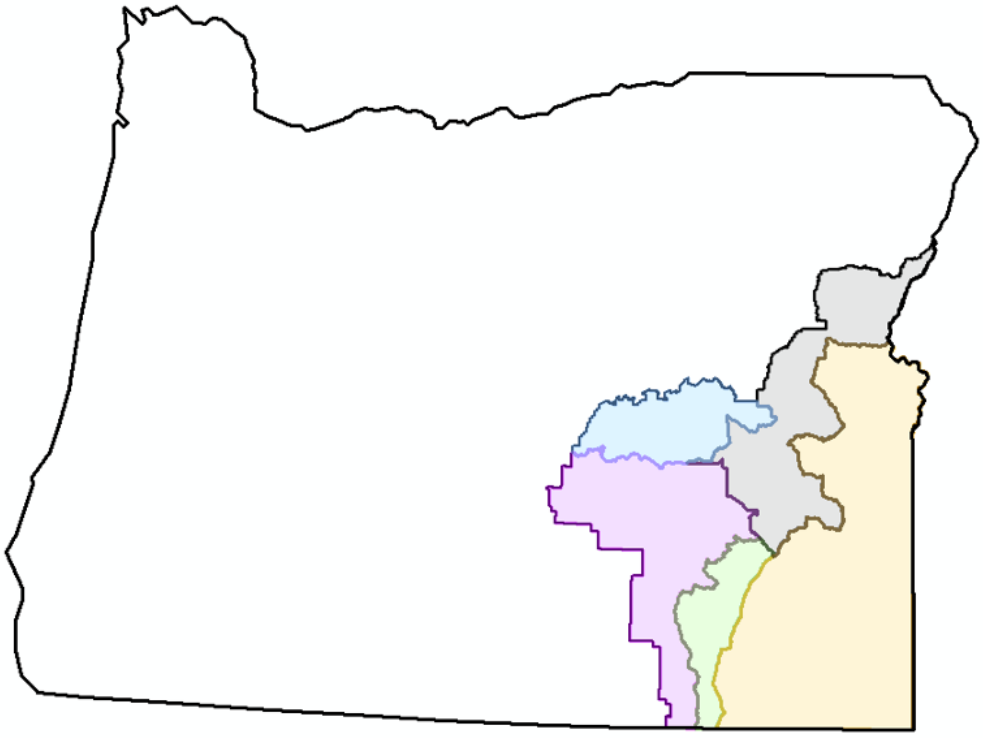
Southeast Oregon

Interagency Fire Danger Operating Plan



February 2021

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Southeast Oregon

Interagency Fire Danger Operating Plan

Approved By: ***Agency Administrators***

Jeff Rose - District Manager JEFFREY ROSE
Digitally signed by JEFFREY ROSE
Date: 2021.05.25 16:41:17 -07'00'
Bureau of Land Management, Burns District

CRAIG TRULOCK
Digitally signed by CRAIG TRULOCK
Date: 2021.05.25 09:31:47 -07'00'
Craig Trulock - Forest Supervisor
U.S. Forest Service, Malheur National Forest

JEFFREY MACKAY
Digitally signed by JEFFREY MACKAY
Date: 2021.05.21 15:10:51 -07'00'
Jeff Mackay - Refuge Manager/ Project Leader
U.S. Fish & Wildlife Service, Malheur National Wildlife Refuge

Name - Title
Agency Name, Office

Name - Title
Agency Name, Office

Name - Title
Agency Name, Office

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Southeast Oregon

Interagency Fire Danger Operating Plan

Recommended By: ***Fire Program Managers***

KIMBERLY VALENTINE

Digitally signed by KIMBERLY VALENTINE
Date: 2021.05.20 07:54:37 -07'00'

Kim Valentine - Interagency Fire & Aviation Staff Officer
Bureau of Land Management, Burns District

DONALD MCCONNELL

Digitally signed by DONALD MCCONNELL
Date: 2021.05.20 08:44:51 -07'00'

Cody McConnell - Deputy Fire Staff - North
U.S. Forest Service, Emigrant Ranger District, Malheur NF

SHANE THEALL

Digitally signed by SHANE THEALL
Date: 2021.05.20 09:16:57 -07'00'

Shane Theall - Deputy Fire Staff - South
U.S. Fish & Wildlife, Malheur National Wildlife Refuge

Name - Title
Agency Name, Office

Name - Title
Agency Name, Office

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Southeast Oregon

Interagency Fire Danger Operating Plan

Reviewed By: ***Technical Review Group***

MOLLY COX

Digitally signed by MOLLY COX
Date: 2021.04.27 16:42:57 -07'00'

Molly Stover Cox - Regional Wildland Fire Planner
U.S. Fish & Wildlife Service, Portland, OR Regional Office

Mary Wister

Mary Wister - Fire Weather Program Manager / IMET
NOAA National Weather Service, Pendleton, OR

Chuck Redman

Chuck Redman - Fire Weather Program Manager / IMET
NOAA National Weather Service, Boise, ID

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Southeast Oregon

Interagency Fire Danger Operating Plan

Prepared By: ***Technical Group***

MICHAEL PAGOAGA
Digitally signed by MICHAEL PAGOAGA
Date: 2021.04.23 16:13:53 -06'00'

Mike Pagoaga - Fire Planner
BLM, Vale

CASEY O'CONNOR
Digitally signed by CASEY O'CONNOR
Date: 2021.04.23 09:51:46 -07'00'

Casey O'Connor - Fire Planner
BLM, Burns

ALAN CROUCH
Digitally signed by ALAN CROUCH
Date: 2021.04.26 09:08:32 -06'00'

Al Crouch - Fire Mitigation Specialist
BLM, Vale

JACOB GEAR
Digitally signed by JACOB GEAR
Date: 2021.04.27 06:49:58 -07'00'

Jacob Gear - RFPA Liaison
USFWS, Malheur NWR

ANDREW ROBERTSON
Digitally signed by ANDREW ROBERTSON
Date: 2021.04.23 15:53:38 -06'00'

Andy Robertson - Assistant Center Manager
BLM, Vale

JON DENTINGER
Digitally signed by JON DENTINGER
Date: 2021.04.23 14:55:08 -06'00'

Jon Detinger - AFMO - Operations
BLM, Vale

TIMOTHY BOYCE
Digitally signed by TIMOTHY BOYCE
Date: 2021.04.27 12:12:48 -07'00'

Tim Boyce - Fire Management Specialist (Fuels)
USFS, Emigrant Ranger District, Malheur NF

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I. INTRODUCTION

A. PURPOSE

The public, industry, and our own agency personnel expect the interagency wildland fire management agencies to implement appropriate and timely decisions that ultimately result in safe, efficient, and effective wildland fire management actions. This plan is intended to document a decision-making process for agency administrators, fire program managers, fire operations specialists, dispatchers, agency cooperators, and firefighters by establishing interagency planning and response levels using the best available scientific methods and historical weather/fire data.

An appropriate level of preparedness to meet wildland fire management objectives is based upon an assessment of vegetation, climate, and topography utilizing the National Fire Danger Rating System (NFDRS). This plan provides a science-based "tool" for interagency fire managers to incorporate a measure of risk associated with decisions that have the potential to significantly compromise safety and control of wildland fires.

1. Preparedness

Interagency policy and guidance require numerous unit plans and guides to meet preparedness objectives. Some of these plans and guides are inter-related; some plans and guides provide the basis for other plans/guides as shown in Figure 1.

Figure 1: Preparedness Plan Relationship

This Fire Danger Operating Plan (FDOP) guides the application of information from decision support tools (such as NFDRS) at the local level. This FDOP is supplemental to the Fire Management Plan; it documents the establishment and management of a fire weather station network and describes how fire danger ratings will be applied to local unit fire management decisions. The actual implementation of the fire business thresholds is described in the following supplemental action plans.

The decision points are identified and documented in the Southeast Oregon Fire Danger Operating Plan.

a. Preparedness Plan

Preparedness plans provide management direction given identified levels of burning conditions, fire activity, and resource commitment, and are required at national, State/regional, and local levels. Preparedness levels (1-5) are determined by incremental measures of burning conditions, fire activity, and resource commitment. Fire danger rating is a critical measure of burning conditions. The preparedness levels are identified and documented in the unit-specific operational plan located in **Appendix A**.

b. Staffing Plan

The staffing plan describes escalating responses. Mitigating actions are designed to enhance the unit's fire management capability during short periods (one burning period, Fourth of July, or other pre-identified events) where normal staffing cannot meet initial attack, prevention, or detection needs. The decision points and recommended actions are identified and documented in the unit-specific operational plan located in **Appendix B**.

c. Prevention Plan

Prevention plans document the wildland fire problems identified by a prevention analysis. This analysis will not only examine human-caused fires, but also the risks, hazards, and values for the planning unit. Components of the plan include mitigation (actions initiated to reduce impacts of wildland fire to communities), prevention (of unwanted human-caused fires), education (facilitating and promoting awareness and understanding of wildland fire), enforcement (actions necessary to establish and carry out regulations, restrictions, and closures), and administration of the prevention program. The analysis of fire problems and associated target group are documented in this fire danger operating plan; the associated decisions and recommended actions are in **Appendix D**.

d. Restriction Plan

A restriction plan is an interagency document that outlines interagency coordination efforts regarding fire restrictions and closures. An interagency approach for initiating restrictions or closures helps provide consistency among the land management partners, while defining the restriction boundaries so they are easily distinguishable to the public. Based on the fire danger, managers may impose fire restrictions or emergency closures to public lands. Decision points when restrictions and/or closures should be considered are identified and documented in the unit-specific plan located in **Appendix F**.

2. Wildfire Response

Initial response plans, also referred to as run cards or pre-planned response plans, specify the fire management response (e.g. number and type of suppression assets to dispatch) within a defined geographic area to an unplanned ignition, based on fire weather, fuel conditions, fire management objectives, and resource availability. Response levels are identified and documented in the Southeast Oregon Fire Danger Operating Plan. The number and type of suppression resources dispatched to a reported fire is documented in the associated initial Dispatch / Response Plan (**Appendix C**).

3. Fuels Management

Prescribed Burn Approval Plan (USFS) – this is a plan only for the U.S. Forest Service (USFS) that applies NFDRS to prescribed fire. Currently, this plan is not incorporating NFDRS principles into direction of local prescribed burning; however, all direction from the USFS's "Prescribed Burn Approval Act of 2016" will be followed (i.e., Regional Forester will be contacted if prescribed burning is planned during extreme fire danger levels).

B. POLICY AND GUIDANCE

Interagency policy and guidance regarding the development of Fire Danger Operating Plans can be found in Interagency Standards for Fire and Aviation Operations (Red Book). Agency-specific direction can be found in:

- U.S. Forest Service - Manual 5120 - Fire Mangement Preparedness
- Bureau of Land Management - Manual 9211 - 1 - Fire Planning Handbook
- U.S Fish and Wildlife Service - Fire Management Handbook, Chapter 10 - Preparedness

C. OPERATING PLAN OBJECTIVES

1. Provide a tool for agency administrators, fire managers, dispatchers, agency cooperators, and firefighters to correlate fire danger ratings with appropriate fire business decisions in fire danger planning area.
2. Delineate fire danger rating areas (FDRA) in fire danger planning areas with similar climate, vegetation, and topography.
3. Establish an interagency fire weather-monitoring network consisting of Remote Automated Weather Stations (RAWS) that comply with NFDRS Weather Station Standards (PMS 426-3).
4. Determine climatological breakpoints and fire business thresholds using the Weather Information Management System (WIMS), National Fire Danger Rating System (NFDRS), and FireFamilyPlus software to analyze and summarize an integrated database of historical fire weather and fire occurrence data.

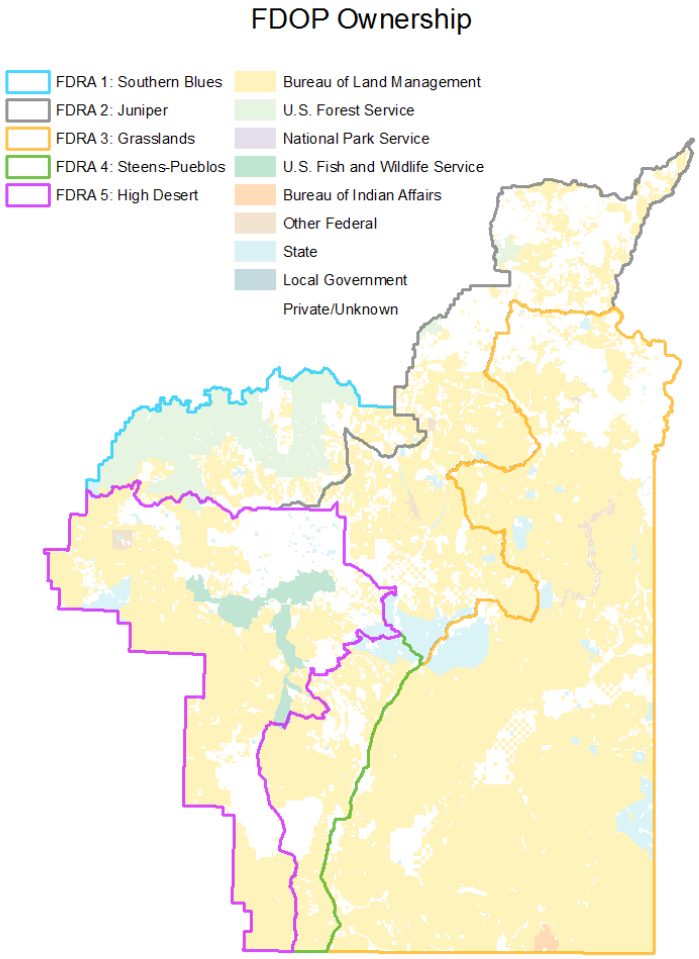
5. Define roles and responsibilities to make fire preparedness decisions, manage weather information, and brief fire suppression personnel regarding current and potential fire danger.
6. Determine the most effective communication methods for fire managers to communicate potential fire danger to cooperating agencies, industry, and the public.
7. Provide guidance to interagency personnel outlining specific daily actions and considerations at each preparedness level.
8. Identify seasonal risk analysis criteria and establish general fire severity thresholds.
9. Identify the development and distribution of fire danger pocket cards to all personnel involved with fire suppression within the fire danger planning area.
10. Identify program needs and suggest improvements for implementation of the fire danger operating plan.

II. FIRE DANGER PLANNING AREA INVENTORY AND ANALYSIS

A. ADMINISTRATIVE UNITS

This document serves as an *interagency* example of consistent and effective application of fire danger decisions applied across multiple jurisdictional boundaries. Wildland fire management and suppression responsibilities are shared among Federal, State, and local cooperators.

1. Overview Map



Map 1: Fire Danger Planning Area Overview

2. Ownership Table

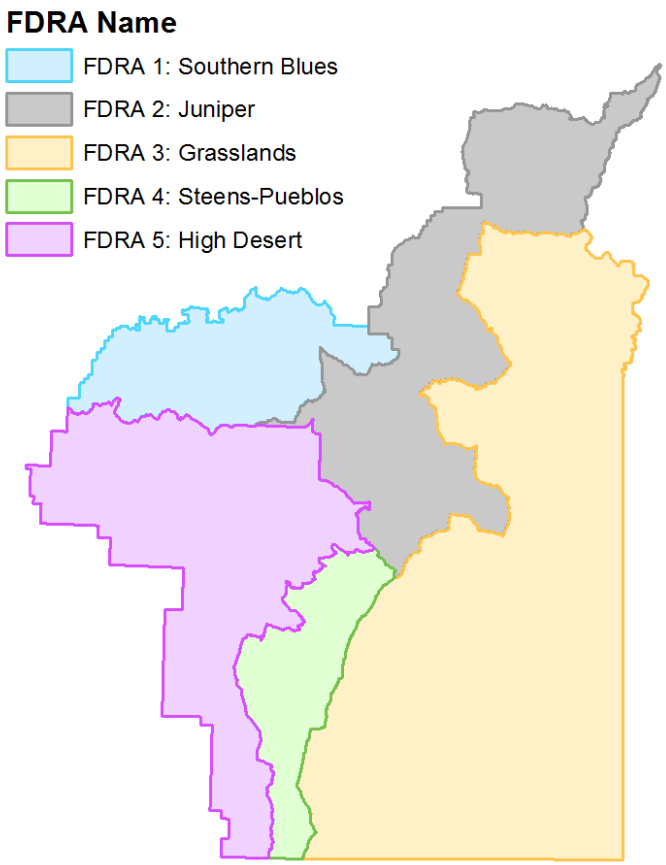
Agency	Acreage
Bureau of Land Management – BLM	**8,173,042**
Private - PVT	**3,440,208**
United States Forest Service - USFS	**655,413**
State	**542,574**
United States Fish and Wildlife Service - FWS	**188,301**
Bureau of Reclamation - BR	**40,650**
Bureau of Indian Affairs - BIA	**19,085**
Other Federal Agencies	**15,876**

Table 1: Ownership Table

B. FIRE DANGER RATING AREAS

A fire danger rating area (FDRA) is defined as a large geographic area relatively homogenous with respect to *climate*, *vegetation,* and *topography*. Because of these similarities, it can be assumed that the fire danger within an FDRA is relatively uniform. Fire danger rating areas were delineated based upon an analysis of these three factors: climate, vegetation, and topography (Appendix G). After these environmental factors were considered, the draft FDRAs were *edge-matched* to existing administrative boundaries using response areas. It is important that existing response areas are not split by FDRAs; a response area must not have two FDRAs to avoid additional workload and confusion for operational personnel. A detailed description of each FDRA is in Appendix J. The final FDRA delineation is depicted here:

1. FDRA Map



Map 2: Fire Danger Rating Areas (FDRA)

2. FDRA Table

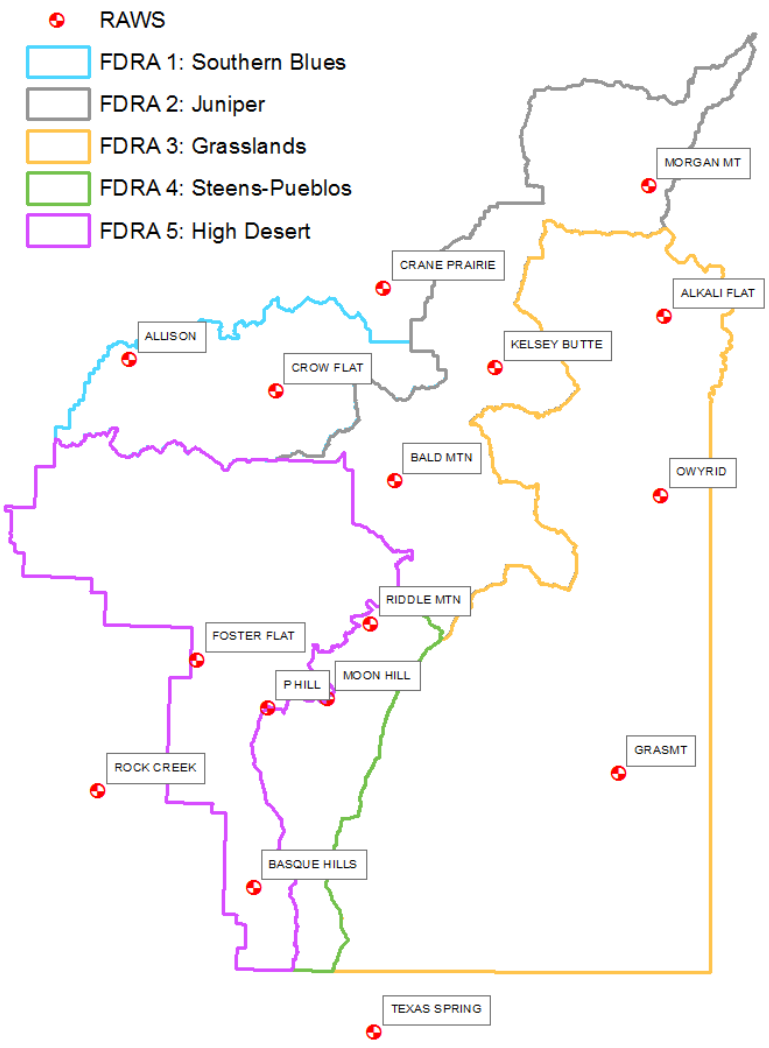
Fire Danger Rating Area	Acreage	% of Total
FDRA 1: SOUTHERN BLUES	1,169,792	9
FDRA 2: JUNIPER	2,405,097	18
FDRA 3: GRASSLANDS	5,891,814	45
FDRA 4: STEENS-PUEBLOS	864,544	7
FDRA 5: HIGH DESERT	2,739,529	21

Table 2: Fire Danger Rating Areas (FDRAs)

C. WEATHER STATIONS

All Remote Automated Weather Stations (RAWS) comply with the National Wildfire Coordinating Group (NWCG) weather station standards (NWCG Standards for Fire Weather Stations). Each RAWS receives, at a minimum, one annual on-site maintenance visit by either the local user or contracted personnel to ensure sensors are within calibration standards and verify site and station conditions.

1. RAWS Map



Map 3: Remote Automated Weather Station (RAWS)

2. RAWS Catalogue Table (Active Stations Only)

STATION NAME	WIMS ID	NESDIS ID	AGENCY / OWNER	AVAIL DATA YEARS	ELEV	LATITUDE	LONGITUDE	REPORTING TIME
Morgan Mountian	352420	3253A6AE	BLM-OR-VAD	2009-2018	3600	44.50111	-117.2983	1200
Crane Prairie	352305	32622430	USFS-OR-MAF	2009-2018	5373	44.16667	-118.4667	1300
Allison	353501	326021C4	USFS-OR-MAF	2009-2018	5320	43.92	-119.5797	1300
Crow Flat	353515	326241D6	USFS-OR-MAF	2009-2018	5130	43.83333	-118.9333	1300
Kelsey Butte	353613	32557008	BLM-OR-VAD	2009-2018	5200	43.91833	-117.97	1200
Alkali Flat	353618	329073AC	BLM-OR-VAD	2009-2018	2495	44.08694	-117.2256	1300
Bald Mountain	353522	325282B8	BLM-OR-BUD	2009-2018	5480	43.55556	-118.4042	1200
Owyhee Ridge	353614	3252A454	BLM-OR-VAD	2009-2018	4400	43.51778	-117.2394	1200
Riddle Mountain	353511	3253C348	BLM-OR-BUD	2009-2018	6281	43.10056	-118.4981	1200
Foster Flat	353525	32653572	BLM-OR-BUD	2009-2018	4999	42.97361	-119.2461	1200
P Hill	353521	32550698	BLM-OR-BUD	2009-2018	4880	42.82639	-118.9361	1200
Rock Creek	353424	3264F296	FWS-OR-LKV	2009-2018	5640	42.5475	-119.6564	1300
Grassy Mountain	353612	3250D730	BLM-OR-VAD	2009-2018	4800	42.63333	-117.42	1300
Basque Hills	353520	3250A1A0	BLM-OR-BUD	2009-2018	4990	42.25472	-118.9792	1200
Texas Spring	260206	32560196	BLM-NV-WID	2009-2018	5760	41.80167	-118.4508	1200
Moon Hill	353526	326543E2	BLM-OR-BUD	2009-2018	6100	42.85972	-118.67889	1200

Table 3: Raws Catalogue

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3. Special Interest Groups (SIG)

Special Interest Group (SIG):	FDRA 1: SOUTHERN BLUES	
Station / WIMS Number	***Station Name***	***Weight***
352305	Crane Prairie	1.0
353501	Allison	1.0
353515	Crow Flat	1.0

Table 4: FDRA #1 SIG

Special Interest Group (SIG):	FDRA 2: JUNIPER	
Station / WIMS Number	***Station Name***	***Weight***
352420	Morgan Mountain	1.0
353522	Bald Mountain	1.0
353613	Kelsey Butte	1.0

Table 5: FDRA #2 SIG

Special Interest Group (SIG):	FDRA 3: GRASSLANDS	
Station / WIMS Number	***Station Name***	***Weight***
353612	Grassy Mountain	1.0
353613	Kelsey Butte	1.0
353614	Owyhee Ridge	1.0
353618	Alkali Flat	1.0

Table 6: FDRA #3 SIG

Special Interest Group (SIG):	FDRA 4: STEENS-PUEBLOS	
Station / WIMS Number	***Station Name***	***Weight***
353424	Rock Creek	1.0
353511	Riddle Mountain	1.0
353526	Moon Hill	1.0

Table 7: FDRA #4 SIG

Special Interest Group (SIG):	FDRA 5: HIGH DESERT	
Station / WIMS Number	***Station Name***	***Weight***
353520	Basque Hills	1.0
353521	P-Hill	1.0
353525	Foster Flat	1.0

Table 8: FDRA #5 SIG

III. FIRE DANGER WORKLOAD ANALYSIS

To apply fire danger rating as a viable decision support tool, fire managers must be able to associate fire suppression workload with a specific target group. An understanding of the specific target group from which the suppression workload originates will help determine the appropriate communication methods and deterrence measures that may effectively change the behavior of the respective target group.

A. IDENTIFICATION / FRAMING OF THE FIRE OCCURRENCE WORKLOAD

The ability to regulate, educate, or control a user group will be based upon the interface method and how quickly they can react to the action taken. Consequently, the most appropriate decision tool would depend upon the sensitivity of the target group to the implementation of the action. In addition, each action will result in positive and/or negative impacts to a user group. In selecting a component and/or index, several factors must be considered:

Affected Target Group: The group of people commonly associated with the problem (agency, industry, or public).

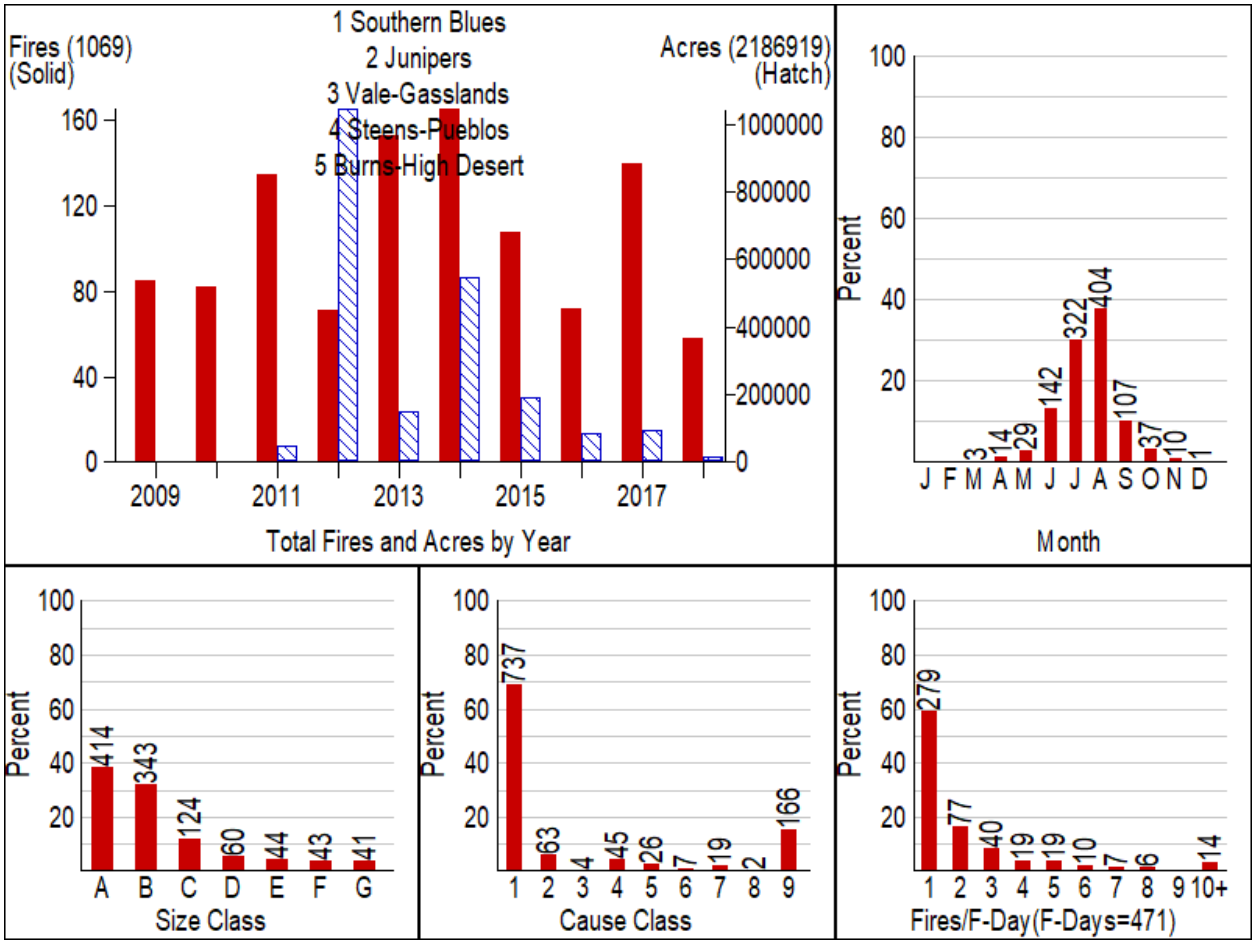
Agency: Employees of the Federal, State, or local governments involved in the cooperative effort to suppress wildland fires. This includes Federal, State, and county land management employees, along with volunteer fire departments who share a similar protection mission to manage wildland fires.

Industry: Employees affiliated with organizations that utilize natural resources and/or obtain permits or leases to conduct commercial activities on Federal, State, or private lands. These entities or activities could include ranchers, wilderness camps, railroads, mines, timber harvesting, filming, building construction, oil and gas, electric generation, guiding services, etc.

Public: Individuals who use public lands for non-commercial purposes such as off-highway vehicle (OHV) use, camping, hiking, hunting, fishing, skiing, firewood gathering, agriculture, mountain biking, general travel, and recreation. This group also includes those living within the wildland/urban interface (WUI).

