WILDLAND FIRE PROTECTION PLAN

BRIDGER VALLEY ELECTRIC ASSOCIATION

DATE: APRIL, 2024

REVISION: V2

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Versioning Record

The following table details the nature, date, and primary author of major revisions to the document. The location of significant changes and updates should be noted in the description column.

Table 1. Plan Review and Revision Record

Date	Version	Author	Revision Description
Jan 2021	V1	SWCA	Original document adopted and submitted in 2021
April 2024	V2	SWCA/BKI	Report and maps updated by BKI Engineering

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1 Introduction and Overview

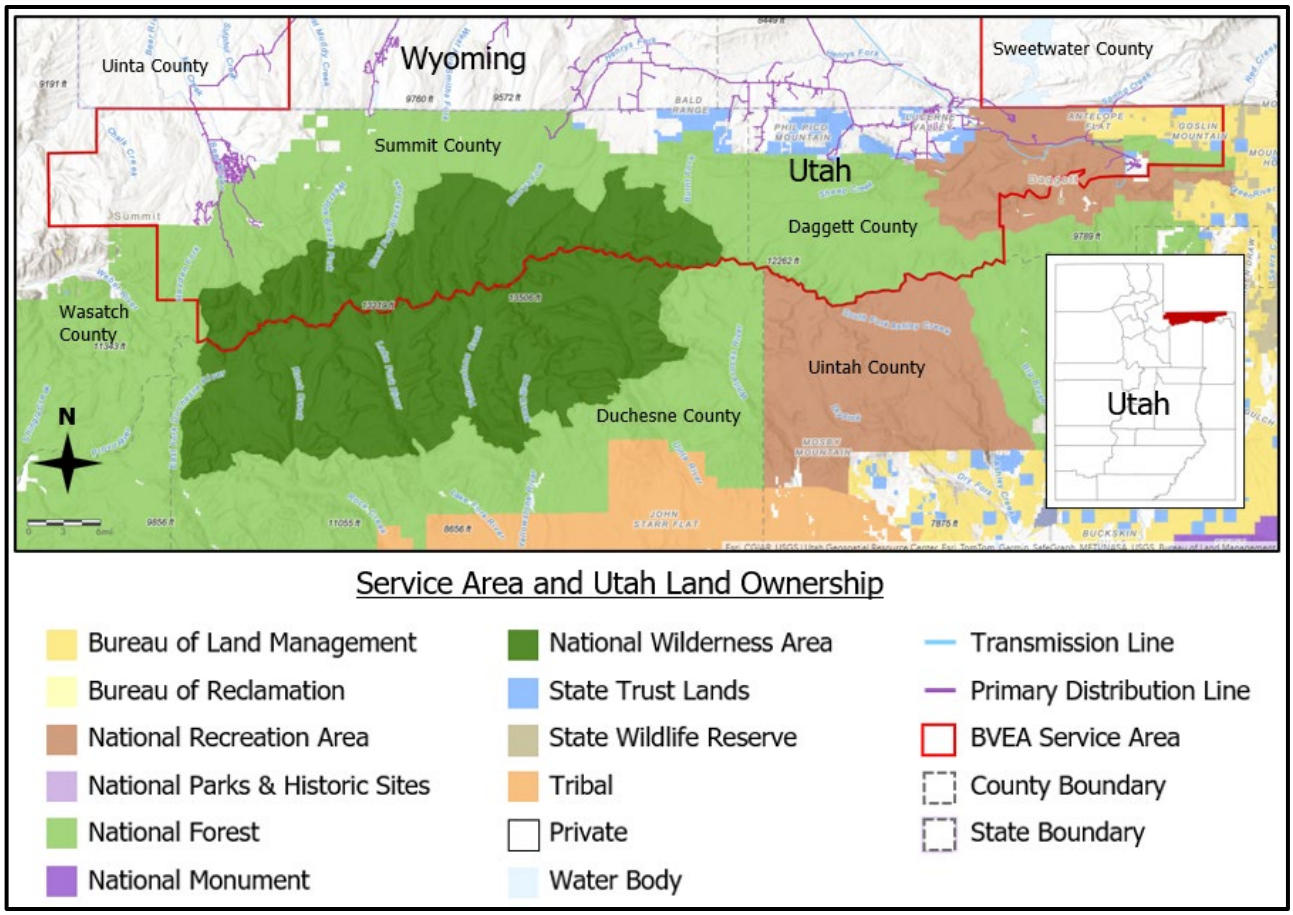
Bridger Valley Electric Association's (BVEA's) service area covers approximately 3,170 square miles in southwestern Wyoming, as well as Summit and Daggett Counties in northeastern Utah (Figure 1). A large portion of BVEA's southern service area includes the Uinta-Wasatch-Cache National Forest, Ashley National Forest, and Flaming Gorge National Recreational Area.

BVEA's overhead transmission and distribution construction consists mainly of wooden western red cedar poles with ACSR conductor, and an underground distribution system that consists mainly of direct burial 25-kV 1/0 conductor. A high-level overview of BVEA's system assets is provided in Table 2.

Table 2. Service Area Statistics/Asset Overview

ASSET CLASSIFICATION	DESCRIPTION
Service Area	3,170 square miles in Wyoming and Utah
Meters	7,100
Overhead Distribution Line Assets	Approximately 1,010 miles of overhead (OH) conductor, cabling, transformers, voltage regulators, capacitors, switches, and protective devices operating at or below 25kV.
Underground Distribution Line Assets	Approximately 231 miles of underground (UG) conductor, cabling, transformers, voltage regulators, capacitors, switches, and protective devices operating at or below 25kV.
Transmission Line Assets	Approximately 184 miles of overhead conductor, cabling, transformers, voltage regulators, capacitors, switches, and protective devices operating at 69kV.
Substation Assets	Major equipment such as power transformers, voltage regulators, capacitors, reactors, protective devices, relays, open-air structures, switchgear, and control houses in 13 substation/switchyard facilities.

Figure 1. Service Area/Land Ownership



1.1 Policy Statement

Given recent increases in wildfire frequency and severity throughout Utah, on March 28, 2020, the Governor signed House Bill 66, Wildland Fire Planning and Cost Recovery, a law that grants the Public Service Commission rulemaking authority to enact rules establishing procedures for the review and approval of wildland fire protection plans. The law requires qualified utility and electric cooperatives to prepare and submit for approval a wildland fire protection plan in accordance with the requirements outlined in the Bill[1].

1.2 Purpose of the Wildland Fire Protection Plan

This Wildland Fire Protection Plan (WFPP, or Plan) describes the range of activities that BVEA is taking or considering to mitigate the threat of power line-ignited wildfire, including the protocols and procedures that BVEA would undertake and industry best practices. The Plan complies with the requirements outlined under House Bill 66 to prepare a wildland fire protection plan by June 1, 2020, and every three years thereafter. All pertinent agencies, including a third-party review

[1] https://le.utah.gov/-2020/bi11s/static/HB0066.htm1

by subject matter experts, have reviewed the final Plan. The BVEA Board of Directors duly adopted the original Plan on May 27, 2020. The plan was subsequently updated in 2024. All sections of the Plan will be reviewed annually, and the findings presented to the Board of Directors. The Plan will be fully revised every three years, including a revised risk analysis and development of plan recommendations to incorporate new technology and industry best practices.

1.3 Plan Objectives

BVEA's overarching goal is to provide safe, reliable, and economic electric service to its members. In order to meet this goal, BVEA routinely constructs, operates, and maintains its electrical lines and equipment in a manner that minimizes the risk of catastrophic wildfire posed by its electrical lines and equipment.

1.3.1 Minimizing Sources of Ignition

The goal of this Plan is to assess and minimize the probability that the BVEA transmission and distribution system may contribute to or be the origin of a wildfire ignition. In addition, the Plan identifies measures to be taken to protect the system from wildfire damage to secure service for BVEA members.

1.3.1 Resiliency of the Electric System

An additional goal of this Plan is to ensure long-term resilience of the BVEA electric grid. Through implementing this Plan, BVEA will be able to assess industry best practices and technologies to reduce the potential for a service interruption and improve and facilitate restoration of service.

1.4 Organization of the Wildland Fire Protection Plan

The Plan is organized into the following sections:

Section 1: Introduction

Section 2: Overview

Section 3: Objectives of the WFPP

Section 4: Wildfire Risk Analysis

Section 5: Wildfire Prevention Strategies and Protocols

Section 6: Community Outreach and Education

Section 7: Integration with Applicable Plans

Appendix A Supplementary Mapping and Interagency Fuel Treatment Decision Support Mapping

Appendix B: Detailed Mapping of High-risk Segments and Action Plan

Appendix C: Literature Cited

Table 3. Plan Compliance with HB 66 Requirements

HB 66, 54-24-203 Sect. Requirement	Description	Plan Section Number
(1)	An electric cooperative shall prepare a wildland fire protection plan in accordance with the requirements of this chapter.	
(2)	A wildland fire protection plan under Subsection (1) shall include:	
(2) (a)	A description of areas within the service territory of the electric cooperative that may be subject to a heightened risk of wildland fire.	4, 4.1, 4.4, 4.5, 4.8.2, Appendix E
(2) (b)	A description of the procedures, standards, and time frames that the electric cooperative will use to inspect and operate its infrastructure.	5.1, 5.1.1, 5.1.5
(2) (c)	A description of the procedures and standards that the electric cooperative will use to perform vegetation management.	5.2.3, 5.2.4, 5.2.6,
(2) (d)	A description of proposed modifications or upgrades to facilities and preventative programs that the electric cooperative will implement to reduce the risk of its electric facilities initiating a wildland fire.	5.3.1
(2) (e)	A description of procedures for de-energizing power lines and disabling reclosers to mitigate potential wildland fires, taking into consideration:	5.4, 5.5
(2) (e) (i)	The ability of the electric cooperative to reasonably access the proposed power line to be de-energized;	
(2) (e) (ii)	The balance of the risk of wildland fire with the need for continued supply of electricity to a community; and	
(2) (e) (iii)	Any potential impact to public safety, first responders, and health and communication infrastructure	
(2) (f)	A description of the procedures the electric cooperative intends to use to restore its electrical system in the event of a wildland fire; and	5.6
(2) (g)	A description of potential consultation, if applicable, with state or local wildland fire protection plans.	2.1, 2.2, 2.3, 2.4, 2.5, 7

(3) (a)	An electric cooperative shall submit the wildland fire protection plan described in this section to its governing authority:	
(3) (a) (i)	On or before June 1, 2020; and	
(3) (a) (ii)	On or before October 1 of every third year after calendar year 2020.	7.3.1
(3) (b)	The governing authority shall:	
(3) (b) (i)	review the plan submitted under Subsection (3)(a); and	7.3
(3) (b) (ii)	consider input from:	
(3) (b) (ii) (A)	The Division of Forestry, Fire, and State Lands created in Section 65A-1-4;	7.1
(3) (b) (ii) (B)	Any other appropriate federal, state, or local entity that chooses to provide input; and	7.1
(3) (b) (ii) (C)	other interested persons who choose to provide input.	7.1
(3) (c)	The governing authority shall approve a wildland fire protection plan submitted under Subsection (3)(a) if the plan:	7.3
(3) (c) (i)	is reasonable and in the interest of the electric cooperative members; and	
(3) (c) (ii)	appropriately balances the costs of implementing the plan with the risk of a potential wildland fire.	
(3) (d)	An electric cooperative shall file with the commission a wildland fire protection plan submitted and approved under this section.	7.3
(4)	An electric cooperative shall:	
(4)(a)	file with its governing authority an annual report detailing the electric cooperative's compliance with the wildland fire protection plan; and	7.3.1
(4)(b)	file with the commission a copy of the annual compliance report described in Subsection (4)(a).	7.3.1

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2 Existing Wildfire Planning Efforts

2.1 Coordination With State Or Local Wildland Fire Protection Plans

The Plan is designed to align with wildfire mitigation goals identified in other existing land management plans already in place in the service area. The service area incorporates portions of Daggett County and Summit County. Within each county are numerous Communities at Risk (CAR) from wildfire, which are referenced in the Utah Department of Natural Resources (DNR) Utah Wildfire Risk Assessment Portal (UWRAP)[2] and which may have specific wildfire mitigation measures proposed under municipal and county planning documents.

2.2 Summit County

As of 2023, Summit County is home to approximately 43,000 people (United States Census Bureau 2023). It occupies approximately 1,849 square miles (1,183,360 acres) of land in the northeastern portion of the state and borders Wyoming. The county owes its name to the high mountain summits forming the divides of the Weber, Bear, and Green River drainages. Fire response for the entire northern Utah region is coordinated through the Northern Utah Interagency Fire Center (NUIFC), in cooperation with the Eastern Great Basin Coordination Center (GBCC). The NUIFC is a cooperative effort among the Bureau of Land Management (BLM), U.S. Forest Service (USFS), and the Utah Division of Forestry, Fire and State Lands (UDFFSL). The NUIFC is responsible for dispatching and coordination of wildfires and incidents for approximately 15 million acres of land that averages 500 fires per year.

In 2019, Summit County developed a Community Wildfire Protection Plan (CWPP) to empower citizens and local governments to increase community safety and resilience to wildfire. The plan identifies areas at high risk to fire, creates risk reduction strategies, and calls for increased community collaboration, outreach, and education. Summit County identifies utilities as protected values. While there are no additional specific actions related to utilities in this plan, overarching actions include watershed protection and protection of water facilities. This is especially important in Summit County, as much of the watershed serves the Salt Lake Valley. Specific mitigation measures to meet this goal include fuel reduction and facility resilience assessments. The plan identifies past mitigation efforts that were successful, including public outreach and education, firefighter training, fuel break maintenance, and a new public emergency alert system. Future goals for Summit County include public outreach and education, response personnel training, and the creation of more defensible space. Of most interest to utilities in this plan may be the fuels reduction goals (DNR 2023). Summit County's CWPP is not available online, however the 2021 Park City Utah CWPP includes information on Summit County. Additionally, the Northern Utah Regional Wildfire Protection Plan (RWPP), covers Box Elder, Cache, Davis, Morgan, Rich, Salt Lake, Summit, Tooele, Utah, Wasatch, and Weber Counties.

[2] Utah DNR Wildfire Risk Assessment Portal: https://wildfirerisk.utah.gov/

In 2018, Summit County developed an Emergency Management Plan (EMP) to mitigate disaster and improve disaster response and recovery. The plan establishes an Emergency Management Plan Committee to assist the Emergency Manager in updating the plan. Included in this committee are utility representatives. The plan also identifies that for many communities in Summit County, wildfire is a major potential hazard. Fuel reduction programs, improved access to communities, and firefighter training are all discussed in the EMP as potential mitigation actions (Summit County 2018).

In 2022, the Mountainland Association of Governments (covering Summit, Utah, and Wasatch Counties) published a Pre-Disaster Mitigation Plan for Summit and Wasatch Counties[3]. The plan's purpose to is help grow hazard awareness and identify measures to reduce vulnerability and risk in each county. Potential wildfire mitigation strategies identified in the plan include creating defensible space around powerlines and replacing flammable vegetation (Mountainland Association of Governments 2022).

2.3 Daggett County

Daggett County is one of the least populated counties in the state, which is attributable to its mountainous landscape and remote location. Daggett County has two fire departments: one in Dutch John that covers the east side of the county, and the Manila Fire Department, which covers the west side of the county. The county has no paid full-time fire fighters, and no official fire warden. The State Fire Warden associated with UDFFSL is currently serving the county in this role as well as providing wildland fire training to volunteers (SWCA 2007b). When a fire exceeds the capability of local and area resources, additional resources are solicited through the Uintah Basin Interagency Fire Center (UBIFC). Under a local agreement with Sweetwater County in Wyoming, Daggett County firefighters are also first responders to fires within Sweetwater County.

Daggett County has not completed a county CWPP, and therefore, the Uintah Basin Wildfire Hazard Mitigation Plan[4] (UBWHMP 2019 update) is the most recent wildfire planning document for the county. The UBWHMP identifies approximately 53.45 miles of power lines in Daggett County at risk.

