The suite of prioritization maps and treatment maps are the result of intensive analysis of the various factors involved in achieving the desired future conditions (see Black Bear Ranch Ecological Desired Conditions Map).

The desired ecological conditions will harmonize with and improve current ecological conditions while aiding the return to a naturally fire-adapted ecosystem in order to reduce the risks of catastrophic wildfire.

The desired ecological conditions are a healthy, mixed age class conifer forest throughout a majority of the property with mixed conifer/hardwood forest on the hillside above the meadow along the eastern tributary to Black Bear Creek. Open meadows will be maintained and kept clear of encroaching vegetation. The riparian areas along Black Bear Creek and its permanent and seasonal tributaries are desired as riparian vegetation.

Treatment Prioritization

Manual fuels reduction treatment areas are ranked to prioritize implementation of areas currently in greatest need of treatment and expected to deliver the greatest benefit. This approach takes into account areas that have received recent fuels reduction work and areas that are maintained for fire safety. Immediate priorities include securing 100-foot defensible space around all occupied residences and many other structures as well as water storage and delivery infrastructure. Fuels reduction work needs to be improved and maintained along the Black Bear Road. Second tier priorities include expanding defensible space outward from structures beyond the 100-foot range. The Black Bear Ranch Treatment Priorities Map shows the ranking for implementation of manual fuels reduction work that considers the prioritization shown in the Safety Priorities Map with respect to the current status of fuels reduction work already completed and maintained.

Emergency Response, Safety Zones, Procedures, & Evacuation

If all communication lines are working properly, it would take a minimum of 1 ½ hours for Salmon River Volunteer Fire and Rescue to reach Black Bear Ranch. Under normal circumstances, emergency response times are more likely 2 to 3 hours for SRVFR. The nearest USFS engines are located at the Sawyers Bar work station and the Petersburg Workstation above Cecilville during fire season. These resources are 1 hour from Sawyers Bar, and 1 hr and 30 minutes from Cecilville, and available seasonally from 11:00am – 3:00pm daily, so long as they are not on other fire assignments. The next nearest emergency response units for fires would be USFS in Fort Jones, ~ 2.5 hours away. Cal Fire Engines do not normally respond to emergencies or fire starts on the Salmon River given the long travel time from Yreka, over 3 hours to Godfrey Ranch, and instead rely on the US Forest Service engines.

There is NOT a recognized Safety Zone at Black Bear Ranch (See the Black Bear Ranch, Infrastructure Map). The main house garden near the main house on Black Bear Creek and the meadow garden and pond area along Callahan Creek are the largest open areas on the ranch.

Black Bear residents are at particular risk due to the limited emergency access/egress routes, outlined above.

Infrastructure

Black Bear Ranch is a historic property with a long history of use and occupation. Many of the building are of historic vintage and the original ditch system is still used to convey water to the gardens and orchards.

There are eight residential cabins or homes on the property plus numerous outbuildings. Waterlines or ditches carry water from Black Bear Creek to various locations on the property and additional

lines bring water from tributary streams on each side of Black Bear Creek. A small pond on the eastern tributary is used to store water.

Risks & Mitigations

Risks, or hazards, are the identifiable and definable characteristics of the landscape, community, structures, infrastructures, and activities that create or enhance potential for the loss of life, property, or other values in a wildfire. Mitigations are actions taken to reduce or eliminate exposure to risks. Most basically, effective mitigations enable residents to evacuate safely while homes withstand the occurrence of wildfire and enable firefighters to safely defend structures where possible. Ideally, mitigations also create a safe environment in which fire can be introduced or otherwise allowed to burn on a recurring basis in order to reduce fuels across the landscape and allow fire to resume its natural role in the ecosystem. In other words, successful mitigation is a cornerstone of a fire-adapted community.

Risk	***Mitigation***
Numerous stacked structures, many with ignition sources such as woodstoves, cooking stoves, etc.	• Ensure all structures have well-maintained 100-foot defensible space at minimum. • Implement Firewise buildings practices and retrofit non-conforming structures. • Educate and inform new residents and visitors about fire safe practices.
Ceremonial fires and campfires during fire season.	• Avoid all outdoor fires during fire season. • Have adequate water and firefighting tools on hand whenever an outdoor fire is burning.
Fluctuating population and short-term residency of many occupants makes accomplishing fire safety tasks challenging.	• Involve all residents in fire preparedness activities. • Coordinate work when occupancy levels are high so that more work is accomplished.
Heavy occupancy during fire season, often with inadequate vehicles for evacuation.	• Have emergency fire suppression and evacuation plans in place and ensure all occupants are familiar with the plans. • Educate and inform new residents and visitors on fire safe practices. • Conduct fire drills at start of fire season. • Have enough operable and fueled vehicles on premises during fire season to evacuate all residents simultaneously in the event of a wildfire approaching from below. • In the event of wildfires in the greater area, evacuate livestock, visitors, those in need of special assistance, and anyone who is either cannot fit in available running vehicles while fires are still a safe distance away. Keep minimal necessary occupancy during wildfire events in the greater area so that evacuation can occur rapidly if needed.

Risk	*Mitigation*
Meadow areas contain highly combustible, flashy fuels in fire season.	• Mow meadows each year when grasses have grown but before they pose a combustion threat. • Irrigate meadows in the event of a wildfire to keep them functional as safety zones. • Graze meadows to reduce flashy fuels.
Meadow areas contain highly combustible, flashy fuels in fire season.	• Mow meadows each year when grasses have grown but before they pose a combustion threat. • Irrigate meadows in the event of a wildfire to keep them functional as safety zones. • Graze meadows to reduce flashy fuels.
Small amount of water storage is currently available. Slow recharge rate during summer months, especially during droughts.	• Increase water storage capacity with additional tanks kept full and fully plumbed for use. • Fill tanks and ponds to capacity in winter when flows are more substantial and ensure all water storage is at capacity before dry season arrives; continue to trickle-fill and recharge water storage as possible in dry season.
Limited access to property by road and trail, particularly in winter.	• Ensure both the Black Bear Road (1E001) and the trail along Black Bear Creek are well-maintained, free of rocks and brush. • Create and maintain a fuels reduced buffer along Black Bear Road. • Encourage Siskiyou County to plow Black Bear Road promptly after snow accumulations and to provide more substantial routine maintenance of the road in all seasons. • Black Bear Ranch residents should routinely perform maintenance work on the road and trail.
Unsafe Emergency Access/Egress route	• Work with Klamath National Forest and County Road Department to prioritize, plan, and implement manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals, along critical access/egress routes. • Work with USFS and County Road Dept. to prioritize access/egress route for increased roadbed maintenance.
Emergency flight service providers have not assessed potential helispots at Black Bear Ranch.	• Arrange a formal assessment of potential helispots and ensure that emergency flight service providers and US Forest Service Fire & Aviation Management staff are familiar with the helispots. • If none exist within the drainage, work with SRFSC and partners to identify the nearest helispot and make sure that it fits standards and is recognized for use.