Workload Description: This is the fire unit's suppression workload. Human-caused fires are usually described in terms of an ignition cause related to public and industrial target groups. Natural-caused (or lightning) fire workload is usually described as the agency's workload. For example, lightning is not "the problem," rather, the problem is the local unit's ability to respond to multiple ignitions exceeding the staffing capabilities.

a. Fire Summary Chart for Entire Analysis Area



Size Class:

A =	0 —	.25	acres
B =	.30 —	9	acres
C =	10 —	99	acres
D =	100 —	299	acres
E =	300 —	999	acres
F =	1000 —	4999	acres
G =	5000 +		acres

Cause Class:

1 = Lightning	6 =Railroad
2 = Equipment	7 =Arson
3 = Smoking	8 =Children
4 = Campfire	9 =Misc
5 = Debris Burning	

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B. FIRE WORKLOAD ANALYSIS TABLE

The ability to regulate, educate, or control a user group will be based upon the interface method and how quickly they can react to the action taken. In addition, each action will result in positive and/or negative impacts to the user groups. Consequently, the decision tool that would be most appropriate would depend upon the sensitivity of the target group to the implementation of the action, and ultimately change their behavior. **Table 9** illustrates the differences between target groups (agency, industry, and public) and the associated fire causes. A breakdown of how fire causes were selected for Table 9 is depicted in Table 10, which depicts fire statistics by each of the 5 FDRAs.

TARGET GROUP		IGNITION CAUSE		RELATIVE DEGREE OF CONTROL	COMMUNICATION METHODS	WORKLOAD DESCRIPTION
GENERAL	***SPECIFIC/ FDRAs Effected***	***GENERAL***	***SPECIFIC***			
Agency	***Challenge #1 across all FDRAs***: Highest percent of starts, large fire days (LFD), and multi-fire days (MFD) for all FDRAs. All divisions of fire management groups affected.	1 - Lightning	Lighting storms that produce numerous ignitions depleting IA capacity.	High	Coordination with National Weather Service forecasting office and dispatch centers to communicate forecasted events with agency resources. Increased staffing and prepositioning of resources will assist with increased workload expected.	Summer thunder-storms produce abundant lghtning across all FDRAs. These often occur when fuels are cured and available across the planning area, creating numerous ignitons. The storms typically impact more than one FDRA at a time across both BLM districts. These lightning events limit the ability for each unit to respond entirely to every ignition or report. IA capacity is quickly depleted. Impacts of these lightning events lasts for a couple of days following the event with ignitions going unreported.
Public	FDRA 1: Southern Blues	4 - Campfire	Escaped campfires, unattended campfires, unauthorized campfires.	Low	Informational signing, fire restrictions, public messaging, Adjective Fire Danger Rating signage should be located at the entrance to developed recreation areas and along travel routes that provide access to high use public lands.	These fires account for 34% of ignitions within the FDRA; very few of them become large fires. Most of these fires occur within the Malheur National Forest at developed recreation sites. The campfires are abandoned by single day or overnight campers when fuels are critically dry with high wind events.

Public	FDRA 1: Southern Blues FDRA 4: Steens-Pueblos FDRA 5: High Desert	5 - Debris Burning	Private land activities, burn piles, using burn barrels and some small-scale private Rx fires.	Moderate	Educate local community on the risks of debris burning through public affairs officer and local governments (especially during times where agencies are conducting Rx burning as this seems to correlate with private burning). Prevention program can address through outreach activities. Local ranchers should be encouraged to coordinate with neighbouring agencies and local RFPAs.	Most of these fires originate on private property bordering public lands.
Public	FDRA 2: Juniper FDRA 3: Grasslands	2 - Equipment	Mostly motorists along travel corridors	Very Low	Prevention signage along travel corridors. Coordinated fuel reduction activities along travel corridors with right-of-way owners (ODOT). Public education campaigns such as "One Less Spark."	General activity associated with primary travel routes through these 2 FDRAs. Fire ignitions under this category tend to increase when fine fuels occur. Large fires that occur under these conditions are heavily terrain and wind influenced.
Public	FDRA 2: Juniper FDRA 3: Grasslands	2 - Equipment	General public recreation OHV	Low	Fire restrictions, prevention patrols, DMV postings, public education.	Equipment failure and activities associated with OHV use.
Industry	FDRA 2: Juniper FDRA 3: Grasslands	2 - Equipment	Electrical power companies and industry providers	Moderate	Fire restrictions and workshops with industry providers, right-of-way agreements, special use permits and fire waivers with identified mitigations.	Wind events, structural failures, and wildlife can cause powerlines in remote areas to ignite wildfires.
Public	FDRA 2: Juniper FDRA 3: Grasslands	9 - Miscellaneous	Various	Very Low	Fire restrictions, prevention patrols, and public education.	Although listed as miscellaneous, most of these fires are associated with roadways and can likely be related to equipment. However, exact cause could not be determined. Additionally, this general cause category has many

						subcategories that do not fit into other causes.
Agency	FDRA 1: Southern Blues FDRA 4: Steens-Pueblos FDRA 5: High Desert	9 - Miscellaneous	Various	High	Federal policy requires all fires to be investigated as to cause, origin, and responsibility. Yearly IC trainings should stress on importance of identification of the proper cause category. Dispatch center and IC interaction during fire suppression and fire reporting process. Supervisors of ICs certifying fire reports should question fires assigned to this category.	This category is being addressed as an issue here more on the basis that too many fires are miscategorized by being attributed to this cause category. Large fire workload in this category. Properly identifying the cause category most of these fires should be in will dramatically reduce proportion of fires in this category. Work to implement this change to ensure fires are assigned the appropriate cause category is low.

Table 9: Planning Area Fire Workload Analysis

Fire Problem Identification - Southern Blue FDRA 1

Stat Cause	Ignitions	Pct	Large Fire	Pct	Multiple Fire	Pct	Rationale
1	**253**	**72%**	16	59%	27	87%	Problem #1: large/multiple fires
2	**2**	**1%**	1	4%	0	0%	Not significant
3	**2**	**1%**	1	4%	0	0%	Not significant
4	**34**	**10%**	1	4%	2	6%	Problem #3: significant proportion of starts
5	**8**	**2%**	3	11%	0	0%	Considered, high proportion of LFD (10%)
6	**0**	**0%**	0	0%	0	0%	Not significant
7	**3**	**1%**	0	0%	0	0%	Not significant
8	**0**	**0%**	0	0%	0	0%	Not significant
9	**47**	**13%**	5	19%	2	6%	Problem #2: sig. # of starts and LFDs
TOTALS	**349**		**27**		**31**		

Causes Considered as a Problem

Causes Selected as a Problem

Notes: * Large fire = 3 ac, Multiple fire = 3+ ignitions

Fire Problem Identification - Juniper FDRA 2

Stat Cause	Ignitions	Pct	Large Fire	Pct	Multiple Fire	Pct	Rationale
1	**150**	**70%**	39	68%	31	84%	Problem #1: large/multiple fires
2	**17**	**8%**	4	7%	2	5%	Problem #3: starts and large fires.
3	**0**	**0%**	0	0%	0	0%	Not significant
4	**2**	**1%**	0	0%	1	3%	Not significant
5	**2**	**1%**	1	2%	0	0%	Not significant
6	**2**	**1%**	1	2%	0	0%	Not significant
7	**4**	**2%**	2	4%	1	3%	Not significant
8	**2**	**1%**	1	2%	0	0%	Not significant
9	**36**	**17%**	9	16%	2	5%	Problem #2: sig. number of starts and LFDs
TOTALS	**215**		**57**		**37**		

Causes Considered as a Problem

Causes Selected as a Problem

Notes: * Large fire = 50 ac, Multiple fire = 2+ ignitions

Fire Problem Identification - Vale Grasslands FDRA 3

Stat Cause	Ignitions	Pct	Large Fire	Pct	Multiple Fire	Pct	Rationale
1	**190**	**70%**	55	92%	45	90%	Problem #1: large/multiple fires
2	**36**	**13%**	1	2%	2	4%	Problem #2: Significant number of starts
3	**2**	**1%**	0	0%	0	0%	Not significant
4	**1**	**0%**	0	0%	1	2%	Not significant
5	**6**	**2%**	1	2%	0	0%	Not significant
6	**0**	**0%**	0	0%	0	0%	Not significant
7	**5**	**2%**	0	0%	1	2%	Not significant
8	**0**	**0%**	0	0%	0	0%	Not significant
9	**31**	**11%**	3	5%	1	2%	Considered as a problem; sig. # of starts
TOTALS	**271**		**60**		**50**		
Causes Considered as a Problem			Notes:		* Large fire = 500 ac, Multiple fire = 2+ ignitions		
Causes Selected as a Problem							

Fire Problem Identification - Steens-Pueblos FDRA 4

Stat Cause	Ignitions	Pct	Large Fire	Pct	Multiple Fire	Pct	Rationale
1	**66**	**84%**	16	84%	10	100	Problem #1: large/multiple fires
2	**0**	**0%**	0	0%	0	0%	Not significant
3	**0**	**0%**	0	0%	0	0%	Not significant
4	**1**	**1%**	0	0%	0	0%	Not significant
5	**2**	**3%**	1	5%	0	0%	Considered; small data set
6	**1**	**1%**	0	0%	0	0%	Not significant
7	**0**	**0%**	0	0%	0	0%	Not significant
8	**0**	**0%**	0	0%	0	0%	Not significant
9	**9**	**11%**	2	11%	0	0%	Problem #2
TOTALS	**79**		**19**		**10**		
Causes Considered as a Problem			Notes:		* Large fire = 150 ac, Multiple fire = 2+ ignitions		
Causes Selected as a Problem							

Fire Problem Identification - Burns High Desert FDRA 5							
Stat Cause	Ignitions	Pct	Large Fire	Pct	Multiple Fire	Pct	Rationale
1	**78**	**55%**	7	58%	13	76%	Problem #1: large/multiple fires
2	**6**	**4%**	0	0%	0	0%	Not significant
3	**0**	**0%**	0	0%	0	0%	Not significant
4	**1**	**1%**	0	0%	0	0%	Not significant
5	**7**	**5%**	2	17%	0	0%	Problem #3: high proportion of large fires
6	**4**	**3%**	0	0%	0	0%	Not significant
7	**7**	**5%**	0	0%	1	6%	Not significant
8	**0**	**0%**	0	0%	0	0%	Not significant
9	**38**	**27%**	3	25%	3	18%	Problem #2: significant number of starts, LFD, and MFDs
TOTALS	**141**		**12**		**17**		
Causes Considered as a Problem			Notes:		* Large fire = 300, Multiple fire = 2+ ignitions		
Causes Selected as a Problem							

Table 10: Fire Problem Identification by FDRA

IV. FIRE DANGER DECISION ANALYSIS

Decision points can be based upon either:

- climatological breakpoints, or
- fire business thresholds.

The following table (Table 11) provides a summary of the planning area's fire danger problems and concerns. In addition, each problem is associated with a specific target group whose activities can be influenced through effective communication and implementation of specific control measures.

This fire danger operating plan will be used to support preparedness, staffing, and response decisions that are made at specific decision points. A "decision point" is a point along the range of possible output values where a decision shifts from one choice to another. When the combination of events and conditions signal that it is time to do something different, a "decision point" has been identified for each fire danger rating level within each fire danger rating area.

A. CLIMATOLOGICAL ANALYSIS

Climatological breakpoints are points on the cumulative distribution curve of one fire weather/danger index computed from climatology (weather) without regard for associated fire occurrence/business. For example, the value at the 90th percentile Energy Release Component (ERC) is the climatological breakpoint at which only 10 percent of the ERC values are greater in value.

It is equally important to identify the period or range of data analysis used to determine the agency percentiles. The percentile values for the calendar year (Jan–Dec) will be different from the percentile values for the fire season (April–Oct). Each agency will have specific (and perhaps different) direction for use of climatological percentiles.

The decision thresholds identified in this fire danger operating plan are based upon the statistical correlation of historical fire occurrence and weather data and, therefore, do not utilize climatological (percentiles) for decision points.

B. FIRE BUSINESS ANALYSIS

To apply a fire danger system that will assist managers with fire management decisions, ignition problems should be identified, quantified, framed, and associated with a target group to determine the most appropriate fire danger-based decision "tool" to mitigate any given issue.

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C. DECISION SUMMARY TABLE

Target Group	Fire Danger Rating Area(s)	Statistical Cause	Climatological Breakpoints or Fire Business Thresholds	Index/ Comp	NFDRS2016 Fuel Model	Management Tool	Number of Decision Points	Preparedness Plan(s) to Modify Target Group Behavior
Agency	All FDRAs 1-5	1 - Lightning	Fire Business Thresholds	ERC/BI	Y	Staffing Level	4	Preparedness Plan Staffing Plan
Agency	All FDRAs 1-5	All fire causes	Climatological Breakpoints	ERC/BI	Y	Preparedness LevelSeverity	4	Response Plan Staffing Plan
Public	FDRA 2 FDRA 3	2 - Equipment	Fire Business Thresholds	ERC and BI	Y	Adjective Fire Danger Rating Level	2	Prevention Plan
Public	FDRA 1	4 - Campfire	Fire Business Thresholds	ERC and BI	Y	Adjective Fire Danger Rating Level	5	Prevention PlanSign Plan
Public	FDRA 1 FDRA 4 FDRA 5	5 - Debris Burning	Fire Business Thresholds	ERC and BI	Y	Adjective Fire Danger Rating Level	5	Prevention Plan
Public	All FDRAs 1-5	9 - Miscellaneous	Fire Business Thresholds	ERC and BI	Y	Preparedness Level	5	Preparedness Plan

Table 11: Decision Summary Table

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V. FIRE DANGER RATING LEVELS

The NFDRS utilizes the WIMS processor to manipulate weather data and forecasted data stored in the National Interagency Fire Management Integrated Database (NIFMID) to produce fire danger ratings for corresponding weather stations. NFDRS outputs from the WIMS processor can be used to determine various levels of fire danger rating to address the fire problems identified previously in the Fire Problem Analysis Chart. The system is designed to model worst-case fire danger scenarios. NFDRS (along with other decision support tools) will be utilized to produce levels (thresholds) of fire business to address local fire problems by targeting public, industrial, or agency groups.

A. RESPONSE (OR DISPATCH) LEVEL

Response (or dispatch) levels are pre-planned actions that identify the number and type of resources (engines, crews, aircraft, etc.) initially dispatched to a reported wildland fire based upon fire danger criteria.

B. STAFFING LEVEL

Staffing levels will be used to make daily internal fire preparedness and operational decisions. At the protection unit level, the staffing level can form a basis for decisions regarding the "degree of readiness" for initial attack and support resources. Specific preparedness actions are defined at each staffing level. Although staffing level can be a direct output in WIMS, the WIMS output is only based upon weather observations and climatological percentiles. The use of climatological percentiles for daily staffing decisions is optional. The preferred method to delineate staffing level thresholds is based on statistical correlation of weather AND fire occurrence.

C. PREPAREDNESS LEVEL

The preparedness level is a five-tier (1-5) fire danger rating decision tool that is based on NFDRS output(s) and other indicators of fire business (such as projected levels of resource commitment). Preparedness levels will assist fire managers with more long-term (seasonal) decisions with respect to fire danger.

D. FIRE DANGER ADJECTIVE RATING LEVEL

In 1974, the U.S. Forest Service, Bureau of Land Management, and State Forestry organizations established five standard adjective fire danger rating level descriptions for public information and signing.

As with staffing level, the adjective fire danger rating level can be obtained as a direct output in WIMS; however, the adjective rating from WIMS is strictly based on weather and climatological percentiles (80th / 95th) with no regard to historical fire occurrence. The use of agency-specific climatological percentiles is not mandatory. The preferred method to determine adjective fire

danger rating thresholds is based on the statistical correlation of weather observations AND fire occurrence. This FDOP will implement adjective fire danger rating based upon fire business thresholds, not climatological percentiles.

VI. FIRE DANGER OPERATING PROCEDURES

A. ROLES AND RESPONSIBILITIES

These are general roles and responsibilities. Agency specific requirements and delegations apply. Specific responsibilities are found within each individual operational plan, which only apply to the identified unit.

1. Agency Administrators

- Approve plans upon update or revision.
- Utilize Fire Danger Operating Plan and NFDRS outputs as tools to coordinate and to make informed fire-related decisions.
- Coordinate with fire program managers on escalating fire danger conditions.

2. Fire Program Managers

- The Fire Management Officer and/or Deputy Fire Management Officer will ensure that necessary amendments or updates to this plan are completed. Updates to this plan will be made as needed; it is recommended this occur every two years at a minimum.
- The FMO and/or DFMO will ensure this plan is implemented.
- Utilize this Fire Danger Operating Plan and NFDRS outputs as tools in developing appropriate decision criteria for establishing appropriate fire-related actions.

3. Fire Danger Technical Group

- Review annually and update FDOP as needed.
- Monitor fire weather and fire occurrence data to ensure a quality dataset is used during analysis.
- Communicate any problems identified.
- Coordinate plan revisions.
- Be available for NFDRS technical consultation.
- Ensure that pocket cards are prepared at least every 2 years, are in compliance with NWCG standards, and are posted on the pocket card website.

4. Fire Weather Station Owners/Managers

The Remote Sensing Fire Weather Support Unit (RSFWU) located at the National Interagency Fire Center (NIFC) maintains and calibrates the BLM RAWS stations on an

annual basis. They also provide the first responder services for malfunctions of these stations. The RAWS stations that are located on USFS land have annual maintenance/replacement of instruments completed locally with support from the RSFWU (instruments are on a strict replacement cycle to ensure proper calibration to meet NWCG standards).

The station owners grant access in WIMS to those individuals who need direct access to the data in order to make edits and process weather data for NFDRS. Station owners include:

- fire planner,
- center manager, and
- assistant center managers.

5. Dispatch/Communication Center

- The dispatch center is responsible for the daily monitoring and editing of all weather station inputs and the fire danger outputs for the FDOP. This information is to be disseminated to the field during the morning and afternoon (seasonally) fire weather forecast packages.
- The center manager (or designee) will ensure the timely editing of daily weather observations for all stations. Each year this will begin roughly in April and will continue until stations are frozen at the end of fire season.
- The center manager (or designee) will use this plan to determine the following on a daily basis during fire season (at a minimum this is June 1-October 1). During this timeframe, the following information will be calculated and posted:
    - response levels,
    - adjective fire danger rating, and
    - preparedness level (*weekly assessment with DO transition*).

6. Duty Officers

- Implement this plan, ensuring that decisions made are consistent with the intent of the plan.
- Interpret and modify the daily preparedness and dispatch levels as required by factors not addressed by this plan. Modifications of the preparedness and/or dispatch levels must be coordinated through the dispatch center manager.
- Keep their respective agency's fire and management staff updated (as needed).

7. Education / Mitigation / Prevention Specialists

- These specialists will communicate adjective fire danger rating to the general public through changing Smokey signs appropriately, implementing fire restrictions according to agency policy, and communicating fire danger.
- Work with unit public affairs officer (PAO) for public notices on fire danger conditions.

- Monitor fire environment conditions and initiate fire restriction notifications and communication with line officers.
- Implement fire restrictions.

8. Fire Planners

- The interagency fire planner will be the lead for biannual updates to this plan.
- Work as a member of the technical group to complete any analysis needs or updates.

B. SEASONAL SCHEDULE

Seasonal risk analysis is a comparison of the historic weather/fuels records with current and forecasted weather/fuels information. Seasonal risk analysis is an on-going responsibility for fire program managers. The most significant indicators of seasonal fire severity BI, ERC, fine fuel loading, and live fuel moisture will be graphically compared with historical maximums and average; this graph will be routinely updated and distributed to fire suppression personnel and dispatch. Seasonal risk analysis information will be used as a basis for pre-positioning critical resources, dispatching resources, and requesting fire severity funding.

BLM- and USFS-owned RAWS: Green-up dates will be determined through a combination of ocular estimates of annual grasses and sampling live fuel moisture at representative locations. Cheatgrass along with several species of native bunch grasses and sage exist as the primary carriers of fire and are thus the critical fuels to be sampled in determining a green-up date. Multiple green ups can occur during a growing season, which makes consistent live fuel moisture sampling and attention to on-the-ground conditions extremely important to ensuring NFDRS outputs are accurate. At the writing of this document, the manual green-up process within WIMS is expected to be replaced by key GSI (growing season index) levels automating "green-up" within the next year.

C. DAILY SCHEDULE

Daily Timeline

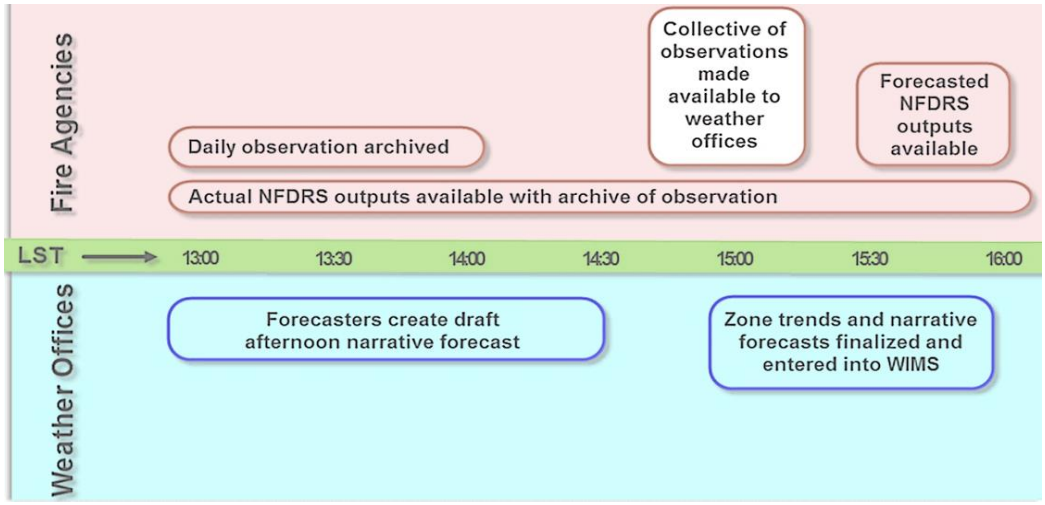


Figure 2: Daily Fire Weather Operations Schedule

D. WEATHER STATION MONITORING AND MAINTENANCE

Each agency is responsible for the annual maintenance and calibration of their RAWS. The Remote Sensing Fire Weather Support Unit (RSFWU) Laboratory located at the National Interagency Fire Center (NIFC) maintains and calibrates the BLM RAWS annually. The RAWS stations that are located on USFS land have annual maintenance/replacement of instruments completed locally with support from the RSFWU Laboratory (instruments are on a strict replacement cycle to ensure proper calibration to meet NWCG standards).

VII. FIRE DANGER PROGRAM NEEDS

A. WEATHER STATIONS

- Evaluate all weather stations within the control of each unit for NWCG standards and consider deactivating or relocating non-compliant stations.
- Potential to add weather station in southeast corner of FDRA 3.

B. COMPUTER / EQUIPMENT

- Fire danger signs throughout the planning area especially in high use areas.
- District/dispatch websites for displaying fire information to staff and public.

C. TRAINING

- Encourage employees to attend S-491.
- At least one individual from the Fire Danger Technical Group should take ANFDR – Advanced National Fire Danger Rating System.
- Teach and emphasize fire danger to non-fire staff.

- Teach fire danger to RFPA, county, city, and other cooperators.
- Increase the number of qualified fire investigators.

D. DATA MANAGMENT

- Fire reporting data quality is critical to ensuring accurate historical fire occurrence analyses. Fire program managers need to ensure that the information on fire reports submitted to the national database is accurate and complete.

APPENDICES

The following operational plans within the appendices are specific to the Burns Interagency FIre Zone (BIFZ)

APPENDIX A - PREPAREDNESS PLAN

I. PREPAREDNESS LEVEL DEFINITIONS

The Preparedness Level is a five tier (1-5) fire danger rating decision tool that is based on NFDRS outputs and other indicators of fire business, such as projected levels of resource commitment. Preparedness levels assist fire managers and line officers with more long-term seasonal decisions with respect to fire danger.

PREPAREDNESS LEVEL 1
Description: No large wildland fires in progress. Most FDRAs have low to moderate fire severity. Number and size of fires within normal range for that time of year. Little or no commitment of other than local resources.
PREPAREDNESS LEVEL 2
Description: Unit is experiencing moderate fire activity. Fires have potential to achieve large fire thresholds. Resources within the area appear adequate to deal with the situation.
PREPAREDNESS LEVEL 3
Description: Unit is experiencing moderate to high fire danger. Active wildland fires are likely to escape Initial Attack. Holding and suppression actions taking increasing numbers of resources.
PREPAREDNESS LEVEL 4
Description: Unit is experiencing very high or extreme fire danger. Large fires likely in every FDRA. Lightning causes multiple ignitions. Numerous wildland fires escaped Initial Attack. No break in the predicted weather for at least 48 hours. Resources being mobilized from outside the area.
PREPAREDNESS LEVEL 5
Description: Unit is experiencing major incidents which have the potential to exhaust all resources, while new fires continue to occur. New fires have a high probability of becoming large fires. The majority of support is coming from outside the area. No break in the weather is predicted for at least 48 hours.

II. DETERMINING PREPAREDNESS LEVEL

Preparedness level will be adjusted using the following chart. The intent is to reflect changing fuel conditions, fire potential, current fire workload, and predicted fire weather throughout the fire season. If the output of the following result in a preparedness level that is not consistent with definitions or current fire situation, the Center Manager can deviate from this chart with concurrence from the operational duty officer and fire program managers. It is recommended that during peak fire season (June-September), a weekly

calculation of preparedness level is completed between transitioning DOs (typically Monday) with support of center manager, fire planner, and other available overhead staff.

NFDRS tracking: http://pnwnfdr.pythonanywhere.com/seor/fdra/

Fine Fuel Loading: https://rangelands.app/great-basin-fire/

BIFZ PREPAREDNESS LEVEL WORKSHEET

NFDRS Breakpoints						**Directions**
All Run with FMY using ERC	Low	Moderate	High	VH	Extreme	Determine NFDRS rating from WIMS. Add point total. http://pnwnfdr.pythonanywhere.com/seor/fdra/
FDRA 1: Southern Blues	0-14	15-31	32-39	40-51	52+	
	0	**1**	**2**	**3**	**4**	
FDRA 2: Juniper	0-19	20-33	34-57	58-69	70+	
	0	**1**	**2**	**3**	**4**	
FDRA 3: Vale Grasslands	0-25	26-39	40-53	54-68	69+	
	0	**1**	**2**	**3**	**4**	
FDRA 4: Steens-Pueblos	0-29	30-39	40-49	50-59	60+	
	0	**1**	**2**	**3**	**4**	
FDRA 5: Burns-High Desert	0-19	20-39	40-59	60-69	70+	
	0	**1**	**2**	**3**	**4**	
Added Value (20 possible)						

Fine Fuel Loading (% of 10 yr normal)				**Directions**
	<100 %	**100-120%**	**>120%**	Calculate Fine fuel production using RAP program and compare with average. Should be done after peak growth (Mid-June). https://rangelands.app/
FDRA 1: Southern Blues	0	2	4	
FDRA 2: Junipers	0	2	4	
FDRA 3: Vale Grasslands	0	2	4	
FDRA 4: Steens-Pueblos	0	2	4	
FDRA 5: Burns-High Desert	0	2	4	
Added Value (20 possible)				

Live Fuel Moisture						**Directions**
	> 150	150-125	125-100	100-75	< 75	Reference most recent live fuel moisture chart for each location. http://www.wfas.net/nfmd/public/index.php
Palomino Butte (ARTR)	0	1	2	3	4	
Basque Hills (ARTR)	0	1	2	3	4	
Crow 532 (Ceanothus)	0	1	2	3	4	
Added Value (12 possible)						

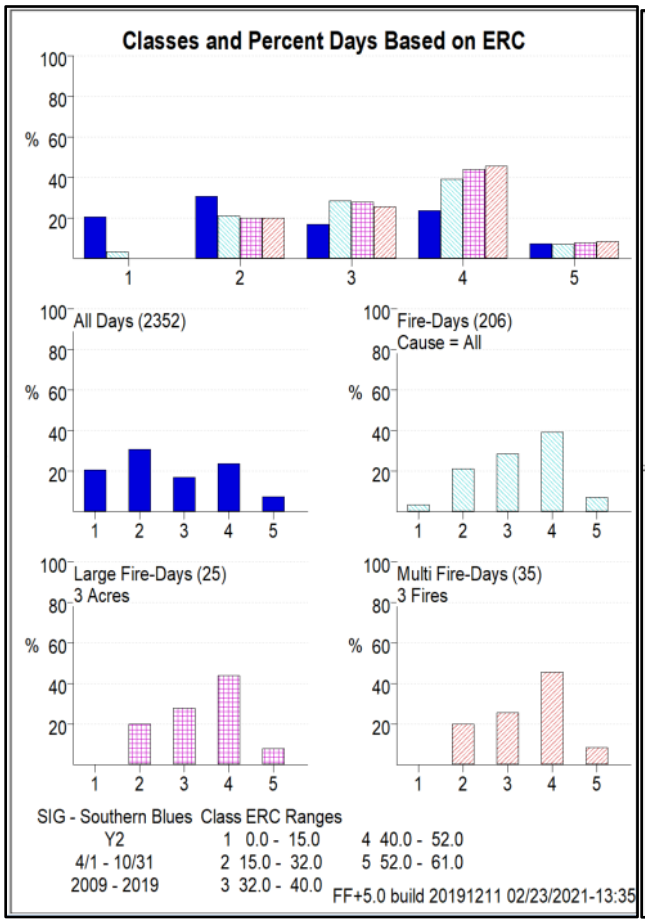
Fire Workload			**Directions**
Type 3 Fire on Zone?	**No = 0**	**Yes = 5**	If you need directions for this step you probably should'nt be populating this sheet.
More than 5 fires on Zone in last 5 days?	**No = 0**	**Yes = 5**	
Added Value (10 possible)			