[3] https://mountainland.org/static/files/Planning/2022%20Pre-Disaster%20Mitigation%20Plan%20for%20Summit%20Utah%20and%20Wasatch%20Counties%20with%20April%202022%20Revisions.pdf

[4] https://hazards.utah.gov/wp-content/uploads/Uintah-Basin-Plan-Final.pdf

2.4 United States Forest Service

BVEA lines cross areas of the Wasatch-Cache and Ashley National Forests (see Figure 1). Fire management planning for both national forests is now in a spatial format contained in the Wildland Fire Decision Support System. Fire management plans (FMPs) are informed by the forest management plan and the Utah Fire Amendment, which applies to all forests in the state of Utah. The FMP allows for a wide range of management responses, from management for resource benefit to full suppression. It also allows for various hazardous fuels management tools including prescribed fire and mechanical management. The Ashley National Forest Plan is currently under review and will include similar allowances for management responses and hazardous fuels management tools.

Fuel management projects are developed and prioritized by evaluating hazards at risk and condition class. When evaluating critical areas, protection of highly valued resource areas (HVRAs), including natural and human-made features, will be accounted for. Each forest will collaborate on these efforts with state, county, federal, and utility partners. Currently, the Ashley National Forest identifies priority areas using a process through Shared Stewardship with the State of Utah. The forest is seeking to increase the number of acres treated per year.

BVEA will continue to work with both National Forests to ensure all BVEA actions align with existing Forest Service policies, plans, directives, and special use authorizations regarding activities within the utility rights-of-way (ROWs) (USFS 2020).

2.5 Bureau of Land Management

In 2020, the BLM issued an instruction memorandum to establish policies regarding routine operation and maintenance activities on electric utilities' ROW to reduce wildfire risk. This memorandum establishes that the ROW holders have the authority to conduct operation and maintenance activities and that they must do everything reasonable to reduce wildfire risk within or in the immediate vicinity of their ROW. Furthermore, ROW holders must comply with any requirements to control or prevent property damage and protect public health and safety. Unless in direct conflict with applicable laws and regulations, the BLM requests to be notified within 30 days of maintenance completion (BLM 2020). Federal agencies routinely develop fuel treatment planning to address hazardous fuels within their jurisdiction. BVEA could work with the BLM and USFS to look for opportunities to treat fuels in and around the BVEA ROW to help mitigate wildfire risk in areas projected to have high or extreme fire behavior. See Appendix D, Figure 12 for an example of fuel treatments that are occurring or are ongoing in the BVEA service area.

In 2018, the BLM Vernal Field Office in the Green River District developed an FMP to describe fire management strategies created to protect BLM values against wildfire and to describe tools used to meet natural resource objectives. The Vernal Field Office covers potions of Daggett, Duchesne, and Uintah Counties, and only a very small section of the BVEA service area. Fire management objectives outlined in the plan include management of noxious weeds and insect infestations with fire or mechanically, biologically, or chemically. The plan does not make any

direct mention of utilities, however, BVEA could work with the BLM to develop vegetation management protocols.

In 2005, the BLM issued a finding of no significant impact (FONSI) in response to an environmental assessment (EA) regarding the Utah Land Use Plan Amendment for Fire and Fuels Management. This amendment outlined changes to wildland fire management performed by the Salt Lake Field Office (which covers Wasatch County). Overall goals of wildfire management under these documents include firefighter and public safety, collaborative risk reduction in the wildland urban interface, and allowing fire to function in its ecological role where appropriate. The EA recognizes that utility corridors are a value at risk (BLM 2005) and BVEA could work with the BLM using this framework to develop vegetation management protocols.

2.6 Roles and Responsibilities

2.6.1 Company Structure

Implementation of the Plan will be performed by Bobby Larsen and Matt Richards at BVEA. Mr. Larsen and Mr. Richards will be responsible for operational practices, system hardening, enhanced inspections, situational awareness, reclosing and re-energization, public safety and notification, vegetation management, and wildfire response and recovery. Mr. Hewitt will serve as the lead personnel, and Mr. Larsen will serve as the key technical personnel.

2.7 Coordination with Outside Entities

Figure 1 outlines the land ownership within the BVEA service area. Contact information for all entities within the service area is provided in Table 9 in Chapter 7.

2.7.1 County

All counties in the state of Utah are affected by Utah Code Section 65A-8-6 (House Bill 146, which was passed by the Utah Legislature in the 2004 General Session and took effect in March 2006).

Utah Code Section 65A-8-6 requires that counties meet eligibility requirements to enter into a cooperative agreement with the Utah Division of Forestry, Fire and State Lands (UDFFSL) for wildfire protection. The Code states that counties shall

- Adopt a wildland fire ordinance based on minimum standards established by the division (UDFFSL);
- Require that the county fire department fluent or equivalent private provider under contract with the county meet minimum standards for wildland training, certification, and wildland fire suppression equipment based on nationally accepted standards as specified by the division UDFFSL); and
- File with the division (UDFFSL) a budget for fire suppression costs.

Each of these eligibility requirements must be met before UDFFSL may enter into a cooperative agreement for wildfire protection with any county.

The Summit County Emergency Operations Center is located in Park City and is the site where officials coordinate emergency responses in Summit County. The Summit County Emergency Manager delegates responses to the appropriate personnel in the event of an emergency (Summit County 2018). Further detail on the Summit County incident command system is available in the Summit County Emergency Management Plan.

The tri-county area, made up of Duchesne, Daggett, and Uintah Counties, takes a unified approach to emergency management. Daggett County follows procedures analogous to those described below for Uintah County.

The Uintah County Emergency Operations Plan describes firefighting operations under emergency support function (ESF) 4. ESF 4 actions are those taken by local fire departments; mutual aid assistance from neighboring jurisdictions; and, in some cases, state, federal, and private industry resources and technical expertise to control and suppress fires that threaten to become major emergencies. Mutual aid compact agreements between local governments will be followed through established and recognized firefighting standards and methods. Coordination with local, state, federal, and private companies is accomplished under the Incident Command System element of the National Incident Management System (NIMS) Command and Management component of the National Response Framework. A representative from each agency will report to the Incident Command Post or emergency operations center where information can be gathered and disseminated. Each representative will be part of a Unified Command system.

2.7.2 State

Wildfires that occur on state and private land outside of city limits are managed by the UDFFSL, and fire suppression efforts are coordinated through county fire wardens who work with federal agencies and local fire departments (Utah Division of Emergency Management 2019).

2.7.3 Federal

As mentioned previously, fire response for portions of the northern Utah region is coordinated through the NUIFC, in cooperation with the Great Basin Coordination Center. The NUIFC is a cooperative effort among the BLM, USFS, and the UDFFSL. The NUIFC creates initial response plans called "run cards" to define fire response within geographic areas. These run cards are created based on fire weather, management objectives, fuel conditions, and response resource availability. The NUIFC also creates a Mobilization Plan that guides multi-agency fire response (NUIFC 2018). Daggett county uses the Uintah Basin Interagency Fire Center (UBIFC). The UBIFC is the dispatch center for the state and federal agencies in the Uintah Basin. The UBIFC is also managed by the Great Basin Coordination Center. The BLM Vernal

Field Office is part of the Uintah Basin Interagency Cooperators Committee and the Uintah Basin Fuels Committee. Fire Management Officers from the Ashley National Forest, Dinosaur National Monument, Bureau of Indian Affairs, State of Utah, and BLM form the committee. The committees collaborate on fire education, prevention, and response (BLM 2018).

3 Wildfire Prevention Strategy and Programs

This Plan details a number of wildfire prevention strategies and protocols that are designed to prevent and/or mitigate the threat of wildfire to system infrastructure and to communities who depend on BVEA service.

- **Vegetation Management-**Measures to control vegetation near overhead (OH) transmission lines, detailing clearance specifications as well as hazardous furls information to reduce potential wildfire spread.
- **Enhanced Inspections-**Assessment and diagnostic activities and mitigating actions. Inspections would focus on ensuring all infrastructure is in working condition and that vegetation clearance specifications are maintained.
- **Situational Awareness**-methods to improve system awareness and environmental conditions.
- **Operational Practices**-Mitigating actions that are taken on a day-today basis to reduce wildfire risks. These actions prepare BVEA for high-risk periods associated with heavy winds and dry conditions.
- **System Hardening**- Technical and system upgrades aimed at reducing potential contact between infrastructure and fuel sources and making the system more resilient to wildfire and other natural disasters.
- **Procedures for De-energizing and Reclosing**-Conditions under which lines may be de-energized to reduce wildfire risk or protect people and/or equipment during a wildfire incident, and the protocols for restoring service after the risk has abated.
- **Wildfire Response and Recovery**-Procedures for wildfire response in order to formalize protocols in the event of an ignition.
- **Public Safety and Notification**-Measures for engaging the community in identifying and reducing wildfire risk, including public warnings and notifications in the interest of public safety.

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4 Wildfire Risk Analysis and Risk Drivers

This chapter will provide an overview of the service area properties and associated risks, locations of assets in relation to climatic, topographic which are factored into the wildfire mitigation strategy. The wildfire risk analysis process will utilize the Utah Department of Natural Resources' (UDNR) Utah Wildfire Risk Explorer (UWRE) as well as the USFS Wildfire Hazard Potential risk mapping datasets (2023 update). The purpose of the wildfire risk analysis is to identify areas within the BVEA service area in Summit and Daggett Counties that are particularly susceptible to high-intensity, severe wildfire behavior, so as to develop mitigation measures for preventing utility related ignitions, and to improve system resilience to outside wildfire threat.

4.1 Fire History

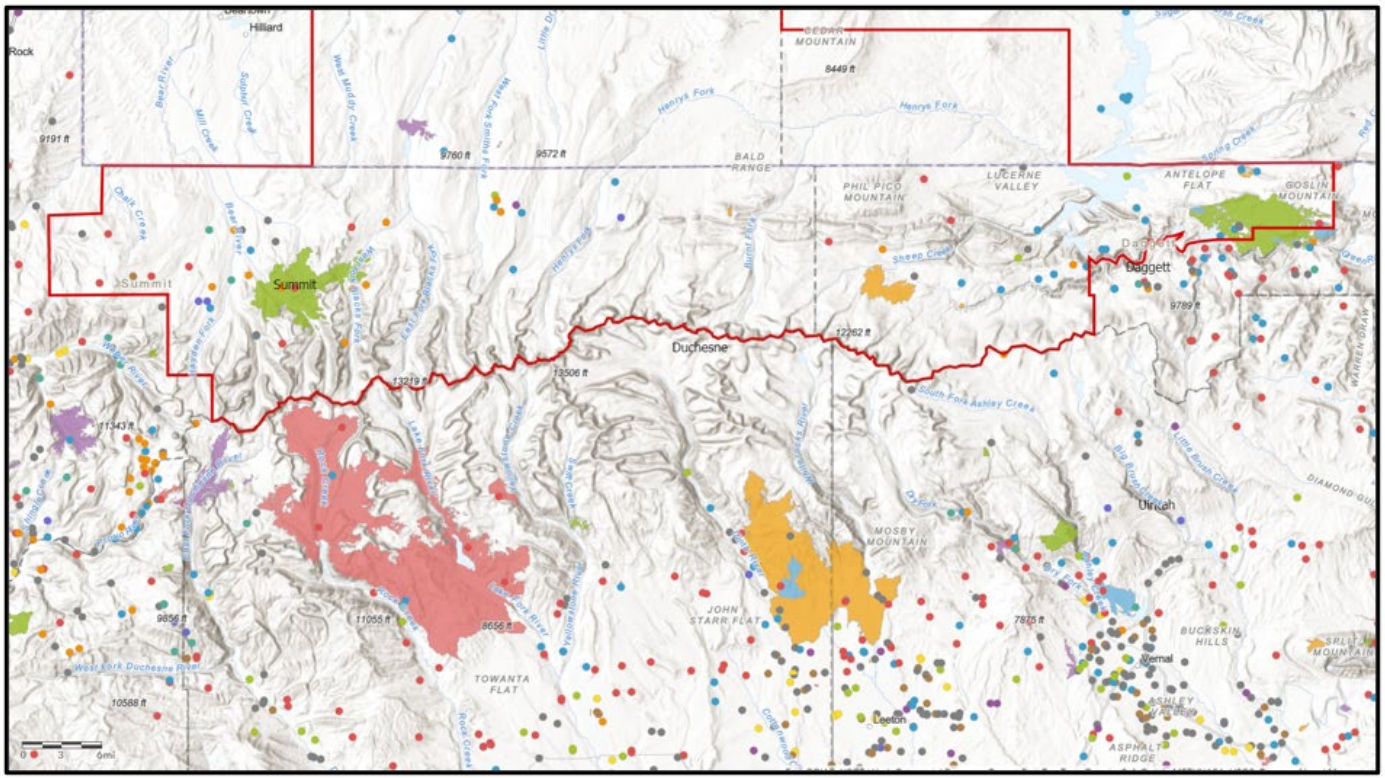
While firefighters suppress 95% of Utah wildfires on initial attack, adverse weather and topography, heavy fuel loads, and urban development can create catastrophic wildfire conditions. The three largest fires in Utah have occurred since 2007, each burning more than 70,000 acres. 2007 saw the greatest number of acres burned in a single year since 2000; 1,385 wildfires burned almost 650,000 total acres. This total includes the largest wildfire in Utah's history, the Milford Flat fire, which destroyed nearly 364,000 acres (Utah Division of Emergency Management 2019).

Between 1973 and 2017, Summit County experienced 872 fires (SWCA 2007a; Monitoring Trends in Burn Severity [MTBS] interagency databases). The majority of these were wildland fires that occurred in the western portion of the county along major roads and highways. Between 1984 and 2017, Daggett County experienced seven fires (MTBS).

Figure 2 illustrates the high fire occurrence history within BVEA's Utah service area. Many of these fires were located in close proximity to BVEA infrastructure. The greatest concentration of fires has occurred in and around Monviso, Two Bear, and Dutch John and on federal land adjacent to Flaming Gorge National Recreation Area. Many of these fires are likely a result of human ignitions, highlighting a need for greater public education and outreach for reducing fire ignitions. Because the greatest fire density is associated with recreational areas, targeted education to those users would be advisable. As a utility provider throughout this area, BVEA could be a partner to other agencies in these public education efforts.

The top ten ignition causes in the "Other" category (excluding "default, and Unknown Cause) in order of occurrence are fireworks, pile burning, no permit, electrical, fire arms use, arson, brakes, cutting/welding/grinding, exhaust, and catalytic converter.