Risk	*Mitigation*
Lack of communications	• Obtain satellite phones and satellite Internet connections available to residents. (This is critical for the safety of the ranch and its residents during emergency situations.) • Improve antennae and/or radio for CB communications. • Obtain individual ham radio licenses and VHF radios capable of communicating on repeater networks.
Long distance to emergency response resources; long response times	• Locate important emergency response equipment on-site such as a fire engine, water truck, pumps, hoses, nozzles, and hand tools. • Train residents in NWCG-standard wildfire suppression methods. • Keep BBR as fire safe as possible at all times.
Heavy fuel loading on surrounding federal lands	• Work with Klamath National Forest and WKRP to prioritize, plan, and implement landscape-scale manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals.
Short notice and evacuation time in event of fast-moving wildfire approaching from below.	• Maintain an evacuation kit with essentials such as clothing, medications, and irreplaceable valuables. Improve communication capabilities (see above). • Ensure that vehicles are fueled and able to be used for evacuation on short notice. • If time allows, evacuate livestock, visitors, those in need of special assistance, and extra people while fires are still a safe distance away, thus eliminating risk when evacuation notices are given.

Table 2: Black Bear Ranch risks & mitigations.

Recommendations

Black Bear Ranch is at high risk of being burned over in a wildfire. The property is located in the upper half of the watershed, a high-risk slope position in terms of fire behavior. Access would be particularly threatening in the case of a fire coming from above. The defensible space on the Black Bear Ranch property can be improved with fuels reduction, maintenance, the use of fire-resistant building materials, and water storage improvement. There is also a good opportunity for coordination between the landowners and the US Forest Service on mutually beneficial activities. Landowners' are encouraged to update this plan every five years to account for changes and accomplishments or sooner if conditions dictate.

Blue Ridge Ranch Neighborhood

Background

Blue Ridge Ranch is comprises of one privately owned residential parcel of 100 contiguous acres in the upper Indian Creek watershed, a tributary to the South Fork Salmon River. This property was originally a US Forest Service station and was subsequently patented in the early 1920's. The private land is completely surrounded by public land managed by the Klamath National Forest. Currently there are two occupied residences on the property.

A variety of aspects are present on the landscape, however, the overall aspect of Blue Ridge Ranch is south facing. Elevations range from approximately 3500 feet to 4000 feet and the terrain varies from nearly flat in several large open meadows to moderately steep (10-55%) on hillsides. Blue Ridge Ranch comprises some of the largest open meadows within the watershed and approximately 1/3 of the ranch is near to flat. Nearly all of Blue Ridge Ranch sits atop ancient landslide deposits and this accounts for the fact that the ranch's topography is gentler than much of the surrounding area.

The mid elevation location and southern aspect together expose Blue Ridge Ranch to the prevailing upriver afternoon winds for much of the year, most notably in the summer months when convective heating causes diurnal winds to flow up the Salmon River and continue up the South Fork. These winds are a significant factor for fire weather. Like Godfrey. Black Bear and Harris Ranches, Blue Ridge Ranch sits at the top of the first major break in slope in the upper ½ to 1/3 of their respective watersheds. The steep canyons below have potential to funnel fire up to all of the properties in this neighborhood, creating dangerous fire conditions.

Hallie Morse Daggett, daughter of John Daggett, the founder of Black Bear Mine and the 16th Lieutenant Governor of California, lived at Blue Ridge Ranch. She was hired as the first female U.S. Forest Service field employee, and the first female lookout, in 1913, and served 15 years as the Eddy Gulch fire lookout.

Hallie Daggett was hired on May 26, 1913 at the age of 30. She was living an elegant life in San Francisco at the time and had only four days to report for duty on June 1. She worked for 15 summers as the fire lookout atop Eddy Gulch, earning $840 per year. A 1923 report by the ranger reported that the lookout "was in much better condition than stations kept by a man."

Fire History

Several attributes of Blue Ridge Ranch suggest that indigenous people burned the area frequently to clear brush, improve forage, and to favor the growth of desired food and fiber species, especially black oaks. The ranch was in close proximity to several Shasta and Konomihu Indian villages and possesses favorable aspect, terrain conditions, forest types, and vegetation communities for indigenous burning. The current presence of knobcone pine, large oaks, and open meadows all suggest that the area has had a frequent fire return interval for a long period of time. Blue Ridge Ranch has some of the largest legacy black oaks on the Salmon River, that likely far pre-dated western colonization.

Although it is likely that Blue Ridge Ranch was burned frequently with low intensity fire pre-colonization, fire records show that it has only burned once in the past 100 years.

The Glasgow Fire burned through Blue Ridge Ranch along with the rest of the Bear Country Neighborhood in 1987. The initial fire burned through with low intensity, however a back fire lit to

control the fire re-burned the ranch and surrounding area at high intensity. The two existing homes on the ranch and several out buildings were lost in this back fire. Additionally, ~95% of the ranch's vegetation was consumed in the fire and especially thee back fire. Hallie Daggett's original log cabin remnant was not burned in this.

Current fuel loading is at an unnaturally high hazard level in the Indian Creek watershed, and it threatens to severely damage the recovering landscape and poses a critical wildfire threat to Blue Ridge Ranch.

Available Emergency Resources & Logistics

Blue Ridge Ranch has one 10,000 gallon tank of water available for fire use on and around the property. Additionally the landowners have at least one pump, additional smaller tanks, and a significant amount of 1" and 2" fire hose. There is one trailer that can be fitted with a 300 gallon tank, a pump, and hose in the event of a nearby fire.