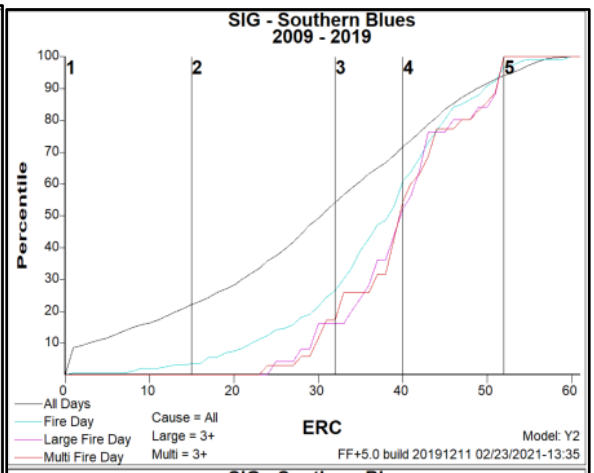
Significant Events			**Directions**
Significant weather or Public Use event forecasted (i.e. Increased Probability of ignition)?	**No = 0**	**Yes = 5**	Utilize NWCC 7 Day Significant potential outlook. Also count high use recreation holidays

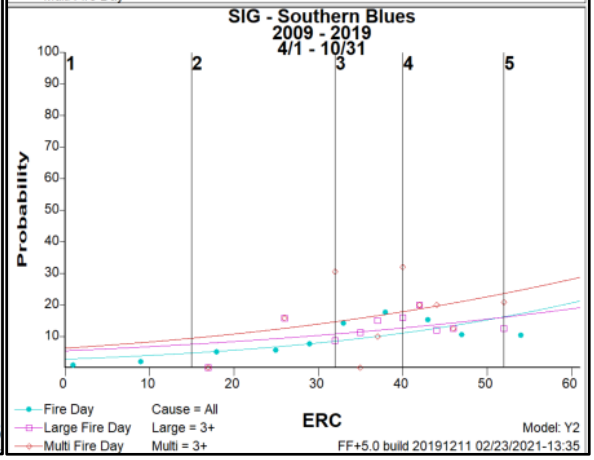
Total Points	**1-9**	**10-23**	**24-39**	**40-49**	**50+**	67 pts possible
PREPAREDNESS LEVEL	**I**	**II**	**III**	**IV**	**V**	Work with FMO/DFMO/DO to determine accuracy of flow chart, document changes as needed

III. FIRE FAMILY PLUS ANALYSIS

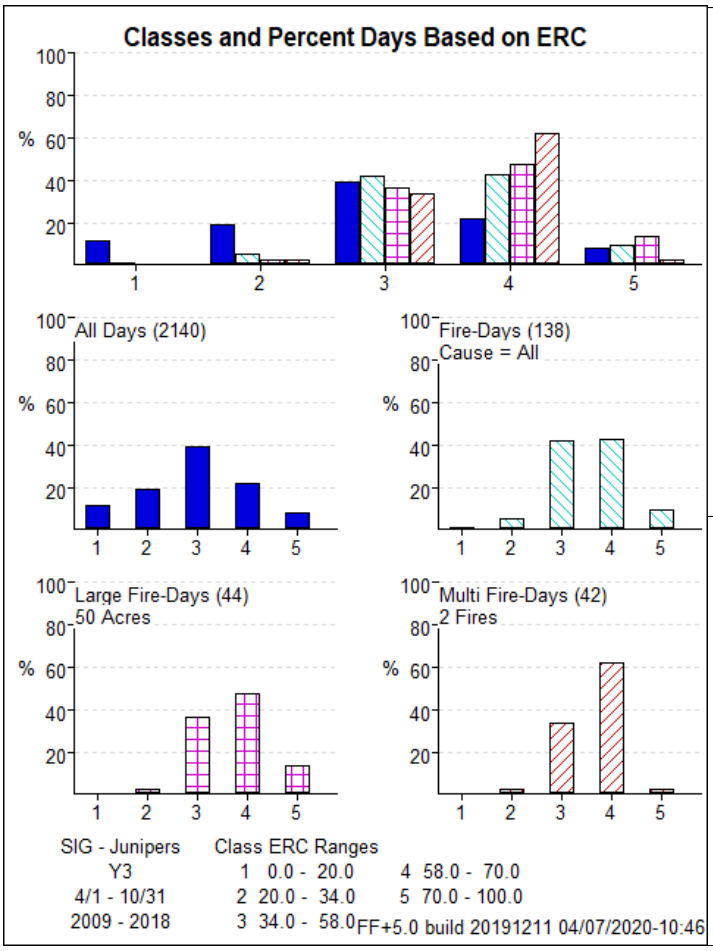
A. FDRA 1: SOUTHERN BLUE MOUNTAINS-FMY-ERC

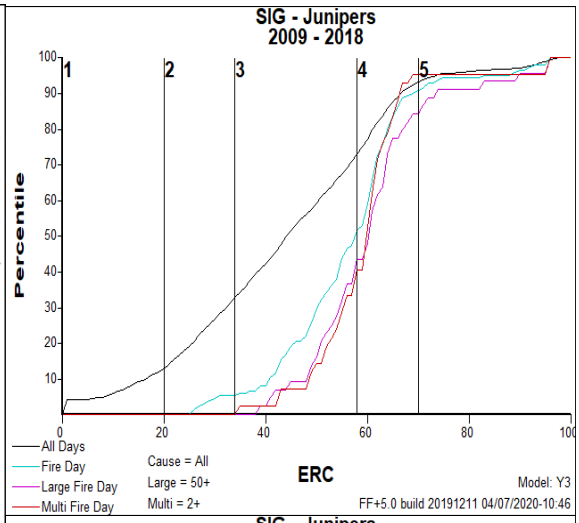


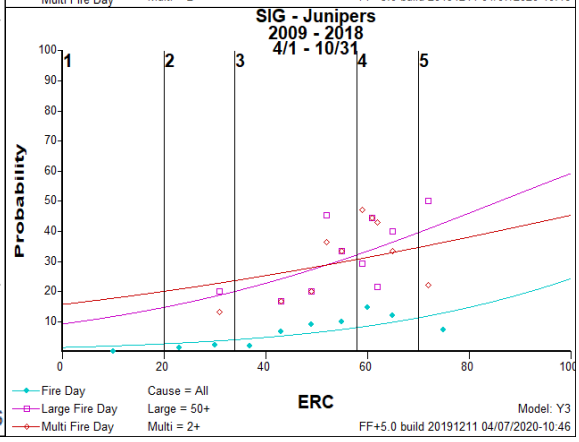




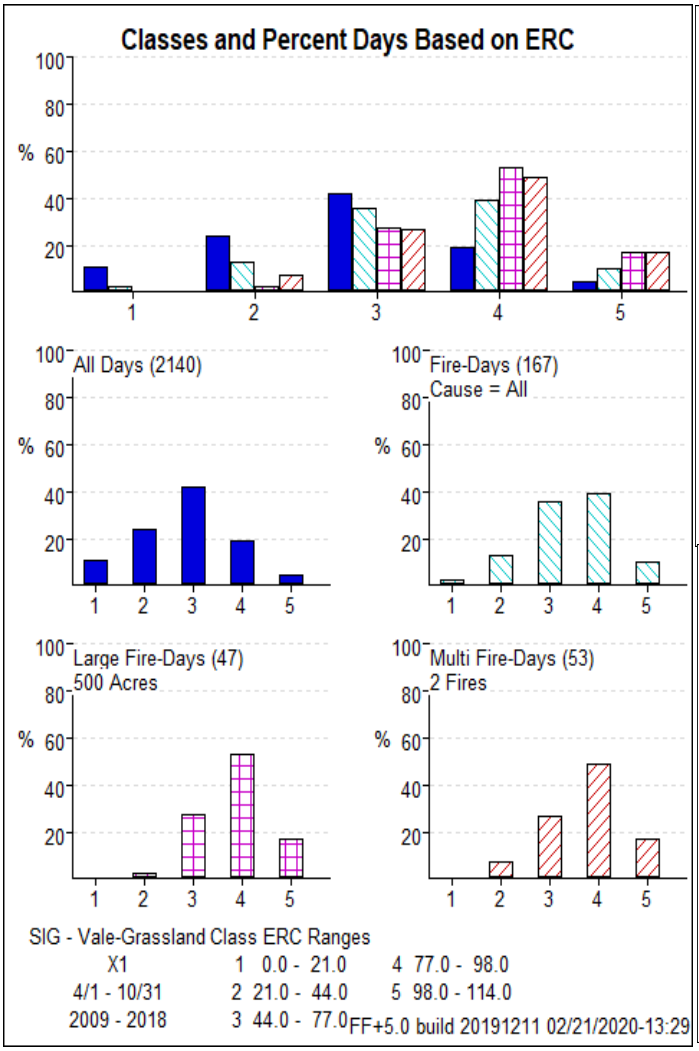
B. FDRA 2: JUNIPERS-FMY-ERC

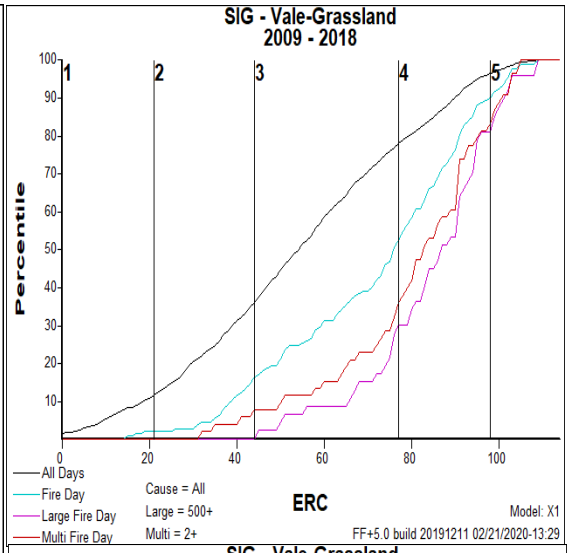


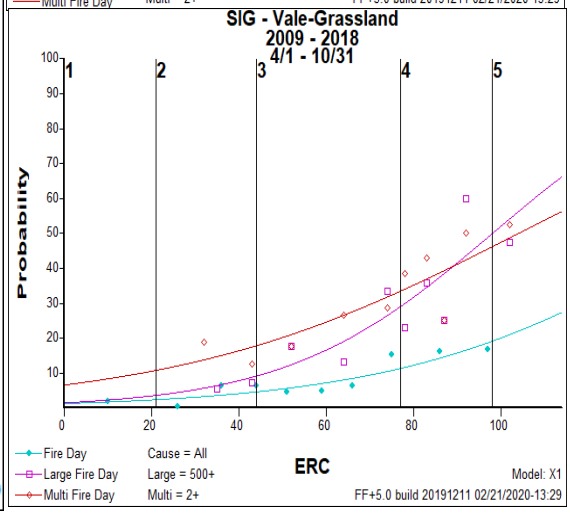




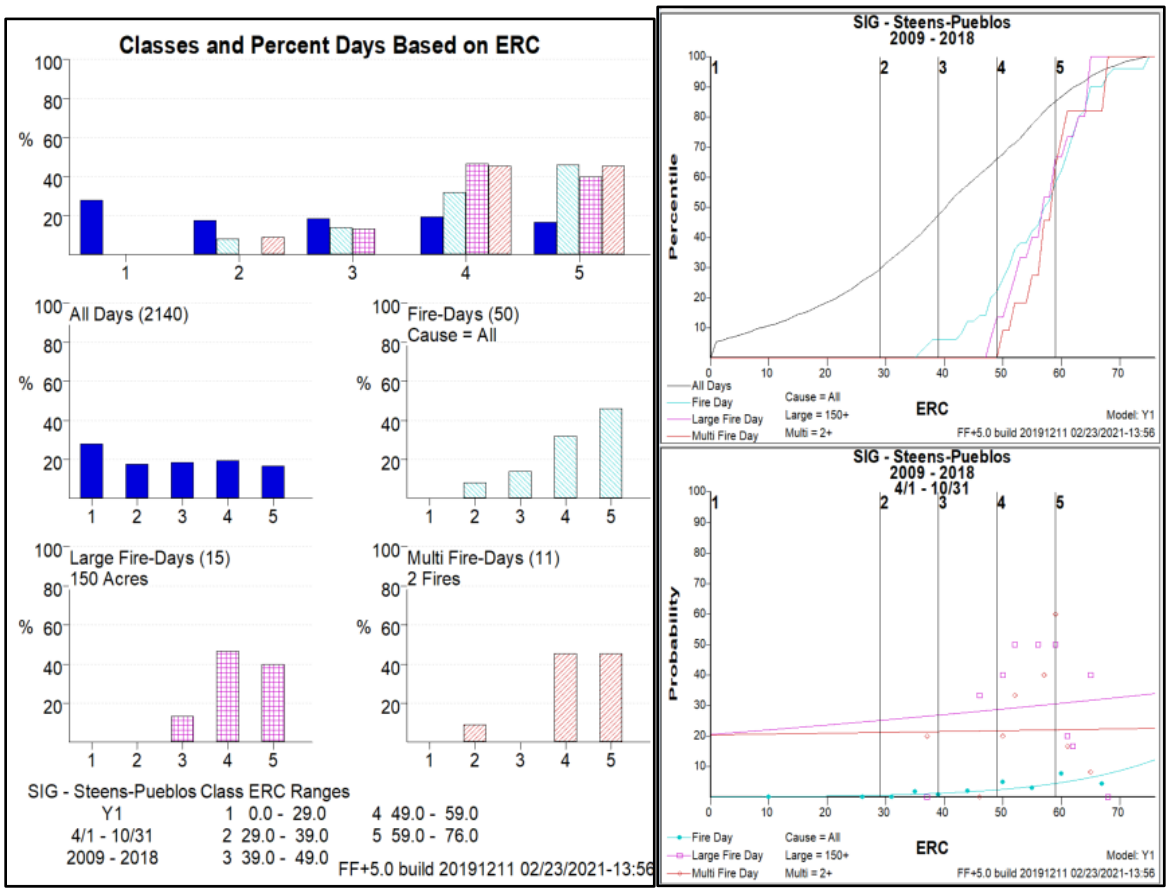
C. FDRA 3: GRASSLANDS-FMY-ERC



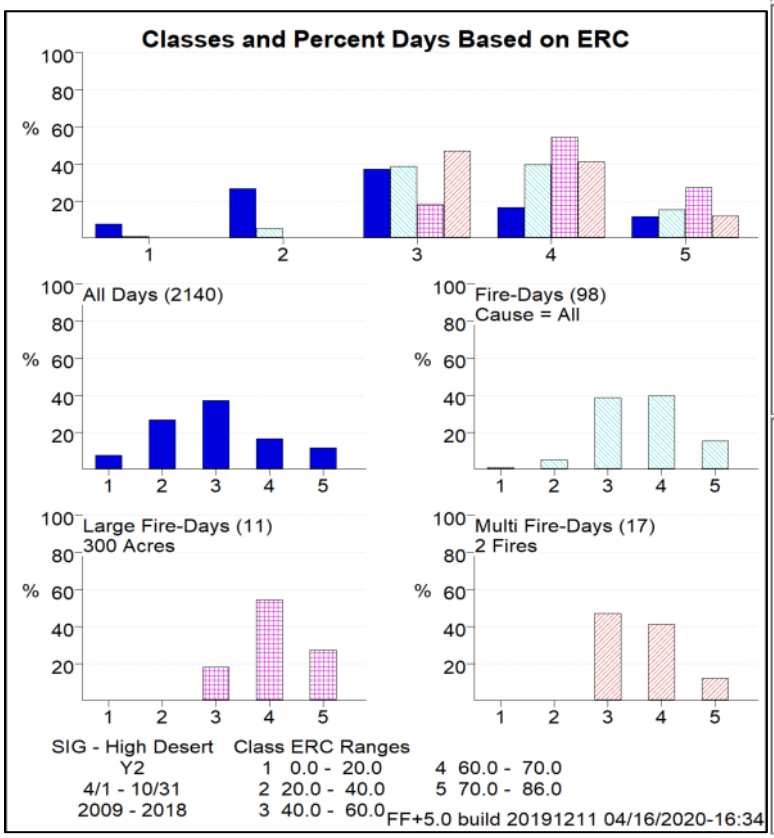


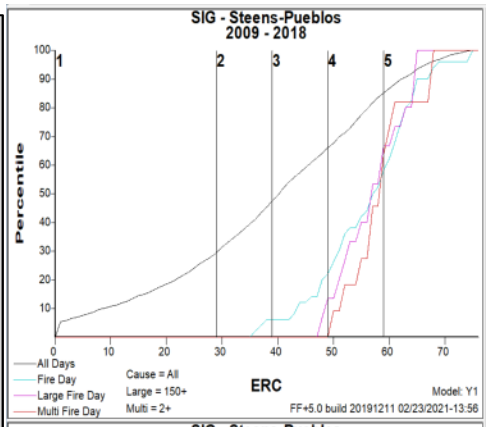


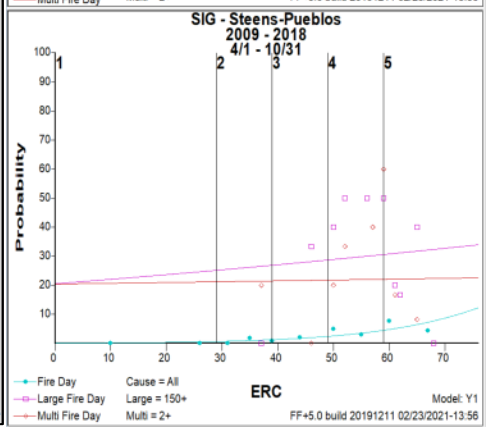
D. FDRA 4: STEENS-PUEBLOS-FMY-ERC



E. FDRA 5: BURNS HIGH DESERT-FMY-ERC







APPENDIX B - STAFFING PLAN

BIFZ - Staffing Plan

I. OVERVIEW

The following is a guide of recommended actions to assist fire managers and line officers in the decision support process to make informed fire management decisions. The numbers addressed in this plan are based upon a fully staffed organization (all positions filled) and at core fire season period (Mid-June through Mid-September) when seasonal workforce is on crews. Because this is a guide, the duty officers maintain the authority to deviate from this plan at their discretion and will communicate any deviations made with rational to fire staff officers.

Staffing plans are designed to direct incremental preparedness actions in response to increasing fire danger. As Preparedness Level changes, the corresponding actions to consider changes. Those actions are identified in the following Step-up and Draw-down plans.

Staffing levels can be used to make daily internal fire preparedness and operational decisions and can form a basis for decisions regarding the "degree of readiness" for initial attack and support resources. The staffing level specifies target daily staffing for initial response resources.

II. DRAW-DOWN PLAN

Draw-down is the predetermined number and type of suppression resources that are required to maintain viable initial attack (IA) capability at either the local or geographic area. The probability of initial attack success is contingent upon the availability of suppression resources during periods of high fire danger.

A. FACTORS AFFECTING DRAW – DOWN

Draw-down levels can change dramatically in a short period of time. A few factors which can affect staffing and resource commitment/availability include the following:

1. Response/Dispatch Level

Staffing Levels have a direct effect on the ability to send pre-determined suppression resources to wildland fires, depending upon the Dispatch Level (and vice versa). Even under normal threat levels, a routine call for service can deplete the availability of a unit's resources and result in a degree of drawdown. If an incident becomes prolonged or requires the commitment of resources beyond the initial response, the agencies capabilities can be affected.

2. 5-day Versus 7-day Resource Staffing

When considering the full capacity of a unit, we include all personnel and resources. For ground resources (engines and dozers) and overhead (FOS, ICs, FMOs, AFMOs, single resource bosses, duty officers, resources advisors, etc.), the daily operating capacity is typically a fraction of the full capacity due to staffing limitations and scheduling days off. Therefore, the "daily" capacity is used as the benchmark for draw-down levels unless a unit has sufficient personnel to keep a resource operational 7 days per week. The 5-day staffing is usually 65% to 75% of the full 7-day staffing (at 100%). For purposes of this plan, a base-line of 70% will be used for daily staffing of ground resources and overhead.

Aviation resources are typically under contract during the fire season to be available 7-days per week. Aviation resources are highly mobile and will respond to fire activity with the greatest need; often, outside the local jurisdiction. Therefore, aviation resources are not included in the determination of staffing levels in this plan.

3. Multiple Fires

Maintaining capacity to respond to a reported incident is the intended outcome of a Staffing Plan. However, when more than one incident occurs concurrently within the respective unit's response area, a unit's capacity is certainly diminished or exhausted.

B. TARGET DRAW-DOWN CHART

		Engines	Dozers	Aircraft	I.A. Overhead	Engines	Dozers	Aviation Capacity	Overhead Capacity
Capacity	**Max 7-Day**	14	1	2	8	100%	100%	100%	100%
	Daily 5-Day	9	1	2	5	70%	70%	100%	65%

	Staffing Level	**Resources at Target Draw-Down**				**Target Draw-Down %**			
		Engines	**Dozers**	**Aircraft**	**I.A. Overhead**	**Engines**	**Dozers**	**Aviation Capacity**	**Overhead Capacity**
Target Capacity	**1**	2	0	0	1	15%	0%	0%	10%
	2	4	0	0	1	35%	35%	0%	20%
	3	7	1	1	2	50%	50%	50%	30%
	4	9	1	1	4	65%	75%	80%	50%
	5	11	1	2	6	85%	100%	100%	80%

* *Aircraft: Includes exclusive use Helitack and Air Attack platforms during normal availability period only.*
* *IA Overhead: Includes all Single Resource qualified personnel available for IA as identified on the daily staffing sheet, updated every morning*

C. STAFFING LEVEL

The staffing levels are based on a combination of seasonality trends and climatology events, utilizing the worksheet below. Fire occurrence data is utilized in determining breakpoints as this is a fire business decision not based on climatology alone. Daily staffing inputs are determined applying actual and forecasted weather data by utilizing afternoon WIMS outputs and implemented into the staffing level worksheet.

The initial staffing levels are based on the zone preparedness level (PL) and averaged by each FDRA's Burning Index (BI) Levels. Forecasted/anticipated significant events factor into these initial Staffing Levels as a way to "bump up" based upon a predicted increase in ignitions. The decision to "bump up" based on these events is a discretionary call to be made by the acting duty officer (who will communicate changes to fire staff officers). The following days staffing will be established by dispatch after retrieving the afternoon WIMS outputs and applying the staffing level worksheet. This is then broadcast over the radio with the afternoon weather forecast.

BIFZ STAFFING LEVEL WORKSHEET

STEPS									
	Response Level (RL)								
	FDRA 1		1		2		3		4
	FDRA 2		1		2		3		4
	FDRA 3		1		2		3		4
	FDRA 4		1		2		3		4
	FDRA 5		1		2		3		4
1	**Combined (Sum) RL-->**								
2	**Starting Staffing Level (SL)**		**<7** (Low)		**7-12** (Moderate)		**13-17** (High)		**18+** (Very High)
3	**Fire Activity on Zone?**	**N**	**1**	**1**	**2**	**3**	**3**	**4**	**4**	**5**
		Y	**1**	**2**	**2**	**3**	**4**	**5**	**5**	**5**
4	**Significant Fire Potential? or Lightning on Zone in last 72 hrs?**		**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**

Directions / Definitions		
Directions:	Step 1: Sum up Response Levels for all Five FDRAs (RL's: http://pnwnfdr.pythonanywhere.com/seor/fdra/)	
	Step 2: Determine Starting Staffing level from appropriate number range for value from step 1.	
	Step 3: Bump down a level for fire activity on zone.	
	Step 4: Bump over a level for either significant fire potential ***or*** Lightning on zone within last 3 days	
Definitions:	**Fire Activity**	If a zone IA resource is or will be assigned to a smoke report, wildfire, or Rx on BIFZ, Fire Activity is a YES.
	Significant Fire Event	*Either:* "High Risk Triggers" shown for the day on the PNW Significant Fire Potential Chart for PSA 12
		OR
		Red Flag Warning/ Fire Weather Watch has been issued for Fire Weather Zone 636 and/or 642.

III. STEP-UP PLAN

This plan identifies recommended actions intended to increase initial attack capacity based on changes in preparedness level, response level, increases in fire danger and potential fire workload. Conditions that apply to Preparedness Levels 1 through 5 are as listed below:

A. Fire Management Officer (FMO) (or acting FMO) and/or duty officer may activate extended staffing for mitigating actions designed to enhance the unit's fire management capabilities during busy holiday weekends or other pre-identified events within the identified fire season where normal staffing cannot meet initial attack, prevention, or detection needs.

B. Extended staffing for mitigating actions designed to enhance suppression capabilities in high risk, high valued areas such as WUI and priority Sage-grouse habitat. IA resources, necessary dispatch staff, and aviation resources may be authorized as needed based on the FMO's or duty officer's judgment.

C. Utilize appropriate agency severity to extend staffing and/or mobilize locally assigned resources if conditions meet those outlined in agency directives.

Preparedness Level	Step-up/Authorized Actions	Potential Management Actions
PL 1	• Off hours on call list available	• Normal operating hours
PL 2	• Normal staffing during identified fire season. • Preposition of resources if necessary where potential exists • Extended staffing may be approved by the duty officer for necessary resources and personnel • Resources from within the affected zone or other unaffected zones may be extended to 'move up and cover' stations where pre-positioning is occurring away from primary stations. • Necessary extended staffing may be funded from Unit preparedness account.	• Above actions plus: • Distribute Daily morning situation report • Monitor weather forecasts
PL 3	• All above actions authorized • Unit FMO and/or duty officer may request aerial platform for fire detection flights if there has been or is expected to be a multiple ignitions across the area. • Extended staffing may be approved for SEAT personnel, aircraft and aviation dispatcher. • Consider engaging PIO	• All above actions plus: • Consider increased patrols following lightning storms. • Consider fire restrictions • Fire safety messages distributed • Consider ordering off unit IA resources • No RX burning without coordination with Local AA and SORO Duty Officer. • Conduct briefings with District Manager and Agency Administrators as needed • Evaluate need for fire restrictions
PL 4	• All Above actions authorized • Unit FMO and/or duty officer may order additional outside of area IA resources to enhance IA capability. • Engage PIO • Consider outside duty officer/FMO type for Fire management support and assistance with large fires if necessary	• All above actions plus: • Consider releasing Public Service Announcements about the fire danger and consider implementing use restrictions and area closures • Consider daily evening strategy meeting • Consider fire behavior advisory
PL 5	• All above actions authorized • Consider ordering one or more PIO as needed • Consider Prepositioning IMT	• All above actions plus: • Assess need for additional EFF crews. • Consider regular scheduled co-operator call. • Consider staging areas • Consider Fire prevention teams

APPENDIX C - RESPONSE / DISPATCH PLAN

I. OVERVIEW

This response plan is guidance to aid dispatchers in getting the appropriate resources (based on location and fire danger parameters) in route to a smoke report as quickly as possible. The acting duty officer maintains the discretion to deviate from these pre-defined responses based on professional judgement to meet the needs of the Burns Interagency Fire Zone (BIFZ). Run cards are used when a wildfire is reported and doesn't meet the discretionary smoke report criteria (see below). Full response runs can only be met during core fire season when all resources (seasonal workforce) are on. Typically, this time frame is from mid-June through the end of September. Not all resources listed on the run cards are within the control of the BIFZ fire program, therefore, some resources may not be available. Dispatch will apply the closest forces concept, which could include utilizing neighboring districts, forests, ODF units, and RFPAs to complete the full run cards. If dispatch is unable to fill the run card, the duty officer will make the final determination on response. Once a NWCG qualified incident commander is on scene of the fire, they may adjust the initial attack response based on the needs of each incident by evaluating fire potential, values at risk, threat to identified values, and the incident objectives to be achieved.

II. DISCRETIONARY SMOKE REPORTS

If any of the following smoke reports are received, the duty officer will need to be contacted to determine the response.

- Federal Aviation Administration (FAA) reports
- Abandoned campfires while still within the ring
- Incidents that RFPA, local and/or volunteer fire departments have responded to, or are on scene and are not requesting additional resources
- During periods of large or multiple fire activity, when there are not enough resources to fill the run cards (see the "multiple" column on run cards).

III. AFTER HOURS DISPATCH PROCEDURES

If the zone is in a PL (preparedness level) 3 or greater, dispatchers will mobilize the closest/ready-up resources (2 vehicle minimum), then contact the duty officer (DO) who will determine changes to this level of response. If the zone is below a PL 3, dispatch will contact DO to determine response. This applies when all resources have gone out of service.

IV. MULTIPLE FIRE RESPONSE

The DO, working in coordination with the dispatch center manager and/or floor coordinator, will determine when to begin dispatching under the multiple fire response as identified in the run cards. Multiple fire response will apply across the entire BIFZ Dispatch boundary, not just a fire danger rating area. This can be based on predicted lightning or actual ignitions.

During lightning events or multiple ignition scenarios when the duty officer has declared multiple fire response is being used, BIFZ Dispatch should mobilize the identified resources until all are exhausted and notify the DO. The DO must be ready to begin prioritizing fires once two or more fires have been confirmed. In the event that all resources become exhausted and fire reports continue to occur, the DO, working with an agency administrator, determines incident priorities and response as resources become available.

The objective of responding resources on a multiple start day is to gather situational awareness and provide initial fire size-ups of each or as many incidents as possible. This information will be used to determine response to fires. Once two or more fires have been confirmed, the DO will utilize their discretion of suppression resource split between incidents based upon known values and risk to values. Intelligence from on scene incident commanders (IC) and representing line officer(s) will be utilized to aid prioritization during multiple fire days. As incident size-ups continue, the DO should communicate with other units to obtain assistance as needed and continue to coordinate resource allocation based on values at risk, threat to those values, spread potential of all active fires, and fire management objectives to be met.

V. RUN CARDS

Run cards are organized into 4 categories: 1) full run card, 2) initial response, 3) additional resources, and 4) aircraft. Dispatch should send the initial response (2) and aircraft (4; if available) resources upon receiving a smoke report. Once these resources are en route, the acting CM (center manager) will contact the DO to determine whether (and how) to meet the additional resources (3) to fill the full run (1) card. The flexibility and determination of filling this full run card or not is a decision making call for the DO and/or IC (once on scene) to make based upon variables not accounted for within this plan as well as resource limitations. Partners such as RFPAs can count towards meeting the additional resources on the run card.