Figure 2. Historic Wildfire Perimeters



Wildfire Perimeters and Ignition Points

Wildfire Perimeters: 2000-2021	Ignition Points by Cause: 2000-2020	
Wildfire 2000-2004	Lightning	Campfire
Wildfire 2005-2009	Equipment	Vehicle Fire
Wildfire 2010-2014	Uncontrolled/Unattended	Unknown
Wildfire 2015-2019	Power Line	Null
Wildfire 2020-2021	Agriculture	Other

4.2 Vegetation Communities and Ecoregions

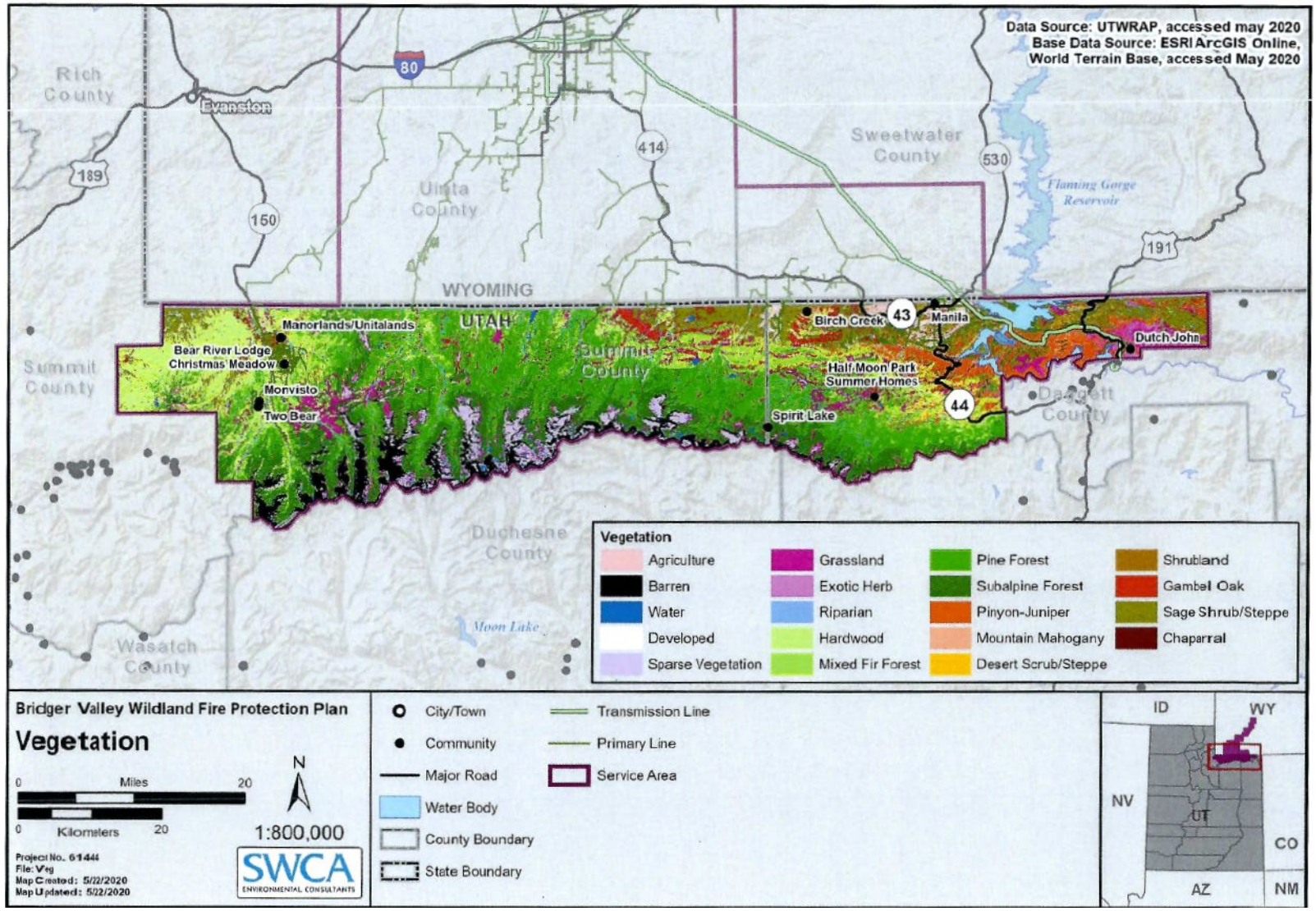
The BVEA service area falls mainly within the Wyoming Basin and Wasatch and Uintah Mountains ecoregions. The Wyoming Basin ecoregion, located in the high northeastern portion of Northern Utah, is characterized by arid grasslands and shrublands, surrounded by mountains without the extensive pinyon-juniper forests found in the Colorado Plateau ecoregion to the south (Omernik, 1987). Latitude and physiography are influential factors that distinguish this ecoregion from others (World Wildlife Fund [WWF] 2001). The dominant vegetation in the ecoregion is varied species of sagebrush-steppe interspersed with desert shrublands, dunes, and barren areas in more arid regions (WWF, 2001). Fire, wind, and variations in precipitation and temperature are the major disturbances in the ecoregion. Cheatgrass out-competes native bunchgrasses and has also altered the ecoregion's fire regime. Fire suppression has also altered the structure and composition of some areas of the ecoregion by resulting in buildup of fuels (WWF 2001).

The BVEA service area is comprised primarily of sagebrush shrub and hardwood communities (Figure 3). Cheatgrass *(Bromus tectorum),* a highly competitive invasive grass species from Eurasia, is a notable concern in the service area because it has altered native plant community structure and promotes wildfire by increasing the risk of shorter fire return intervals (Bishop et al., 2019). As cheatgrass spreads throughout the western United States, new threats are placed on communities and infrastructure.

The Wasatch and Uintah Mountain ecoregion is a block of high montane habitat stretching from southeastern Idaho and southwestern Wyoming to isolated ranges of the Colorado Plateau in southern Utah. It comprises high, glaciated mountains, dissected plateaus, foothills, and intervening valleys. The ecoregion encompasses two separate mountain ranges: the Wasatch, a major north-south range, and the Uinta, one of the few major east-west ranges in the United States (WWF, 2001). Fire, wind, and variations in precipitation and temperature are the major disturbances in the ecoregion.

Fire suppression has also altered the structure and composition of some areas of the ecoregion, resulting in a buildup of fuels (WWF, 2001). Fifty years of attempted fire exclusion and favorable climatic conditions have allowed juniper expansion to go unchecked (Ferry et al., 1995). Decreases in fire frequency are also seriously affecting ponderosa pine forests. Historically, the ponderosa pine ecosystem had frequent, low-intensity surface fires that perpetuated park-like stands with grassy undergrowth (Barrett, 1980, as cited in Ferry et al., 1995). In recent years, however, humans have attempted to exclude fire on these sites, resulting in ponderosa pine forests that are overstocked and subject to severe stand-destroying fires (Mutch et al., 1993, as cited in Ferry et al., 1995). Long-term fire suppression has also resulted in a loss of aspen.

Figure 3. Vegetation Classification



4.3 Vegetation Classification

BVEA's infrastructure is located primarily in areas of sage shrub/steppe (27.2%) as shown in Table 4 below. Fire frequency in this vegetation community varies, depending on sagebrush species and subspecies, but is considered to be between 10 and 110 years depending on precipitation, elevation, species, and associated vegetation (SWCA 2007a). Fire behavior in sage shrub/steppe depends upon the condition of the stand. In areas where there is continuous vegetation with thick interlocking tree-shrub crowns, there is greater potential for high-intensity fire, with rapid rates of spread. If shrub fuel is interspersed with dry, fine grass fuels, rates of spread are also high, as grass transmits flames between woody shrubby vegetation that burns with high intensity. In areas where drought, habitat fragmentation, and vegetation treatments, like prescribed fire and mechanical thinning have occurred, wildfire is more likely to be patchy as the fine fuel matrix is removed and canopies are more separated (Bukowski and Baker 2013). In these areas, rates of spread are lower and fire fighters are able to suppress and contain a fire more easily.

Table 4. Vegetation Community Classification along BVEA Power Lines

Value	Classification	Acres	Percent
1	Agriculture	4,700.88	10.610
2	Barren	1,275.07	2.878
3	Water	799.09	1.804
4	Developed	2,391.77	5.398
5	Sparse Vegetation	408.53	0.922
6	Grassland	1,610.64	3.635
7	Exotic Herb	1,369.57	3.091
8	Riparian	1,656.02	3.738
9	Hardwood	7,205.92	16.265
10	Mixed Fir Forest	383.20	0.865
11	Pine Forest	3,320.03	7.494
12	Subalpine Forest	758.48	1.712
13	Pinyon-Juniper	3,474.63	7.843
14	Mountain Mahogany	420.19	0.948
15	Desert Scrub/Steppe	1,052.31	2.375
16	Shrubland	720.46	1.626
17	Gamble Oak	692.56	1.563
18	Sage Shrub/Steppe	12,064.04	27.23
19	Chaparral	1.11	0.003

4.4 Fuels

The fuels in the planning area are classified using Scott and Burgan's (2005) Standard Fire Behavior Fuel Model classification system[5]. This classification system is based on the Rothermel surface fire spread equations, and each vegetation and litter type is broken down into 40 fuel models.

The general classification of fuels is by fire-carrying fuel type (Scott and Burgan 2005):

(NB) Non-burnable
(GR) Grass
(GS) Grass-Shrub
(SH) Shrub
(TU) Timber-Understory
(TL) Timber Litter
(SB) Slash-Blowdown

The dominant fuel models that occur within the BVEA line buffer (0.25-mile buffer on either side of the line) are shown in Table 5 and Figure 4. Definition for the fuel model classes are provided in Table 6. These data were captured and classified by LANDFIRE in 2019 (Version 200) and are the most recent models available at the time of this update. This analysis of the fuel data is done in order to allow comparison between plans and illustrate changes to the landscape over time. See Appendix B for additional background and inputs to the vegetation fuels map.

Table 5. Scott and Burgan Fuel Model Composition

Fuel Class	Acres	Percent
NB1	1495.1	3.04
NB3	123.07	0.25
NB8	1432.58	2.91
NB9	599.14	1.22
GR1	999.66	2.03
GR2	8316.85	16.91
GR3	53.08	0.11
GS1	5125.93	10.42
GS2	11770.15	23.93
SH1	63.61	0.13

[5] https://apps.fs.usda.gov/fsgisx01/rest/services/RDW_Landfire/US_40ScottAndBurganFBFM_v200/ImageServer

SH2	4907.59	9.98
SH3	535.14	1.09
SH5	113.81	0.23
SH7	1801.41	3.66
TU1	2274.72	4.62
TU2	17.88	0.04
TU5	4360.72	8.86
TL1	0.29	0.00
TL2	106.93	0.22
TL3	3983.13	8.10
TL5	203.3	0.41
TL6	633.26	1.29
TL8	135.96	0.28
TL9	137.67	0.28

Figure 4. Fuel Model Classification

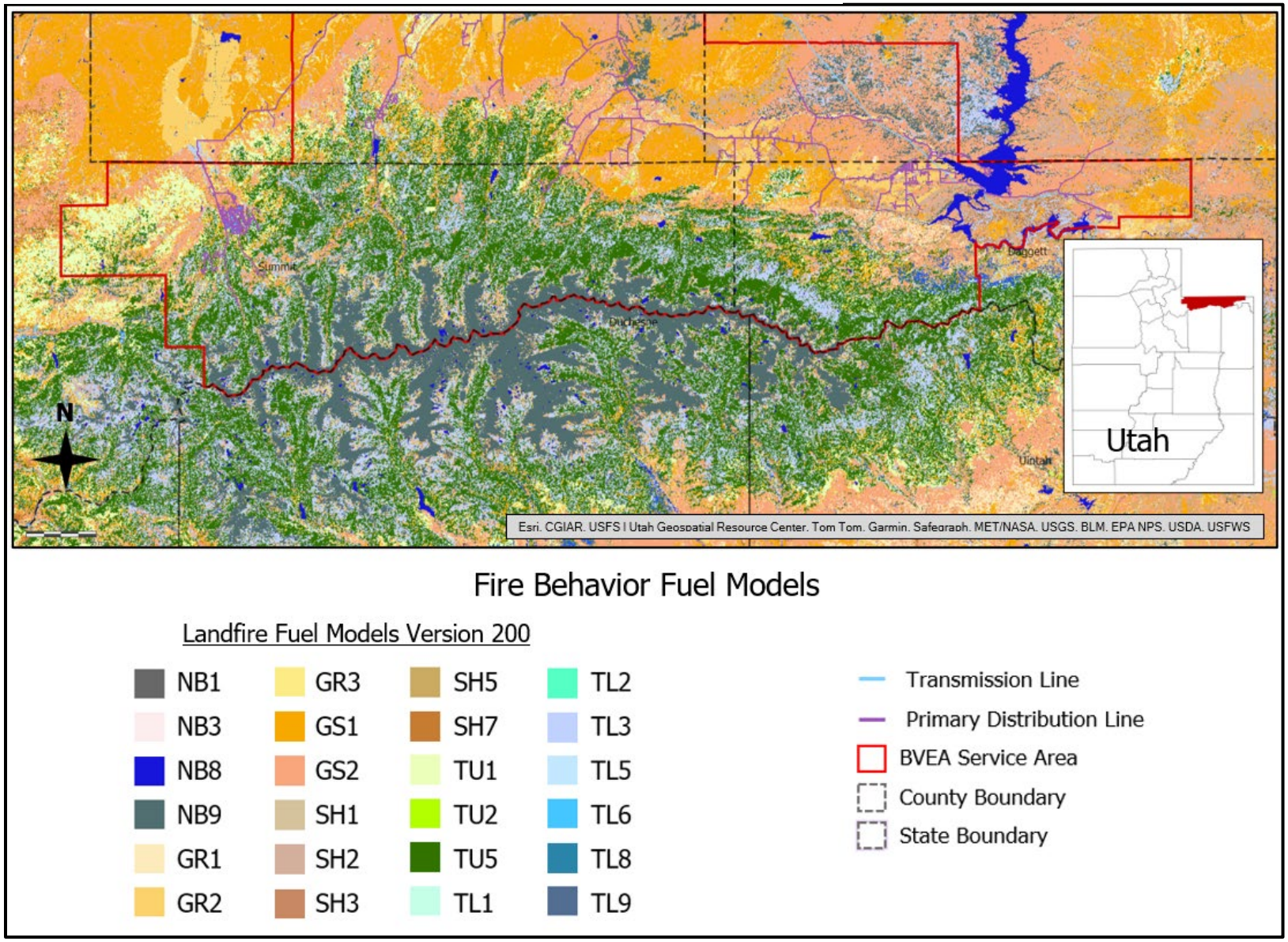


Table 6. Fuel Model Descriptions

1.	Grass: Nearly pure grass and/or forb type
i.	**GR1:** Grass is short and patchy. Spread rate is moderate (5-20 chains/hour); flame length low (1-4 feet); fine fuel load (0.40 ton/acre)
ii.	**GR2:** Moderately coarse continuous grass, average depth about 1 foot. Spread rate high (20-50 chains/hour); flame length moderate (4-8 feet); fine fuel load (1.10 tons/acre)
2.	Grass-Shrub: Mixture of grass and shrub, up to approximately 50% shrub cover
i.	**GS1:** Shrubs are about 1 foot high, low grass load, Spread rate moderate (5-20 chains/hour); flame length low (1-4 feet); fine fuel load (1.35 tons/acre).
ii.	**GS2:** Shrubs are 1-3 feet high, moderate grass load. Spread rate high (20-50 chains/hour); flame length moderate (4-8 feet); fine fuel load (2.1 tons/acre)
3.	Shrub: Shrubs over at least 50% of the site; grass sparse to non-existent
i.	**SH1:** Low fuel load, depth about 1 foot, some grass fuels present. Spread rate very low (0-2 chains/hour); flame length very low (0-1 feet)
ii.	**SH2:** Moderate fuel load (higher than SH1), depth about 1 foot, no grass fuels present. Spread rate low (2-5 chains/hour); flame length low (1-4 feet); fine fuel load (5.2 tons/acre)
iii.	**SH7:** Very heavy shrub load, possibly with pine overstory. Fuel bed depth 4-6 feet. Spread rate high (20--50 chains/hour); flame length very high (12-25 feet)
4.	Timber-Understory: Grass or shrubs mixed with litter from forest canopy
i.	**TU1:** Fuel bed is low load of grass and/or shrub with litter. Spread rate low (2-5 chains/hour); flame length low (1-4 feet); fine fuel load (1.3 tons/acre)
ii.	**TU5:** Fuel bed is high load conifer litter with shrub understory. Spread rate moderate (5-20 chains/hour); flame length moderate (4-8 feet)
5.	Timber-Litter: Dead and downed woody fuel beneath a forest canopy
i.	**TL3:** Moderate load. Spread rate very slow (0-2 chains/hour); flame length low (1-4 foot); fine fuel load (0.5 ton/acre)
ii.	**TL6:** Moderate load, less compact. Spread rate moderate (5-20 chains/hour); flame length low (1-4 feet)
6.	Non-burnable: Insufficient wildland fuel to carry wildland fire under any condition
i.	**NB1:** Urban or suburban development; insufficient wildland fuel to carry wildland fire
ii.	**NB2:** Snow/ice
iii.	**NB3:** Agricultural field, maintained in non-burnable condition
iv.	**NB9:** Bare ground

4.5 Topography

Summit County's topography is diverse. Located in the state's northeastern portion, the county owes its name to the high mountain summits forming the divides of the Weber, Bear, and Green River drainages. The county's eastern portion is dominated by the east-west-trending Uinta Mountains, while a high back valley of the Wasatch Mountains forms the county's western border (SWCA 2007a). Economic activities focus on mini, timber production, livestock, skiing, and tourism (Media Solutions 2006).

Daggett County, located in the state's northeastern corner on the border with Wyoming and Colorado, has a landscape characterized mainly by the Uinta Mountains. Also significant to the landscape is the Flaming Gorge Reservoir, a large, human-made waterbody. The Green River, flowing easterly from the reservoir, is the largest in the county. Land use in the county is comprised mainly of agriculture, power generation, and recreation.

Topography is essential in determining fire behavior. The steepness of the slope, aspect (the direction the slope faces), elevation, and landscape features can all affect fuels, local weather (by channeling winds and affecting local temperatures), and the rate of spread of wildfire. There are many steep slopes throughout the BVEA service area that would influence fire behavior and spread. In the western portion of the service area, the Uintah Mountains cover the southern edge. These high alpine environments are extremely topographically complex. North of the Uintah Mountains, the land becomes relatively flat, filled with croplands. In the mountains, both aspect and slope are extremely varied, whereas in the valley, there are few slope or aspect changes. Northwest of the Uintah Mountains are smaller hills shaped by water features, creating a more moderately topographically complex landscape. Northeast of the Uintah Mountains, smaller hills and flat, low-lying areas comprise most of the landscape. Closer to Flaming Gorge, water features cut the landscape into steep cliffs, terraces, and benches.