Access Routes

Blue Ridge Ranch is accessible via county and National Forest Transportation System roads from Forks of Salmon, Cecilville Road, Sawyers Bar, and Cecilville (see Emergency Access Map).

From Forks of Salmon

Residents most commonly access Blue Ridge Ranch via the Picayune Road (Forest Road 39) from Forks of Salmon. This 13.4-mile route is slightly longer than the alternate Forks of Salmon to Blue Ridge Ranch route via Cecilville Road/Godfrey Ranch Road (11.3 miles), but is generally an easier drive with more moderate grades, better sight lines, and better road surfacing. From Forks of Salmon, this route climbs 2870 feet at an average grade of 8.4% for the first 6.4 miles, topping out at 4100 feet elevation. It then descends 490 feet in less than one mile (11.1% grade) before continuing the final five miles at a fairly consistent elevation. Approximate drive time from Forks of Salmon to Blue Ridge Ranch on this route is 45 minutes for a pickup truck and longer for emergency response vehicles.

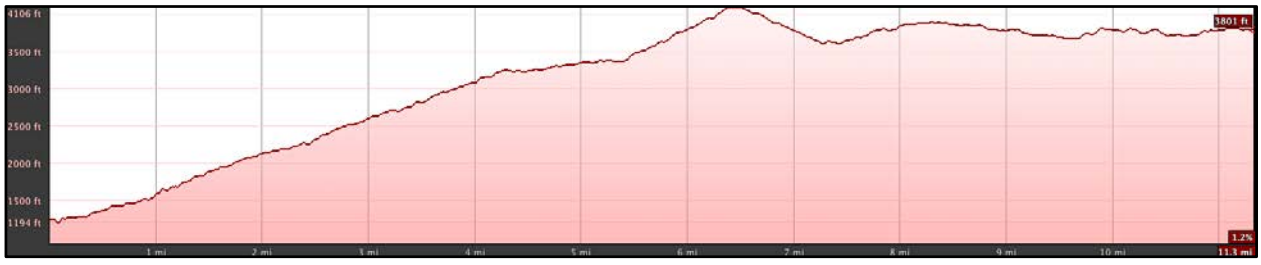


Figure 10: Forks of Salmon – Blue Ridge Ranch (via Picayune Road) route elevation profile.

Alternate access from Forks of Salmon is possible via the Cecilville Road and the Godfrey Ranch Road (39N30), passing through Godfrey Ranch along the way. This is the steepest and roughest route to Blue Ridge Ranch and is generally better suited to passenger vehicles and smaller trucks. After turning from the paved Cecilville Road onto Godfrey Ranch Road (39N30), this route gains 2350 vertical feet in 5.3 miles (8.5% average grade with portions at 12.5% grade) until topping out at 3900 feet elevation on Forest Road 39N29 and maintaining fairly consistent elevation for the remaining

three miles to Blue Ridge Ranch. Godfrey Ranch Road is a rough road for automobiles but with slow, careful driving it is passable by most cars. Trucks and emergency vehicles should have no issues with the quality or grade of the road, however, numerous blind curves, steep grades, and rough surfacing make passage in either direction a slow endeavor. Approximate drive time from Forks of Salmon to Blue Ridge Ranch on this route is 55 minutes for a pickup truck and longer for emergency response vehicles.

Figure 11: Forks of Salmon – Blue Ridge Ranch (via Cecilville Road & Godfrey Ranch Road) route elevation profile.

From Sawyers Bar

Blue Ridge Ranch is reached from Sawyers Bar via Eddy Gulch Road (County Road 2E001) off of the Sawyers Bar Road. The typical route uses Eddy Gulch Road to Lewis Memorial Road (39N27) and 39N28 to Blue Ridge Ranch. The route climbs 2365 vertical feet on its 6.4-mile ascent (7% average grade) before dropping 750 vertical feet over the next 6.2 miles (2.8 % average grade). This 11.6-mile route reaches 4550 feet in elevation as it traverses the southern flank of Blue Ridge and is often unsuitable for winter travel with snow lingering into spring some years. Approximate drive time from Sawyers Bar to Blue Ridge Ranch on this route is 45 minutes for a pickup truck and longer for emergency response vehicles.

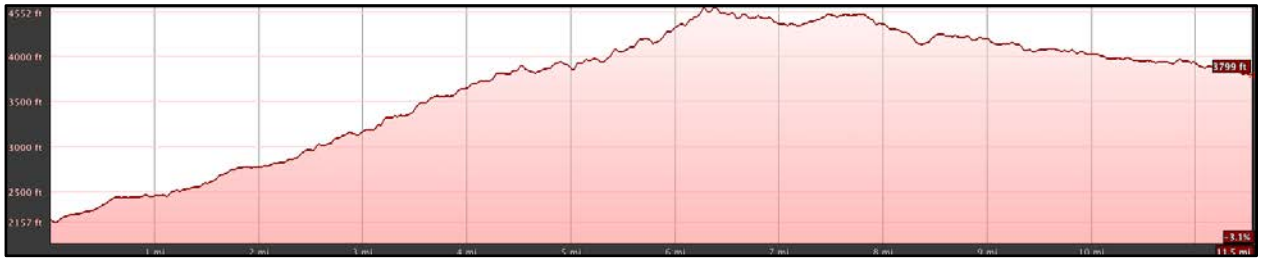


Figure 12: Sawyers Bar – Blue Ridge Ranch route elevation profile.

From Cecilville via Black Bear Summit

Blue Ridge Ranch can be reached from Cecilville via Crawford Creek Road and Forest Roads 39N23 and 39N28 on a 19.1-mile route that reaches 5200 feet elevation east of Black Bear Summit. This route is useful if other access routes to Blue Ridge Ranch are compromised. Winter and late season snows can impact this route. Approximate drive time from Cecilville to Godfrey Ranch on this route is one hour for a pickup truck and longer for emergency response vehicles.

Engine Fill Sites

There are no developed engine fill sites on federal lands near Blue Ridge Ranch. The landowners do have a 10,000 gallon tank that is designated for fire use only. It is on the main 39 road and is available for protecting the ranch itself and with permission potentially for dealing with nearby fire starts.