FDRA1: SOUTHERN BLUES
RESPONSE AREA B-1: SOUTHERN BLUES

B-1: FULL RUN CARD					
	RL 1	RL 2	RL 3	RL 4	Multiple Fire
Air Attack			1	1	1
SEAT/Fixed Wing			2	2	
Helicopter		1	1	1	1
Engine	1	2	4	6	2
Dozer			1	2	1
Overhead (ICT3)			1	1	
Water Tender			1	1	
Module/Crew			1	1	
READ/REAF			1	1	

INITIAL RESPONSE					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine	1	2	3	4	1
Dozer			1	1	
Overhead (ICT3)				1	

ADDITIONAL RESOURCES					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine			1	2	1
Dozer				1	1
Overhead (ICT3)					
Water Tender			1	1	
Crew			1	1	
READ/REAF			1	1	

AIRCRAFT					
	RL 1	RL 2	RL 3	RL 4	Multiple
SEAT/Fixed Wing			2	2	
Air Attack			1	1	1
Helicopter		1	1	1	1

Notes: Primarily timbered/ FS ground in this response area. If fire is in priority habitat area, RNA, or IRA area, notifiy DO. On developing incidents, determine proximity to active timber sale units.

Response Level

ERC (FMY)	0 - 11	12 - 19	20 -27	28 - 30	31+
0-14	I	I	I	II	III
15-31	I	II	II	III	III
32-39	II	II	III	III	IV
40-51	II	III	III	IV	IV
52+	III	III	IV	IV	IV

Burning Index (FMY)

FDRA2: JUNIPER
RESPONSE AREA B-2: "STINKINGWATER – JUNIPERS"

B-2: FULL RUN CARD					
	RL 1	RL 2	RL 3	RL 4	Multiple Fire
Air Attack			1	1	1
SEAT/Fixed Wing			2	2	
Helicopter		1	1	1	1
Engine	1	2	4	6	2
Dozer			1	2	
Overhead (ICT3)			1	2	
Water Tender			1	1	
Module/Crew			1	1	
READ/REAF			1	1	

INITIAL RESPONSE					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine	1	2	3	4	1
Dozer			1	1	
Overhead (ICT3)			1	1	

ADDITIONAL RESOURCES					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine			1	2	
Dozer				1	
Overhead (ICT3)				1	
Water Tender			1	1	
Crew			1	1	
READ/REAF				1	

AIRCRAFT					
	RL 1	RL 2	RL 3	RL 4	Multiple
SEAT/Fixed Wing			2	2	
Air Attack			1	1	1
Helicopter		1	1	1	1

Notes: Consider contacting Vale on starts in this response area; particularily on starts within 2 miles of boundary and if Zone is in a Prepardnes level 4+. RFPA Notification based on Juristiction in WildCad. If in Sagegrouse priority habitat area notify DO

Response Level

ERC (FMY)	0 - 10	11 - 24	25 - 37	38 - 44	45+
0-19	I	I	I	II	III
20-33	I	II	II	III	IV
34-57	II	II	III	III	IV
58-69	II	III	III	IV	IV
70+	III	III	IV	IV	IV

Burning Index (FMY)

FDRA3: GRASSLANDS
RESPONSE AREA B-3: "TROUT CREEK-SHEEPSHEADS"

B-3: FULL RUN CARD					
	RL 1	RL 2	RL 3	RL 4	Multiple Fire
Air Attack			1	1	1
SEAT/Fixed Wing			2	2	
Helicopter		1	1	1	1
Engine	1	2	4	7	2
Dozer			1	2	
Overhead (ICT3)			1	2	1
Water Tender			1	1	
Module/Crew					
READ/REAF			1	1	

INTIAL RESPONSE					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine	1	2	4	5	2
Dozer			1	1	
Overhead (ICT3)			1	1	1

ADDITIONAL RESOURCES					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine			1	2	
Dozer				1	
Overhead (ICT3)				1	
Water Tender			1	1	
Crew					
READ/REAF				1	

AIRCRAFT					
	RL 1	RL 2	RL 3	RL 4	Multiple
SEAT/Fixed Wing			2	2	
Air Attack			1	1	1
Helicopter		1	1	1	1

Notes: Much of this area is very remote with long response time for resources. Consider ordering jumpers/repellers in this response area; particularily if Zone is in a Prepardnes level 4+. RFPA Notification based on Juristiction in WildCad. If in Sagegrouse priority habitat area notify DO

Response Level

ERC (FMY)	0 - 17	18 - 26	27 - 32	33 - 39	40+
0-25	I	I	I	II	III
26-39	I	II	II	III	III
40-53	II	II	III	III	IV
54-68	II	III	III	IV	IV
69+	III	III	IV	IV	IV

Burning Index (FMY)

FDRA4: STEENS-PUEBLOS
RESPONSE AREA B-4: "STEENS – PUEBLOS"

B-4: FULL RUN CARD					
	RL 1	RL 2	RL 3	RL 4	Multiple Fire
Air Attack			1	1	1
SEAT/Fixed Wing			2	2	
Helicopter		1	1	1	1
Engine	1	2	4	7	2
Dozer			1	2	
Overhead (ICT3)			1	2	
Water Tender			1	1	
Module/Crew				1	
READ/REAF			1	1	

INTIAL RESPONSE					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine	1	2	3	5	2
Dozer			1	1	
Overhead (ICT3)			1	1	

ADDITIONAL RESOURCES					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine			1	2	
Dozer				1	
Overhead (ICT3)				1	
Water Tender			1	1	
Crew				1	
READ/REAF				1	

AIRCRAFT					
	RL 1	RL 2	RL 3	RL 4	Multiple
SEAT/Fixed Wing			2	2	
Air Attack			1	1	1
Helicopter		1	1	1	1

Notes:	Much of this area is very remote with long response time for resources. Consider ordering jumpers in this response area; particularily if Zone is in a Prepardnes level 4+. RFPA Notification based on Juristiction in WildCad. If in Sagegrouse priority habitat area notify DO.

Response Level

ERC (FMY)						
0-28		I	I	I	II	III
29-38		I	II	II	III	III
39-48		II	II	III	III	IV
49-58		II	III	III	IV	IV
59+		III	III	IV	IV	IV
		0 - 22	23 - 29	30 - 34	35 - 39	40+
		Burning Index (FMY)				

RESPONSE AREA B-5: "STEENS WILDERNESS"

B-5: FULL RUN CARD					
	RL 1	RL 2	RL 3	RL 4	Multiple Fire
Air Attack			1	1	1
SEAT/Fixed Wing			2	2	
Helicopter	1	1	1	1	1
Engine			1	2	2
Dozer				1	
Overhead (ICT3)			1	2	1
Water Tender				1	
Module/Crew			1	1	
READ/REAF			1	1	

INTIAL RESPONSE					
	RL 1	RL 2	RL 3	RL 4	Multiple
Helicopter	1	1	1	1	1
Engine				2	2
Dozer					
Overhead (ICT3)			1	1	1

ADDITIONAL RESOURCES					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine			1	2	
Dozer				1	
Overhead (ICT3)				1	
Water Tender				1	
Crew			1	1	
READ/REAF			1	1	

AIRCRAFT					
	RL 1	RL 2	RL 3	RL 4	Multiple
SEAT/Fixed Wing			2	2	
Air Attack			1	1	1
Helicopter		*1*	1	1	1

Notes:	This response area is wilderness. Consider ordering jumpers and/or repellers in this response area; particularily if Zone is in a Prepardnes level 4+. Engines and Dozer in run card are for point protection and scouting options should fire come out. If in Sagegrouse priority habitat area Notify DO

Response Level

ERC (FMY)						
0-28		I	I	I	II	III
29-38		I	II	II	III	III
39-48		II	II	III	III	IV
49-58		II	III	III	IV	IV
59+		III	III	IV	IV	IV
		0 - 22	23 - 29	30 - 34	35 - 39	40+

Burning Index (FMY)…(*same as Steens-Pueblos*)

FDRA5: HIGH DESERT
RESPONSE AREA B-6: "HIGH DESERT"

B-6: FULL RUN CARD					
	RL 1	RL 2	RL 3	RL 4	Multiple Fire
Air Attack			1	1	1
SEAT/Fixed Wing			2	2	
Helicopter		1	1	1	1
Engine	1	2	5	7	2
Dozer			1	1	
Overhead (ICT3)			1	2	
Water Tender			1	1	
Module/Crew					
READ/REAF			1	1	

INTIAL RESPONSE					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine	1	2	4	5	2
Dozer			1	1	
Overhead (ICT3)			1	1	

ADDITIONAL RESOURCES					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine			1	2	
Dozer				1	
Overhead (ICT3)				1	
Water Tender			1	1	
Crew					
READ/REAF				1	

AIRCRAFT					
	RL 1	RL 2	RL 3	RL 4	Multiple
SEAT/Fixed Wing			2	2	
Air Attack			1	1	1
Helicopter		1	1	1	1

Notes:	Biggest response area on the zone. RFPA Notification based on Juristiction in WildCad. If in Sage-grouse priority habitat area notify DO

Response Level

ERC (FMY)	0 - 22	23 - 29	30 - 40	41 - 45	46+
0-18	I	I	I	II	III
19-38	I	II	II	III	IV
39-58	II	II	III	III	IV
59-68	II	III	III	IV	IV
69+	III	III	IV	IV	IV

Burning Index (FMY)

FDRA5: HIGH DESERT
RESPONSE AREA B-7: "REFUGE"

B-7: FULL RUN CARD					
	RL 1	RL 2	RL 3	RL 4	Multiple Fire
Air Attack			1	1	1
SEAT/Fixed Wing			2	2	
Helicopter		1	1	1	1
Engine	1	2	5	7	2
Dozer					
Overhead (ICT3)			1	2	
Water Tender				1	
Module/Crew					
READ/REAF			1	1	

INTIAL RESPONSE					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine	1	2	4	5	2
Dozer					
Overhead (ICT3)			1	1	

ADDITIONAL RESOURCES					
	RL 1	RL 2	RL 3	RL 4	Multiple
Engine			1	2	
Dozer					
Overhead (ICT3)				1	
Water Tender					
Module/Crew					
READ/REAF				1	

AIRCRAFT					
	RL 1	RL 2	RL 3	RL 4	Multiple
SEAT/Fixed Wing					
Air Attack			1	1	1
Helicopter		1	1	1	1

Notes:

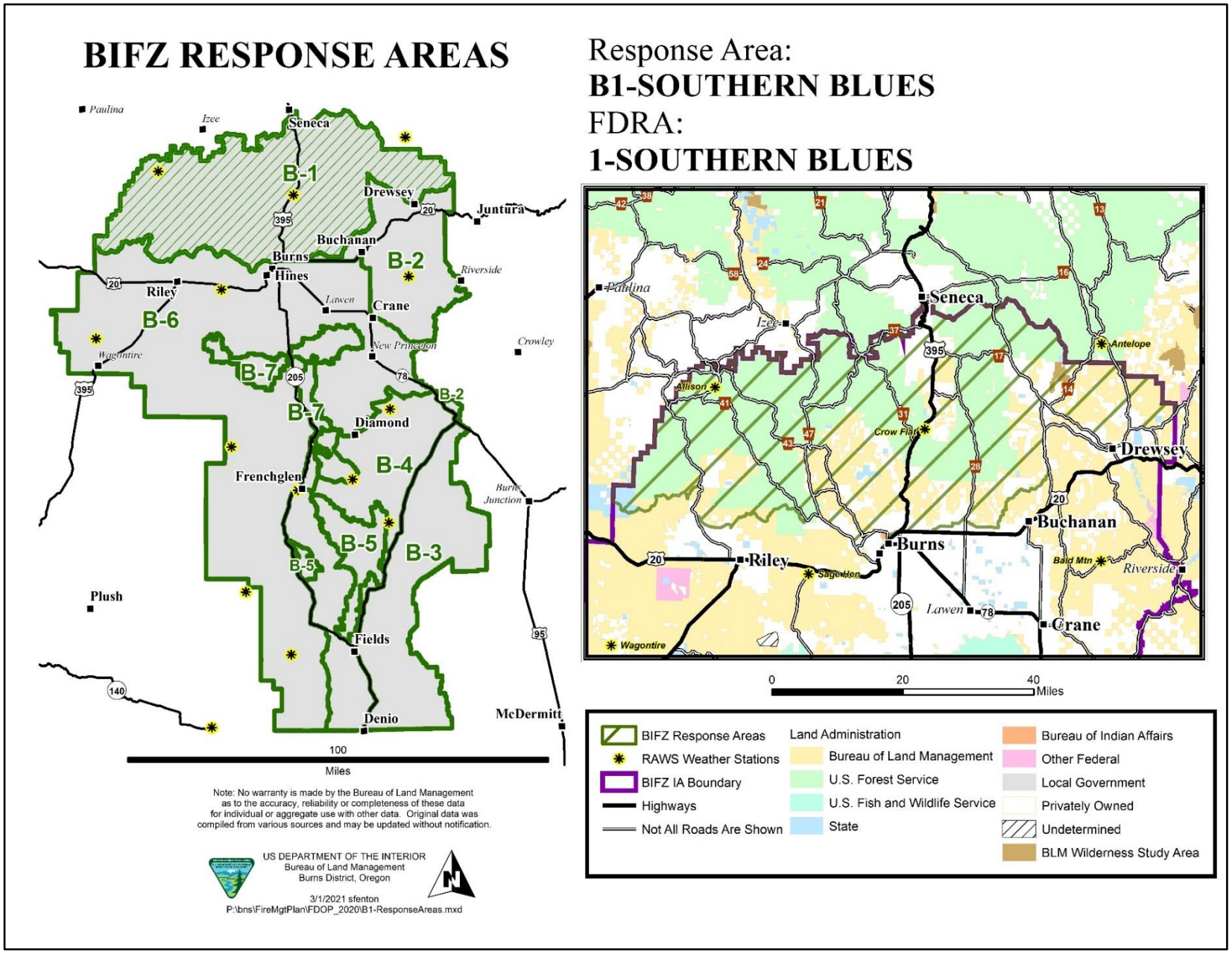
This response area is primarily marshy lands in which retardent use should be limmited (reason SEATs are not in run cards). Also has high density of archeological values (reason dozers are not in run cards). Threat to Life or Property can trigger use of these suppression tools. Consider gettting "Marsh Master" from refuge headquarters for swampy areas. If aviation is deemed necesary by I.C., consider filling with water.

Response Level

ERC (FMY)						
0-18		I	I	I	II	III
19-38		I	II	II	III	IV
39-58		II	II	III	III	IV
59-68		II	III	III	IV	IV
69+		III	III	IV	IV	IV
		0 - 22	23 - 29	30 - 40	41 - 45	46+

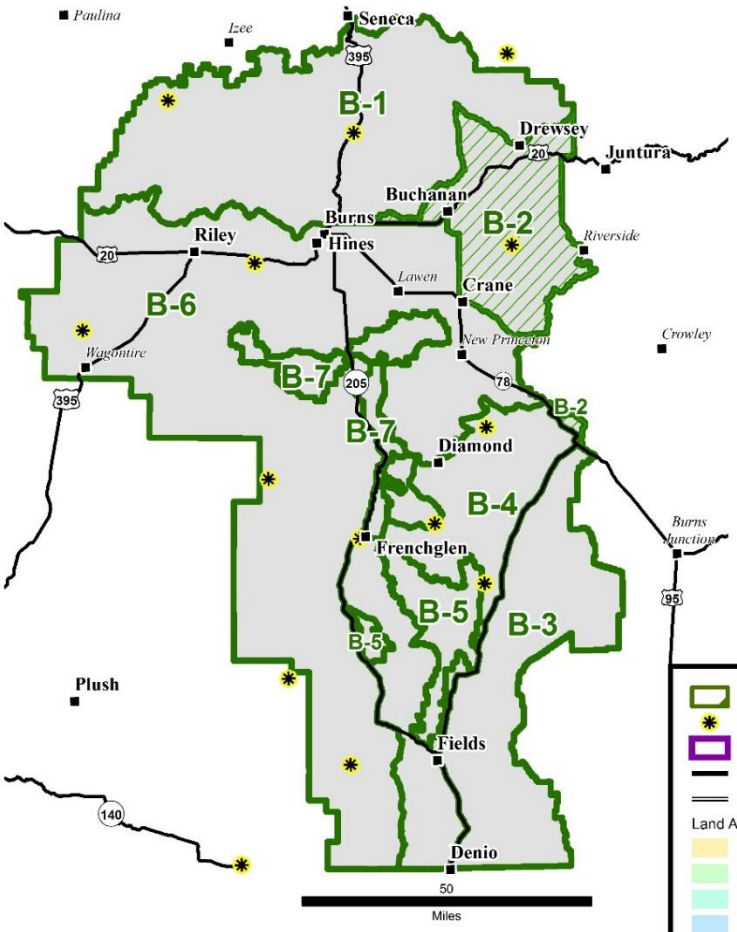
Burning Index (FMY)…(*same as High Desert*)

VI. RESPONSE AREA MAPS



BIFZ RESPONSE AREAS

Response Area:
B2-STINKINGWATER-JUNIPERS
FDRA:
2-JUNIPER



Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources and may be updated without notification.

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Burns District, Oregon

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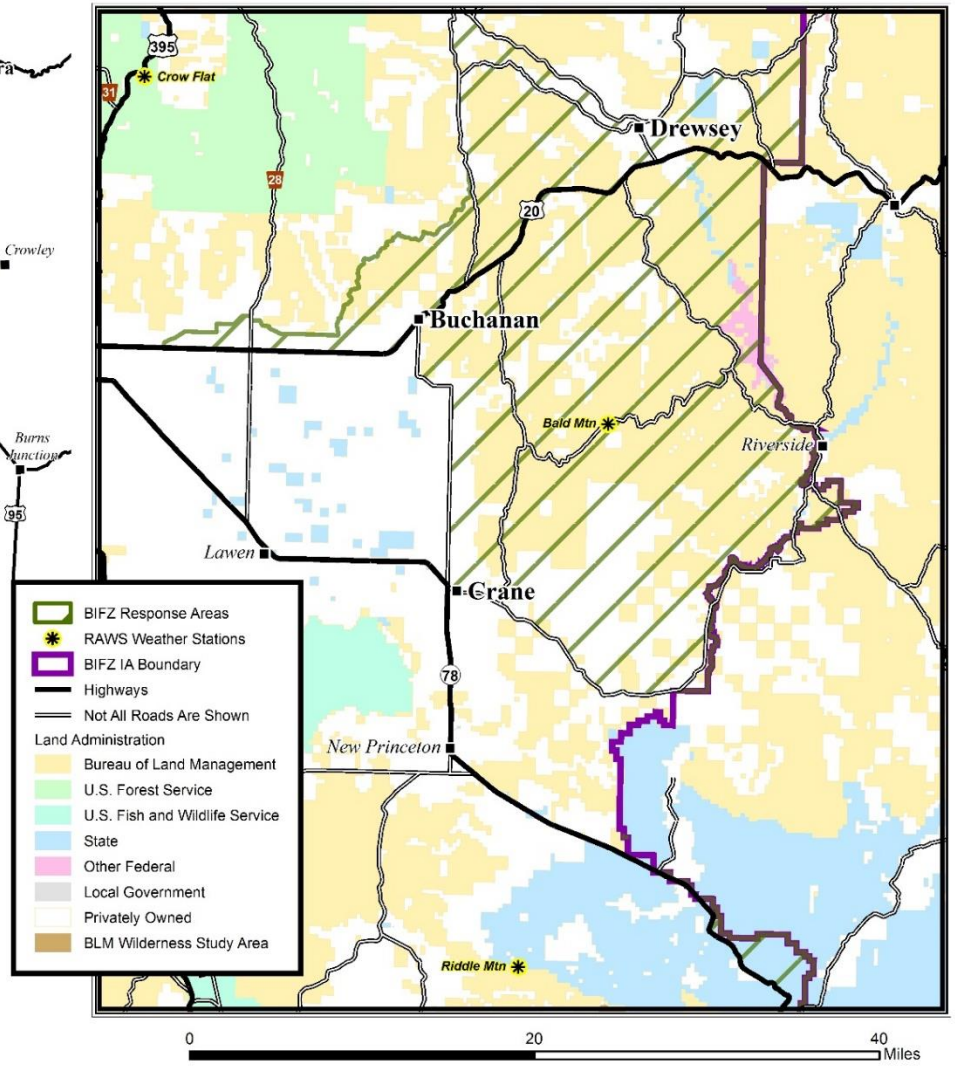
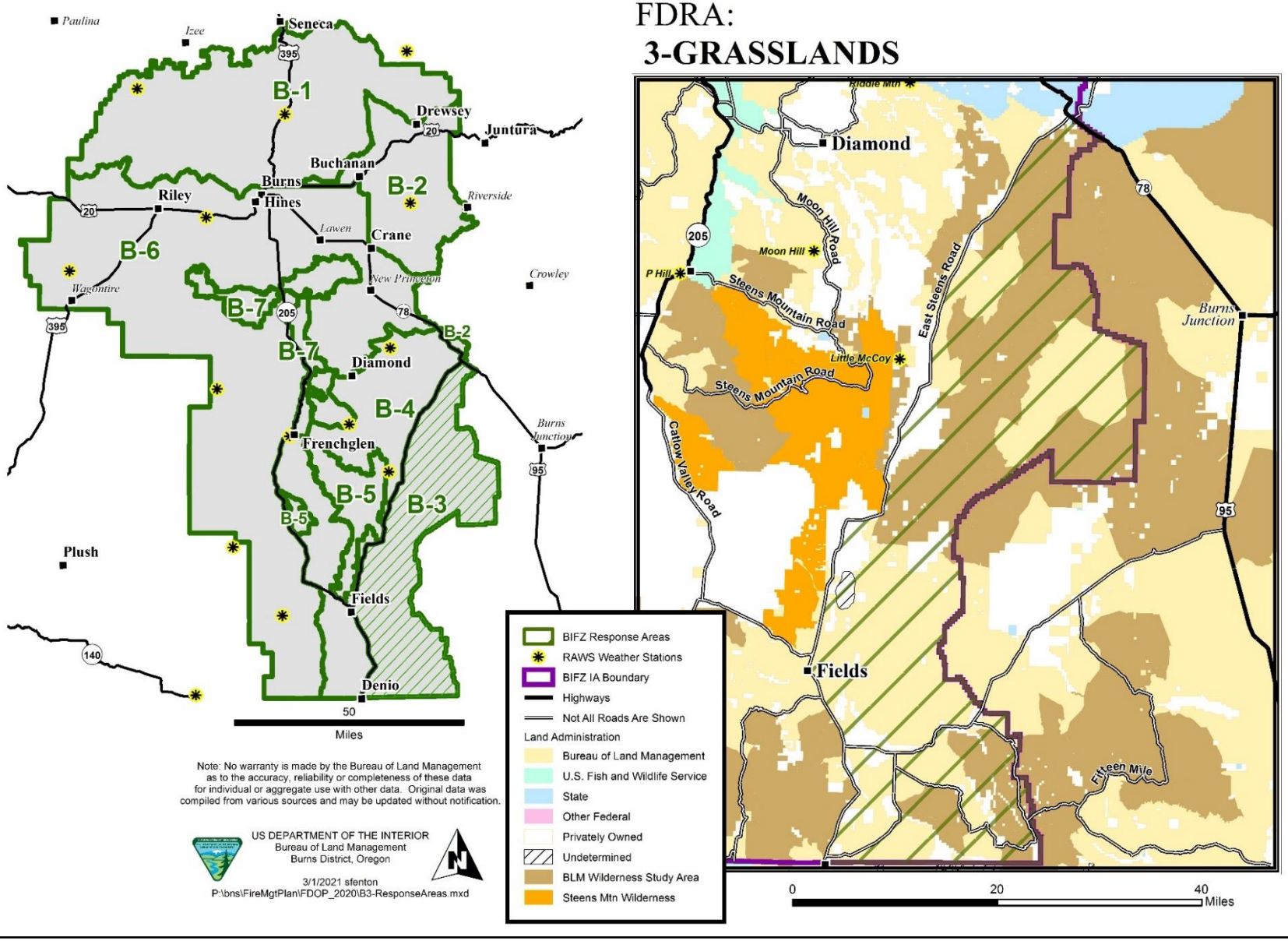
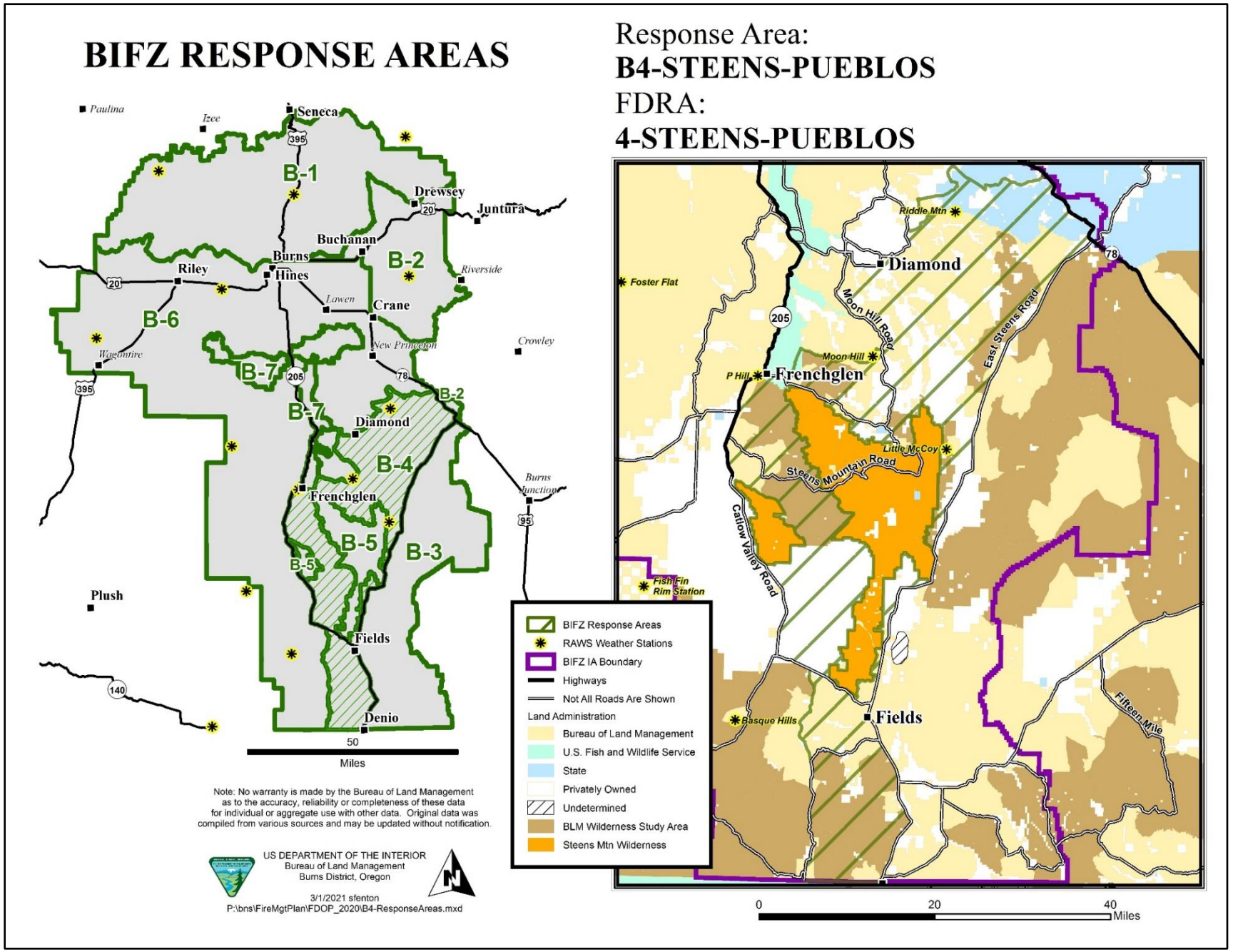


BIFZ Response Areas
RAWS Weather Stations
BIFZ IA Boundary
Highways
Not All Roads Are Shown
Land Administration
Bureau of Land Management
U.S. Forest Service
U.S. Fish and Wildlife Service
State
Other Federal
Local Government
Privately Owned
BLM Wilderness Study Area

BIFZ RESPONSE AREAS




BIFZ RESPONSE AREAS
Response Area:
B4-STEENS-PUEBLOS
FDRA:
4-STEENS-PUEBLOS
Paulina
Izee
Seneca
Drewsey
Juntura
Buchanan
Burns
Riley
Hines
Riverside
Lawen
Crane
Crowley
New Princeton
Wagontire
Diamond
Burns Junction
Frenchglen
Plush
Fields
Denio
B-1
B-2
B-3
B-4
B-5
B-6
B-7
395
20
205
78
95
140
50
Miles
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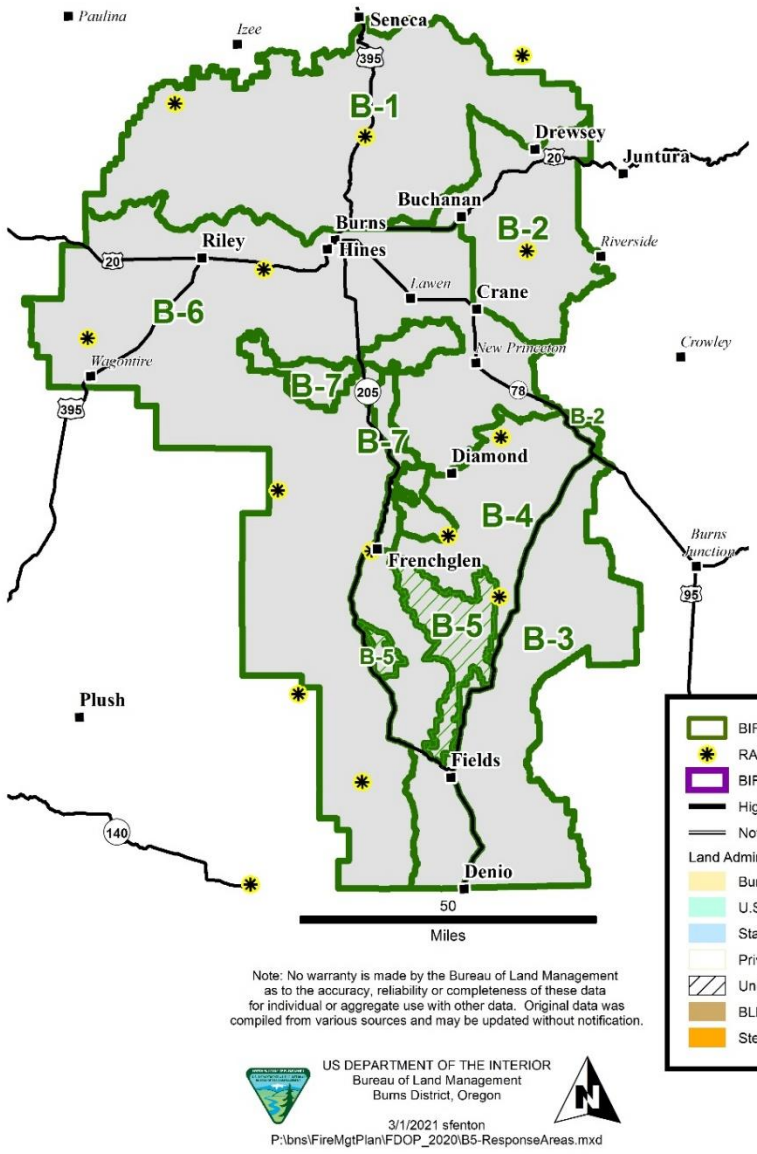
P:\bns\FireMgtPlan\FDOP_2020\B4-ResponseAreas.mxd
BIFZ Response Areas
RAWS Weather Stations
BIFZ IA Boundary
Highways
Not All Roads Are Shown
Land Administration
Bureau of Land Management
U.S. Fish and Wildlife Service
State
Privately Owned
Undetermined
BLM Wilderness Study Area
Steens Mtn Wilderness
Riddle Mtn
Foster Flat
Moon Hill Road
East Steens Road
Moon Hill
P Hill
Little McCoy
Steens Mountain Road
Catlow Valley Road
Fish Fin Rim Station
Basque Hills
Fifteen Mile
0
20
40
Miles