4.6 Weather

Of the three fire behavior components, weather is the most likely to fluctuate. Accurately predicting fire weather remains a challenge for forecasters. As winds and rising temperatures dry fuels in the spring and summer, conditions can deteriorate rapidly, creating an environment susceptible to wildland fire. Fine fuels (grass and leaf litter) can cure rapidly, making them highly flammable in as little as one hour following light precipitation. Low, live-fuel moisture levels of shrubs and trees can significantly contribute to fire behavior in the form of crowning and torching. With a high wind, grass fires can spread rapidly, engulfing infrastructure and communities, often with limited warning for evacuation.

The region's driest temperatures occur from May through September, with temperatures reaching into the high 70s and 80s in June, July, and August east of Coalville (Figures 5 and 6[6]). Temperatures in the high 80s and 90s can be expected in July in the Flaming Gorge area (Figures 7 and 8). These dry conditions can elevate fire behavior during this period as

[6] National Weather Regional Climate Center (2024)

vegetation dries and becomes more susceptible to combustion. The average monthly precipitation is low during July and increases slowly in August through September and October due to monsoon rain patterns. Vegetation management and other wildfire mitigation measures should be completed before peak fire season (May—October). BVEA endeavors to comply with this whenever possible.

Figure 5. Daily Temperature Extremes and Averages - Coalville 13 E, Utah

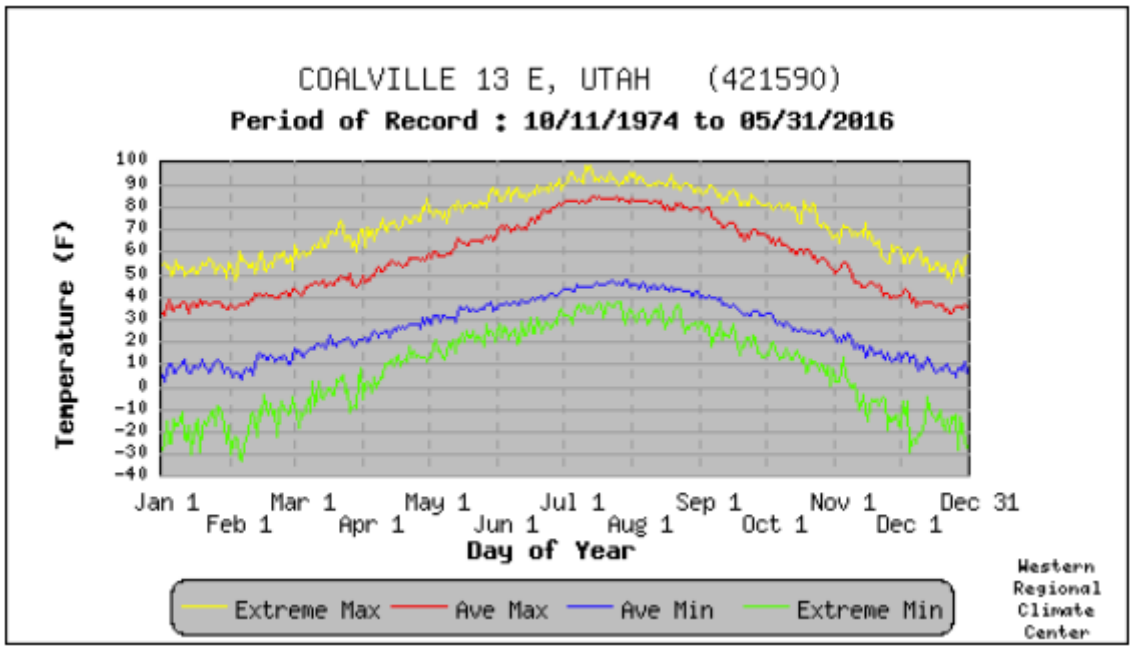


Figure 6. Daily Temperature Extremes and Averages - Flaming Gorge, Utah

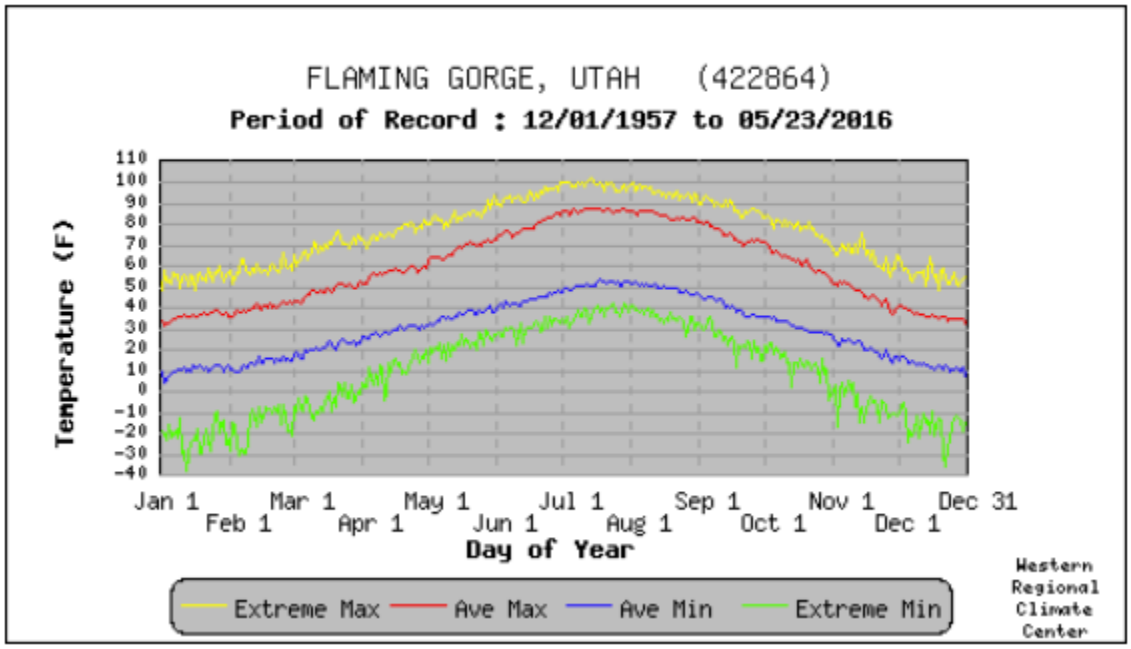


Figure 7. Monthly Average Precipitation-Coalville 13 E Utah

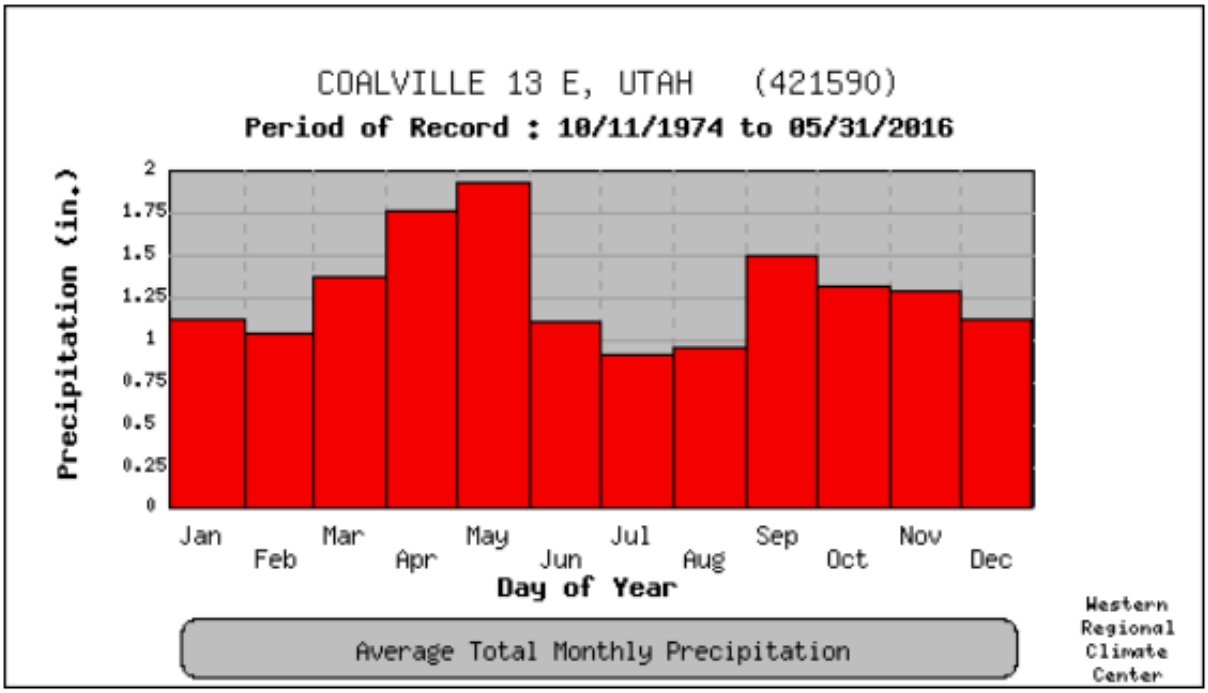
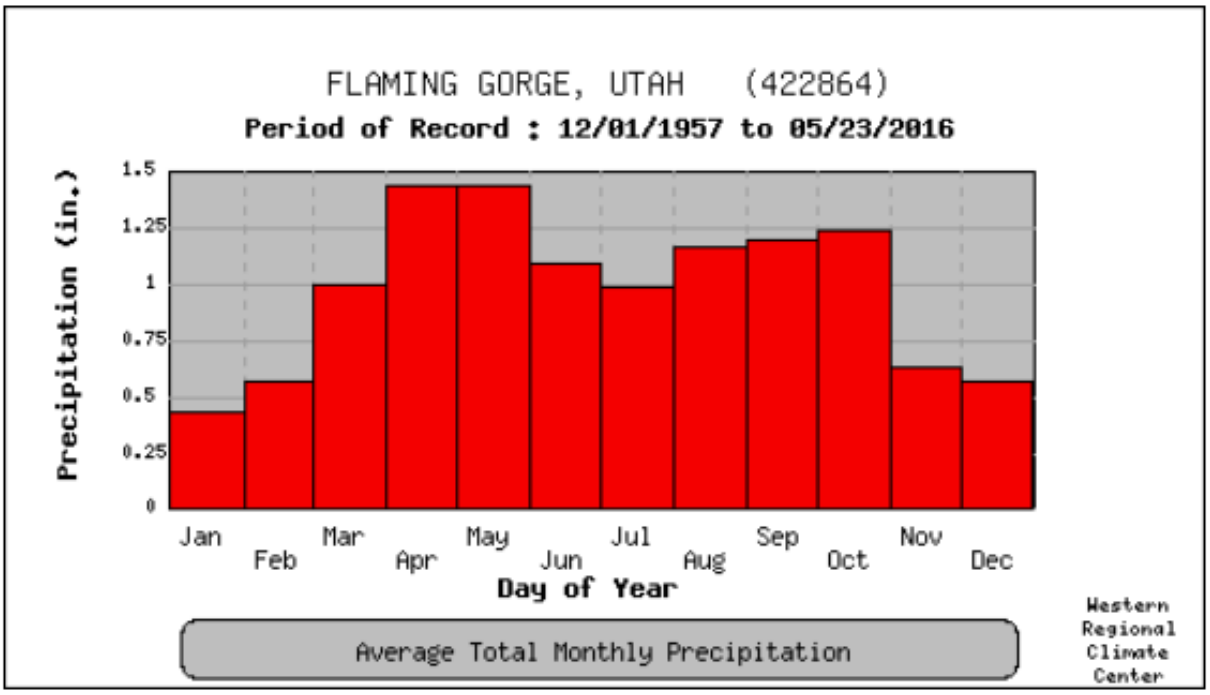


Figure 8. Monthly Average Precipitation-Flaming Gorge, Utah



4.7 Analysis Approach

This Plan utilizes map products from the USFS Wildfire Hazard Potential mapping datasets to support analysis of fire behavior and risk within the BVEA service area. This analysis assists BVEA in identifying areas that are most prone to wildfire in order to create a plan to prioritize vegetation management actions to mitigate potential fire effects. In areas predicted to have the highest fire behavior, BVEA can also consider prioritizing infrastructure improvements that ensure resilience of the grid. Furthermore, in areas where fire behavior is expected to be high, as a result of fuels, topography, weather, and past fire occurrence, BVEA will work with the community to identify actions that communities can take to mitigate against potential ignitions and to alert the community in the event of a wildfire.

4.7.1 Communities at Risk

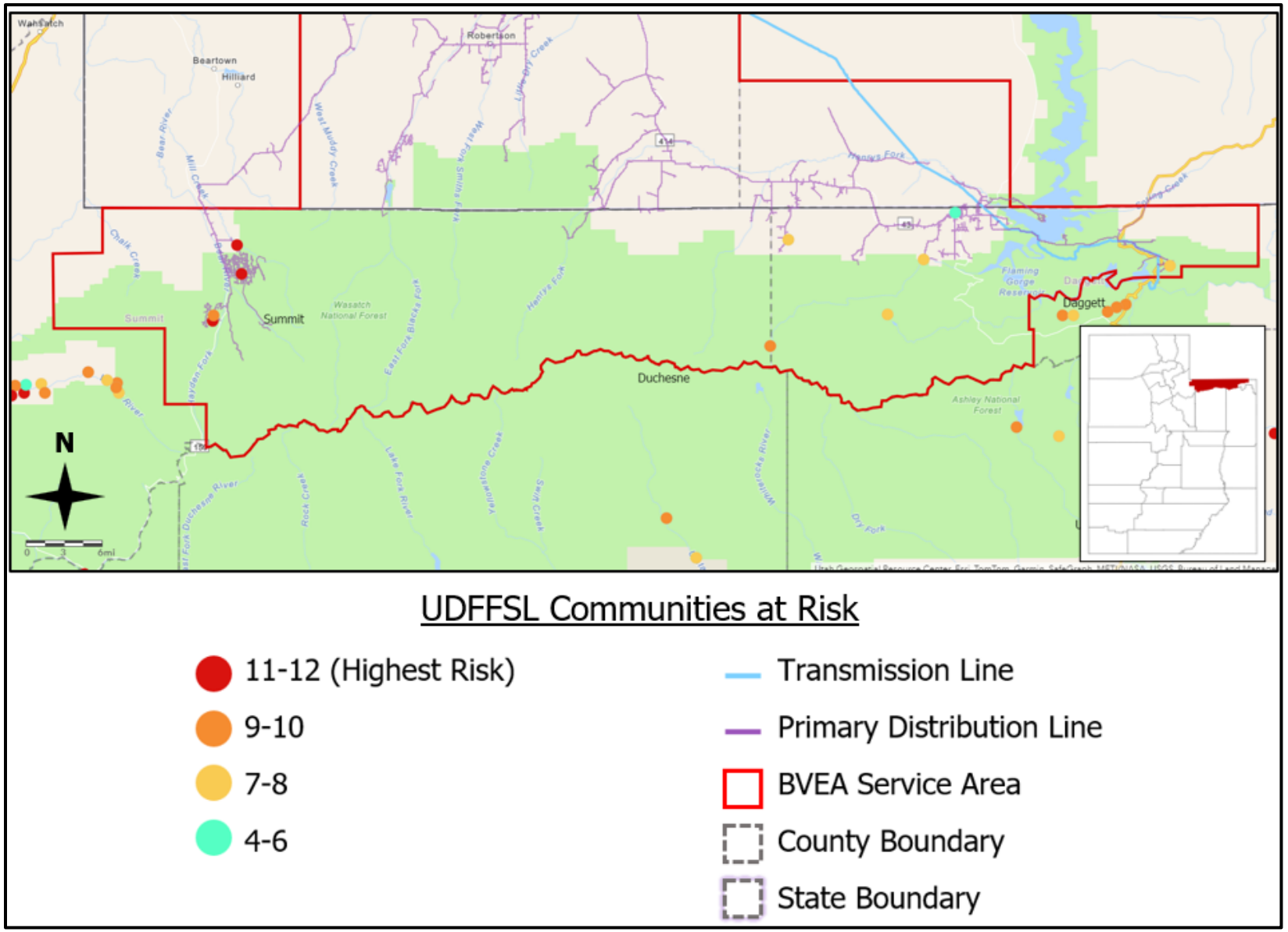
Wildfire is a natural part of Utah's ecosystems, but the development within and around wildlands over the last decade or two has posed challenges for wildfire and safety officials. In 2005, Utah initially identified almost 600 communities and their surrounding natural resources as "at risk" from wildland fire[7].