Communication

The Bear Country Neighborhood does not have regular phone service, i.e. there are no phone lines nor any other utility lines. Additionally there is no cell phone service for the entire Salmon River, including the Bear Country Neighborhood.

The main residence at Blue Ridge Ranch has internet access and spotty phone service via private satellite internet service. Both residences have CB radios for regular communication and can usually reach Godfrey Ranch and Eddy Gulch Lookout using these radios. This can be an important line of communication, especially during the fire season. Blue Ridge Ranch has the most reliable contact with Black Bear Ranch via CB radio, this connection is very important during emergency scenarios as it is the most reliable mode of communication to and from Black Bear Ranch. Emergency communications tend to come and go via internet and phone, and from there out via CB radio or personal contact.

This neighborhood is one of the more isolated neighborhood on the Salmon River. That said, the community is tight knit and residents generally do a good job of keeping in communication, especially during emergency situations.

The SRRC and SRFSC run a joint Community Liaison Program within the Salmon River Watershed. The lead liaisons keep the community well informed during fire incidents. The purpose the of the CLP is to facilitate timely and transparent communication and information exchange between the incoming Incident Management Teams (IMT's), the local Forest Service (USFS), and the communities affected by these fires and firefighting activities during and after a wildfire event. Liaisons are often trusted community members with ample fire, natural resource and community knowledge who can be effective at getting real time information out to local and interested audiences, assure that place based and accurate local knowledge and information is available for teams, and ease tensions as they arise in this stressful environment. There is a designated Neighborhood Liaison for the Bear Country Neighborhood.

Areas of Increased Consideration

High Value Areas

The following high value areas have been identified:

1. Residences: three residences and numerous out buildings
2. Open space and community safety areas: large meadows and open areas
3. Water systems and other infrastructure
4. Gardens and orchards
5. Historic and cultural sites: Hallie Daggett's old cabin
6. Oak woodlands: including large legacy black oaks
7. Riparian areas, wetlands and springs

Emergency Access & Egress Routes

The identified and mapped emergency access and egress routes for Blue Ridge Ranch are of critical importance during a wildfire (see Emergency Access & Resources Map and Blue Ridge Ranch Safety Priorities Map). These areas need special consideration and high prioritization for the implementation and maintenance of fuels reduction. These routes must be kept free of encroaching fuels that would prevent or compromise their use during a wildfire emergency and imminent hazard

trees and snags that will pose a safety threat should be removed.

Current conditions of the emergency access and egress routes to and from Blue Ridge Ranch are poor in many locations. US Forest Service roads leading to the private land are inconsistently maintained. Both main access routes to Blue Ridge Ranch have extensive areas of heavy fuel loading with brush and trees encroaching into the roadway. Many areas have snags within 150 ft. of the roadway. For the safety of residents and fire fighters, the condition of emergency access and egress routes is critical.

Safety Priority Areas

Areas identified and mapped as safety priorities include defensible space around homes, outbuildings, water system infrastructure as well as a fuels-reduced buffer on public land around the perimeter of Blue Ridge Ranch (see Blue Ridge Ranch Safety Priorities map). Many identified high value areas fall within safety prioritized zones and received increased consideration in the fire planning process.

Desired Future Conditions

Ultimately, the desired future conditions at Blue Ridge Ranch will allow fire to perform its natural role in the ecosystem without threatening the safety, wellbeing, and property of residents or the values identified as being at risk. The suite of prioritization maps and treatment maps are the result of intensive analysis of the various factors involved in achieving the desired future conditions.

In recognition of the reality that Blue Ridge Ranch is located in a fire-adapted and fire-dependent ecosystem, residents identified desired ecological conditions for their properties that will harmonize with and improve current ecological conditions while aiding the return to a naturally fire-adapted ecosystem in order to reduce the risks of catastrophic wildfire.

The desired ecological conditions are a mosaic of different vegetation and forest types that vary according to their geographic location, aspect, soil and rock type, past and/or current vegetation types, proximity to homes and infrastructure, and other factors (see Blue Ridge Ranch Ecological Desired Conditions Map). A) Open areas are highly valued for the utility of their space, natural resilience to fire, and various roles in the ecosystem and, as such, these areas are desired to remain and/or be restored, where encroachment has taken place, as meadows, open ground, and clearings of various sizes throughout the Ranch. B) Oak woodlands are a highly valued aspect of the landscape at Blue Ridge, and the landowners expressed a strong desire to protect existing oak woodlands, especially the legacy black oaks, and enhance and restore oak woodlands where they are suitable and returning post fire. This would include removing encroaching conifers and returning the land to a condition of frequent, low intensity fires. C) Areas that are currently dominated by brush are generally desired to be encouraged to transform to oak woodlands, mixed hardwood stands, or open meadows depending on historical clues on the landscape. D) Mixed hardwood stands are to be encouraged and released to move towards mature forest where they are naturally occurring, cultivating a broad diversity of species. E) There are limited conifer and mixed conifer and hardwood forests on the property, they are desired where this forest type currently exists as well as in some areas that are currently sparsely forested or dominated by a mix of brush and hardwoods. F) Riparian areas are desired and should be maintained and enhanced as such.

This mosaic of vegetation and forest types across Blue Ridge Ranch will provide variations in habitat with spaces and gaps that will also serve to reduce fire behavior and connectivity of fuels.

Treatment Prioritization

Manual fuels reduction treatment areas are ranked to prioritize implementation of areas currently in greatest need of treatment and expected to deliver the greatest benefit (See Blue Ridge Ranch Treatment Priorities Map). This approach takes into account areas that have received recent fuels reduction work and areas that are maintained for fire safety. Past work by Blue Ridge residents and the Salmon River Restoration Council has accomplished 100-foot defensible space around all occupied residences and many other structures as well as fuels reduction along key portions of access routes, as well as oak woodland restoration around some of the meadows. Current priorities include a significant amount of additional fuels reduction along access routes including along the main driveway, the main 39 road, and downslope, to the South and East of the main residence, as well as expanding defensible space outward from homes and access routes well beyond the 100-foot range. The Blue Ridge Ranch Treatment Priorities Map shows the ranking for implementation of manual fuels reduction work that considers the prioritization shown in the Safety Priorities map with respect to the current status of fuels reduction work already completed and maintained.