BIFZ RESPONSE AREAS



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Burns District, Oregon

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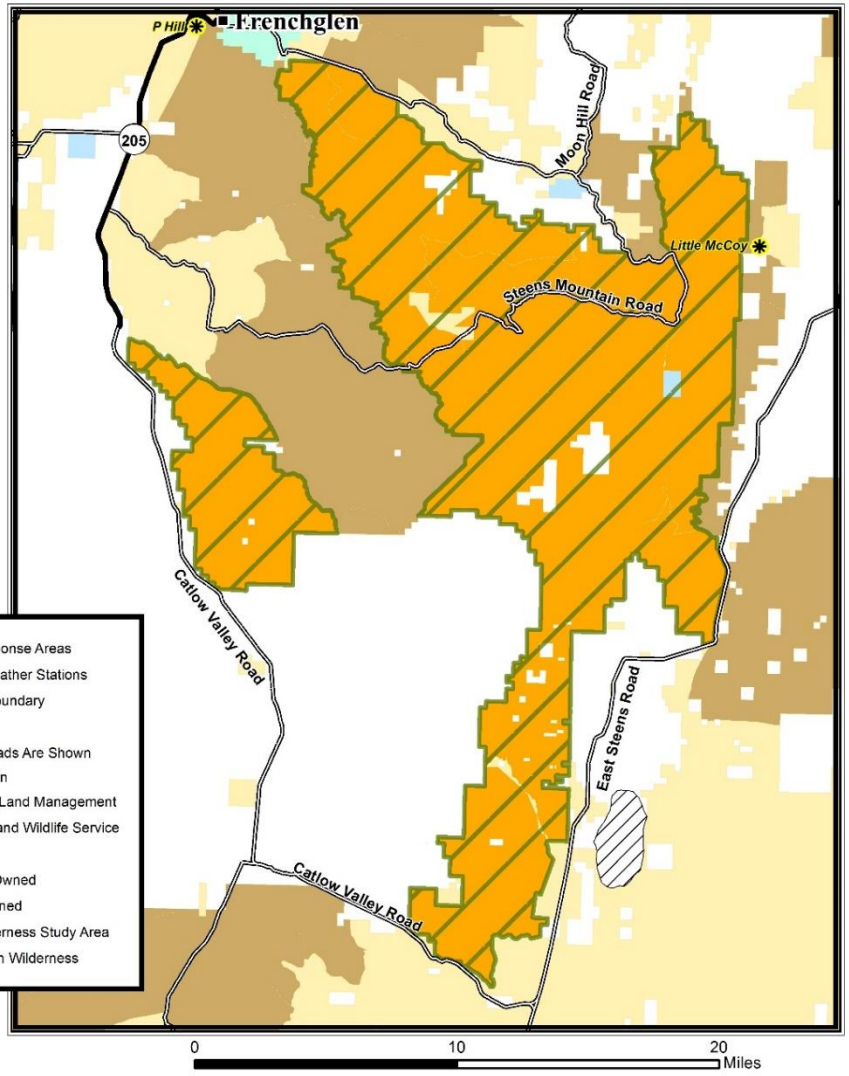
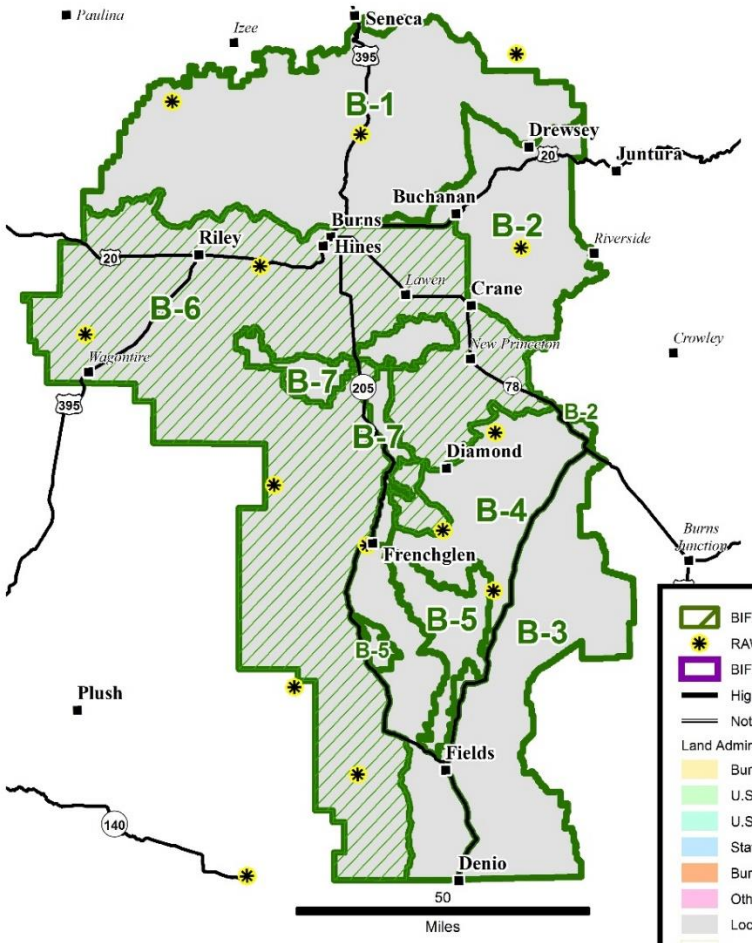
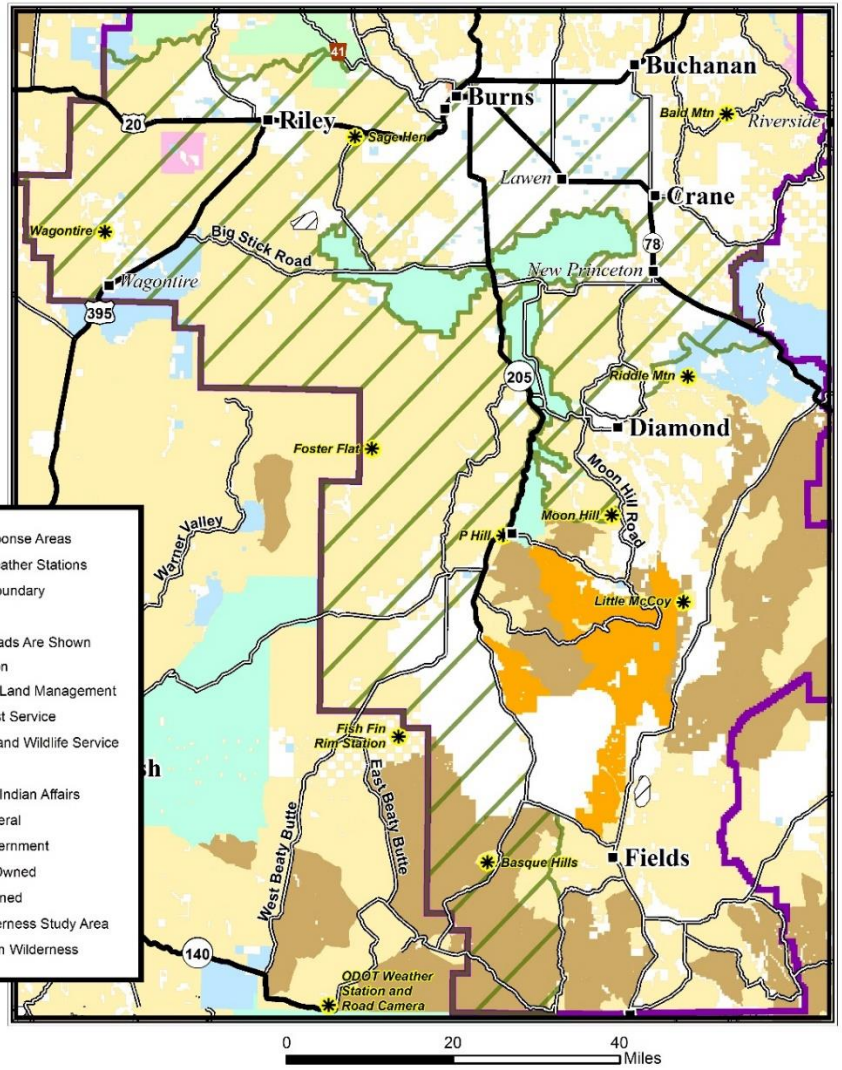
Response Area:
B5-STEENS WILDERNESS
FDRA:
4-STEENS-PUEBLOS



BIFZ RESPONSE AREAS

Response Area:
B6-HIGH DESERT
FDRA:
5-HIGH DESERT





BIFZ Response Areas
RAWS Weather Stations
BIFZ IA Boundary
Highways
Not All Roads Are Shown
Land Administration
Bureau of Land Management
U.S. Forest Service
U.S. Fish and Wildlife Service
State
Bureau of Indian Affairs
Other Federal
Local Government
Privately Owned
Undetermined
BLM Wilderness Study Area
Steens Mtn Wilderness

Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources and may be updated without notification.

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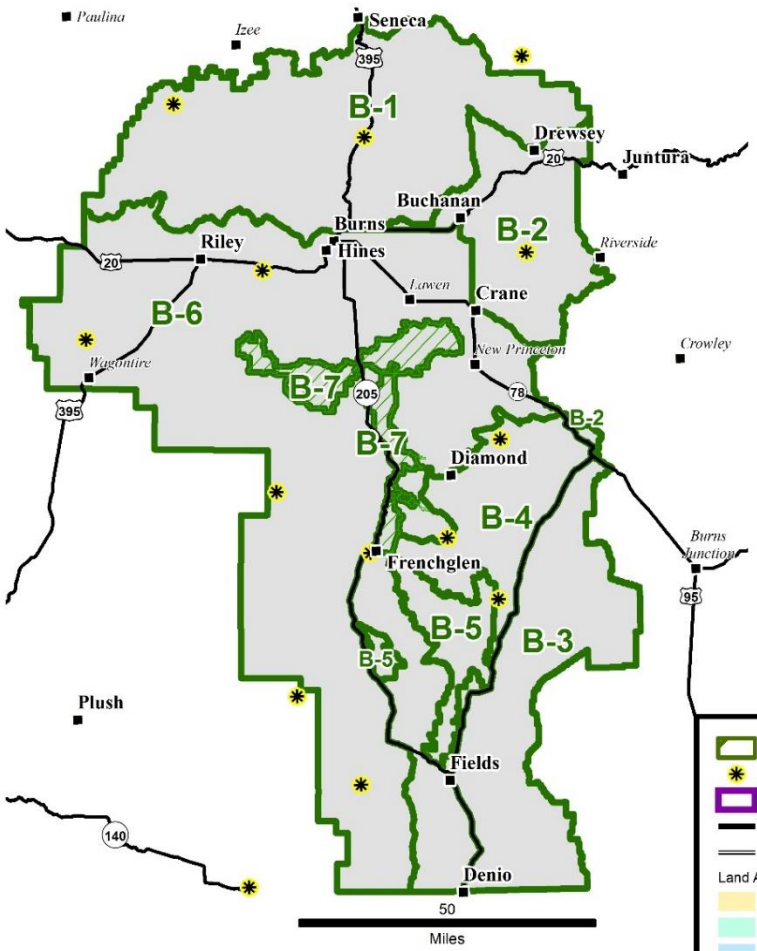
BIFZ RESPONSE AREAS



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Bureau of Land Management
Burns District, Oregon

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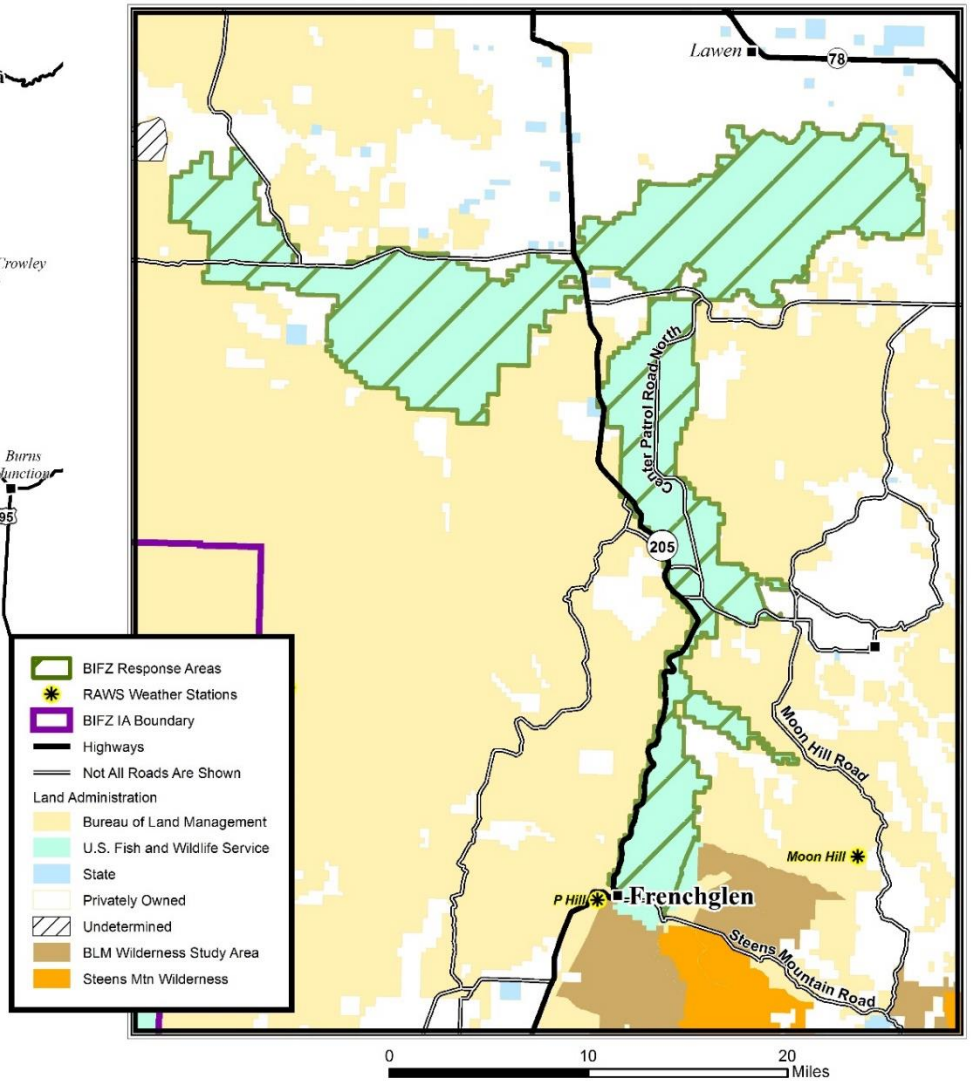
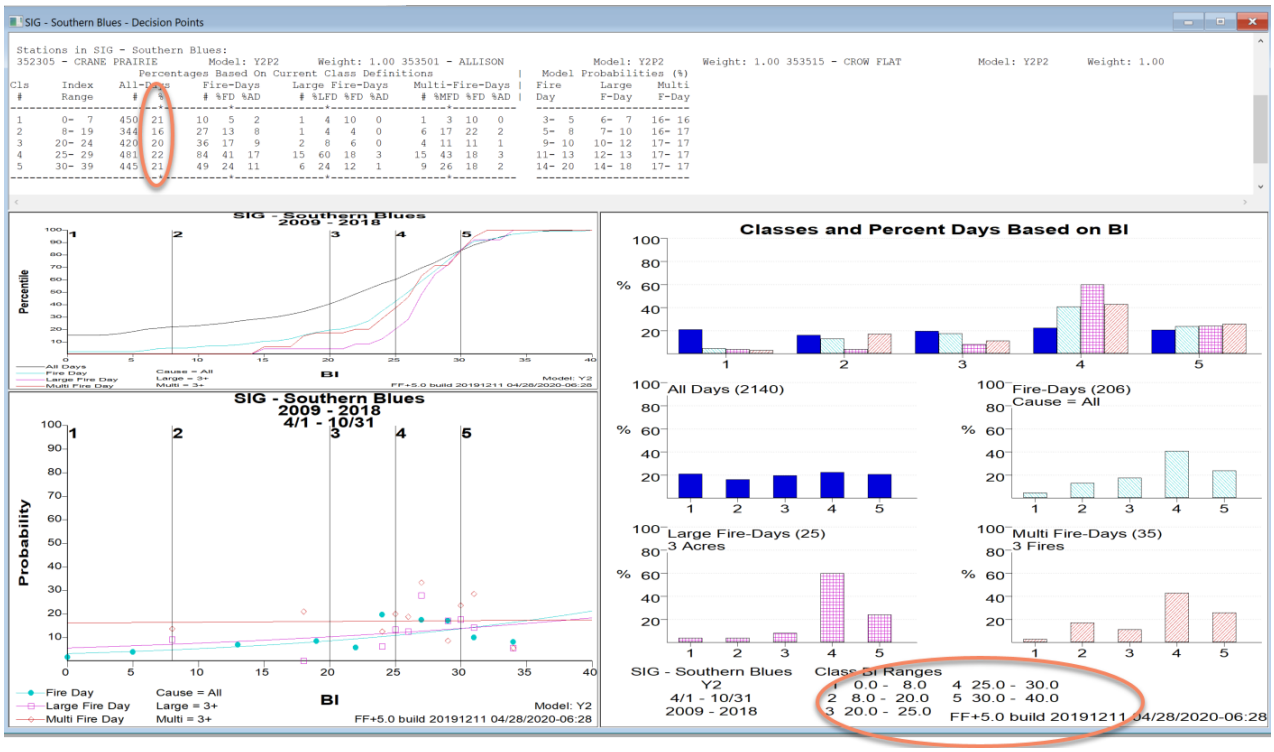
Response Area:
B7-REFUGE
FDRA:
5-HIGH DESERT

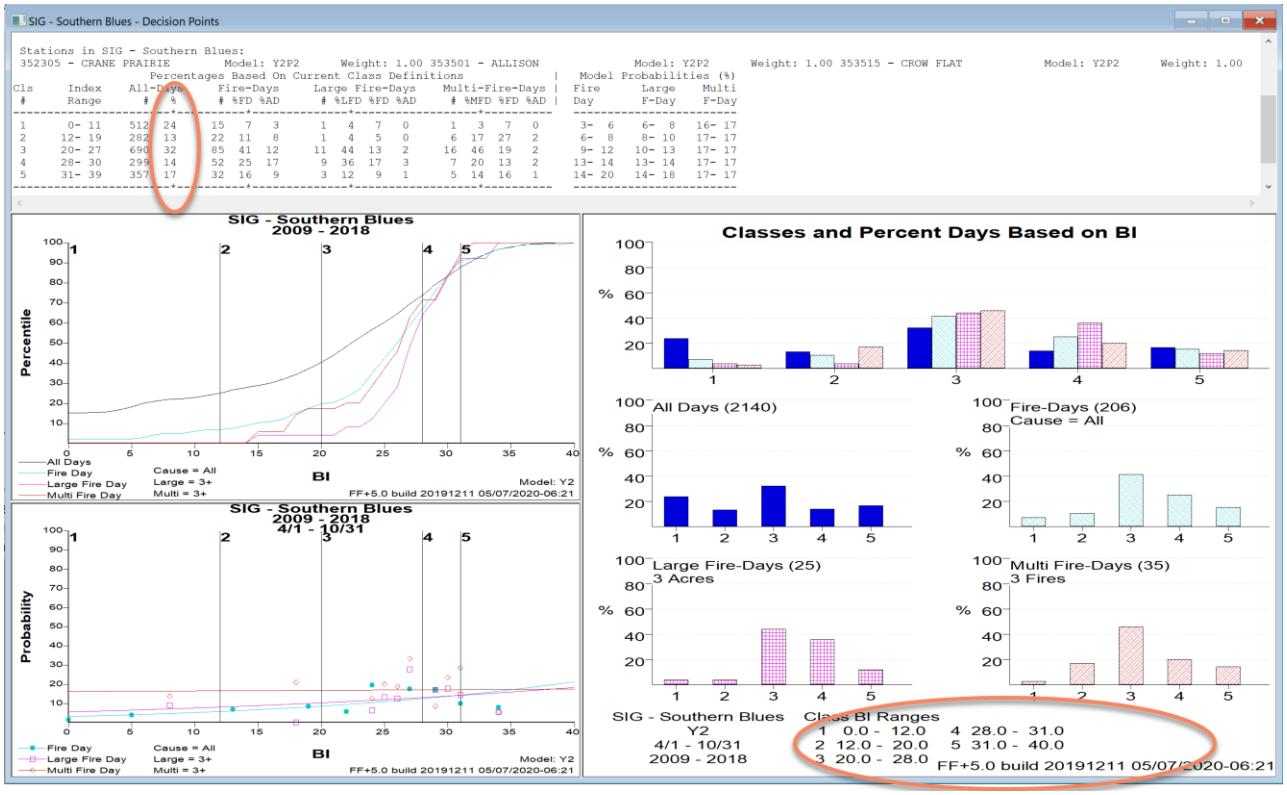


VII. FIRE DANGER BREAKPOINTS (BI's…See Preparedness Plan for ERC breakpoints)

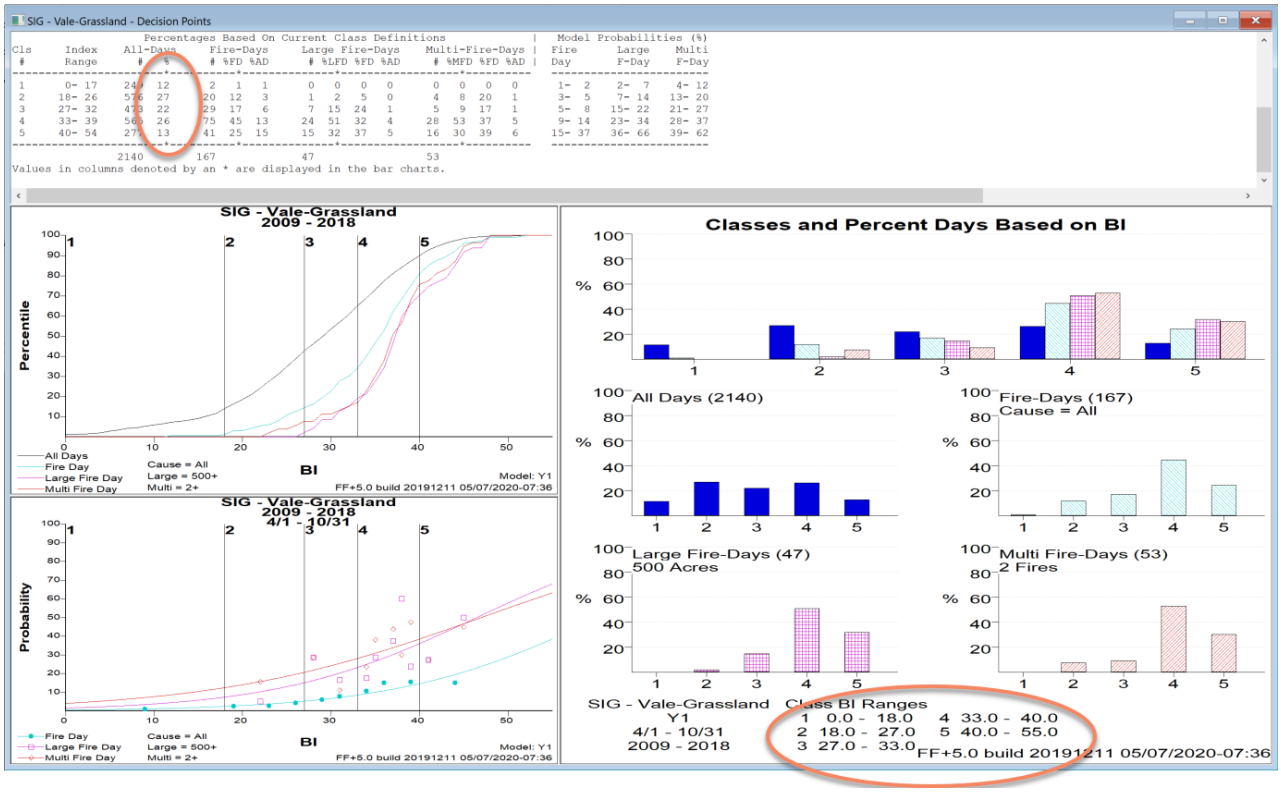
A. FDRA 1 – SOUTHERN BLUES



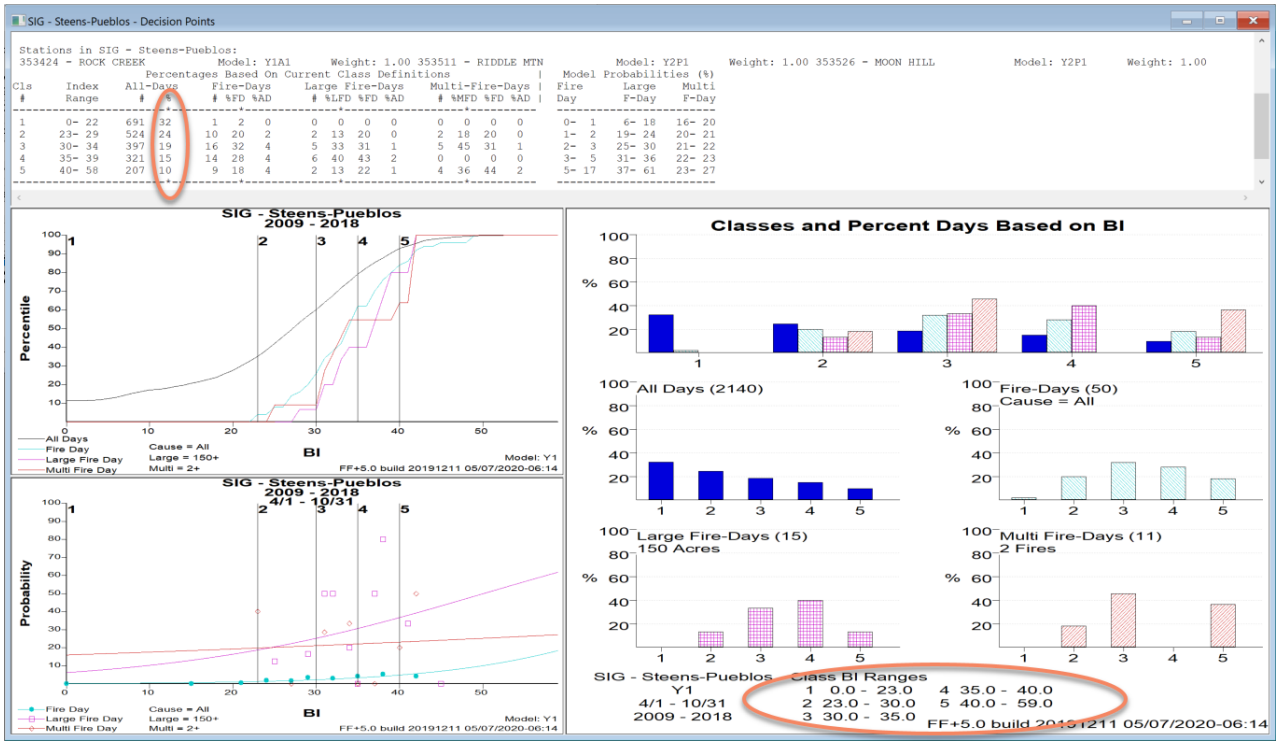
B. FDRA 2 – JUNIPERS



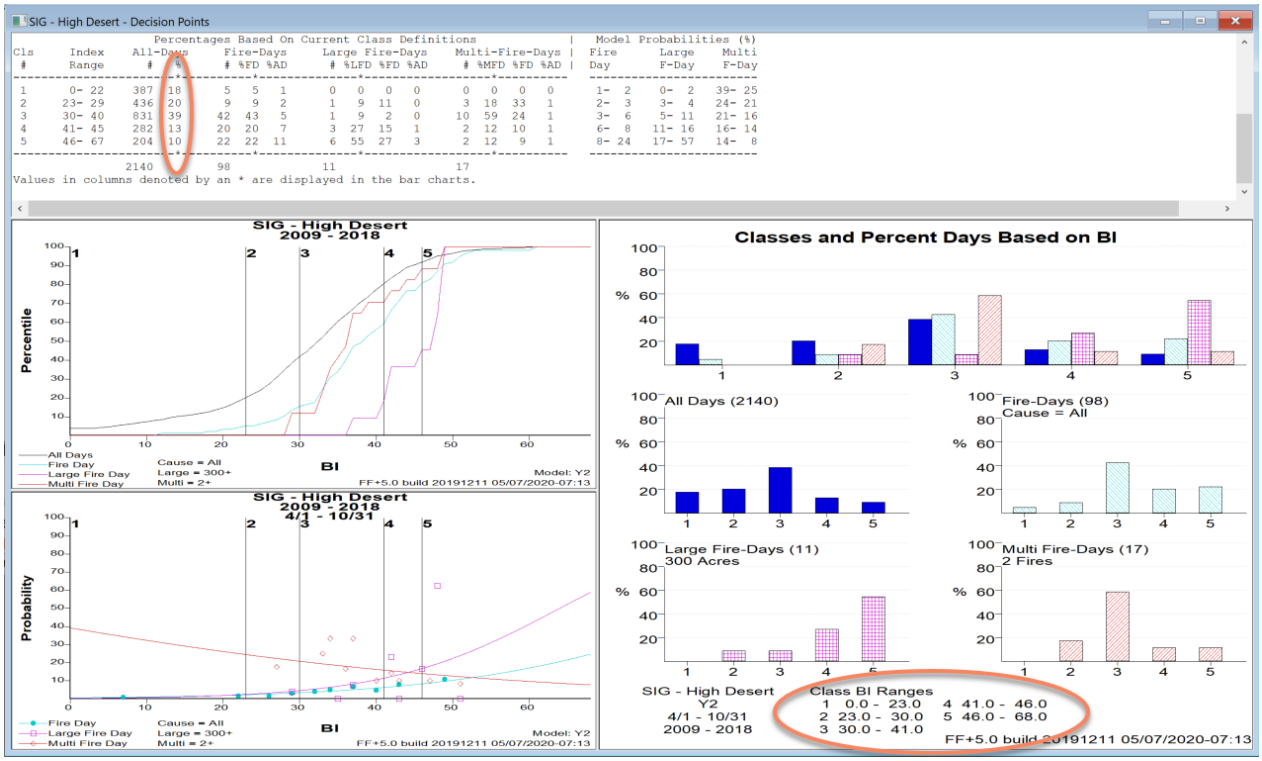
C. FDRA 3 – GRASSLANDS



D. FDRA 4 – STEENS-PUEBLOS



E. FDRA 5 – HIGH DESERT



VIII. WIMS MATRIX http://pnwnfdr.pythonanywhere.com/seor/fdra/

			Morning			Afternoon			
	RAWS	Station #	*Forecast* **ERC**	*Forecast* **BI**	**Response Level**	Observed **ERC**	Observed **BI**	**Response Level**	**Staffing Level**
FDRA 1	Crane Prarie	352305							
	Allison	353501							
	Crow Flat	353515							
FDRA 2	Morgan Mt	352420							
	Bald Mt	353522							
	Kelsey Butte	353613							
FDRA 3	Grassy Mt	353612							
	Kelsey Butte	353613							
	Owyhee Ridge	353614							
	Alkali Flat	353618							
FDRA 4	Rock Creek	353424							
	Riddle Mountain	353511							
	Moon Hill	353526							
FDRA 5	Basque Hills	353520							
	P-Hill	353521							
	Foster Flat	353525							