The list consists of communities throughout Utah that have been determined by wildland fire officials to be at risk from wildland fire. Communities considered "At Risk" from wildland fire are listed alphabetically within each county.

The "Overall Score" represents the sum of multiple risk factors analyzed for each community. Examples of some risk factors are fire history, local vegetation, and firefighting capabilities. The Overall Score can range from 0 (No risk) to 12 (Extreme risk). This score allows Utah's fire prevention program officials to assess relative risk and create opportunities for communications with those communities on the list.

[7] UDFFSL, https://ffsl.utah.gov/fire/wildfire-community-preparedness/communities-at-risk/

Figure 9. UDFFLS Communities at Risk



4.7.2 Wildfire Hazard Potential

The Wildfire Hazard Potential (WHP) map (Figure 10) used in this plan is a raster geospatial dataset produced by the USDA Forest Service, Fire Modeling Institute (FMI). It is intended to inform evaluations of wildfire risk or prioritization of fuels management needs across large landscapes. The specific objective of the WHP map is to depict the relative potential for wildfire that would be difficult for suppression resources to contain.

The WHP-2023 dataset was built upon:

- Spatial vegetation and wildland fuels data from *LANDFIRE 2020* (version 1.4.0). The *LANDFIRE* Fire Behavior Fuel Models layer is a primary input to the FSim Burn Probability (BP) and Fire Intensity Level (FIL) datasets and forms the foundation for WHP.
- Spatial datasets of wildfire likelihood and intensity were generated for the conterminous U.S. with the *Large Fire Simulator* (FSim). FSim simulates the growth and behavior of hundreds of thousands of fire events for risk analysis across large land areas using geospatial data on historical fire occurrence, weather, terrain, and fuel conditions. Effects of large-fire suppression on fire duration and size are also simulated. This research aims to develop a practical method of quantifying geospatial wildfire impacts, including annual probabilities of burning and fireline intensity distributions at any point on the landscape.
- Point locations of past fire occurrence from 1992 through 2020

Areas mapped with higher WHP values represent fuels with a higher probability of experiencing torching, crowning, and other extreme fire behavior under conducive weather conditions. An essential aspect of the WHP method is the use of "resistance to control weights" at the end of the mapping process. This serves to reduce the WHP index in areas with light fuels, such as grass and shrubs. This helps to inform where forest fuel reduction treatments might be most needed.

On its own, WHP is not an explicit map of wildfire threat or risk, but when paired with spatial data depicting highly valued resources and assets such as communities, structures, or powerlines, it can approximate relative wildfire risk to those resources and assets. WHP is not a forecast or wildfire outlook for any particular season as it does not include any information on current or forecasted weather or fuel moisture conditions.

The WHP map can be used to prioritize vegetation management activities, determining the location for focused recloser operational protocols, and future sectionalizing studies and associated remedial actions.

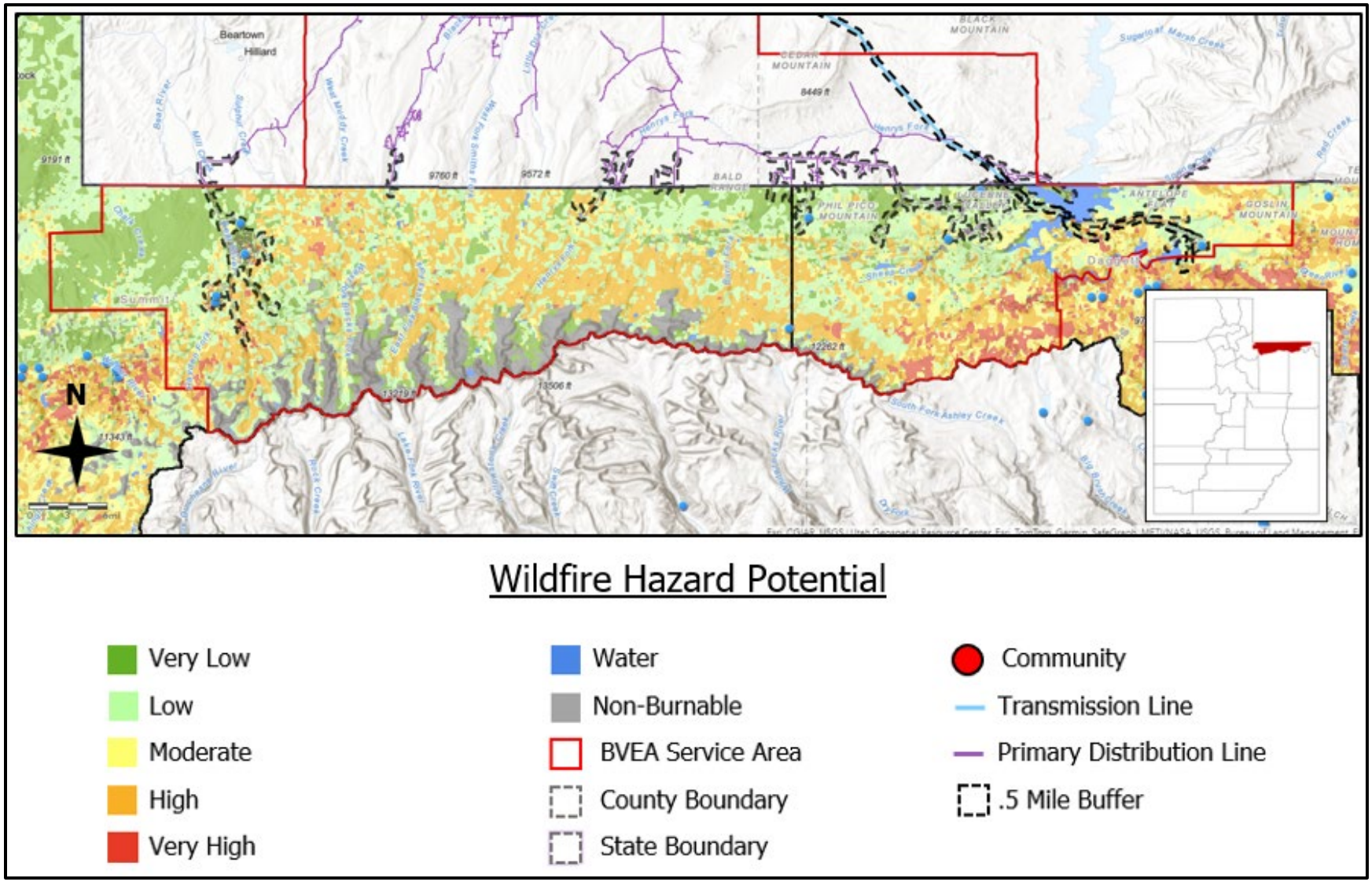
A 0.25 mile buffer was created around the Utah transmission and distribution lines and overlaid on the WHP map for analysis. Table 7 illustrates the breakdown of this 0.5 mile wide corridor within the 7 layers of the WHP risk map. Approximately 80% of the Utah distribution system is located in Very Low to Moderate, with ~11% located in High and Very

High. Approximately 62% of the transmission system is located in Very Low to Moderate, with ~30% in High to Very High. Non-burnable and Water areas account for ~10% combined for both distribution and transmission corridors.

Table 7. Wildfire Hazard Potential within .5 Mile T&D Corridors

Asset Type	Risk Class	Acres	Percent
Distribution	Very Low	13,693	29.28
	Low	17,405	37.22
	Moderate	6,272	13.41
	High	4,588	9.81
	Very High	433	0.93
	Non-Burnable	3,217	6.88
	Water	1,152	2.46
Transmission	Very Low	260	3.94
	Low	2,081	28.30
	Moderate	2,193	29.82
	High	1,717	23.35
	Very High	430	5.85
	Non-Burnable	117	1.59
	Water	526	7.15

Figure 10. Wildfire Hazard Potential



4.8 Risk Assessment and Action Plan

The wildfire risk assessment presented in Figure 10 aims to identify sections of the BVEA service area that are at elevated risk for wildfire. Appendix E shows this same data set spatially zoomed to show details associated with high-risk segments of the BVEA lines. Table 11 in Appendix E describes those high-risk segments with associated mitigation measures that could be applied to mitigate that risk. A priority scale from low to high is applied across all high-risk segments to facilitate implementation based on the intensity of the risk. The risk assessment is based on desktop analysis. BVEA will ground truth priority sections before proceeding with Plan implementation.

BVEA can use Table 11 as an action plan for implementing mitigation measures as this Plan is implemented. The table can be revised during annual reviews and 3-year updates to show progress toward mitigation goals.

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5 Wildfire Prevention Strategies and Protocols

5.1 Inspection Procedures

Line inspections provide a continuous picture of system repair needs, crew scheduling, and evaluations of human power needs. BVEA follows all Rural Utilities Service (RUS), National Rural Electric Cooperative Association (NRECA), and Rural Electric Safety Achievement Program (RESAP) standards for operation, maintenance, and vegetation management.

BVEA inspects, at least annually, every 15kV and 25kV distribution overhead feeder and tap.

1. BVEA inspects at least annually every distribution overhead primary voltage feeder and taps 15kV and 25kV.
    a. Maintenance and safety issues noted and dated.
        i. Service order generated and tracked to completion.
        ii. Service order attended to in a timely manner.
    b. Vegetation issues within ROW noted and dated.
        i. Service order generated and tracked to completion.
        ii. Service order attended to in a timely manner.
    c. Vegetation issues outside of ROW that may create potential issues by falling into ROW.
        i. Service order generated and tracked to completion.
        ii. Landowner contacted about out-of-ROW issues with potential remedies. Removal of the tree if at all possible.
        iii. Landowner contact documented, signed, and dated.
2. BVEA inspects all 69kV transmission lines at least annually
    a. Maintenance and safety issues noted and dated.
        i. Service order generated and tracked to completion.
        ii. Service order attended to in a timely manner.
    b. Vegetation issues within ROW noted and dated.
        i. Service order generated and tracked to completion.
        ii. Service order attended to in a timely manner.
    c. Vegetation issues outside the ROW that may create potential issues by falling into the ROW.
        i. Service order generated and tracked to completion.
        ii. Landowner contacted about out-of-ROW issues with potential remedies. Removal of the tree if at all possible.
        iii. Landowner contact documented, signed, and dated.
3. BVEA inspects any distribution overhead primary voltage feeder and taps 15kV and 25kV, or transmission overhead line 69kV, that has any issues reported by the members, public, or employees.
    a. Service order generated and tracked to completion.
    b. Service order attended to in a timely manner.

4. BVEA inspects any distribution overhead primary voltage feeder and taps 15 kV and 25 kV, or transmission overhead line 69 kV, that has five or more consecutive operations in a 24-hour period, on a relay, recloser, or S&C trip saver.
    a. Service order generated and tracked to completion.
    b. Service order attended to in a timely manner.

5.1.1 Inspection Schedule

Bridger Valley inspects every distribution overhead primary voltage feeder and taps 15 kV and 25 kV at least annually. All 69-kV transmission lines are also inspected at least annually.

Inspections may also be performed in a separate operation or while performing other duties, as desired.

5.1.2 Documentation

All service orders are tracked to completion

5.1.3 On-site Repair

Whenever possible, operations personnel will complete repairs during the inspection process. If repairs require scheduling at a later date, a maintenance order will be generated and tracked.

5.1.4 Responsibility

The Line Superintendent is responsible for providing oversight for inspections.

5.1.5 Wood Pole Testing and Treatment

To maintain [POUs] wood poles, a formal Wood Pole Assessment Plan was initiated with the goal to inspect 10% of the system each year. Wood pole inspections are carried out on a planned basis to determine whether they have degraded below National Electric Safety Code (NESC) design strength requirements with safety factors.

A third-party contractor inspects and tests all poles on a cycle meeting the interval recommended in RUS Bulletin 1730B-121. Circuits are identified, mapped, and scheduled for inspection and testing using latest industry standards and practices. Poles suspected of deficiencies are subjected to intrusive inspection to determine and identify problems such as rot, decay, or insect damage. Based on the results of the intrusive test, wood treatments are then administered.

5.2 Vegetation Management Protocols

When vegetation falls into the lines within the ROW, a service order is generated and attended to promptly. When vegetation issues are noted outside of the ROW with potential to fall into the ROW, a service order is generated and tracked to completion.

5.2.1 Vegetation Management Procedures

- The ROW is prepared following Rural Utilities Service (RUS) standards by removing trees, clearing underbrush, and trimming trees so that the ROW is cleared close to the ground and to the width specified (Figure 11).
- BVEA will seek required government permits or applicable authorization for vegetation and tree removal or trimming, including but not limited to, federal, state, municipal, and tribal laws, ordinances, rules, and regulations. BVEA shall seek to trim/remove vegetation and/or trees that in BVEA's opinion present an immediate hazard, danger, or substantial risk to BVEA's system, employees, or public safety. BVEA will ensure that all federal approval processes are followed for actions within the ROW.
- Low-growing shrubs, which will not interfere with the operation or maintenance of the line, shall be left undisturbed as directed by the owner.
- Slash may be chipped and blown on the ROW.
- The landowner's written permission must be received prior to cutting trees outside the ROW.
- Trees fronting the width of the ROW shall be trimmed symmetrically unless otherwise specified.
- Dead trees beyond the ROW that could strike the line if they fall must be removed.
- Leaning trees beyond the ROW that could strike the line in falling and would require topping if not removed must be removed or topped.
- Shade, fruit, or ornamental trees must be trimmed and not removed unless otherwise authorized.
- Vegetation trimming should be employed to avoid contact, as well as proximity, and to ensure that the tree will not grow to within a hazardous distance before the next inspection (arc distance), resulting in an arc fault. Vegetation clearance will be based on inspection frequency, for example, removing all vegetation that is close enough to cause a fault or could cause a fault in the next 2 years. In drought-prone areas where tree growth is stunted, growth can rebound when drought conditions abate. BVEA will consider the fact that growth rates can be nonlinear when establishing inspections frequency.
- BVEA continually reduces fire risk by using motorized equipment in highly vegetated areas by walking or always having a fire extinguisher or other method of fire suppression available.
- BVEA shall encourage members to report trees that are potential hazards, in and outside the ROW, that may become a threat to public safety and/or the system's reliability.

- BVEA will annually budget an amount sufficient to secure the services of an independent tree contractor to assist the cooperative with its vegetation management program, including tree removal when authorized, tree trimming, and application of herbicide within the ROW.

  The activities of the vegetation management program will be documented and maintained annually by the Operations Manager.

  BVEA may consider working with stakeholders to utilize overhead ROWs as fire breaks, which impacts the type of vegetation allowed on the ROW and may impact the width of the ROW.

5.2.2 Inspection Standards

BVEA will perform periodic inspections of its distribution and transmission lines to monitor the growth of vegetation. BVEA inspects every distribution overhead primary voltage feeder and 15kV and 25kV taps at least annually. All 69kV transmission lines are also inspected at least once per year. Inspections will include both drone and visual line patrols, as well as vehicle patrols, and will fulfill the requirement of a vegetation inspection as well as a general maintenance inspection.