Emergency Response, Safety Zones, Procedures, & Evacuation

If all communication lines are working properly, it would take a minimum of one and a half hours (90 minutes) for Salmon River Volunteer Fire and Rescue to reach the Blue Ridge Ranch. Under normal circumstances, emergency response times are more likely 2 to 3 hours for SRVFR. The nearest USFS engines are located at the Sawyers Bar work station and the Petersburg Workstation above Cecilville during fire season. These resources are 1 hr and 15 minutes from Sawyers Bar, and 1 hr and 30 minutes from Cecilville, and available seasonally from 11:00am – 3:00pm daily, if they are not on other fire assignments. The next nearest emergency response units for fires would be USFS in Fort Jones, ~ 2.5 hours away. Cal Fire Engines do not normally respond to emergencies or fire starts on the Salmon River given the long travel time from Yreka, and instead rely on the US Forest Service engines.

Given the long emergency response times, Bear Country Neighborhood residents have historically been the first to arrive on the scene of a fire start.

There is a designated Safety Zone at Blue Ridge Ranch (See the Blue Ridge Ranch, Infrastructure Map). It is located in the largest open meadow on the property, consists of ~4 acres of open meadow with low, grazed grass. It is accessible from several directions. This Safety Zone is needs to be evaluated for effectiveness in the event of the wildfire. Considerable fuels reduction work has been completed around the edges of the meadow, greatly reducing the fuels.

Blue Ridge Ranch residents have two main emergency access and egress routes, outlined above, giving them options depending on what direction a fire was traveling. All access/egress routes are along poorly maintained USFS roads and have areas of significant brush encroachment and heavy fuel loading.

Infrastructure

Each of the two residences on the property have their own road access, and water systems, including storage tanks (see Blue Ridge Ranch Infrastructure Map). Residences are both sided with inflammable siding and metal roofing, and sit on relatively flat areas with well-maintained 100" + defensible space. The various outbuildings are mostly wood sided with metal roofing.

Water storage and delivery systems are specific to each residence. The lack of plentiful surface or

spring water has led residents to develop increased water storage. Most waterlines are buried, however some are laid upon the surface of the ground.

Risks & Mitigations

Risks, or hazards, are the identifiable and definable characteristics of the landscape, community, structures, infrastructures, and activities that create or enhance potential for the loss of life, property, or other values in a wildfire. Mitigations are actions taken to reduce or eliminate exposure to risks. Most basically, effective mitigations enable residents to evacuate safely while homes withstand the occurrence of wildfire and enable firefighters to safely defend structures where possible. Ideally, mitigations also create a safe environment in which fire can be introduced or otherwise allowed to burn on a recurring basis in order to reduce fuels across the landscape and allow fire to resume its natural role in the ecosystem. In other words, successful mitigation is a cornerstone of a fire-adapted community.

Risk	*Mitigation*
Lack of water in dry seasons	• Increase water storage capacity with additional tanks kept full and fully plumbed for use. Given the long distance to tanker fill sites and slow recharge rates, it is recommended that each main residence keep a minimum of 5,000 gallons of water on hand for fire use and structure protection. It is also recommended that a tank of at least 5,000 gallons be obtained, plumbed and filled as a neighborhood tanker fill site. This tank should be located centrally along the main road and be plumbed with fire hose fittings, and filled during winter months when water is plentiful.
Lack of reliable year-round engine fill sites	
Low recharge rates for stored water	• Fill tanks and ponds to capacity in winter when flows are more substantial and ensure all water storage is at capacity before dry season arrives; continue to trickle-fill and recharge water storage as possible in dry season.
Unburied water pipes exposed to fire	• Bury all exposed pipes to 12-18” depth in mineral soil. • Use galvanized metal pipe for any sections unable to be buried and maintain 4-5’ width of fireline on each side of any exposed metal pipe.
Lack of communications	• Restart process for obtaining landline telephone service from Siskiyou Telephone. • Utilize large antennae for CB communications. • Obtain individual ham radio licenses and VHF radios capable of communicating on repeater networks. • Create and maintain a phone tree and communications plan for the neighborhood.

Risk	*Mitigation*
Heavy fuel pockets on private lands	• Treat high priority areas individually and/or continue to work with SRRC & SRFSC to find funding to have local crews treat high priority areas strategically.
Long distance to emergency response resources; long response times	• Locate important emergency response equipment on-site such as a fire engine, water truck, pumps, hoses, nozzles, and hand tools. • Train residents in NWCG-standard wildfire suppression methods. • If possible have at least one resident trained as an emergency first responder and/or EMT. • Work with SRVFR to maintain communications. Have at least one VHF Radio that can communicate with SRVFR.
Fast and continual re-growth of brushy fuels in a heavily fire impacted environment that lacks shaded fuel break characteristics to keep brush down	• Use manual fuels treatments as a first step in preparing distinct units for prescribed fire. By laying out work strategically, creating a network of permanent roads, firelines, trails, ridges and openings to safely contain Rx Fire within the appropriate burn windows, fuels can be maintained with fewer resources for longer periods of time. • Work with TREX and other local resources to burn units during appropriate burn windows for little expense. • Landowners and residents participation in TREX to increase their own Rx Fire qualifications. • Once units are established in a rotation and safe, local resources could be ready to burn whenever the conditions are right. • Take advantage of the late winter early spring burn windows that are common in the Bear Country Neighborhood. • Encourage the re-growth of shaded fuel breaks where appropriate by removing brush and thinning tree clumps to fewer stems.
Heavy fuel loading on surrounding federal lands	• Work with Klamath National Forest to prioritize, plan, and implement landscape-scale manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals. • Work with Western Klamath Restoration Partnership to assist in this effort.
Unsafe Emergency Access/Egress route	• Work with KNF to prioritize, plan, and implement manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals, along critical access/egress routes. •

Risk	• *Mitigation*
Short notice and evacuation time in event of fast-moving wildfire approaching from below.	• Maintain an evacuation kit with essentials such as clothing, medications, and irreplaceable valuables. • Improve communication capabilities (see above). • Ensure that vehicles are fueled and able to be used for evacuation on short notice. • If there is time, evacuate those in need of assistance, children, livestock and valuable before this point. • Conduct neighborhood fire drills, including evacuation for those who evacuate. • Keep an accurate census, have people sign in and out. • Use safety zones when necessary.