(RL's: http://pnwnfdr.pythonanywhere.com/seor/fdra/)

FDRA 1		**Response Level**				
ERC (FMY)	0-14	I	I	I	II	III
	15-31	I	II	II	III	III
	32-39	II	II	III	III	IV
	40-51	II	III	III	IV	IV
	52+	III	III	IV	IV	IV
		0 - 11	12 - 19	20 -27	28 - 30	31+
		Burning Index (FMY)				

KEY
RL1
RL2
RL3
RL4

FDRA 2		**Response Level**				
ERC (FMY)	0-19	I	I	I	II	III
	20-33	I	II	II	III	IV
	34-57	II	II	III	III	IV
	58-69	II	III	III	IV	IV
	70+	III	III	IV	IV	IV
		0 - 10	11 - 24	25 - 37	38 - 44	45+
		Burning Index (FMY)				

FDRA 3		**Response Level**				
ERC (FMY)	0-25	I	I	I	II	III
	26-39	I	II	II	III	III
	40-53	II	II	III	III	IV
	54-68	II	III	III	IV	IV
	69+	III	III	IV	IV	IV
		0 - 17	18 - 26	27 - 32	33 - 39	40+
		Burning Index (FMY)				

FDRA 4		**Response Level**				
ERC (FMY)	0-28	I	I	I	II	III
	29-38	I	II	II	III	III
	39-48	II	II	III	III	IV
	49-58	II	III	III	IV	IV
	59+	III	III	IV	IV	IV
		0 - 22	23 - 29	30 - 34	35 - 39	40+
		Burning Index (FMY)				

FDRA 5		**Response Level**				
ERC (FMY)	0-18	I	I	I	II	III
	19-38	I	II	II	III	IV
	39-58	II	II	III	III	IV
	59-68	II	III	III	IV	IV
	69+	III	III	IV	IV	IV
		0 - 22	23 - 29	30 - 40	41 - 45	46+
		Burning Index (FMY)				

APPENDIX D - PREVENTION PLAN

I. OVERVIEW

The purpose of the Burns Interagency Fire Zone (BIFZ) Prevention Plan is to identify and recognize trends of unwanted human-caused ignitions and to develop a strategy that will identify actions to reduce those unwanted ignitions, thereby reducing wildland fire damages, losses, risks to firefighters, and suppression costs and preserving natural resources. This is accomplished through public education, patrol operations, prevention education, fire investigation, and trespass actions. These efforts are conducted through cooperation between the Burns District BLM; Malheur National Wildlife Refuge; and Malheur National Forest, Emigrant Creek Ranger District.

Actions identified within the BIFZ Fire Prevention Plan comply with laws, regulations, agency policies, manuals, and handbooks associated with:

- Fire Program Management (BLM-MS-9200)
- 2021 Interagency Standards for Fire and Fire Aviation Operations
- Fuels Management and Community Assistance (BLM-H-9214-1)
- Fire Prevention (BLM-9212)
- Fire Investigation (BLM-H-9238-1)
- Fire Trespass (BLM-MS-9238)

The BIFZ fire program coordinates with multiple States, counties, local co-operators, and other Federal agencies to create a continuous message across multiple land ownerships and jurisdictions.

II. OBJECTIVES

A. FIRE PREVENTION OBJECTIVES

1. Mitigate area ignition risks stemming from careless/illegal use of campfires and debris fires as well as fires caused by target shooting through increased efforts in education, engineering, and enforcement.

2. Increased patrols in those areas identified through the fire reporting system with special emphasis on major causes of fires such as abandoned campfires.

3. Increase public awareness, participation, and cooperation pertaining to the mitigation of fire threats in wildland urban interface/intermix areas through the use and support of local Fire Safe Councils, and ad campaigns.

4. Increase public awareness and participation in fire safe recreation activities. These include things like shooting in a safe manner, extinguishing campfires, observing closure orders, fire restriction, and gaining more compliance, etc.

5. Educate area populace on the basic principles of fire ecology and fire's role in the environment. Increase public awareness and support of interagency fuel reduction efforts in vegetation removal and prescribed fire.

6. Foster closer coordination and collaboration with permit administrators, land use officers, recreation staff, etc. Increase integration of fire prevention efforts in education, engineering, and enforcement with internal and external partners.

7. Collaborate with local communities to create defensible space around their homes and communities. Encourage the High Risk communities to accept the Firewise concepts and assist them with information and consultations.

This plan emphasizes the following objectives of the prevention program:

1. Develop a single integrated operational plan that provides regulations and guidelines for an interagency mitigation/prevention team.
2. Protect high value resources from wildland fires.
3. Focus cost effective mitigation/prevention activities in the priority areas.
4. Minimize losses through effective implementation of the mitigation/prevention plan.
5. Summarize BIFZ fires by cause, type, acreage, and year (dispatch managers do this in an end of year report).
6. Identify problem areas, causal factors, and increasing trends and implement measures aimed at reducing human-caused fires in these areas.
7. Unite the interagency prevention team into an integrated cohesive working group.
8. Ensure the Wildfire Mitigation/Prevention Plan is consistent with the individual field offices' resource management plans and the fire management plan.
9. Ensure the Wildfire Mitigation/Prevention Plan is consistent with the BLM 9212 Part Fire Prevention, the appropriate resource management plans and all bureau policies and memorandums.
10. Ensure the national policy documents provide support and a practical bridge to enhance capabilities of local managers through education, prevention, and mitigation techniques for local communities.

III. TRENDS

Human-caused fires are responsible for an average of 20 starts per year, resulting in an average of 6,261 acres burned annually (See Tables and Figures 1 and 2; respectively). This constitutes slightly over 31 percent of all fire starts and nearly 11 percent of burned acres on BIFZ during this 10-year period. In general, Human-caused fires within BIFZ are more of a "shoulder season" problem (early and late in the fire season). Human-caused fires account for the majority of all starts in the spring (March-May) and the fall (October-November). See

Figure 3. Most of these fires are associated with increased recreational use (camping in spring and camping and hunting in fall). Figure 4 depicts the break out of all human-caused fires by cause category. Miscellaneous cause is listed for 56 percent of human fires, and this is largely a result of poor cause determination/lack of proper investigation of incidents. Human-caused fires during the peak fire season are much more problematic and account for the vast majority of acres burned (the Cinder Butte Fire in 2017 is a great example with over 52,000 acres burned).

Table 1: Human Caused Number of Starts/Year

BIFZ Number of Human Cause Fires by Category													
Cause Cat	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	10 yr Avg	Precent
2-Equipment	2	1	3	1			1	1			9	0.9	4.50%
3-Smoking		1		1							2	0.2	1.00%
4-Campfire	10	8	2	4		4	4	8	2		42	4.2	21.00%
5-Debris Burn	3	1	4	1		5	2		1	1	18	1.8	9.00%
6-Railroad						1	1		1	4	7	0.7	3.50%
7-Arson		1			7	1	1				10	1	5.00%
8-Children												0	0.00%
9-Misc	5	4	9	1	39	14	5	13	15	7	112	11.2	56.00%
Grand Total	20	16	18	8	46	25	14	22	19	12	200	20	100.00%

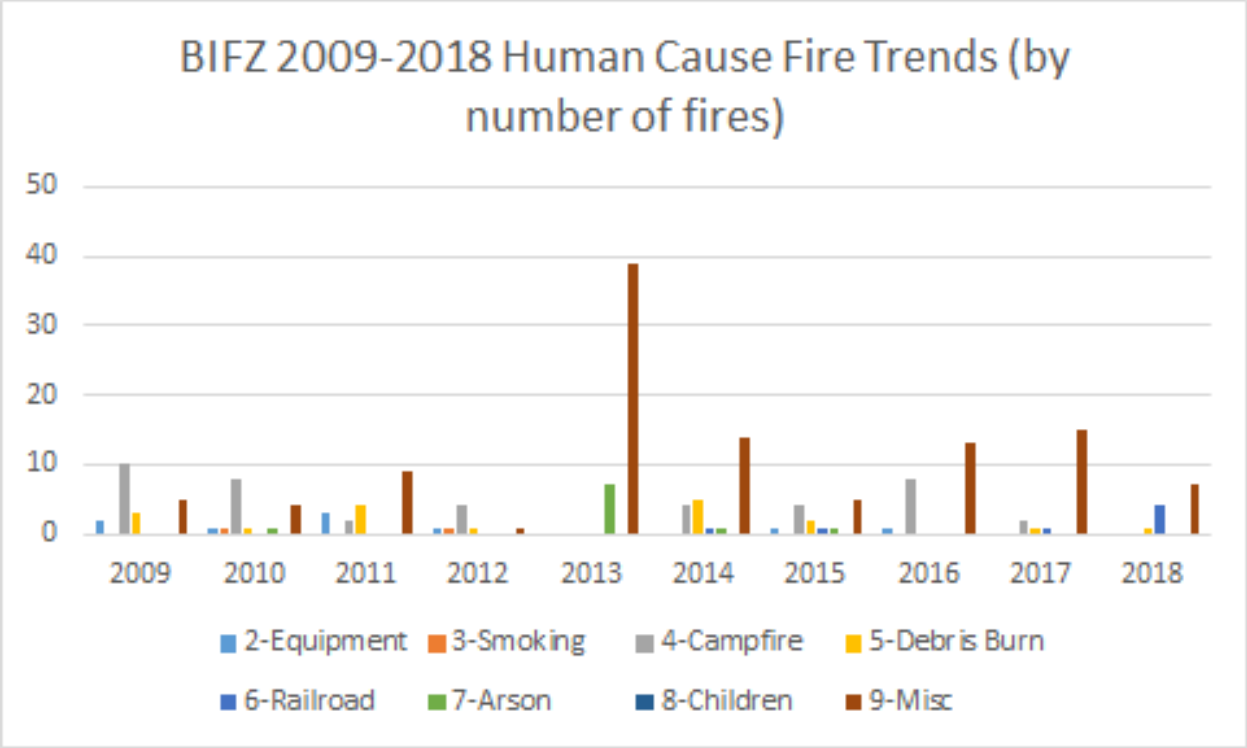


Figure 1: Human Caused Number of Starts/Year

Table 2: Human Caused Acres Burned/Year

BIFZ Human Caused Fires by Cause Category & Acres (2009-2018)													
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	10 yr Avg	Percent
2-Equipment	1	0	13	28			1	0			42	4	0.07%
3-Smoking		33		1							34	3	0.05%
4-Campfire	12	1	2	1		1	4	3	0		24	2	0.04%
5-Debris Burn	269	0	78	300		485	1		285	13	1,431	143	2.29%
6-Railroad						0	182		14	78	274	27	0.44%
7-Arson		0			1	1	0				1	0	0.00%
8-Children												0	0.00%
9-Misc	724	5	287	3	4,563	35	149	23	53,789	1,228	60,805	6,080	97.12%
Total	**1,005**	**39**	**379**	**332**	**4,564**	**521**	**337**	**26**	**54,088**	**1,319**	**62,610**	6,261	100.00%

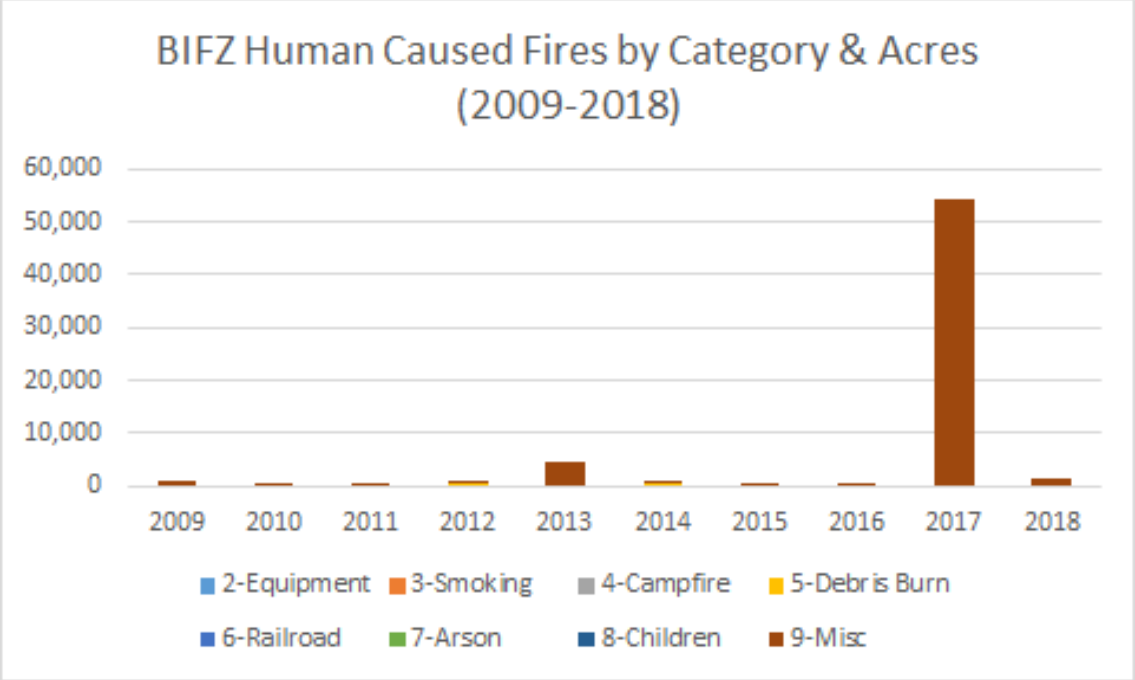
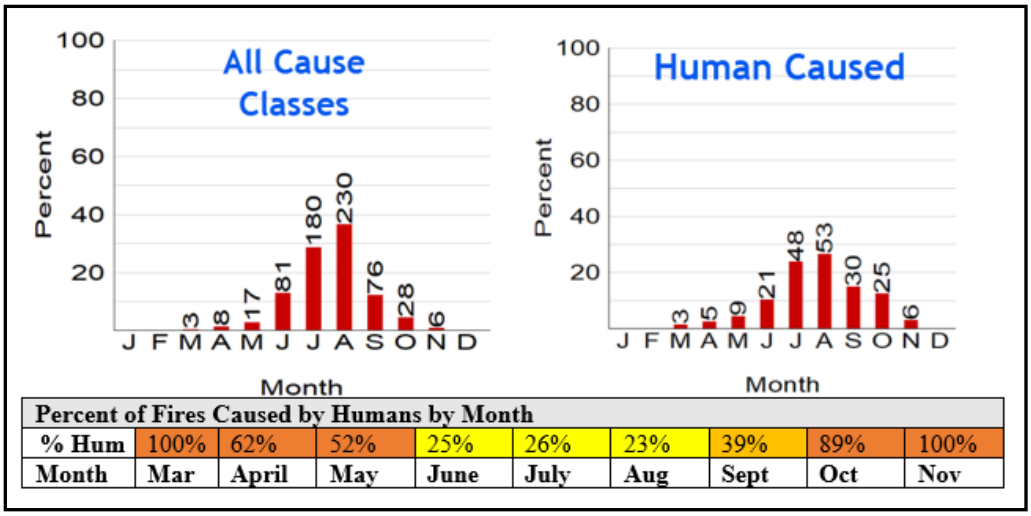


Figure 2: Human Caused Acres Burned/Year



Percent of Fires Caused by Humans by Month									
% Hum	100%	62%	52%	25%	26%	23%	39%	89%	100%
Month	Mar	April	May	June	July	Aug	Sept	Oct	Nov

Figure 3: Human Caused vs. All Causes by Month (Number of Starts)

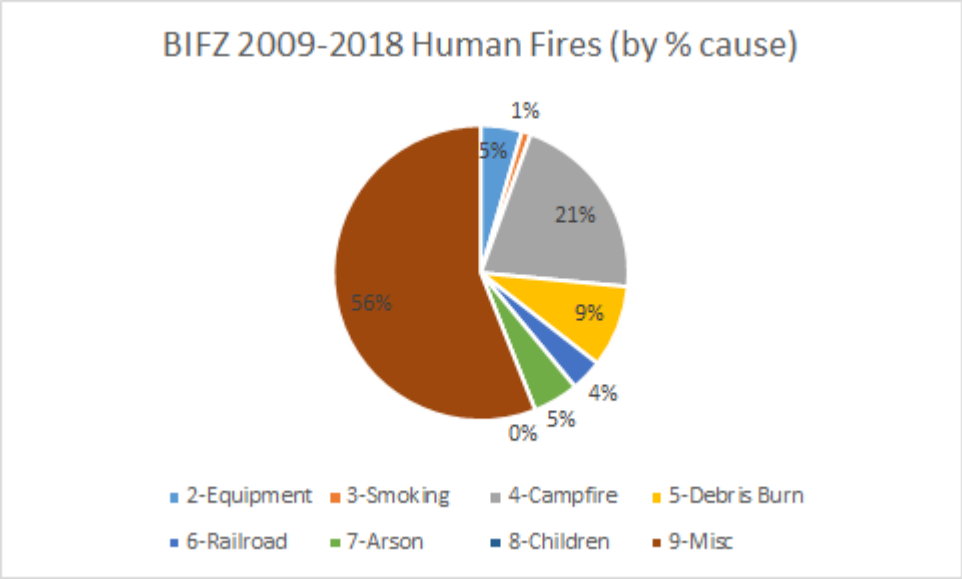


Figure 4: Proportion of Human Caused Fires by Cause Classes

IV. PREVENTION ACTIONS

The BIFZ District fire prevention and operation staff attend a variety of events each season. These events are general in nature and provide awareness to the public about preventing all unwanted human-caused wildfires. Recurring annual events are listed in the table below.

Event	Location	Month	Audience	Message	Lead
Burns/Hines F.D Headstart Program	Early Childhood Center Headstart	April/May	Youth and Educators		Prev Tech
Fire Wise/NFPA Community WF Awareness Day Burns/ Hines F.D.	Big R Parking Lot	May	Public	Fire Wise/Defensible Space	Prev Tech
Skull 120 Bike Race	Triangle Park/BLM/FS Land	June	Public Event		BLM Rec/ Chamber / Prev Tech
Get Outdoors Day	?	June	Children/Recreators	Campfires	Prev Tech
Independence Day Parade	Main Street	July	Public	Smokey, Fireworks	
Carp Derby USFWS / USFS	Malheur	July/Aug	Public Event		Prev Tech
Red Flag Program		May-Oct	Public		Prev/Mit-Ed/Dispatch
Harney County Fair		Sept	Public	Smokey, Hunting, Campfires	Prev Tech
National Public Lands day		Sept	Public/Volunteers		Prev / Rec Techs
Red Ribbon Week		Oct	Public/Children		Prev Tech

- Events occurring during these time frames may vary from year to year, depending on location and local, regional, and national themes.

- Programs targeting children typically focus on campfire safety, often with Smokey Bear, causes of wildland fires, and fire prevention, and generally utilize a BLM fire engine to discuss fire suppression.

- Members of Burns Interagency Fire Zone, in collaboration with other BLM and FS employees, coordinate with the local school districts to arrange school visits and student related events. Requests for presentations occur in the spring and early summer near the end of the school year. Outside of this time frame, the prevention staff make all attempts to accommodate local schools and every opportunity to present a fire prevention message.

Several methods can be used to inform and educate residents and visitors, including school programs, youth camp presentations, special events; school contacts made at the preschool level through the third grade have been shown to drastically reduce child-caused fires. Cooperation with local fire departments and government agencies will help facilitate this trend and allow access to children from the local area. For older audiences, fourth grade through high school, fire ecology and fire use education are effective educational methods.

Other educational opportunities include Home Assessment Guidelines and demonstration projects to involve the local community in creating defensible space using FIREWISE principles and concepts. In this regard, the use of volunteer groups is fundamental to the success of community-oriented programs. Also useful is the mass media approach, using local radio, TV, and print to promote the fire prevention message and to help create awareness and community involvement. The One Less Spark program has been a proven method of sending a consistent message State-wide.

Internally, BIFZ all employee meetings are an effective forum to communicate current fire prevention information within the agency. The knowledge transposed to our employees can then be passed on to the public.

V. SPECIFIC ACTIONS

Specific actions refer to prevention activities that target specific fire causes. Specific actions are more focused than general actions and their effort is quantifiable. The objectives for all cause codes are to maintain or decrease the incidents of human-caused ignitions.

Equipment Fires
Problem: Equipment fires account for 4.5% of all human caused fires and less than 0.5 % of all acres caused by human ignitions. ***Note that some the larger human fires that are in the Misc. Category are equipment fires under investigation*** The largest being 2012 Lone Pine Fire = 28 acres.
Action: • Oregon Department of Transportation – Vehicles – pub ed material at DMV and ODOT offices, Signage, and general material at rest areas along travel corridors. • Recreation – Trailer use, OHV, small motors/equipment – distribution of public education material recreational sites, public education material at local retailers • Powerlines – Right away maintenance with ID Power, Harney Electric, Oregon Trail Electric • Planning for water sources along transportation corridors • Coordination with Interagency Partners with IFPL
Method: Fire waivers, Land use stipulations, fire restrictions, pub ed, social media, One less spark campaign, BLM Community Assistance funding.
Target Audience: Sportsmen, Traveling public, Industry, Recreational Users

Smoking
Problem: Fire associated with smoking account for 1.0% of all human caused fires and less than 0.5% of all acres caused by human ignitions.
Action: • Continue public education through general action. • Work with co-operators on messaging.
Method: General actions
Target Audience: General public
Focussed Message: Proper disposal of tobacco products

Campfires
Problem: Escaped campfires account for 21% of all human caused fires and 0.04% of all acres caused by human ignitions. Escaped Campfires is the biggest fire workload outside fire season. The largest being the Columbus fire in 2009 = 11 acres.
Action: • School Programs • Hunter education from above • Working with State Parks and BOR on proper disposal with coals and ash.
Method: fire restrictions, patrol and enforcement all users.
Target Audience: Campers, cooking, warming, Recreational users
Focused Message: Proper campfire use at dispersed sites, unattended fires

Debris Burning
Problem: Escaped fires associated with debris burning account for 9% of all human caused fires and 2.29% of all acres caused by human ignitions. The largest being the Glass Butte Fire in 2014 = 445 acres
Action: • Working with local municipalities on coordination with burn ban and fire restrictions. • Public outreach events in spring in the fall
Method: Fire restriction and general actions
Focused Message: Ditch burning, agricultural

Incendiary/Arson Fires
Problem: Arson fires account for 5% of all human caused fires and 0.00% of all acres caused by human ignitions. This number may be higher due to the difficulty of proof. Many arson fires fall into the MISC cause category during investigation period. The largest being Late fire in 2014 = 0.5 acres
Action: ● Coordination with Law enforcement agencies and local fire departments.
Method: General actions, patrols, enforcement
Focused Message: Civil penalties

Railroads
Problem: We have no railroads although we have some fires showing up as being Railroad fires due to poor reporting.
Action: ● General Actions
Method: Educate IC's and dispatchers involved with fire reporting
Focused Message: N/A

Children
Problem: Fires associated with children account for 0% of all human caused fires and 0% of all acres caused by human ignitions.
Action: ● School programs
Method: General actions
Focused Message: Fire play, fire safety

Miscellaneous - 9
Problem: Miscellaneous fires account for 56% of all human caused fires and 97.12% of all acres caused by human ignitions. This cause category also includes those fires where cause could not be determined. Arson and equipment fires are the most undetermined of all other causes. The largest being 2017 Cinder Butte = 52,464.1 acres (still under investigation by neighbouring district).
Action: • Municipal cooperation with agriculture related spontaneous combustion • Safe Shooting – Hunter education fire safe shooting ODFW, signage with Vale Rural Fire Department on shooting area identification, pub ed material at local retailers • Cutting and welding associated farm and ranch activities. • Firework education and coordination with Rural Fire Departments during special events • Aerial illumination coordination with State of Oregon • Improve quality of fire investigations and techniques to reduce the number of undetermined.
Method: One less spark, school programs, fire restrictions, Community Assistance
Target Audience: All public land users
Focused Message: Varies

VI. PUBLIC EDUCATION

To properly inform and educate residents and visitors, many different methods can be used, such as school programs, youth camp presentations, special events, and homeowner meetings.

School contacts made at the preschool level through the third grade have been shown to drastically reduce child-caused fires. Close cooperation with local fire departments and cooperating agencies will help facilitate this trend and allow access to children from the local area. For older audiences, fourth grade through high school, fire ecology and fire use education are effective educational methods.

TARGET GROUP	MESSAGE	METHOD
Grades Pre K – 3	Safety Prevention Smokey's 5 Rules Respect for Fire	Smokey visits, school presentations, boy/girls camps, events, elders visit, Fire Ed materials, assemblies Use games, pictures, role play, reading, poster contest
Grades 4 – 6	Safety Prevention Respect for Fire	Smokey visits, school presentations, boy/girls camps, events, elders visit, Fire Ed materials, assemblies Use games, pictures, role play, reading, poster contest, a play, reading Fire Ed materials and lessons to teachers
Grades 7 – 8	Fire Ecology Respect for Fire Fuels Treatments Community Fire Planning Responsible Recreation	Burning Issues Fire Ecology Fire Ed materials and lessons to teachers Patrol Contacts
Grades 9 – 12	Consequences of arson Respect for Fire Community Fire Planning Responsible Recreation	Monitoring project (burned area or fuels Rx project) Mentoring program Research on history of fire use Research of ecological effects Fire Ed materials and lessons to teachers Patrol Contacts
Young Adults	Consequences of arson Defensible Space Respect for Fire Responsible Recreation	Media Events Booths Patrol Contacts
Adults	Defensible Space Debris burning safely Consequences of arson Responsible Recreation	Media Individual contacts Patrol Contacts
Communities	Defensible Space	Media Community presidents
Visitors	Prevention Fuels treatments Evacuation procedures in campgrounds Responsible Recreation	Media Signage Patrol Contacts Brochures and Info in Visitor Centers

VII. SIGNING

The increased use of our wildlands escalates the risk of fire ignitions that threaten and damage human life, homes, property, and natural resources. The challenge is to proactively implement effective prevention patrols in high risk, hazard, and value areas during periods of increased fire danger with limited resources.

The BIFZ prevention staff has identified high use areas and major travel corridors as key locations to place prevention messages to educate public land users. Signs are specific to human life and safety and natural resource priorities. They are designed for seasonal messages such as fire restrictions, closures, and special events. More information is available within the BIFZ Sign Plan (Appendix E).

VIII. PATROLS

The primary responsibility of the fire prevention patrol is to make individual contacts with residents and visitors, increasing overall awareness throughout the Burns Interagency Fire Zone regarding fire prevention, fire restrictions, recreational activities, etc. This is accomplished during fire season by seven-day-a-week coverage by fire prevention staff contacting hunters, fishers, campers, off-highway vehicle (OHV) users, sightseers, outfitters, and wildland urban interface homeowners. Thorough documentation with these contacts should be gathered daily documenting information regarding place, time, activity, etc.

Patrol routes are selected placing emphasis on areas of high visitor use and corresponding areas of high fire danger. The primary purpose for the patrol unit is to be seen in areas of person-caused or in areas with high probability of fire ignitions. Routes are normally patrolled on holidays, during special events, when fire restrictions are in place, and on an as needed basis. Assistance from the agency (DOI or FS) law enforcement officer (LEO) may be requested and will be based on their availability, the severity of the current situation, and the nature of the event. Agency LEOs may establish their own routes and timeframes based on their availability. Agency coordination with the Harney County Sheriff's office is recommended to improve patrol efficiencies.