5.2.3 Vegetation Trimming Standards

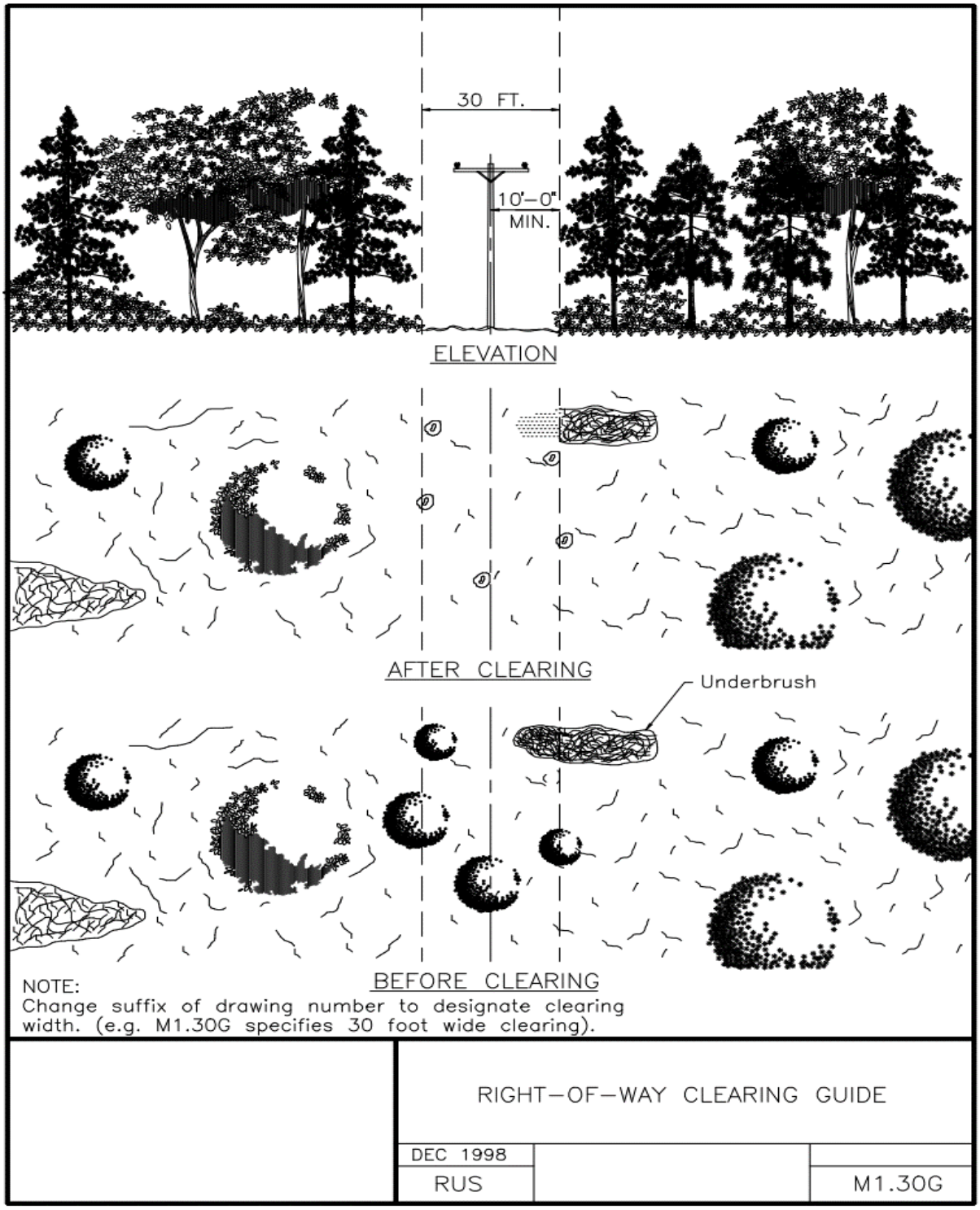
BVEA's contractors follow American National Standards Institute (ANSI) A300 concepts and utility directional pruning, which supports proper pruning/tree health while achieving and maximizing the pruning cycle. The VM program was developed with RUS, ANSI A300, ANSI C2, and National Electrical Safety Code (NESC).

Work performed to the above guidelines provides reasonable service continuity, public safety, and guards against wildfire damage caused by supply conductors. Consideration is given to the impact of pruning on power line reliability, individual tree condition, and tree aesthetics.

5.2.4 Clearance Standards

In order to adhere to RUS standards, there must be a minimum of 10 feet of clearance on either side of infrastructure. In total, the cleared width for infrastructure will be a minimum of 30 feet (Figure 11).

Figure 11. RUS Vegetation Clearing Specifications



5.2.5 Responsibility

The Line Superintendent is responsible for the ongoing vegetation management, including recordkeeping of tree trimming to ensure the safety of landowners, employees, and the public.

The Operations Manager is responsible for reviewing records involving vegetation management. From these records, an annual summary is to be provided to the BVEA General Manager/CEO as a key indicator to the Board of Directors.

5.2.6 Hazard Trees

A subset of Danger Trees[8], A Hazard Tree is defined as any tree or portion of a tree that is dead, rotten, decayed, or diseased and which may fall into or onto the overhead lines or trees leaning toward transmission and distribution facilities. These trees are sometimes located beyond the easement or ROW. Any tree that is located outside of the ROW and is deemed a hazard tree will be removed or topped to make safe for conductors.

A hazard tree will have one or more of the following characteristics:

- Dead or dying - all dead or dying trees along, or outside the [POU] right-of-way may be removed depending on the height of tree and the direction of the lean.
- Leaning trees - trees that have such a lean toward the right-of-way that they cannot be trimmed without removing the tops and slanting the tree back. Removal depends on height and species of the tree and direction of the lean.

5.3 Modifications and Upgrades to Infrastructure

5.3.1 System Improvements

BVEA infrastructure is designed, constructed, and maintained to meet or exceed relevant federal, state, or industry standards. In addition, BVEA monitors and follows as appropriate the National Electric Safety Code. In addition to adhering to all standards, BVEA will consider some or all of the following system hardening solutions:

- Provide additional access roads along power line ROW and maintain standards.
- Ensure vegetation clearances around poles, with a minimum radius of 10 feet.
- Adopt alternative technologies as they become available (for example, live-feed camera technology, wire-break sensing, and arc detection technology).

5.3.2 Avian Protection

All new power lines are built for raptor protection. This is accomplished by having wider phase-to-phase and phase-to-ground spacing. Line hoses, plastic bird caps, and bird guards are used in specific potential problem areas. In cases for which nesting continues to be a problem, nests

[8] As defined by ANSI 300 Part 7 standards

are moved, and additional structures may be constructed away from the powerline to prevent contact.

5.4 De-energization Protocols and Reclosing

As the power within this rural area is predominately a radial feed, shutting down the entire feed is not an option for BVEA. The distribution of electrical power to pumps that provide water for livestock, crops, and fire suppression is of the utmost importance. BVEA also has members who are dependent on electricity to power their oxygen machines and other types of devices that offer life support. Through a thorough analysis, BVEA has balanced the risk of fire with these provisions and has determined that maintaining electric supply to members outweighs the potential wildfire risk of maintaining an energized line.

During extremely high-risk fire conditions (heavy winds and prolonged periods of low humidity) in very sensitive areas (those outlined in Appendix E), the automatic line recloser could be placed in non-reclose mode to further reduce wildfire risk. While this is not a procedure that BVEA prefers to employ, it is an option under extreme conditions.

In the event of wildfire, BVEA provides personnel to work directly with incident command and attends all incident meetings to provide input and coordination between fire operations and BVEA system operation. If, during a fire, a distribution or transmission line is requested to be removed from service for the safety of firefighting personnel, BVEA will work closely with incident command using industry clearance and safety procedures for any line outages to ensure the safety of fire crews and for safe operation of equipment.

BVEA use various types and models of protection devices in operating its overhead distribution power lines.

Table 8. Protection Device Settings

Asset Category	Protection Equipment	Operation Settings
Substation Feeders	Schweitzer 651R Relay	Two slow fast, and two slow operations, then lockout
		Capable of non-reclose or one-shot operation to lockout
Taps Off Feeders	Schweitzer 651R Relay	Two fast and two slow operations, then lock-out.
		Capable of non-reclose or one-shot operation to lockout
	S&C Tripsaver	Two slow fast, and two slow operations, then lockout
		Capable of non-reclose or one-shot operation to lockout
	Hydraulic Oil-filled Recloser	Two slow fast, and two slow operations, then lockout
		Capable of non-reclose or one-shot operation to lockout
	Fuses, T speed or K speed	Manufactured Specification
69kV Overhead Transmission	SEL 311C	Two operations to lockout

5.5 Recloser Operational Protocols

Normal Conditions: During normal line operation when the power flow is interrupted, the line recloser will attempt to re-energize. If the fault is temporary and can be cleared, power will be restored. If the fault does not clear, the line will remain de-energized until the circuit can be patrolled.

High Risk Conditions: When the power flow is interrupted under high-risk fire conditions, crews respond and will not attempt to manually reclose any line protection devices without first inspecting the section of line to be re-energized. Once the problem is identified and resolved, the crews will re-energize the line manually in order to reduce the risk of starting a fire.

Hold Orders: BVEA will work closely with the incident commander in the event that a hold order is placed on the line. BVEA will coordinate as needed with an emphasis on stressing the importance of always treating lines as energized. BVEA's transmission systems should always be considered energized.

5.6 Restoration of Service

After a wide-spread outage, BVEA work crews take the following steps before restoring electrical service after a de-energization event. These measures intend to protect the worker, members, the public, and the system's reliability.

Ongoing Wildfire: In the event of a wildfire impacting the BVEA service area, BVEA will staff up its operations department to coordinate activities to restore service. Restoration of power will be coordinated with county, municipal fire, and public works departments, in coordination with the incident commander in charge of the wildfire response operations. In the event additional resources are needed, BVEA may also engage contractors on an as-needed basis.

BVEA adhere to the following steps during the restoration of electrical service:
Emergency Declaration: Fire declaration would be made by the County or municipality with jurisdiction.

Inspection and Assessment: BVEA staff will patrol and record any damage to lines resulting from wildfire. The inspection will include assessing infrastructure repairs, removing debris, and assessing safety hazards. BVEA will work with the local agency in charge of the fire before accessing the burn area.

Planning: Following initial assessment, BVEA engineers and managers will meet to discuss the extent of any damage and develop a plan of work to restore service. Line segments and infrastructure that support the most critical infrastructure needs will be prioritized.

Mobilize: BVEA will coordinate the crews and materials needed to rebuild infrastructure and restore service. Contractors may be employed as needed.

Rebuild: Any repairs and rebuilding will be undertaken by BVEA as soon as the area is safe to access. Initial effort will be focused on replacing lines and restoring any damaged circuits.

Restore: BVEA or contract crews will restore electric services to homes and businesses as soon as possible after a wildfire. Restoration of service actions will vary depending on the criticality of assets affected, and available resources. BVEA's restoration process prioritize the following:

- Public and worker safety.
- Life support and other critical members.
- Critical infrastructure, including county and municipal facilities, Sheriff's department, police and fire departments, other critical infrastructure (water, sewage, gas, communications), and incident command sites.
- Major commercial activities/accounts.
- Reduce the total number of members affected.
- Reduce the length of time members have been without power.

5.7 Situational Awareness

Situational assessment is the process by which current operating conditions are determined. Situational Awareness is the understanding of the working environment, which creates a foundation for successful decision making and the ability to predict how it might change due to various factors.

Situational awareness regarding wildfire risk and hazard is a critical component of wildfire preparedness. Some weather conditions contribute to elevated wildfire hazard, and monitoring of those conditions is important throughout the wildfire season. BVEA should gather data throughout the season and access short, and long-range forecasts so as to be prepared to mobilize crews in the event of a potential ignition and/or occurrence of wildfire in the service area. Good situational awareness would include:

- Analyzing historical weather data to determine patterns and identify vulnerable periods.
- Monitoring incoming weather data in real time.
- Providing a detailed daily weather forecast to operations staff during fire season.
- Considering installation of weather stations in areas identified to be at high risk of wildfire and providing all weather data to operations staff to improve situational awareness.
- Communicating with the Daggett and Summit County Emergency Managers and other agency contacts (Table 9) to ensure BVEA is added to any emergency alert systems for hazardous weather events.
- Utilizing existing dynamic web services to inform operations and maintenance (O&M) staff regarding wildfire potential and wildfire activity within the service territory and incorporating this information into morning safety briefings.
- Considering installation of camera networks for fire detection in high risk areas.
- Monitoring evolution of technology related to situational awareness and incorporating into the BVEA O&M as appropriate.

BVEA System Operators rely on various resources to monitor evolving fire weather and climatological conditions that may lead to fire events. Sources for weather information include, but are not limited to the following:

- **USFS-Wildland Fire Assessment System (WFAS):** For immediate and short-term situational awareness, mapping tools from the USFS-WFAS help determine daily and short-term forecasted risk, with daily or weekly fire weather status maps produced as needed to assess PNW wildfire conditions. (https://www.wfas.net/index.php/fire-danger-rating-fire-potential--danger-32/fire-danger-subsets-fire-potential--danger-55)

- **The National Weather Service (NWS):** The NWS provide on-line predictive fire weather forecasting tools in the form of a current fire-weather outlook, 2-day, and a 3-8 day outlook. (https://www.spc.noaa.gov/products/fire_wx/)

- **NOAA Weather and Hazards Data Viewer:** This on-line map provides historic or real-time surface observations including wind speed and direction, wind gust, dew point, relative humidity, and sea level pressure collected from remote automated weather stations (RAWS). Extreme-weather alerts such as fire weather watch, high wind watch, and red flag warning are provided from this resource. (https://www.wrh.noaa.gov/map/?wfo=psr)

6 Community Outreach and Education

6.1 Coordination with Outside Entities

The following are actions that BVEA currently employs and/or would consider adopting in order to improve public safety and notifications:

- Coordination prior to fire season with county emergency managers and fire staff to determine fire season outlook and potential red-flag periods.
- Coordination during emergencies or large-scale outages with county emergency managers and fire staff in conjunction with agency dispatch.

6.2 Public Safet and Notification

The following are actions that BVEA currently employs and/or would consider adopting in order to improve public safety and notifications:

- Development of communication protocols with county health departments for emergency notifications to vulnerable members (i.e., medical facilities, schools, etc.).
- Expansion of social media reach across the service area highlighting high-fire risk periods.
- Development of a web-based map for the public to see current outages and estimated restoration.

Additional public outreach options that could be employed in conjunction with county or local emergency managers include:

- Utilizing local radio and television media to broadcast public service messages.
- Compiling and disseminating information to members regarding community wildfire preparedness, evacuation, and vigilance before and during fire season (UDFFSL Wildfire Preparedness Literature[9], Ready, Set Go, Firewise[10], Fire Adapted Communities). Working with state and federal agencies to provide consistent public messaging to members regarding wildfire risk and preparedness.
- Specific outreach for people visiting the area for recreation.

[9] https://ffsl.utah.gov/fire/wildfire-community-preparedness/ (Contains Firewise, Ready, Set, Go!, Fire Adapted communities links)
[10] Firewise https://www.nfpa.org/education-and-research/wildfire/firewise-usa/firewise-usa-resources?l=87

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7 Integration with Applicable Plans

Fire response for the service area would be coordinated through the NUIFC, in cooperation with the GBCC. The NUIFC is a cooperative effort among the BLM, USFS, and UDFFSL. The NUIFC is responsible for dispatch and coordination for approximately 14 million acres of land that average 500 fires per year. Daggett County uses the UBIFC. The UBIFC is the dispatch center for the state and federal agencies in the Uintah Basin and is managed by the Great Basin Coordination Center.

BVEA engages closely with the County Emergency Managers. During wildland fire events, BVEA works in full coordination with the Utah Department of Public Safety and well as agency incident command for the wildland event.

Section 2.3 outlines existing wildfire planning documents for entities within the service area. The contacts for these entities, in addition to important contact information for agency staff who may need to be contacted in the event of a wildfire, are included in Table 10. The contact information presented below will be reviewed and updated on an annual basis.

Table 9. Agency Contact List

Name	Title	Agency	Phone	Email Address
Chris Deets	Green River Dist. Fire Manager	BLM	435-630-5929	cadeets@b1m.gov
Mike Eriksson	Area Manager	UDFFSL	435-671-9170	mikeeriksson@utah.gov
Blain Hamp	Fire Program Manager	UDFFSL	435-752-8701	blainhamp@utah.gov
Jennifer McBride	Assistant Wildfire Reduction Coordinator	UDFFSL	801-560-1072	jomcbride@utah.gov
Travis Dupaix	Emergency Manager	Daggett County	435-784-3154	tdupaix@daggettcounty.org
Kathryn McMullin	Director of Emergency Management	Summit County	435-615-3518	kmcmullin@summitcounty.org
Joe Flores	Fire Management Officer	USFS	435-781-5109	joseph.flores@usda.gov

7.1 Input from the Division of Forestry

BVEA will make the WFPP available to the UDFFSL for its review and solicit comments for inclusion in the final draft. All relevant local, state, and federal agencies, as well as cooperative members, are also welcome to provide input.

7.2 Identifying Unnecessary or Ineffective Actions

The WFPP will be reviewed annually for the purpose of updating the plan as needed to reflect knowledge gained in the preceding year and modified accordingly. During the annual review process, BVEA should also update mitigation strategies through review of industry best practices. As part of that revision process, BVEA would monitor the effectiveness of the wildfire mitigation strategies within this document to assess the merits of the modifications and to implement adaptive management to improve future results.