Table 3: Blue Ridge Ranch risks & mitigations.

Recommendations

Blue Ridge Ranch is at high risk of burning in another wildfire. The properties are located in the upper half of the watershed, a high-risk slope position in terms of fire behavior, and are surrounded by high fuel loading on the surrounding national forest lands. In this fire prone environment, it is important to learn to live with fire and not just live in fear of it. It is not a question of if the Bear Country landscape will see another fire, but when, and how prepared the community will be.

Blue Ridge Ranch landowners have made significant headway in treating fuels on the private land and are highly commended for their proactive efforts and encouraged to continue to treat high fuel areas and maintain treated areas into the future. It is recommended to treat areas in definable units that can be followed up with prescribed fire when the conditions are right. Frequent, low intensity prescribed fire can be a very efficient and effective way to treat large acreages with minimal resources. Blue Ridge Ranch, with its extensive winter sun and south aspect, seems particularly well suited to take advantage of the late winter – early spring burn windows, where fuels can be removed while minimizing impact to desired trees.

Given the high risk location, it is highly recommended that Blue Ridge Ranch residences expand the required 100' defensible space to 200' wherever possible. Even if the watershed burns, homes with extensive defensible space have the highest likelihood of surviving the blaze undamaged. This is especially true of structures that area located at the top of steep drainages or ravines that could funnel and intensify fire effects. Additionally treated forest stands have a higher likelihood of remaining and becoming mature forests than untreated ones. It is recommended that all new structures and remodels use firewise building principals and fire safe building materials.

Emergency access and egress are of critical importance for Blue Ridge Ranch residents and firefighter safety. Landowners should maintain their access/egress routes on private property. The overwhelming majority of access/egress route length for Blue Ridge Ranch residents is on US Forest Service roads with inconsistent maintenance. Many lengths of road would not meet critical access route safety standards, due to high fuel loading, brush and tree encroachment, and roadbed conditions. It is recommended that Bear Country residents and landowners work with the USFS and partners to strategically plan for and treat primary access/egress routes within the neighborhood. This will benefit the safety of everyone.

The greatest fire risk posed to Blue Ridge Ranch comes from the surrounding US Forest Service lands. Landscape level fire planning and strategic fuels treatments are critical to reducing fire risk to the neighborhood. Landowners are encouraged to work with the USFS and partners, such as SRRC and the Western Klamath Restoration Partnership to get this planning off the ground.

Water is of critical importance for Blue Ridge Ranch in regards to fire safety and fire suppression. The supply is limited, with some water sources drying up during the most critical times of the year. For these reasons, it is highly encouraged that residents and landowners have a minimum of 5,000 gallons of water storage capacity available for use during a fire event. Since recharge rates tend to be low during fire season, it is highly recommended that this water be collected in the winter and spring when flows are high. The neighborhood could look into funding for a community tanker fill site, in the form of a storage tank that is explicitly available for fire suppression efforts on or around the ranch. It is highly encouraged that any surface waterlines be buried 12" – 16".

There is also a good opportunity for coordination between the landowners and the US Forest Service on mutually beneficial activities. Landowners' are encouraged to update this plan every five years to account for changes and accomplishments or sooner if conditions dictate.

Harris Ranch Neighborhood

Background

Harris Ranch is comprises of one privately owned residential parcel of 80 contiguous acres in the upper Negro Creek watershed, a tributary to the South Fork Salmon River. This property was originally a homestead patent. The private land is completely surrounded by public land managed by the Klamath National Forest. Although originally reported to be the home of a small town, the Harris Ranch is currently vacant, and has no infrastructure other than an access and egress road that runs through the property. The landowners are currently in the process of dividing this property and it will likely begin to be developed after this division is complete. The Harris Ranch section of the Bear Country Neighborhood Fire Plan should be revisited if/when any major changes occur.

A variety of aspects are present on the landscape, however, the overall aspect of Harris Ranch is west facing. Elevations range from approximately 3725 feet to 4350 feet and the terrain varies from nearly flat in several large open meadows to moderately steep (10-55%) on hillsides with limited areas exceeding 55% slope. Nearly all of Harris Ranch sits atop ancient landslide deposits and this accounts for the fact that the ranch's topography is gentler than much of the surrounding area.

The mid elevation location and western aspect together expose Harris Ranch to the prevailing upriver afternoon winds for much of the year, most notably in the summer months when convective heating causes diurnal winds to flow up the Salmon River and continue up the South Fork. These winds are a significant factor for fire weather. Like Godfrey. Black Bear and Blue Ridge Ranches, Harris Ranches sits at the top one of the first major break in slope in the upper ½ to 1/3 of their respective watersheds. The steep canyons below have potential to funnel fire up to all of the properties in this neighborhood, creating dangerous fire conditions.

Fire History

Several attributes of Harris Ranch suggest that indigenous people burned the area frequently to clear brush, improve forage, and to favor the growth of desired food and fiber species. The ranch was in close proximity to several Shasta and Konomihu Indian villages and possesses favorable aspect, terrain conditions, forest types, and vegetation communities for indigenous burning. The current presence of post-fire, re-sprouted oaks, and open meadows, and the wide spacing on large conifer stumps all suggest that the area has had a frequent fire return interval for a long period of time.

Harris Ranch has experienced two recorded wildfires. The 1977 Hog Fire crossed the North Fork Salmon River and burned into the Negro Creek drainage and onto Harris Ranch (See Fire History Map). The remnants of all of the remaining original structures burned in this fire. None of these structures were inhabited at the time. The Hog Fire and subsequent intensive salvage logging operations on Harris Ranch and the surrounding national forest lands caused drastic changes in forest cover vegetation types, and fuel loading that would significantly contribute the next high intensity wildfire ten years later.

The 1987 Glasgow Fire re-burned much of the 1977 fire footprint including the Negro Creek drainage where accumulated fuels and logging slash ignited under extreme fire conditions, causing a firestorm that rapidly pushed upslope toward Godfrey and Harris Ranches, burning all of the remaining and regenerated vegetation once again.