IX. FIRE RESTRICTIONS

The purpose of fire restrictions is to reduce the risk of human-caused fires during unusually high fire danger and/or burning conditions. Fire restrictions impose many limitations on the public, and therefore should be implemented only after all other prevention measures have been taken. Measures to consider are increasing the number of prevention signs, public contacts, media campaigns, etc. Fire restrictions are only considered when very high or extreme fire danger is predicted to persist, or the Zone is experiencing a high number of human-caused fire occurrences. Restrictions should not be considered the prevention program.

A detailed plan describing purpose, authorities, procedure, and implementation are described in the BIFZ Fire Restrictions and Closure Plan (Appendix F).

X. INVESTIGATIONS

It is agency policy that fire cause determination be integrated into fire prevention programs. Accurate identification of wildland fire cause is critical to the success of the fire prevention program. It is essential to understand the local human-caused fire issues to address specific fire causes and actions to reduce them. The results of successful cause determination and investigations help define local issues and target future prevention strategies, and are the foundation for issuance of trespass to responsible parties for cost recovery of all fire management actions.

XI. FIRE INFORMATION

The release of information to the public related to incidents within the Burns Interagency Fire Zone is implemented through the Public Affairs Officers (PAO) at Burns District BLM and Malheur National Forest. Fire prevention messages should be during key changes in fire conditions, implementation of fire prevention orders, and when there is an increase in threat of specific fire causes.

APPENDIX E - SIGN PLAN

I. SIGNING STRATEGY

Prevention signing strategies are designed to deliver an overall message of wildfire prevention and also specifically target common and historic causes specific to the Burns Interagency Fire Zone (BIFZ) with unique and seasonal signage related to those areas where those signs are posted. They may also be used to focus on agency-wide efforts for targeted messaging in wildfire prevention. The BIFZ Fire Prevention Sign Plan describes the current signing strategy and discusses potential needs for additional signs and posters.

Signing is a technique used to convey wildfire prevention messages and provide visual information/education concerning a variety of wildfire prevention needs to general and specific public audiences. Signing must be completed in a timely and consistent manner to help prevent human-caused fires and support enforcement and fire trespass actions. The fire mitigation specialist integrates signing into the wildfire prevention programs and helps identify specific signing requirements and updates to this plan. Generally, sign messages will be consistent with the current fire danger and risks associated with historical human-caused fires on the Zone.

This plan contains information concerning when, where, and how to convey wildfire prevention messages to public land users. A complete inventory of fire prevention sign boards within the District is included along with special remarks for posting and maintenance purposes. A portion of the plan will provide instructions to be followed for each situation listed.

II. SEASON SCHEDULE

Fire prevention signage varies throughout the year as fire danger conditions change throughout the year. The following is the typical progression of seasonal signage.

A. SHOULDER SEASON POSTINGS.

Installation normally occurs in late March/early April. Fire indices during the shoulders of the fire season in spring and fall vary from the Low to High ratings. There are usually no District-level fire restrictions in effect at this time.

Starting in May, a regional fire prevention order is typically in effect that prohibits the use of fireworks, exploding targets, and other activities not allowed on public lands. This order is typically not posted throughout the District but is circulated via email to all internal and external contacts and the media.

In early spring and late fall, normal posting will caution the public of the hazards of fire, with reminders including (but not limited to) extinguishing campfires, not burning when windy, and limiting sparks.

B. FIRE RESTRICTION POSTINGS

Zone fire restrictions normally occur each fire season as fire danger indices rise. This occurs typically within the month of July and remains in place into October. During this time, specific prevention signage, posters, and handouts are distributed to various locations based on human-caused ignition trends.

C. SIGN REMOVAL

When fire restrictions are rescinded all fire restriction notices and posters will be replaced. Shoulder fire season messages will remain on the sign structures until the end of fire season, typically into November. At the end of the fire season, prevention signs will be removed as fire danger conditions diminish.

III. FIRE RESTRICTION POSTINGS

Zone fire restrictions normally occur each fire season as fire danger indices rise above thresholds identified in the Preparedness Plan. Fire restriction notices should be posted at campgrounds, select offices, businesses, and sign structures to make them effective. Along with the official notices, signs and custom posters instruct the public of what is restricted or allowed on public lands. The Zone will strive to have all signs changed and locations posted prior to the initiation date of the fire restrictions and removed accordingly when restrictions are rescinded. Locations of permanent sign structures are identified on the maps provided. Additionally, as conditions warrant, sign posting locations increase to include post offices, rest areas, city halls, and other commonly visited public locations.

Supplemental Restriction Signing

Temporary sign boards can be placed in various locations to supplement existing signage for better coverage during periods of fire restrictions on the Zone.

IV. SIGN CATEGORIES AND MESSAGING

A. THREE CATEGORIES OF SIGNS HAVE BEEN ESTABLISHED FOR BIFZ:

1. Fire Danger Rating / IFPL
2. Wildfire prevention / zone entry sign structures (“portal” signs)
3. Fire restriction signs

Prevention signs and posters should be chosen and installed in a manner that effectively conveys a wildfire prevention message in a positive manner.

Messages should fit both the location and the current season. Changes in fire conditions should also be considered when choosing an appropriate message. Careful choice of which type of message to post is important to the success of the signing effort.

B. MESSAGES ARE OF THREE TYPES:

1. Informational – Advise public on ways to prevent wildfires.
2. Regulatory – Advise public on requirements to comply with laws and regulations.
3. Prohibitive – Clearly state what acts or type of fires are prohibited.

**More detail on sign categories and recommended messaging is listed below in section VII.*

V. SIGN INSTALLATION AND MAINTENANCE

A. INSTALLATION AND SIGN SPECIFICATIONS

- Before installing a new sign structure, obtain appropriate clearances from local, county, State, and Federal agencies. Maintain a file of permits for all signs requiring permitting.
- Height – The bottom of the sign should be a minimum of five feet above the level of the roadway.
- Lateral clearance – The distance from the roadway borrow pit to the sign edge should normally be between two and six feet. Ensure that signs are placed in a manner that does not create a hazard for vehicles, drivers, or pedestrians.
- New sign structures should be placed in a manner that avoids “sign clutter.” Too many signs or messages can create information overload, nullifying the effect of the fire prevention message.
- Whenever possible, new sign structures should be placed away from other regulatory or informational signs.
- Locations to avoid:
    - dips in roadway
    - just beyond the crest of a hill
    - where sign obstructs sight distance
    - where foliage would encroach on site
    - where sunrise or sunset would obscure the message

B. MAINTENANCE

Sign structures will be maintained in good condition. Painting, staining, and other appropriate maintenance will be routinely performed, as necessary.

Sign structures will be kept clear of vegetation that obstructs the view of the sign, causes damage to the sign, or creates an “uncared for” appearance. Dispose of

trimmings and cutting by scattering and spreading away from the sign. Where vegetation is mechanically removed, mitigate negative visual impacts by dirt, camouflage, or other appropriate steps.

The fire prevention lead will ensure all sign structures are routinely inspected throughout the field season and will maintain documentation of these inspections. Fire operations supervisors (FOS) will ensure that their respective engine captains (EC) routinely inspect and document inspections of sign structures during patrols. Engine captains and the fire prevention lead will maintain positive communication to ensure that required repairs are performed in a timely manner. (Refer to appendices 1 and 2 for sign locations and FOS areas of responsibility.)

Damaged or vandalized sign structures will be repaired as soon as feasible. Vandalism will be immediately reported to the law enforcement officer.

VI. ROLES AND RESPONSIBILITIES

A. FIRE PREVENTION LEAD:

- Will provide a copy of this plan to each fire operations specialist (FOS) and each engine captain (EC),
- Will provide training on this plan for the FOSs and ECs assigned to each of the three guard stations units (Frenchglen, Burns, Allison/Crow Flat),
- Will have overall responsibility for the implementation of this plan,
- Will update this plan annually by March 31, and
- Will provide the BIFZ FMO a written summary of all fire prevention signing activities, including expenditures incurred.

B. FOS:

- Will coordinate with the fire prevention lead to ensure that all provisions of this plan are strictly adhered to,
- Will be responsible to ensure that duties assigned to FOSs and ECs are carried out and will ensure that each EC has a copy of this plan as part of their seasonal work binder,
- Will ensure all required personnel receive annual training on this plan,
- Have responsibility for assigning maintenance inspections and repairs for the sign locations, and
- Will ensure that messages are selected and rotated as requested by the fire prevention lead. The FOSs will ensure that ECs promptly return unused or rotated posters to the appropriate storage area, as there is a limited supply to cover the entire District.

C. EC:

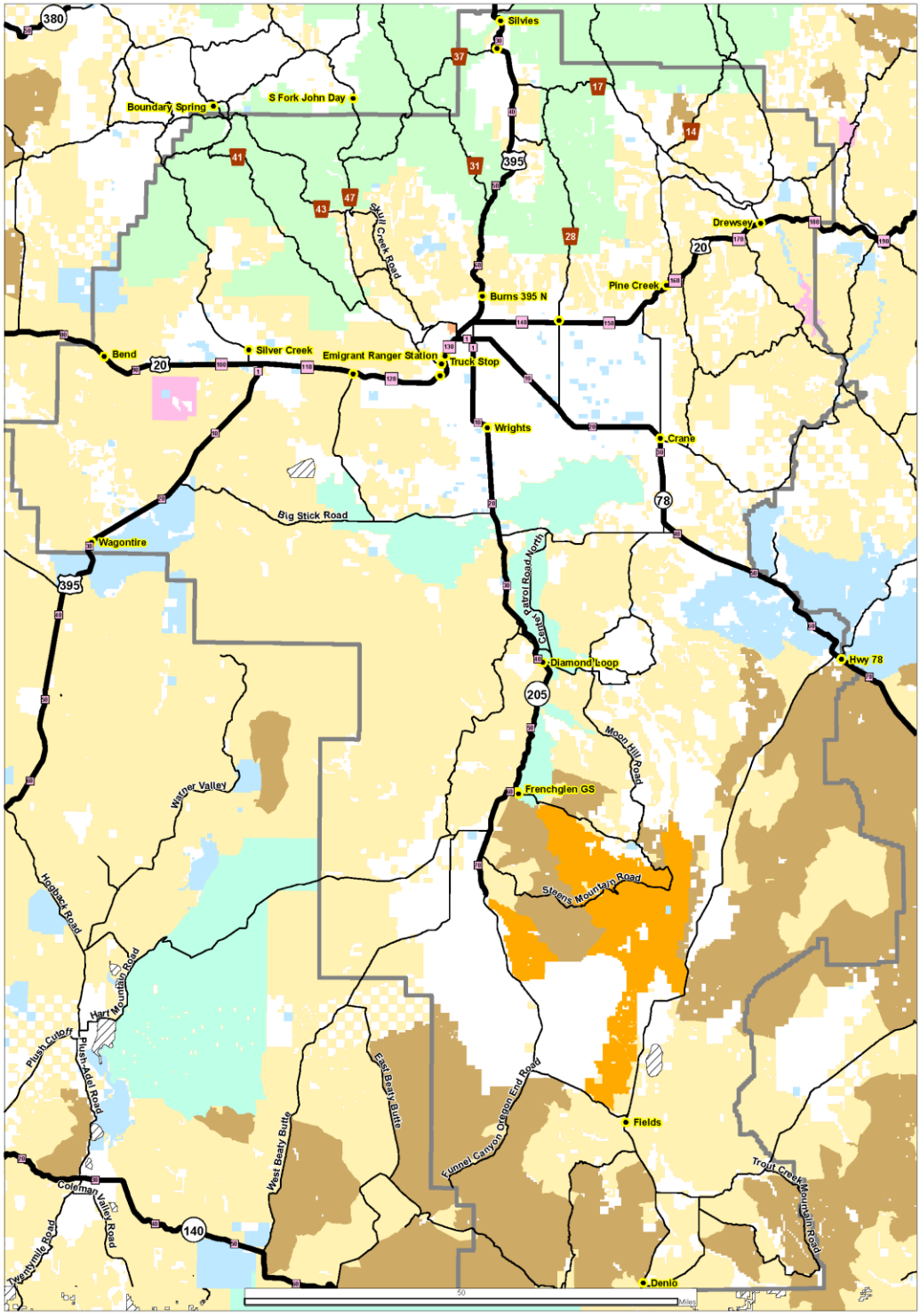
Will carry out work assignments outlined in this plan, through direction of their respective FOS.

The EC, with approval from the FOS, should, at minimum, ensure that the following activities are conducted while on patrol:

- Ensure messaging is timely and accurate given current fire danger/restrictions,
- Replace posters to maintain a fresh look and applicable message (see Table 1 below),
- Make necessary repairs to existing sign structures,
- Ensure sign area is free of vegetation and clearly visible from the road,
- Install new sign structures as needed (replace old signs, identify new locations, etc.),
- Compile data for annual sign update,
- Immediately report structural damage and vandalism, and
- Return posters taken down (rotated) and unused posters promptly to the respective storage area for re-use, as there is a limited supply to cover the entire zone.

Table 1: BIFZ Sign Locations, Descriptions and Responsibilities

ID #	Location	Sign Type	T/R/Sec	Responsible Resource
1	Wagontire	Metal	27S 24E 07	Burns BLM
2	Bend	Metal	23S 24E 29	Burns BLM
3	Vale	Metal	20S 36E 36	Burns BLM
4	Hwy 78 South	Metal	29S 37E 16	Refuge
5	Denio	Metal	41S 35E 17	FG
6	N. Silvies	Metal	17S 31E 11	FS
7	OO Ranch	Poster	24S 29E 06	Burns BLM
8	Silver Creek	Poster	23S 26E 24	Burns BLM
9	Truck Stop	Poster	23S 30E 26	Burns BLM
10	Wrights Point	Poster	25S 31E 03	Burns BLM
11	Rattlesnake	Poster	22S 32E 36	Burns BLM
12	Drewsey	Poster	20S 35E 36	Burns BLM
13	Crane	Poster	25S 33E 12	Burns BLM
14	Pine Creek	Poster	22S 34E 07	Burns BLM
15	Diamond	Poster	29S 31E 23	Refuge
16	Frenchglen	Poster	32S 32E 02	FG
17	Fields	Poster	38S 34E 13	FG
18	Boundary Spring	Poster	18S 26E 32	FS
19	S. Fork John Day	Poster	18S 28E 25	FS
20	Devine	Poster	22S 31E 22	FS
21	Silvies Valley Ranch	Poster	17S 31E 26	FS
22	BLM Dist. Office	Poster		Prevention Lead
23	USFS Dist. Office	Poster		Prevention Lead
24	Frenchglen GS	Poster		FG
25	Folly Farm	Poster	Same as "Hwy 78 S"?	Refuge
26	Fields Y	Poster		FG
			Burns Responsibility	
			FS Responsibility	
			FG Responsibility	
			Refuge Responsibility	


Silvies
S Fork John Day
Boundary Spring
Skull Creek Road
Drewsey
Pine Creek
Burns 395 N
Bend
Silver Creek
Emigrant Ranger Station
Truck Stop
Wrights
Crane
Big Stick Road
Wagontire
Patrol Road North
Center
Diamond Loop
Hwy 78
Moon Hill Road
Frenchglen GS
Warner Valley
Steens Mountain Road
Highland Road
Hart Mountain Road
Plush Cutoff
Plush-Adel Road
East Beaty Butte
West Beaty Butte
Fields
Funnel Canyon Oregon End Road
Trout Creek Mountain Road
Coleman Valley Road
Twentymile Road
Denio
50
Miles
PREVENTION SIGN LOCATIONS
Prevention Signs
Highways
Not All Roads Are Shown
Burns District Boundary
Bureau of Land Management
U.S. Forest Service
U.S. Fish and Wildlife Service
State
Bureau of Indian Affairs
Other Federal
Local Government
Privately Owned
Undetermined
BLM Wilderness Study Area
Steens Mtn Wilderness

VII. SIGN TYPES AND SUGGESTED MESSAGING BASED ON FIRE DANGER ADJECTIVE CLASS

A. ADJECTIVE RATING SIGNS

The Burns Interagency Fire Zone maintains three of these signs. These signs inform the public of the current level of fire danger from low to extreme. They are located at the Burns District BLM Office, the Emigrant Creek Ranger District, and at the Frenchglen Guard Station. Please refer to BIFZ Sign Inventory item numbers 1, 2, and 18.

It will be the responsibility of the fire prevention lead to ensure current information is displayed on sign locations 1 and 2 above, and to seek the help of the FOSs to ensure the two signs are kept current. The Frenchglen FOS will be responsible for ensuring current information is displayed on sign location 18, referred to above.

In the event that the assigned personnel are unavailable to maintain current information due to fire duties, the fire prevention lead may request assistance from the logistics coordinator, Division FMO, or FMO.

These signs will be maintained throughout the field season of April 1 through October 31.

B. IFPL SIGN

IFPL signs are located outside the Emigrant Creek Ranger District Office and in front of BICC (along Highway 20).

The fire prevention lead will ensure that this sign reflects the correct IFPL. The Burns Interagency Communications Center (BICC) is responsible for disseminating information through the daily fire weather forecasts. **Note: the sign must be changed the day that a change in the IFPL takes effect.**

C. FOURTH OF JULY – INDEPENDENCE DAY SIGNING

Federal regulations for both the USFS and the BLM prohibit possession, discharge, or use of any kind of firework or pyrotechnic device on Federal land. (36CFR261.52(f) and 43CFR9212.1(h) are the Federal regulations that cover the USFS and BLM, respectively.)

Poster #51.75.1 “No Fireworks” (12” x 14”) or poster #51.75.3 “No Fireworks” (42” x 34”) must be posted by not later than June 23 at every poster sign location. The smaller signs will be posted at campgrounds by recreation technicians with engine captain assistance if requested. The fire prevention lead will coordinate with the recreation coordinator.

D. EXTREME FIRE DANGER SIGNING

When the IFPL reaches level III or above, sign #P51-2 "Extreme Fire Danger – Please Be Careful" (44" x 34") should be posted. This does not necessarily predicate a campfire prohibition.

Extreme fire danger does not necessarily have specific rules or regulations that go with it, though the above sign is appropriate for all locations at level III or above.

E. CAMPFIRE CLOSURE SIGNING

When fire danger on public lands dictates, the district manager and/or forest supervisor may issue a prohibition on campfires. This prohibition may include all fires or allow for fires in designated campgrounds. The specific order will indicate where camp fires are allowed, if any.

The appropriate signs are P51-71.1 (12" x 14") and P51-71.3 (42" x 34"), which are appropriate for all designated sign locations.

The metal signs "FIRE RESTRICTIONS NOW IN EFFECT ON PUBLIC LANDS" will also be mounted at each Burns Interagency Fire Zone entry point (portal signs).

F. SUGGESTED SIGN MESSAGING BASED ON FIRE DANGER

LOW fire danger rating:

Keep Fires Small
Think…Is It Out?
Drown-Stir-Drown
Please Do Not Litter
Keep Our Environment Healthy
Protect Your Hunting, Mining, and Timber

MODERATE fire danger rating:

This…Or…This?
A Careless Match Destroys
Wildfires Destroy Green Forests

HIGH fire danger rating:

Wanted: Your Campfire Dead Out
Preventing Wildfires is Good Business
Help Prevent Wildfires

VERY HIGH fire danger rating:

Crush Smokes
Required for Camping on Undeveloped Sites
State Law Says No!

EXTREME fire danger rating:

Spark Arrestors Required
Smoking in Campgrounds Only
Extreme Fire Danger
Extreme Fire Hazard
Extreme Fire Danger, Please Be Careful

APPENDIX F - RESTRICTION AND CLOSURE PLAN

I. PURPOSE

The purpose of fire restrictions and emergency closures is to reduce the risk of human-caused fires during periods of elevated fire danger and/or burning conditions. Fire restrictions address limitations on specific activities or uses of public lands. Restrictions impose many limitations on the general public and should be implemented only as a portion of an ambitious and successful prevention program. Consideration for the implementation of restrictions and/or closures is a dialogue initiated by BIFZ (Burns Interagency Fire Zone) fire staff and the respective agency administrator based upon NFDRS principles. When the BIFZ local preparedness level reaches a 3 (PL3) it is recommended these discussions begin with the "BIFZ Preparedness Level Worksheet" (Appendix A) utilized to facilitate discussions to make restriction/closure decisions. Currently, there is not a coordinated interagency set of restrictions/levels (or actions) used by the participants of this plan.

To address public use restrictions (PUR), the Emigrant Creek Ranger District is utilizing the "phase" PURs of the Malheur National Forest (Attachments 1 and 2), and the BLM is utilizing case-by-case restrictions/closures (Attachments 3 and 4). Rarely does the Malheur National Wildlife Refuge implement restrictions/closures as most ground is not accessible to the public.

Industrial use restrictions (including permitted firewood cutting) on public lands within BIFZ are controlled by "Industrial Fire Precaution Levels" (IFPL): a 4-tier regulation system (Attachment 4). Current and prior IFPL are based on the precaution value, a function of indices calculated by the 1978 NFDRS model. Discussions are ongoing regarding how the IFPL will be calculated using 2016 NFDRS models.

Going forward within BIFZ, a full adoption of 2016 NFDRS models for all restriction tools/models will facilitate building better coordinated PURs and industrial restrictions across jurisdictional boundaries.

II. AUTHORITY

Since Burns Interagency Fire Zone is a partnership of three agencies (BLM-DOI, USFWS-DOI, and FS-DA), authority for fire restrictions and closures varies by the jurisdictional agency. For each of the agencies within BIFZ, the authority to implement restrictions and closures is delegated to the respective agency administrator.

On the BLM side, the Burns District Manager is delegated the responsibility from the Oregon/Washington State Director to ensure the completion of all appropriate documents and enforce restrictions and closures for BLM-managed public land within the Burns District boundaries under the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701, et seq., sections 302(b) and 301(a)), 43 CFR 9210 (Fire Management), and 43 CFR 9212

(Wildfire Prevention). The BLM District Manager also has the delegated authority to implement restrictions on Bureau of Reclamation lands within the BIFZ. In accordance with Interagency Agreement Number R14PG00092, between the Bureau of Reclamation Pacific Northwest Region and the Bureau of Land Management Oregon/Washington State Office for wildland fire suppression and related services, the district manager has been given the authority to issue, post, and enforce compliance for fire prevention orders on Bureau of Reclamation (BOR) lands within the Pacific Northwest Region. Coordination with the BOR must take place prior to the decision to implement restrictions and continue throughout until the order is lifted. The prevention order and signage are from both agencies. Bureau of Reclamation disseminates and posts the order through BOR chain of command and processes.

The Forest Service's authority for fire related restrictions and closures is based in Title 36 of the Federal Code of Regulations (CFR) Subpart A – General Prohibitions, § 261.5 Fire (Link). Closures on the Emigrant Creek Ranger District are done in coordination between the district ranger and the forest supervisor.

The project leader of the Malheur Refuge (U.S. Fish and Wildlife) has the authority to restrict activities or access to areas in times of high fire danger (Link).

III. PROCESS FOR FIRE RESTRICTIONS

Before the onset of the fire season, the agency administrators, law enforcement officer (LEO), fire managers, and public information personnel should review and validate the Restriction and Closure Plan and applicable agency documents.

A. INITIATION

When the fire danger conditions within an area approach critical levels, fire managers within the restriction area should begin planning for the initiation of fire restrictions. The planning process for restrictions may include a public awareness campaign to notify and keep the public informed, utilizing media outlets. The fire mitigation specialist (FMS) should coordinate all restriction actions.

The FMS will initiate discussion with the fire management staff regarding the need to implement restrictions within specified areas as fire danger conditions change (utilizing the BIFZ Preparedness Level Worksheet to address changes in fire danger). The FMO will be responsible for facilitating discussion among the agency administrators and law enforcement officers. This group should decide to implement or rescind area restrictions together, as needed. The respective agency administrator has the final decision on the initiation and rescission of fire restrictions and closures.

Coordination should be started early enough so BIFZ partners and neighboring agencies have time to plan, properly distribute the restriction documents, and notify the public.

B. IMPLEMENTATION

The FMS will coordinate approval of all agency documents. The agency administrator is responsible for assuring that documents are completed and signed and supporting documentation is complete. The agency administrator should allow a minimum of 48 hours to prepare for restrictions before the restriction goes into effect. It is recommended that restrictions should not go into effect for a week in advance to allow for proper posting, dissemination, and coordination of the order.

The FMS should also coordinate public notification with the respective agency's public affairs officer (PAO). Each restriction and closure plan may include a media communications process. The media release must be clear and concise and understandable by the general public. Each area will be posted with signs and notifications to inform the public of the restrictions. The FMS and PAO are responsible for informing employees of the restrictions. Those responsible for public contact must be familiar with and have copies of the restrictions.

Once a restriction is in effect, all persons regardless of employment, origin, permit, or authorized activity must comply with the restrictions, unless a written authorized fire waiver is in place.

Changes to the orders may occur as conditions warrant a change. Modifications to the orders should be passed through the Law Enforcement Division. An example fire restriction order that includes the uses that have been restricted historically is included at the end of this plan for reference.

C. RESCISSION

Rescission of restrictions should be discussed when conditions moderate (this process will be initiated by the FMS). When the agency administrator decides that restrictions should be removed, the FMS and PAO may coordinate the release of information to the public, cooperators, and agency employees. Upon rescission, all procedural requirements should be completed within 48 hours.

IV. CLOSURES

Closures are the closing of an area or areas to entry or use. Emergency closures have an extreme impact on the public and fire agencies and are discouraged except under the most severe conditions. Closures should be implemented only in situations where the public's safety cannot be guaranteed. Closures are not justified by fire danger alone but should be driven by the potential for risk to life and safety due to extreme fire behavior, high potential for human-caused fires, severe shortages of resources, and/or numerous large fires.

When conditions exist that threaten firefighter and public safety, the agency administrator can implement closures. Small-scale closures can also be implemented and can be used for isolated areas where public and firefighter safety is a concern. Implementation, rescission, and public notification of closures that occur should be conveyed to adjacent Federal, State, and local agencies, and the Oregon /Washington State Director.

Key determining factors for implementing closures include:

- Potential loss of public life or property due to extreme fire conditions,
- Potential for extreme fire behavior that may put firefighter and public safety in jeopardy,
- Fire restrictions being ineffective in reducing the number of human-caused fires, and/or
- Resources across the geographic area being at a critical shortage level.

V. FIRE RESTRICTIONS BASED ON GEOGRAPHIC ZONES

To target areas of need and not implement restrictions within areas with conditions that don't warrant these precautions, its recommended to utilize Geographic Area for the implementation of restrictions. Currently the FDRA's (Fire Danger Rating Areas) identified within this plan are the best features to utilize for this effort.

A. RESTRICTION SPECIFICS

Once a geographic area is chosen, managers should decide which activities to restrict. The Industrial Fire Precaution Levels (IFPL) can be used as a reference in deciding which activities to restrict. However, careful consideration should be given as to the types of public uses on BLM and BOR lands that warrant restrictions. This decision should be based on historical human-caused fire statistics on the unit, neighboring restrictions from partner agencies, and current or anticipated threats based on current or expected public use.

Public use activities to consider:

- Fireworks
- Campfires and torches (open flame)
- Charcoal grills
- Portable braziers, stoves, heaters, and smokers (gas, electric, and wood-fired)
- Smoking
- Debris burning
- Shooting (tracer ammunition, incendiary ammunition, flares, metal targets, and steel component ammunitions)
- Exploding targets and other incendiary devices
- Chainsaw use

- Cutting, grinding, or welding
- Gasoline powered equipment and small engines (such as generators) and electrical power tools
- Off-road vehicles and travel (including the use of e-bikes)
- Aerial luminaries (sky lanterns)
- Industrial operations (logging, mining, blasting, mowing, energy production)

VI. INDUSTRIAL FIRE PRECAUTION LEVEL

Industrial Fire Precaution Levels are fire prevention measures issued in collaboration with several agencies within Oregon counties, primarily with the United States Forest Service (USFS) and the Oregon Department of Forestry (ODF). These restrictions can assist agencies in reducing human-caused fires associated with industrial operations by restricting certain activities across jurisdictional boundaries. Within BIFZ, IFPLs are posted along with Adjective Fire Danger Rating Levels at "Smokey" signs. The IFPLs are utilized within BIFZ to implement restrictions to industrial activities as well as personal use wood permit sales on FS and BLM lands. More information on IFPL can be found at ODF Fire Restrictions and IFPL: https://www.oregon.gov/ODF/Fire/Pages/Restrictions.aspx

VII. COMMUNICATION

Appropriate agency PAO's will facilitate communication of changes in restrictions and/or closures within BIFZ by utilizing their contact groups/web resources. The following administrative agencies are potential additional recommended contacts to be notified of impending restrictions, dates, maps of restriction areas, etc. prior to releasing the information to the public. This will be accomplished by the key members identified in this plan. However, it is also the responsibility of every employee to contact the members of key external contact groups within their respective area of influence prior to an official release. This includes, but is not limited to, permit holders, contractors, partnering agencies, local governments, right-of-way holders, and key local businesses.

Fire Departments:

- Harney County Emergency Management Coordinator
- Harney County Fire Chief

Law Enforcement Agencies:

- Harney County Sheriff Department (Dept.)
- Malheur County Sheriff Dept.
- Grant County Sheriff Dept.
- Lake County Sheriff Dept.
- Oregon State Police

State and Local Agencies:

- Oregon Dept. of Transportation
- Oregon Dept. of Fish and Wildlife
- Oregon Dept. of Forestry
- Oregon Dept. of State Lands
- Oregon State Parks

Neighboring Federal Agencies:

- Bureau of Reclamation
- Malheur National Forest
- Vale BLM
- Winnemucca BLM
- Lakeview BLM
- Prineville BLM

Tribes:

- Burns Paiute Tribe

Rangeland Fire Protection Associations (RFPA):

- Frenchglen RFPA
- Riley - Silver Creek RFPA
- Juntura RFPA
- Wagontire RFPA
- Blue Mountain RFPA
- Lone Pine RFPA
- Crane RFPA
- Fields/Andrews RFPA

VIII. FIRE WAIVERS

The objective of granting a waiver is to allow an operator or permit holder to continue operating if the risk of ignition can be mitigated through one or, typically, more mitigation measures implemented to prevent fires. Depending on the restrictions listed in the prevention order, the mitigations in the waiver must adequately address the potential threat.