Management will file with its governing authority an annual report detailing the electric cooperative's compliance with the wildland fire protection plan. A more formal review will be done every 3 years in as required by Title 54, Chapter 24, Section 203. Updated plans will be submitted on or before October 1 of every third year after calendar year 2020.

7.2.1 Identifying Deficiencies in the WFPP

The Operations Manager will be responsible for ensuring that this WFPP meets all public agency guidelines to mitigate the risk of its assets becoming the source or contributing factor of a wildfire. Staff responsible for assigned mitigation areas have the role of vetting current procedures and recommending changes or enhancements to build upon the strategies in the WFPP. Either due to unforeseen circumstances, regulatory changes, emerging technologies or other rationales, deficiencies within the WFPP will be sought out and reported to the Board of Directors in the form of an updated WFPP on an annual basis.

The Operations Manager or their designee will be responsible for spearheading discussions on addressing any plan deficiencies and collaborating on solutions when updating the WFPP. At any point in time when deficiencies are identified, the Supervisors or their delegates are responsible for making the appropriate policy adjustments. BVEA staff and qualified stakeholders are encouraged to bring any potential deficiencies to the attention of the Operations Manager or the Line Forman. The Operations Manager, along with the appropriate staff, will evaluate each reported deficiency, and if determined to be valid, shall record the deficiency for further action

7.3 Plan Approval Process

The WMP is presented to the Board of Directors (BOD) by the Engineering and Operations Managers. The BOD along with corporate council has the opportunity to ask questions and address concerns based upon their representation of Membership. Once the plan has been fully reviewed by the BOD, a motion to accept and majority approval will allow the plan to be

approved and implemented. This WFPP will be submitted to the Utah Utility Commission within 30 days of approval.

7.3.1 Submittal to the Utah Utility Commission

BVEA shall file with its governing authority an annual report detailing the electric cooperative's compliance with the wildland fire protection plan; and file with the commission a copy of the annual compliance report.

Table 10. Commission Submittal Record

Version No.	Date of Approval	Date of Submittal to Commission
V1		
V2		

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Appendix A: Acronyms

ANSI	American National Standards Institute
BIA	Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BMP	Best Management Practices
BVEA	Bridger Valley Electric Association
CWPP	Community Wildfire Protection Plan
DLI	Detailed Line Inspections
DEM	Department of Emergency Management
DFPC	Division of Fire Prevention and Control
EM	Engineering Manager
EOC	Emergency Operation Center
GBCC	Great Basin Coordination Center
GIS	Geographical Information System
HFTA	High Fire Threat Area
IFPL	Industrial Fire Protection Level
IR	Infrared (imaging)
KV	Kilovolt
KWH	Kilowatt Hours
MW	Mega Watts
MVCD	Minimum Vegetation Clearance Distance
NESC	National Electric Safety Code
NFDRS	National Fire Danger Rating System
NF	National Forest
NOAA	National Oceanic and Atmospheric Administration
NUIFC	Northern Utah Interagency Fire Center
NWS	National Weather Service
OH	Overhead
OEM	Office of Emergency Management
OSHA	Occupational Safety and Health Administration

OM	Operations Manager
O&M	Operations and Maintenance
RFW	Red Flag Warning
ROW	Right-of-Way
RUS	Rural Utilities Service
SCADA	Supervisory Control and Data Acquisition
T&D	Transmission and Distribution
UDFFSL	Utah Division of Forestry, Fire and State Lands
UBIFC	Utah Interagency Fire Center
UG	Underground
USDA	United States Department of Agriculture
USFS	United States Forest Service
VM	Vegetation Management
WFAS	Wildland Fire Assessment System
WHP	Wildfire hazard Potential
WFPP	Wildland Fire Protection Plan
WUI	Wildland Urban Interface

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Appendix C: Definitions

ANSI Z—133.1: Defines an electric hazard to exist anytime a tree worker, tool, tree, or any other conductive object is closer than 10 feet from an energized conductor with a voltage of 50,000 volts or less. From this 10 foot baseline, 0.4 inches of required clearance is added for every 1,000 volts above the 50,000-volt baseline. ANSI Z-133 provides tables that outline minimum approach distances for both qualified and non-qualified tree workers based on voltage and elevation.

Best Management Practices (BMP): Innovative environmental protection practices applied to help ensure that projects or regular operations are conducted in an environmentally responsible or effective manner.

***Burnable fuel*:** Refers to fuel models that are "ignitable" in the fire modeling. Burnable land cover includes grasses, herbs, shrubs, trees, leaf litter, dead-and-down branchwood, etc.

Danger Tree: A danger tree is any tree, on or off the right-of-way, that can contact electric power lines. A danger tree may be completely healthy and intact, or it may be sick or dead. Even a healthy tree could sustain damage in a severe storm and impact nearby power lines, thus the potential for "danger."

Distribution System: The final stage in the delivery of electric power carrying electricity from the transmission system to individual consumers. The HCE distribution system includes 14.4Kv lines not tied to generation facilities.

Defensible Space: An area around a structure, either natural or manmade, where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to act as a barrier between an advancing wildfire and the structure. In practice, it is defined as an area a minimum of 30 feet around a structure that is cleared of flammable brush or vegetation.

FSim: FSim is a high-resolution wildfire simulation model, developed by the Rocky Mountain Research Station, that is used to simulate fire behavior and spread. FSim simulates a typical fire season thousands of times to generate a "library" of plausible fires that could occur on the landscape. FSim and its outputs have been used across the country by various researchers, land managers, and insurance companies to prepare for fire seasons.

Fire Mode: Protective relay setting that contain moderately sensitive instantaneous tripping and will perform a single automatic reclose operation.

Fire Risk: "Risk" is the potential damage a fire can do, to the area under existing conditions, including any modifications such as defensible space, irrigation and sprinklers

and ignition resistant building construction which can reduce fire risk. Risk considers the susceptibility of what is being protected.

Fire Season: 1) Period(s) of the year during which wildfires are likely to occur, spread, and affect resource values sufficiently to warrant organized fire management activities. 2) A legally enacted time during which burning activities area regulated by state or local authority.

Great Basin Coordination Center: The focal point for coordinating the mobilization of resources for wildland fire and other incidents throughout the Geographic Area (AZ, ID, NV, WY). Located in Salt Lake City, UT, the Center also provides Intelligence and Predictive Services related products for use by the wildland fire community for purposes of wildland fire and incident management decision-making.

Hardening: Modifications to electric infrastructure to reduce the likelihood of ignition and improve the survivability of electrical assets.

Hazard Tree: A specific type of danger tree that poses a greater likelihood of causing damage to electric power lines or equipment. In this case, the tree is structurally unsound and positioned in such a way that it could fall onto conductors.

Hot Line Tag: Protective relay settings that contain very sensitive instantaneous tripping and will not allow an automatic reclose.

Industrial Fire Precaution Level (*IFPL):* Activated when needed during the summer fire season, IFPL are an activity closure system to reduce wildfire risk. By law (WAC 332-24-301), it applies to woods workers and other industrial forest users on 13 million acres of unimproved private, federal, and state forestlands protected by the BMLM or Forest Service. Levels range from Level-1 to Level-4.

Landscape: Refers generally to the area of interest in a project or study and could refer to modeled or on-the-ground conditions.

National Fire Danger Rating System (NFDRS): A uniform fire danger rating system that focuses on the environmental factors that control the moisture content of fuels. It combines the effects of existing and expected states of selected fire danger factors into one or more qualitative or numeric indices that reflect an area's fire protection needs.

Northern Utah Interagency Fire Center (NUIFC): Northern Utah Interagency Fire Center (NUIFC) is located in Draper, UT. It is a joint dispatch center in cooperation between the Bureau of Land Management, US Forest Service and the State of Utah Forestry Fire and State Lands. NUIFC is responsible for dispatching and coordination of wildfires in the following Counties: Box Elder, Cache, Rich, Tooele, Weber, Morgan, Davis, Duchesne, Juab, Sanpete, Salt Lake, Summit, Wasatch, and Utah.

OSHA Requirement 1910.269: Occupational Safety and Health Administration's vertical standard pertaining to the generation, transmission, and distribution of electricity.

A specific section of OHSA 1910.269 requires that everyone performing tree work in proximity to electric hazards must be qualified and their training has to be documented.

Public Safety Power Shutoff (PSPS): When severe weather or conditions create a substantial wildfire risk, specific portions of the service area may be de-energized in the interest of public safety.

Pruning: Also referred to as "trimming", tree pruning is the selective removal of branches that are not an adequate distance from the primary line, or that will grow too close to the power line before the next maintenance cycle.

Recloser: Recloser is a device that is typically used in over-head distribution systems to interrupt the circuit to clear faults. Automatic reclosers have an electronic control and vacuum interrupters that may automatically reclose to restore service if a fault is temporary. There may be several attempts that may be made to clear and reenergize the circuit if the fault still exists the recloser locks out. Reclosers are made in single-phase and three-phase versions and use oil or vacuum interrupters.

Red Flag Warning (RFW)[11]: A term used by fire- weather forecasters to call attention to limited weather conditions of importance that may result in extreme burning conditions. A RFW will be issued when there is high confidence that Red Flag criteria will be met within the next 24 to 48 hours, or when those criteria are already being met or exceeded. A warning may be issued for all, or portions of a fire weather zone or region. Zones impacted by the event will be listed within the Red Flag Warning product.

Remote Automatic Weather Station (RAWS): an apparatus that automatically acquires, processes, and stores local weather data for later transmission to the GOES Satellite, from which that data is retransmitted to an earth-receiving station for use in the national Fire Danger Rating System.

Right-of-Way (ROW): The corridor of land under (and adjacent to) a transmission or distribution line.

Risk: A measure of the probability and severity of adverse effects that result from exposure to a hazard.

SCADA: SCADA is an acronym for Supervisory Control and Data Acquisition. SCADA generally refers to an industrial computer system that monitors and controls a process. In the case of the transmission and distribution elements of electrical utilities, SCADA will monitor substations, transformers, and other electrical assets. It is possible to control or reset equipment remotely using SCADA.

[11] Source: https://www.weather.gov/bou/RFW_Definitions

Substation: Part of the electrical generation, transmission and distribution system, substations transform voltage from high to low, or the reverse, or perform any of several other important functions. Between the generating station and consumer, electric power may flow through several substations at different voltage levels. A substation may include transformers to change voltage levels between high transmission voltages and lower distribution voltages, or at the interconnection of two different transmission voltages.

Transmission System: The bulk delivery of electrical energy from a generating site to an electrical substation. At HCE, for line maintenance purposes, the transmission system is comprised of 69kV radial (sub-transmission), 115kV lines, structures, and switches.

UAV: An unmanned aerial vehicle is a powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely.

Utah Division of Forestry, Fire and State Lands: The Utah Division of Forestry, Fire, and State Lands is responsible for forest health, responding to wildland fires and managing sovereign lands in Utah.

Utah Interagency Fire Center: The Uintah Basin Interagency Fire Center coordinates aviation, equipment, and ground resources and provides logistical support for anticipated and ongoing wildfire activity nationwide. Uintah Basin dispatch area includes the following agencies: Uintah and Ouray Agency, Ashley National Forest, Ouray National Wildlife Refuge, Green River District, Utah Division of Forestry Fire and State Lands, and Dinosaur National Monument.

Vegetation: Trees, shrubs, and any other woody plants.

Vegetation Management: A broad term that includes tree pruning; brush removal through the use of power saws and mowers; the judicious use of herbicides and tree growth regulators; hazard tree identification and removal; the implementation of strategies to minimize the establishment of incompatible species under and near power lines; and the control of weeds.

Wildfire: Also called wildland fire, an unplanned, uncontrolled fire in a forest, grassland, brushland or land sown to crops.

Wildfire Mitigation Plan (WMP): A comprehensive plan to reduce the threat and severity of wildfire within an electric utility's service area. Plans include the preventive strategies and programs adopted by the utility to minimize the risk of its facilities causing wildfires along with its emergency response and recovery procedures.

Wildfire Risk: Combines the likelihood of a fire occurring (Threat), with those of areas of most concern that are adversely impacted by fire (Fire Effects). Wildfire Threat Index is derived from

historical fire occurrence, landscape characteristics including surface fuels and canopy fuels, percentile weather derived from historical weather observations and terrain conditions. Fire Effects are comprised of Value Impacts and Suppression Difficulty.

Wildfire Threat: A number that is closely related to the likelihood of an acre burning.

Wildlands: Forests, shrub lands, grasslands, and other vegetation communities that have not been significantly modified by agriculture or human development*. A more specific meaning for fire managers, used by the National Wildfire Coordinating Group (which coordinates programs of participating wildfire management agencies nationwide), refers to an area in which development is essentially non-existent (except for roads, railroads, power lines, and similar transportation facilities); structures, if any, are widely scattered.

Wildland Urban Interface (WUI): Line, area, or zone where structures and other human development meet or intermingle with vegetative fuels in wildlands.

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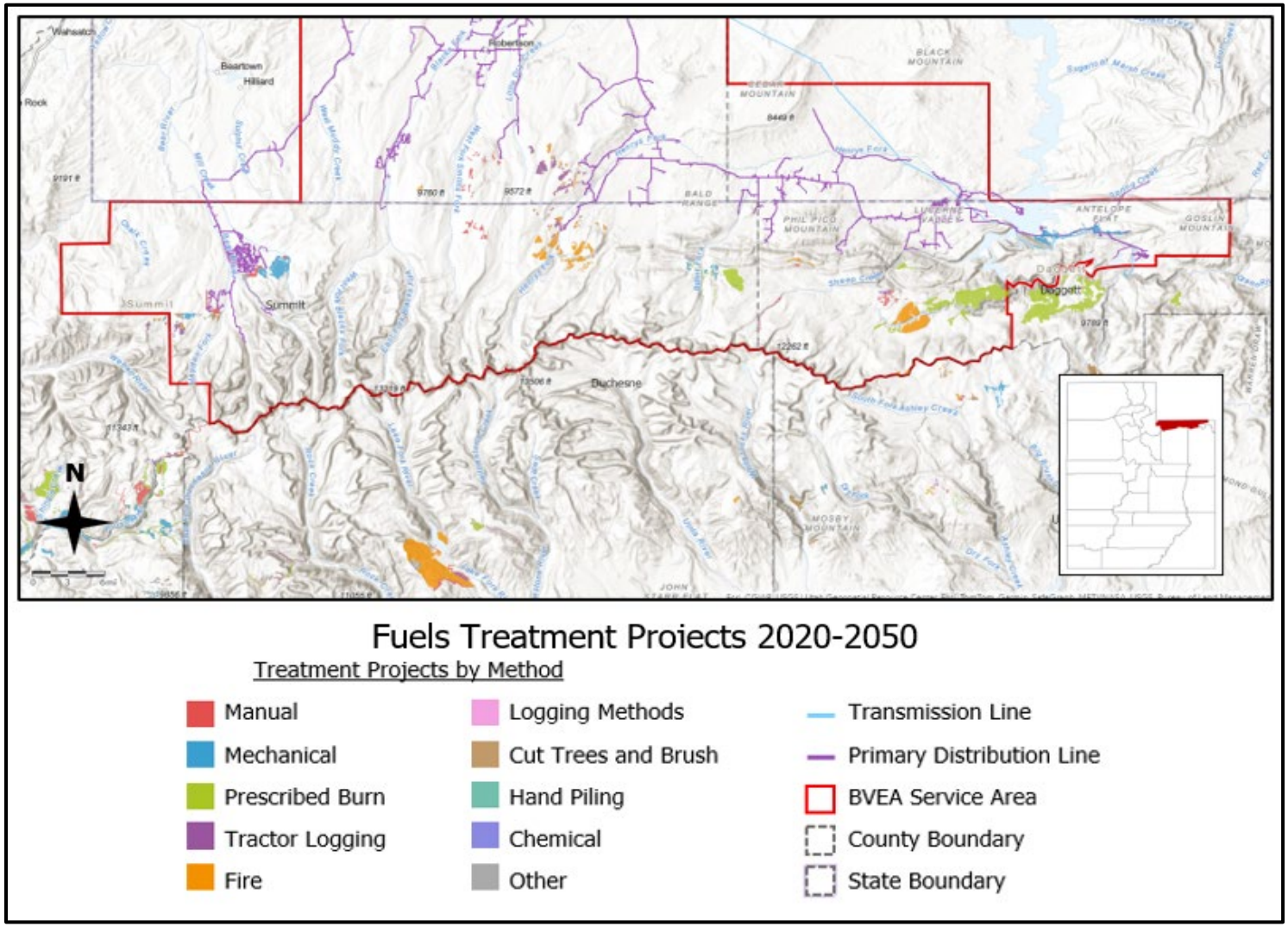
Appendix D: Supplemental Mapping