Current fuel loading is at an unnaturally high hazard level in the Negro Creek watershed, and it threatens to severely damage the recovering landscape (U.S. Forest Service 1997) and poses a critical

wildfire threat to Harris Ranch.

Available Emergency Resources & Logistics

N/A

Access Routes

Located upslope from Godfrey Ranch, Harris Ranch may be accessed via any of the access routes to Godfrey Ranch (see Emergency Access Map). Because Harris Ranch is an unoccupied property, emergency egress is not an issue and, therefore, only the most amenable access route will be analyzed.

From Forks of Salmon

Harris Ranch is accessed from Forks of Salmon via the Picayune Road (Forest Road 39). This 7.3-mile route climbs steadily from Forks of Salmon to reach 4100 feet elevation in 6.3 miles (8.6% average grade). It then descends 475 vertical feet (8.9% average grade) over the next mile on 39N67. Approximate drive time from Forks of Salmon to Harris Ranch on this route is 35 minutes for a pickup truck and longer for emergency response vehicles.

Figure 13: Forks of Salmon - Harris Ranch (via Picayune Road) route elevation profile.

Engine Fill Sites

None

Communication

N/A

Areas of Increased Consideration

High Value Areas

The following high value areas have been identified:

1. Homestead sites
2. Open space, large meadows and open areas
3. Historic and cultural sites
4. Re-generating mixed hardwood stands
5. Riparian areas, wetlands and springs

Emergency Access & Egress Routes

There is one road that travels through Harris Ranch, connecting the 39 road above to the Godfrey Road below. At each of these junctures there are at least two directions that people could take. These

two access and egress routes make Harris Ranch fairly accessible. This cutoff route could also act as an additional shortcut for people leaving Godfrey Ranch. (See Safety Priority Map for Harris Ranch)

Safety Priority Areas

Areas identified and mapped as safety priorities include buffers along the access/egress routes and a fuels-reduced buffer in the WUI, on public land around the perimeter of Harris Ranch (see Harris Ranch Safety Priorities map). If and when the property is developed defensible space around homes and infrastructure would be included.

Desired Future Conditions

Ultimately, the desired future conditions at Harris Ranch will allow fire to perform its natural role in the ecosystem without threatening the safety, wellbeing, and property of future Harris Ranch residents or the values identified as being at risk. The suite of prioritization maps and treatment maps are the result of intensive analysis of the various factors involved in achieving the desired future conditions.

The Harris Ranch is a designated Timber Production Zone (TPZ) and has a forest plan for long term hardwood production. In recognition of the reality that Harris Ranch is located in a fire-adapted and fire-dependent ecosystem, landowners identified desired ecological conditions for the property that will harmonize with and improve current ecological conditions while aiding the return to a naturally fire-adapted ecosystem in order to reduce the risks of catastrophic wildfire.

Harris Ranch has a few relatively unique attributes for the area; it has a high concentration of both chinquapin and dogwood, as well as other high value forage crops for wildlife. Additionally it has some of the largest mid-slope wetlands on the landscape that are high use areas for a wide diversity of wildlife.

The desired ecological conditions are a mosaic of different vegetation and forest types that vary according to their geographic location, aspect, soil and rock type, past and/or current vegetation types, proximity to home identified home sites and infrastructure, and other factors (see Harris Ranch Ecological Desired Conditions Map). Open areas are highly valued for the utility of their space, natural resilience to fire, and various roles in the ecosystem and, as such, these areas are desired to remain and or be restored as meadows, open ground, and clearings of various sizes throughout Harris Ranch. Areas that are currently dominated by brush are generally desired to be encouraged to transform to hardwood stands. The vast majority of the property is desired to become mixed hardwood forests with a wide diversity of species. Areas that are currently dominated by brush or a mix of brush and hardwoods should be converted to hardwoods with brush greatly reduced to increase fire resiliency to the property and surrounding area. Riparian areas along Negro Creek and several other large upslope wetlands are highly valued for their value to wildlife, and should be protected. This mosaic of vegetation and forest types across Harris Ranch will provide variations in habitat with spaces and gaps that will also serve to reduce fire behavior and connectivity of fuels.

Treatment Prioritization

A significant amount of fuels reduction has been completed on the property by the landowners and SRRC crews. Due to the lack of homes and infrastructure at risk nothing on this property was ranked as high priority. The property has significant wildlife and ecological value and habitat restoration through fuels reduction is highly encouraged. Since this property has an existing plan to promote hardwood forests.

Emergency Response, Safety Zones, Procedures, & Evacuation

N/A

Infrastructure

Other than the road system, there is currently no infrastructure at the Harris Ranch. The ranch is currently in the process of being divided and will likely be developed in the near future. If and when this happens, this portion of the fire plan will need to be updated.

Risks & Mitigations

Risk	*Mitigation*
Lack of water in dry seasons Lack of reliable year-round engine fill sites	• Consider water when developing property • Develop wells for future household use • Build enough water storage into future systems to cover fire and agriculture needs during dry months • Include at least 5,000 gallons of storage per household for fire use only • Look at developing nearby tanker fill site and or significant storage for this purpose
Low recharge rates for stored water	• Fill tanks and ponds to capacity in winter when flows are more substantial and ensure all water storage is at capacity before dry season arrives; continue to trickle-fill and recharge water storage as possible in dry season.
Lack of communications	• Consider communications in development of property • Restart process for obtaining landline telephone service from Siskiyou Telephone. • Utilize large antennae for CB communications. • Obtain individual ham radio licenses and VHF radios capable of communicating on repeater networks. • Create and maintain a phone tree and communications plan for the neighborhood.
Long distance to emergency response resources; long response times	• Consider acquiring important emergency response equipment to be located on-site such as a fire engine, water truck, pumps, hoses, nozzles, and hand tools, when developing property. • Train residents in NWCG-standard wildfire suppression methods.
Heavy fuel pockets on private lands	• Treat high priority areas individually and/or continue to work with SRRC & SRFSC to find funding to have local crews treat high priority areas strategically. • Include hardwood forest and wildlife habitat restoration goals in fuels treatments

Risk	• *Mitigation*
Fast and continual re-growth of brushy fuels in a heavily fire impacted environment that lacks shaded fuel break characteristics to keep brush down	• Use manual fuels treatments as a first step in preparing distinct units for prescribed fire. By laying out work strategically, creating a network of permanent roads, firelines, trails, ridges and openings to safely contain Rx Fire within the appropriate burn windows, fuels can be maintained with fewer resources for longer periods of time. • Work with TREX and other local resources to burn units during appropriate burn windows for little expense. • Landowners/residents participation in TREX to increase Fire qualifications. • Once units are established in a rotation and safe, local resources could be ready to burn whenever the conditions are right. • Take advantage of the late winter early spring burn windows that are common in the Bear Country Neighborhood. • Encourage the re-growth of shaded fuel breaks where appropriate by removing brush and thinning tree clumps to fewer stems.
Heavy fuel loading on surrounding federal lands	• Work with Klamath National Forest to prioritize, plan, and implement landscape-scale manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals. • Work with Western Klamath Restoration Partnership to assist in this effort.
Unsafe Emergency Access/Egress route	• Work with Klamath National Forest to prioritize, plan, and implement manual and mechanical fuels reduction treatments and, where appropriate, prescribed fire on recurring intervals, along critical access/egress routes. • Work with USFS and SRFSC to prioritize access/egress route for increased roadbed maintenance.
Short notice and evacuation time in event of fast-moving wildfire approaching from below.	• Maintain access/egress routes to a high standard • Develop land with safety zones in mind • Maintain meadows and wetlands as effective fuel breaks and wildlife habitat

Table 4: Harris Ranch risks & mitigations.

Recommendations

When developing this piece of land take fire risk into consideration. Locate structures in the most defensible areas. Build all structures to firewise standards, using fire resistant building materials. Create water systems that include enough storage for agriculture and emergency fire needs, thus reducing draw from streams, wetlands and springs which act as both effective fuel breaks and

wildlife habitat. Keep access/egress routes defensible at all times. Establish means of easy communication through satellite internet and/or CB radios. Continue to reduce fuels across the property and maintain them with low intensity prescribed fire.

Recommendations for All Bear Country Neighborhood Properties

The following actions are recommended throughout the Bear Country Neighborhood.

Category	*Recommended Actions*
Outreach & Education	• Encourage continued stakeholder participation in fire safety, awareness, and preparation.
Defensible Space	• Complete and/or maintain 100-foot defensible space zones around all structures and key infrastructure such as water tanks. • Establish a 300-foot defensible space around homes and more important structures. • Coordinate between neighbors where defensible space abuts or crosses property lines
Firewise Building Improvements	• Use Firewise construction principles for all new construction and remodels. • Enclose areas under buildings, decks, and gables. • Screen all vents and chimneys.
Shaded Fuelbreaks	• Implement shaded fuel breaks along access routes and throughout properties as much as practicable.
Monitoring	• Implement a simple photo-monitoring program to document relevant changes to vegetation, fuels, etc. through time.
Training & Knowledge	• Train residents in fuels reduction techniques. • Train interested residents in the use of prescribed fire as a fuels reduction and habitat improvement tool via the TREX programs.
Supporting Actions	• Work with the SRRC and SRFSC to obtain grant funding for continuing fuels reduction, training, and fire preparedness work. • Update Bear Country Neighborhood Fire Plan and maps every five years or whenever there is a substantive change in conditions. • Distribute the Bear Country Neighborhood Fire Plan and maps to all residents and have pre-printed copies available for emergency responders in the event of a wildfire. • Perform structural fire safety assessments such and update them every two years. • Coordinate private property fire preparedness work with the US Forest Service to provide impacts on adjacent public land.

Table 5: Recommended actions for entire Bear Country Neighborhood.

Implementation Strategy

With a long history of implementing fire preparedness actions, the Bear Country Neighborhood has a solid base upon which to continue progress toward becoming a fire-adapted community. Although this is a great starting point, there also remains much work to be done and some of this work is more challenging, time-consuming, and expensive than work done thus far. Successful implementation of the actions outline in this plan will come about only through a coordinated, well-planned, and adequately funded effort by neighborhood residents, the Salmon River Fire Safe Council, Salmon River Restoration Council, Salmon River Volunteer Fire and Rescue, CALFIRE, the US Forest Service, as well as other individuals, agencies, and organizations.

Ultimately, the drive to continue progress toward fire safety in the Bear Country Neighborhood must originate proactively from the neighborhood's residents. Each property owner should become familiar with the Bear Country Neighborhood Fire Plan and provide insight and direction for implementation priorities on the property that are consistent with the plan's prioritization scheme. Godfrey Ranch residents will need to coordinate their efforts due to the fact that the ranch is divided into eight individual parcels with different ownership. Black Bear Ranch should designate a long-term resident or group of residents to participate in the implementation effort. Working in concert with the Salmon River Restoration Council and Salmon River Fire Safe Council, residents will assist in obtaining funding and implementing work according to the plan.

Coordination with the US Forest Service should be accomplished through the Salmon River Fire Safe Council, although individual residents may also work with the US Forest Service on issues specific to their property.

Future Maintenance & Funding

It is important to note that implementation is not a one-time effort and, instead, it should be viewed as a constantly ongoing effort to develop and maintain fire preparedness. As such, this will require a long-term commitment on the part of residents and others and will require a long-term funding stream.

The Salmon River Restoration Council and Salmon River Fire Safe Council will continue to coordinate grant applications for fire safety implementation and maintenance work in the Salmon River watershed. Local, state, and federal government agencies should be encouraged to provide adequate resources and funding for work on public land as well as providing assistance for work on private land.

Ultimately, if successful, the Bear Country Neighborhood area will be adequately prepared for the introduction of prescribed fire across the landscape. Although it will take hard work over a period of time and substantial financial resources to reach this point, the recurring use of prescribed fire as a management tool will ultimately decrease the time, effort, and expense needed to maintain a fire-adapted landscape while simultaneously reducing the threat of uncontrolled wildfire.

Conclusion

The Bear Country Neighborhood Fire Plan provides a foundation upon which to continue building a fire-adapted community within a high-risk wildfire setting. The mitigation actions outlined in this plan, once implemented in full, will greatly reduce the risks of wildfire and assist in the transition back to a more natural fire regime. The key to achieving the goal of a fire adapted community lies in the effective and coordinated implementation of the actions outlined in this plan as well as others that are identified in the future.

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