Figure 12. Fuels Treatment Projects 2020-2050



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Appendix E: Detailed Mapping of High Risk Segments with Action Plan

Table 11. Mitigation Action Plan

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
1/3	3457	Area A-1 is located in the southwestern portion of the BVEA service area, close to the Bear River Lodge Christmas Meadow Community and adjacent to the Wyoming-Utah border.	A-1 represents a segment of distribution line that is located on USFS and private land, along the Mirror Lake Scenic Byway and just east of the Bear River. The line is located in grass-shrub and timber-shrub fuels. Grass-shrub fuels could experience flame lengths of 4-8 ft and timber-shrub fuels could experience flame lengths of greater than 30 ft. Grass-shrub fuels transmit slowly spreading fires (<5.5ft/min); timber-shrub fuels transmit rapidly spreading fires (-33-44ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. The line is close to the highway, which may be more prone to human ignitions from passing motorists. Like A-1 much of the risk associated with this segment is a result of the presence of the highway and residential values elevating the aggregated value score. The segment is composed of western red cedar poles and #4 ACSR conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign with local residents (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High**- due to the density of values at risk in the community and potential for fire spread from the highway, east into the community.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
1/3	8561 3212 3445	Area A-2 is located in the southwestern portion of the BVEA service area, close to the Bear River Lodge Christmas Meadow Community and adjacent to the Wyoming-Utah border.	A-2 represents a segment of distribution line that is located on USFS and private land, along the Mirror Lake Scenic Byway and just east of the Bear River. The line is located in grass-shrub and timber-shrub fuels. Grass-shrub fuels could experience flame lengths of 4-8 ft and timber-shrub fuels could experience flame lengths of greater than 30 ft. Grass-shrub fuels transmit slowly spreading fires (<5.5ft/min); timber-shrub fuels transmit rapidly spreading fires (-33-44ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. The line is close to the highway, which may be more prone to human ignitions from passing motorists. Like A-1 much of the risk associated with this segment is a result of the presence of the highway and residential values elevating the aggregated value score. The segment is composed of western red cedar poles and #4 ACSR conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign with local residents (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High**- due to the density of values at risk in the community and potential for fire spread from the highway, east into the community.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
1/3	7145	Area B-1 is located in the southwestern portion of the BVEA service area, close to the Monviso Community and adjacent to the Wyoming-Utah border.	B-1 represents a segment of distribution line that is located on USFS and private land, adjacent to the Mirror Lake Scenic Byway and the Bear River. The line is located in timber-shrub, grass-shrub, and conifer litter fuels. Timber-shrub fuels could experience flame lengths of 12-20 ft and have the potential to transmit rapidly spreading fires (~33-44ft/min). Grass-shrub fuels could experience flame lengths of 4-8 ft and transmit slowly spreading fires (<5.5ft/min). Conifer litter fuels experience low flame lengths (<2 ft) and transmit slowly spreading fires (<5.5ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. Much of the risk associated with this segment is a result of the presence of the highway and residential values elevating the aggregated value score. The proximity of the segment to the highway and residential areas make it more prone to human ignitions from passing motorists and other human activity. The segment is composed of underground construction with 25-kV 1/0 direct burial conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign with local residents (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High**- due to the density of values at risk in the community and potential for fire spread from the highway into the community.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
1/3	4041	Area B-2 is located in the southwestern portion of the BVEA service area, adjacent to the Mirror Lake Scenic Byway and the Two Bear Community.	B-2 represents a segment of distribution line that is located on USFS and private land, approximately adjacent to the Bear River and the Mirror Lake Scenic Byway. The line is located in timber-grass-shrub and conifer litter fuels. These fuels experience flame lengths of less than 2 ft and transmit slowly spreading fires (<5.5ft/min). The line is located in a flat area which would slow fire spread. Like B-1, much of the risk associated with this segment is a result of the presence of the highway and residential values elevating the aggregated value score. The proximity of the segment to the highway and residential areas make it more prone to human ignitions from passing motorists and other human activity. The segment is composed of western red cedar poles and #4 ACSR conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign with local residents (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High**- due to the density of values at risk in the community and potential for fire spread from the highway into the community.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
2/3	3701	Area C-1 is located in the southeastern portion of the BVEA service area, west of the Flaming Gorge Reservoir and adjacent to the Wyoming-Utah state line and the town of Manila, Utah.	C-1 represents a segment of distribution line that is located on state trust and private land. The line is located in grass-shrub fuels, which could experience flame lengths of 4-8 ft and transmit rapidly spreading fires (33-44ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. The line is close to the town of Manila which elevates the risk due to the density of aggregated values. The area has a history of high fire occurrence, likely due to the increased human activity around the community. The segment is composed of western red cedar poles and #4 ACSR conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign with local residents (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High**- due to the density of values at risk in the community and potential for fire spread from the highway into the community.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
2/3	5415	C-2 is located west of the Flaming Gorge Reservoir and about 3 miles south of the town of Manila, UT and the Wyoming-Utah state line	C-2 represents a segment of distribution line that is located on state trust, national recreation area, and private lands. The line is located in grass-shrub fuels, which could experience 4-8ft flame lengths, and high rates of spread (33-44 ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. The lines proximity to Flaming Gorge Reservoir elevates the risk due to the density of aggregated values, particularly drinking water impacts. The area has a history of extremely high fire occurrence, likely due to the increased human activity associated with recreational use. The segment is composed of western red cedar poles and #4 ACSR conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign targeted at recreationalists (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High-** due to the extremely high aggregated values in the area, and extreme fire history.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
2/3	20-03	C-3 is located approximately 4 miles southeast of the town of Manila, UT and just west of the Flaming Gorge Reservoir	C-3 represents a segment of distribution line that is located on national recreation area and state trust land. The line is located in grass-shrub fuels, which could experience moderate (4-8ft) to high (12-20ft) flame lengths, and moderate-extreme rates of spread (22- 50+ ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. The line spans and is adjacent to a national recreation area which may be prone to human ignitions from motorists and recreationalists. There is a history of higher fire occurrence in the area. The segment is composed of western red cedar poles and #4 ACSR conductor. It is scheduled for replacement in 2050.	More frequent vegetation inspections. More frequent vegetation treatments. Fire prevention signage on the highway and public outreach campaign targeted at recreationalists (work with the County and UDOT)	**High-** due to the extremely high aggregated values in the area, and high fire history.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
3/3	Transmission Line	D-1 is located east of the Flaming Gorge Reservoir, in the southeastern portion of the BVEA service area, just east of Highway 191.	D-1 represents a segment of transmission line that is located on national recreation area, USFS, and state trust land. The line is located in grass-shrub fuels, which could experience 4-8ft flame lengths, and moderate-extreme rates of spread (22- 50+ ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. The lines proximity to Flaming Gorge Reservoir elevates the risk due to the density of aggregated values, particularly drinking water impacts. The area has a history of extremely high fire occurrence, likely due to the increased human activity associated with recreational use. The segment is composed of western red cedar poles and 4/0 ACSR conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign targeted at recreationalists (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High-** due to the extremely high aggregated values in the area, and high fire history.

Map ID	Feeder	Description	Wildfire Risk Analysis Segment Indicator and Description	Mitigation Strategy	Priority (L, M, H)
3/3	3374	D-2 is located east of the Flaming Gorge Reservoir in the southeastern portion of the BVEA service area, south of the Wyoming-Utah border.	D-2 is adjacent to the Dutch John community and adjacent to highway 191. It represents a segment of distribution line that is located on national recreation area and private land. The line is located in grass-shrub fuels, which could experience 4-8ft flame lengths, and extreme rates of spread (> 50 ft/min). The line is located in an area with varied slopes which may channel winds, increasing fire spread. The lines proximity to Flaming Gorge Reservoir, Dutch John, and other values at risk, elevates the risk due to the density of aggregated values. The area has a history of extremely high fire occurrence, likely due to the increased human activity associated with recreational use. The segment is composed of western red cedar poles #4 ACSR Conductor. It is scheduled for replacement in 2050.	Fire prevention signage on the highway and public outreach campaign targeted at recreationalists (work with the County and UDOT) More frequent vegetation inspections. Encourage more frequent vegetation treatments along highway ROW (County).	**High-** due to the extremely high aggregated values in the area, and high fire history.

Figure 13. Wildfire Hazard Potential Detail Map 1 of 3

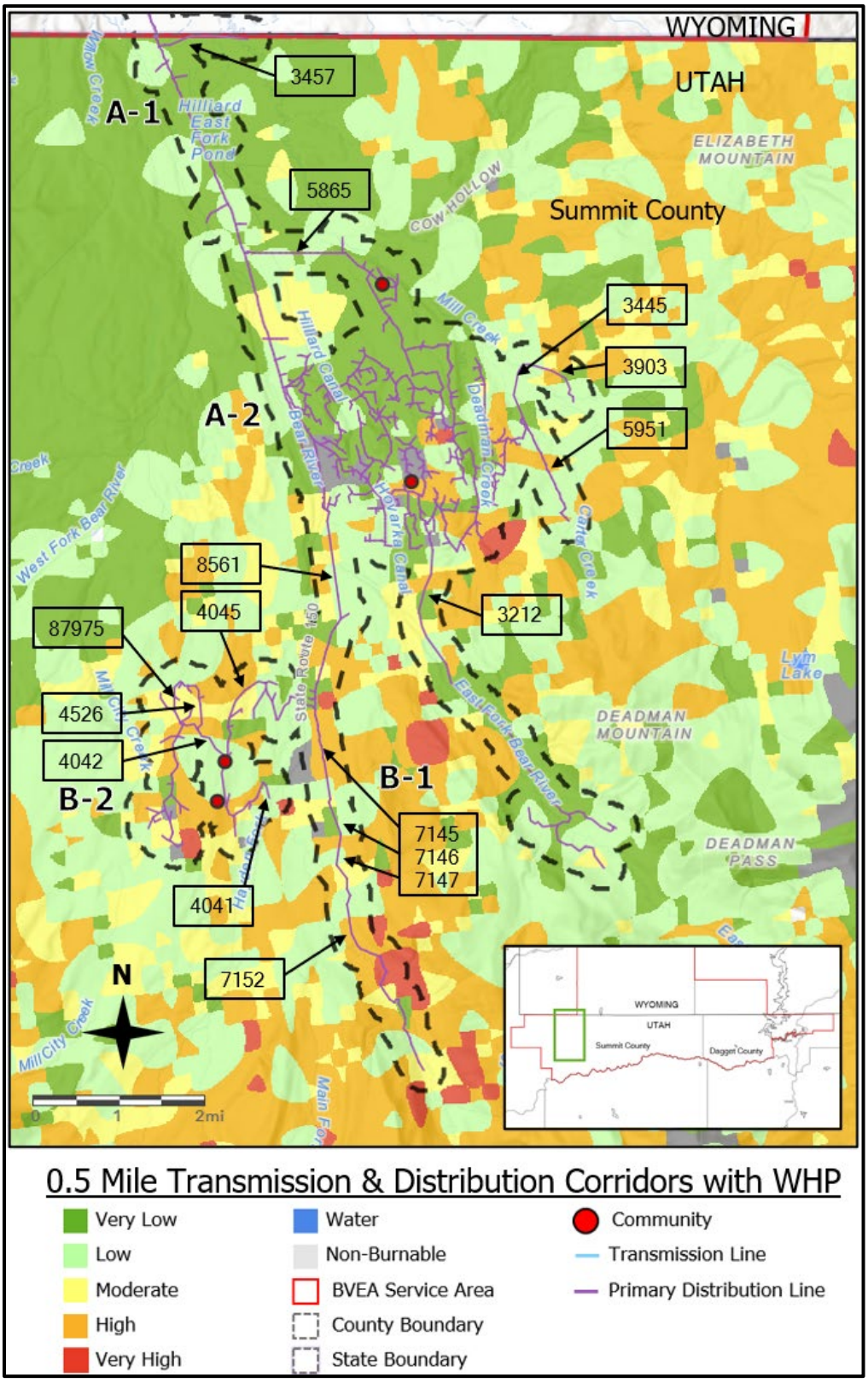

Figure 14. Wildfire Hazard Potential Detail Map 2 of 3

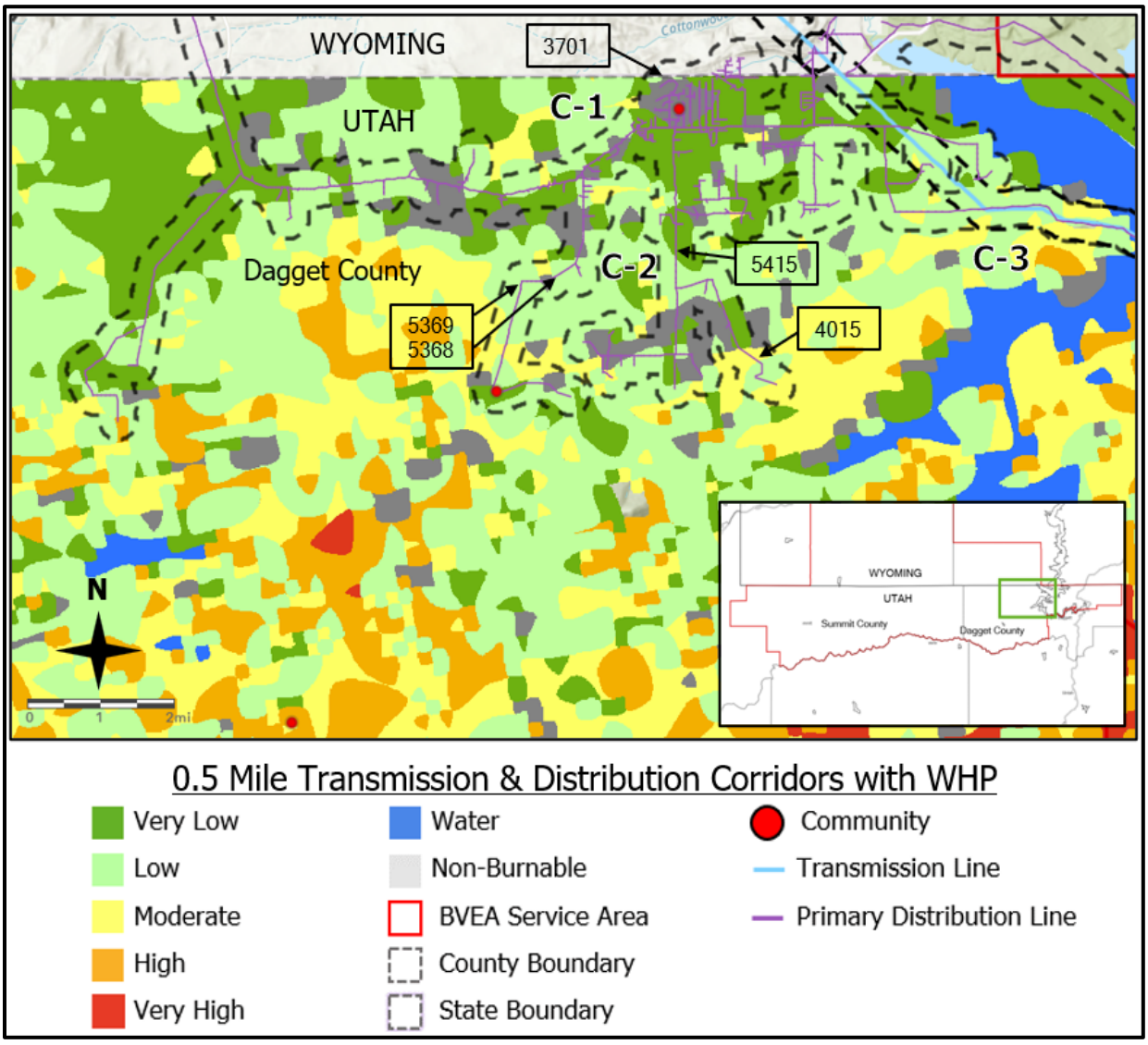

Figure 15. Wildfire Hazard Potential Detail Map 3 of 3