Fire restrictions and the use of fire waivers apply to all public land users including agency employees. The waiver process must be used prior to initiation or continuation of any field work that potentially violates a fire restriction(s). Before work is implemented, a waiver(s) must be submitted and approved. Copies of the approved fire waiver(s) must accompany the field-going personnel on the project. If waivers are not “in-hand” the project must cease work.

The zone or agency FMO (or acting) has the authority to approve fire waivers.

Attachment 1: Malheur FS "Phase" Restrictions (page 1)

Forest Service
Public Use Restrictions

United States Department of Agriculture
Pacific Northwest Region

A Guide for Understanding Malheur National Forest Fire Restrictions

For more information please contact your local Ranger District:

Blue Mountain Ranger District:541-575-3000

Prairie City Ranger District: 541-820-3800

Emigrant Creek Ranger District:541-573-4300

Campfire Safety

Campfires should be in fire pits surrounded by dirt, rock, or commercial rings, and in areas not conducive to rapid fire spread. Campfires should have a minimum clearance of a 3 feet from the edge of the fire pit. Please use existing pits wherever possible. Campfires must be attended at all times, and completely extinguished prior to leaving.

Persons with campfires should have a tool such as a shovel and one gallon of water in their possession. The shovel and water can be used to extinguish the fire before leaving your campsite. Use the "drown, stir, feel" method to ensure your campfire is completely extinguished before leaving.

Campfires in designated wilderness areas should be located so minimal disturbance is necessary to prevent fire spread. Naturally cleared areas, previously used sites, and areas where vegetation is non-flammable (green grass) are examples. Use of a folding shovel when backpacking will aid you in completely extinguishing your campfire.

Firewood cutting and chainsaw use

Firewood cutting on the Malheur National Forest is regulated two different ways.

Persons with a valid firewood cutting permit must follow the industrial fire precaution (IFPL) requirements. These requirements include additional tools, fire extinguishers, and a fire watch. More information on IFPL can be found in this brochure.

General firewood cutting for recreationists follows the Public Use fire restrictions. Information on these restrictions is outlined on the following pages. Firewood cutting activities during Phase B and C may occur only by obtaining a firewood permit and possessing the tools required under IFPL. IFPL may restrict firewood cutting for permit holders during Phase C, so ensure you know the current IFPL.

Phase A Public Use Restrictions

Fire danger is increasing during Phase A. Pay particular attention to having a safe campfire while recreating.

Camp Stoves. Use caution with cook stoves, ensuring they are not used near flammable vegetation. Charcoal briquettes are allowed, but ensure briquettes are completely extinguished after cooking.

Smoking is prohibited, except within an enclosed vehicle or building, a developed recreation site, or while stopped in an area of at least 3 feet in diameter cleared of all flammable material.

Chainsaws may be operated only between the hours of 8 p.m. and 1 p.m. local time. Persons operating a chainsaw are required to perform a 1 hour fire watch after using a chain saw to ensure no fire has started. Having a ax, shovel, fire extinguisher or water is also recommended. If you have a firewood permit, follow IFPL requirements.

Spark Arrestors. A properly working spark arresting device is required for any internal or external combustion engine used on the forest.

No off-road/off-trail vehicle travel . Vehicles may be parked within 10 feet of the roadway only in areas devoid of vegetation. Firewood permit holders follow IFPL requirements.

Phase B Public Use Restrictions

Fire Danger is nearing critical levels, and additional restrictions are in place to prevent fire starts.

Campfires allowed only in designated recreation sites listed on back side of this pamphlet. Campfires in designated recreation sites must be fully contained within the provided metal rings.

Petroleum gas and LPG cook stoves are allowed, charcoal briquettes are not allowed. Using fire fueled solely by these fuels must have a minimum three foot clearance to nearest flammable vegetation. These stoves have the ability to be turned off instantly, and are safer to use under these fire conditions.

Wood burning stoves are allowed when equipped with a chimney that is at least five (5) feet in length, with a spark-arresting screen consisting of ¼ inch mesh hardware cloth. Stove must be cleared of flammable vegetation within a five foot radius.

Smoking is prohibited, except within an enclosed vehicle or building, a developed recreation site, or while stopped in an area of at least 3 feet in diameter cleared of all flammable material.

Chainsaw use is prohibited. Firewood permit holders follow IFPL requirements.

Electrical generators are allowed when operated in a location cleared of flammable material. Generators must have a clearance of 10 feet in diameter. Self contained generators in recreational vehicles should ensure clearance around exhaust port on RV.

Spark Arrestors. A properly working spark arresting device is required for any internal or external combustion engine used on the forest.

No off-road/off-trail vehicle travel . Vehicles may be parked within 10 feet of the roadway only in areas devoid of vegetation. Firewood permit holders follow IFPL requirements.

Attachment 2: Malheur FS "Phase" Restrictions (page 2)

Phase C Public Use Restrictions

Fire danger is at critical levels and the public is asked to use extra caution while recreating.

Campfires not allowed anywhere on the forest.

Petroleum gas and LPG cook stoves are allowed, charcoal briquettes are not allowed. Using fire fueled solely by these fuels must have a minimum three foot clearance to nearest flammable vegetation. These stoves have the ability to be turned off instantly, and are safer to use under these fire conditions.

Smoking is allowed only in enclosed vehicles and buildings.

Chainsaw use is prohibited. Firewood permit holders follow IFPL requirements.

Electrical generators are allowed when operated in a location cleared of flammable material. Self contained generators in recreational vehicles should ensure clearance around exhaust port on RV.

Spark Arrestors. A properly working spark arresting device is required for any internal or external combustion engine used on the forest.

No off-road/off-trail vehicle travel. Vehicles may be parked within 10 feet of the roadway only in areas devoid of vegetation. Firewood permit holders follow IFPL requirements.

Designated Campgrounds List

Blue Mountain Ranger District
Wickiup Campground
Parish Cabin Campground
Starr Campground
Dixie Campground
Middle Fork Campground
Lower Camp Creek Campground
Magone Lake Campground
Deerhorn Campground
Oregon Mine Campground
Billy Fields Campground

Prairie City Ranger District
Strawberry Campground
Trout Farm Campground
Big Creek Campground
North Fork Malheur Campground
Elk Creek Campground
Crescent Campground
Little Crane Campground
Murray Campground
Slide Horse Camp
Slide Creek

Emigrant Creek Ranger District
Idlewild Campground
Yellowjacket Campground
Rock Springs Camp (T.18S. R.32E. Sec.24)
Delintment Campground
Falls Campground
Joaquin Miller Campground
Buck Spring Campground
Tip Top Campground

Recreation Rentals
Murderers Creek Cabin
Short Creek Guard Station
Deer Creek Guard Station
Sunshine Guard Station

Industrial Fire Precaution Levels: (IFPL)

What is IFPL?
IFPL regulates industrial activities such as logging and firewood cutting. It does not regulate any recreational activities on the Malheur National Forest.

Level I - Closed Season

Fire precaution requirements are in effect. A Fire Watch/ Security is required at this and all higher levels unless otherwise waived.

Level II - Partial Hootowl

The following may operate only between the hours of 8 p.m. and 1 p.m. local time:

- Power saws except at loading sites
- Cable yarding
- Blasting

Welding or cutting of metal

Level III - Partial Shutdown

The following are prohibited except as indicated:

- Cable yarding - except that gravity operated logging systems employing nonmotorized carriages may operate between 8 p.m. and 1 p.m. when all blocks and moving lines are suspended 10 feet above the ground except the line between the carriage and the chokers.

Power saws - except power saws may be used at loading sites and on tractor/skidder operations between the hours of 8 p.m. and 1 p.m. local time.
In addition, the following are permitted to operate between the hours of 8 p.m. and 1 p.m. local time:

- Tractor, skidder, feller-buncher, forwarder, or shovel logging operations where tractors, skidders, or other equipment with a blade capable of constructing fireline are immediately available to quickly reach and effectively attack a fire start
- Mechanized loading or hauling of any product or material
- Blasting
- Welding or cutting of metal

Any other spark emitting operation not specifically mentioned.

Level IV - General Shutdown

All operations are prohibited.

Malheur National Forest thanks you for your efforts in keeping your Forest safe from wildfire.

TO REPORT A WILDFIRE:

CALL – 541-575-1321 or 911

What you will be asked by dispatch:

YOUR NAME AND PHONE NUMBER?

WHERE THE FIRE IS LOCATED?

HOW DID IT START?

HOW BIG IS THE FIRE?

WHAT COLOR IS THE SMOKE?

ARE THERE ANY EMERGENCY VEHICLES NEAR THE FIRE ALREADY?

TO OBTAIN CURRENT FIRE RESTRICTIONS:

Telephone:
Blue Mountain Ranger District:541-575-3000
Prairie City Ranger District: 541-820-3800
Emigrant Creek Ranger District:541-573-4300
Web:
www.fs.usda.gov/malheur
Facebook:
www.facebook.com/malheurnationalforest

Attachment 3: Burns District BLM Restriction Example

FIRE RESTRICTIONS

IN EFFECT - JULY 18, 2020

ON ALL BLM-ADMINISTERED LANDS IN HARNEY COUNTY

BURNS INTERAGENCY FIRE ZONE

CAMPFIRES

PROHIBITED: No campfires or wood stove or smoker fires, including charcoal briquette fires and portable braziers, except within developed fire rings at these campgrounds: Page Springs, Fish Lake, Jackman Park and South Steens.

PERMITTED: Liquified and bottled gas stoves and heaters, and generators (with an approved spark arrestor), are permitted within an area at least ten feet in diameter that is barren, or clear of all flammable materials.

DRIVING/PARKING

PROHIBITED: Operating or parking a motorized vehicle, or any type of internal combustion engine, in an area that is not clear of flammable material berm to berm. This prohibits all cross-country travel until this order rescinded.

PROHIBITED: Operating any type of motorcycle or All Terrain Vehicle (ATV, UTV, side-by-side, etc.) not equipped with an approved and fully-functioning spark arrestor.

CHAINSAWS

PERMITTED: Chainsaw operation is permitted only before 1 p.m. or after 8 p.m. Saw operators are required to have a shovel (minimum 8" wide, 26" length) and fire extinguisher (ABC, 8 oz. capacity minimum) in their possession on site. A one-hour fire watch is required after saw operations cease.

SHOOTING/FIREWORKS

PROHIBITED: No possession, discharge or use of any type of fireworks or other pyrotechnic device, including exploding targets, or tracer or incendiary ammunition. Shooting at or any other use of metal targets of any kind is also prohibited.

SMOKING

PROHIBITED: No smoking outside except in areas barren of all flammable materials at least 6 feet in diameter.

BURNS INTERAGENCY FIRE ZONE: 541-573-4545

Attachment 4: Burns District BLM Fire Prevention Order Example

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Burns District Office
28910 Hwy 20 West
Hines, Oregon 97738
www.blm.gov/office/burns-district-office

Notice of Emergency Fire Prevention orders on public land within the Burns District Bureau of Land Management (BLM) and Bureau of Reclamation (Reclamation).

AGENCY: Burns District BLM, Oregon
ACTION: Emergency fire prevention order for public land within the boundaries of the Burns District BLM, Oregon
SUMMARY: The BLM is temporarily prohibiting some activities and uses of the public lands within the boundaries of the Burns District BLM during periods of high fire danger. The regulation is necessary to protect natural resources and the public's health and safety.
DATES: Beginning on July 30, 2019, at 0001 hours and remaining in effect until rescinded
DISCUSSION: These orders will apply to all public lands administered by the Burns District BLM. The BLM has determined that these orders are necessary to protect natural resources and provide for public safety. Pursuant to 43 CFR 9212.2 and 43 CFR 423.3(d), the following acts are prohibited on lands administered by the Burns District BLM.

Orders to be enforced:

1. **You must not build, maintain, or attend a fire, or wood stove or smoker fire, including charcoal briquette fires and portable braziers. NOTE: Liquefied and bottled gas stoves, smokers, and heaters are permitted. When used outside of developed recreation sites, they must be within an area at least ten (10) feet in diameter that is barren or clear of all flammable materials.**
2. **You must not smoke outside of a vehicle, trailer, or building, except within areas barren of all flammable materials for at least a six (6) foot diameter, or aboard boats on rivers and lakes.**
3. **You must not process, discharge, or use any type of fireworks or other pyrotechnic device, to include exploding targets or tracer or incendiary ammunition.**
4. **You must not operate a chainsaw.**
5. **You must not operate or park your motorized vehicle or operate any type of internal combustion engine in an area that is not clear of flammable material.**
6. **You must not operate a motorized vehicle outside of existing roads or ways. This prohibits cross-country travel until this order is rescinded.**
7. **You must not operate any motorized vehicle or equipment that is wider than 48 inches or has a dry weight of 800 pounds or more, on public lands, without a shovel not less than 26 inches in overall length, with a blade not less than 8 inches wide, and a container with at least one gallon of water, or a fully charged 2.5 pound fire extinguisher. All motorcycles, all-terrain vehicles (ATV), and side-by-side utility terrain vehicles (UTV) must be equipped with a functional U.S. Forest Service approved spark arrestor.**

PENALTIES: On BLM lands, under section 303(a) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1733(a)) and 43 CFR 9212.4, any person who violates any of the supplementary rules within the boundaries established in the rules may be tried before a United States Magistrate and fined no more than $1,000 or imprisoned for no more than 12 months, or both. Such violations may also be subject to the enhanced fines provided for by 18 U.S.C. 3571. On Bureau of Reclamation project lands under section (1) (a) of Public Law 107-69, you are subject to a fine under chapter 227, subchapter C of title 18 United States Code (18 U.S.C. 3571), or can be imprisoned for not more than 6 months, or both, if you violate:

a. The provisions of this part 423; or
b. Any condition, limitation, or prohibition on uses or activities, or of public use limits, imposed under this part 423. Pursuant to 43 CFR 9212.3(a) and 43 CFR 423.3(d), the following persons are exempt from this order:
    1. Persons with a permit specifically authorizing the otherwise prohibited act or emission.
    2. Any Federal, State, or local officer or a member of an organized rescue or firefighting force in the performance of an official duty.

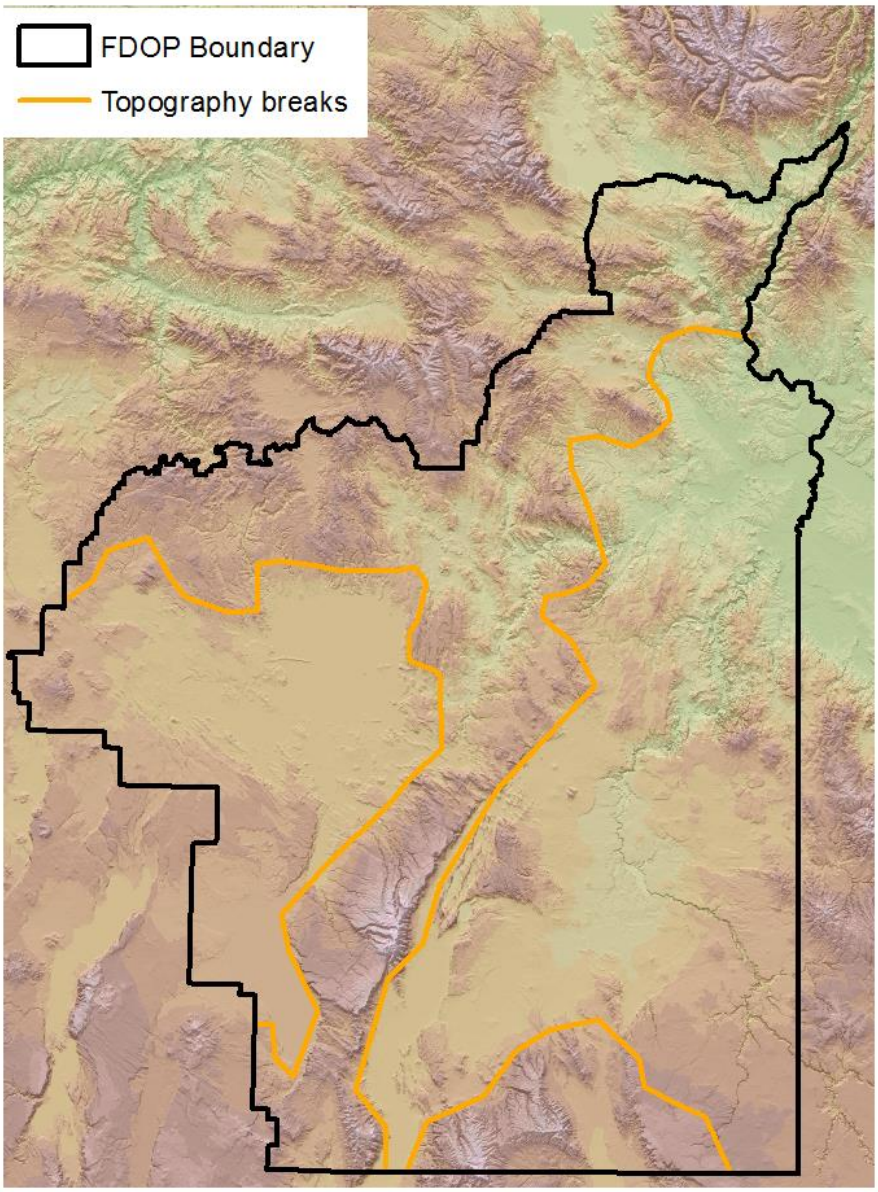
Jeffrey Rose
District Manager

07/29/2019
Date

APPENDIX G - FIRE DANGER RATING AREA DELINEATIONS

I. TOPOGRAPHY

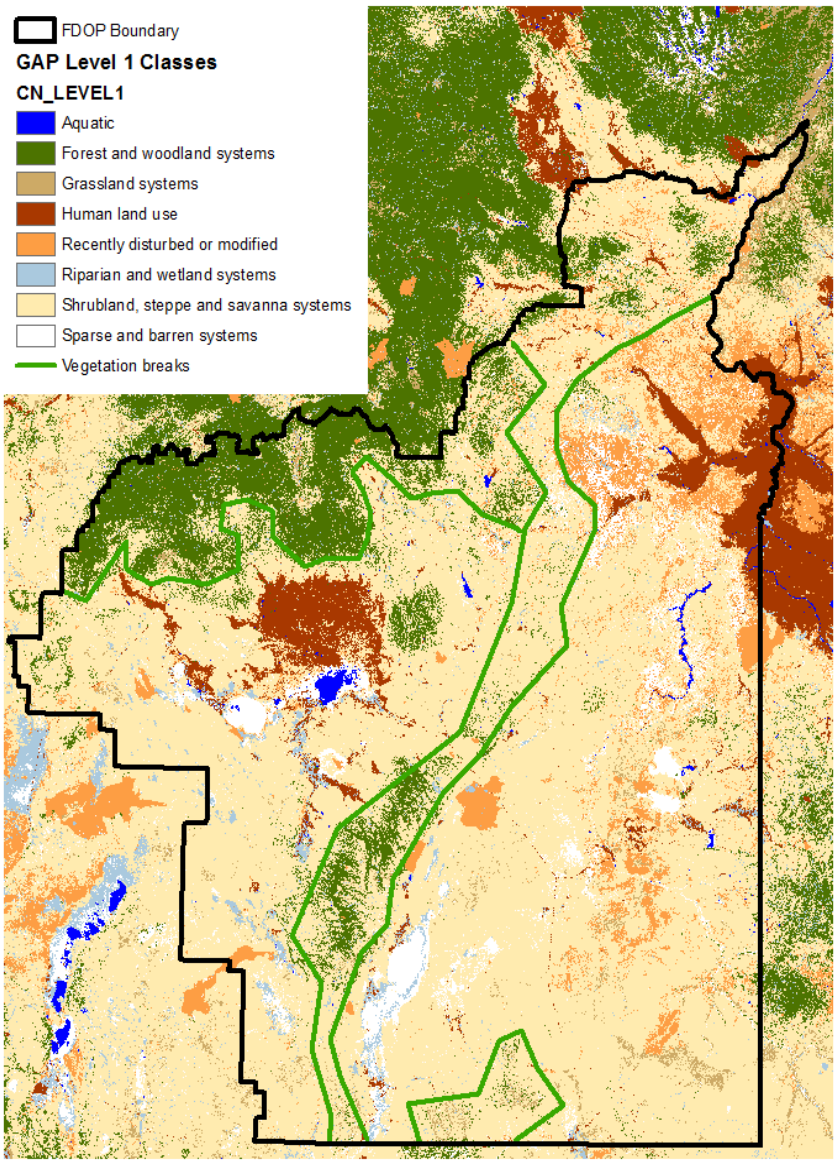
Terrain throughout southeast (SE) Oregon can be defined by fault-block mountain ranges, steep walled basins, and high isolated buttes. Topographic delineations were made based on a combination of Digital Elevation Model, Color Hillshade, and 1,000-foot contour layers available on the Oregon State Office GIS layers, viewed through ESRI's ArcMap System. Delineations were made with no recognition of land ownership or administrative boundaries.



II. VEGETATION

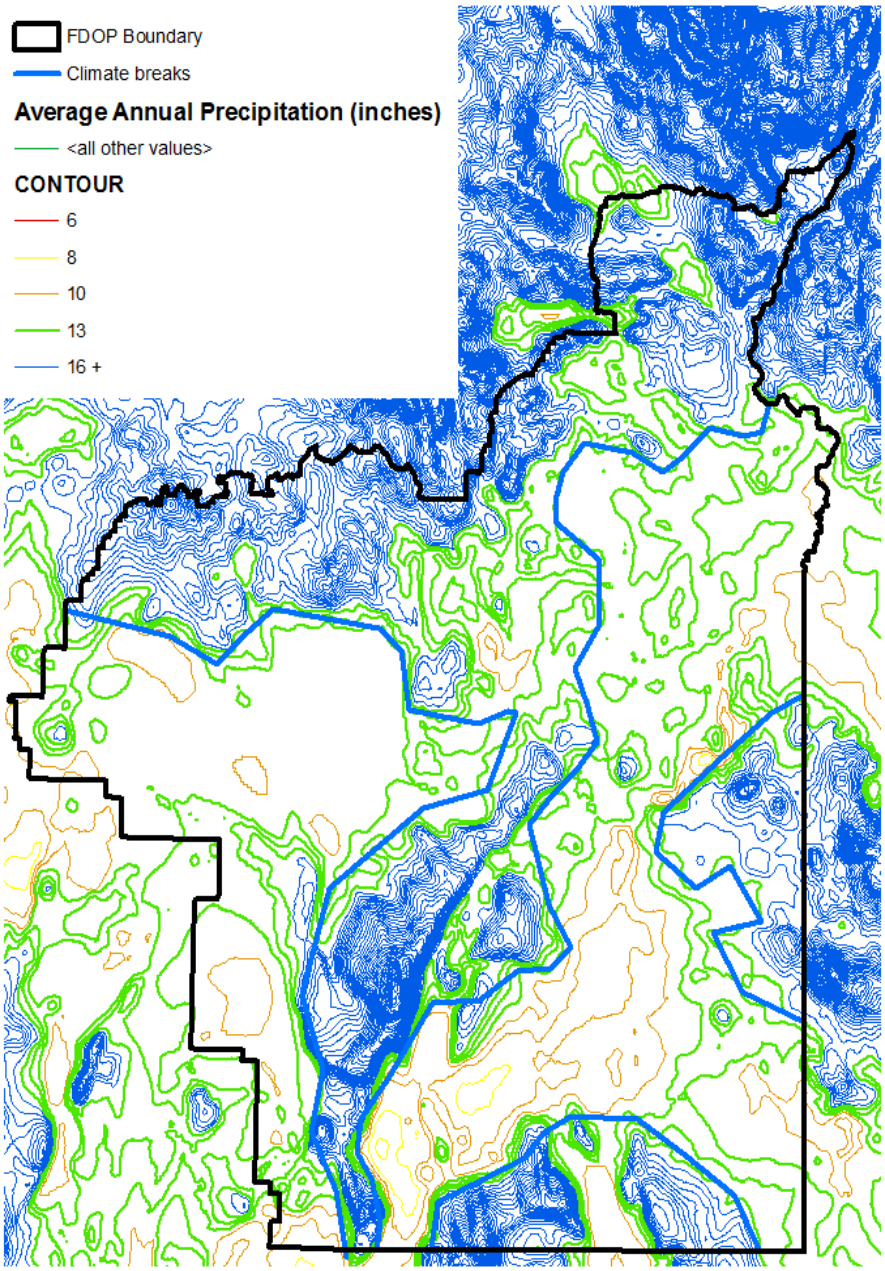
Vegetation throughout SE Oregon can be defined as an ocean of sagebrush, juniper, and bunchgrasses. This is the land of basin and range in Oregon, the northwesternmost extent of America's Great Basin. Because this is a dry savannah type environment typical of the Great Basin, the primary factors driving delineations were the presence of forest and

woodland systems, as characterized utilizing GAP Level 1 Veg classes. This GIS layer is available through the Oregon State Office.



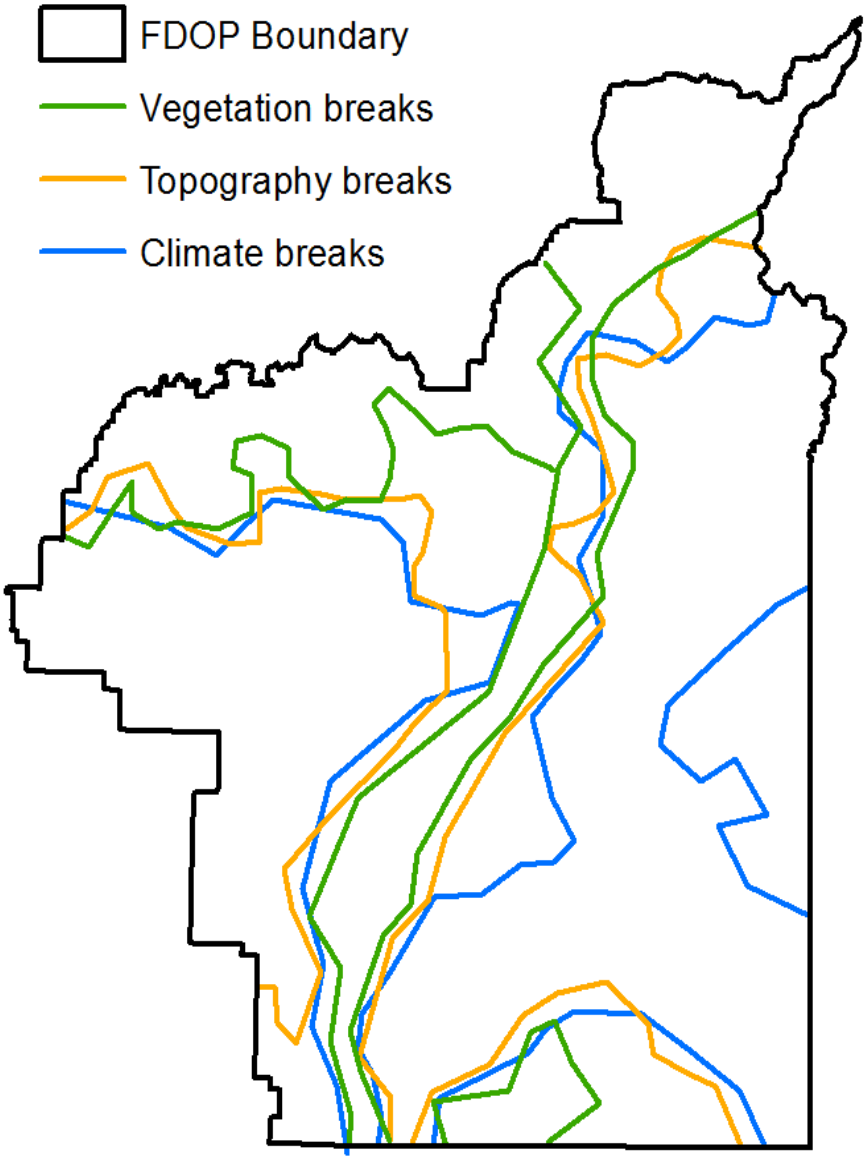
III. CLIMATE

General climate throughout this area is relatively dry, classified as semi-arid, with large areas receiving no more than 12 inches of precipitation a year. Delineations were made based on average annual precipitation, as this is a limiting factor in vegetation growth across the planning area.



IV. ALL DELINEATIONS

The following map is a combination of all delineations. Final fire danger rating area boundaries were pulled to primary roads for ease of description and communication. FDRAs span administrative boundaries and include all ownerships.

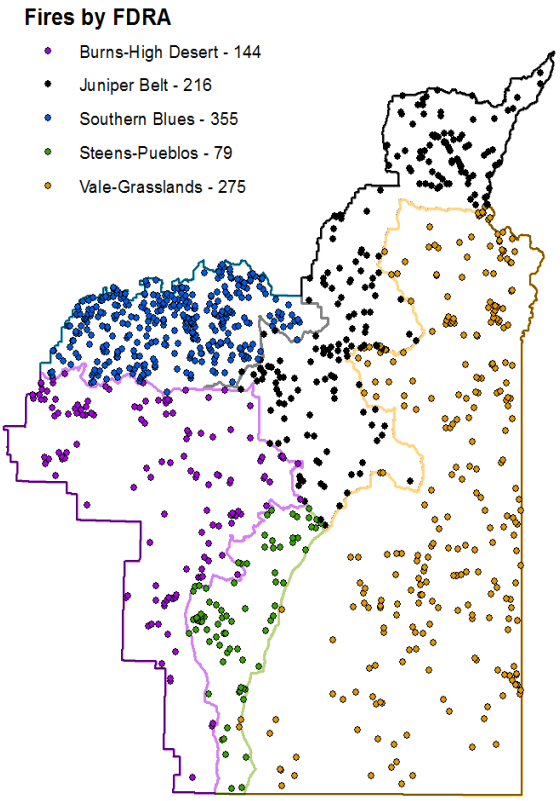

FDOP Boundary
Vegetation breaks
Topography breaks
Climate breaks

APPENDIX H - FIRE OCCURRENCE

Fire occurrence is compared against calculated same-day fire danger values to find statistical relationships between fire activity and fire danger. This allows NFDRS2016 fire danger metrics to be used to help predict fire activity and related fire management business.

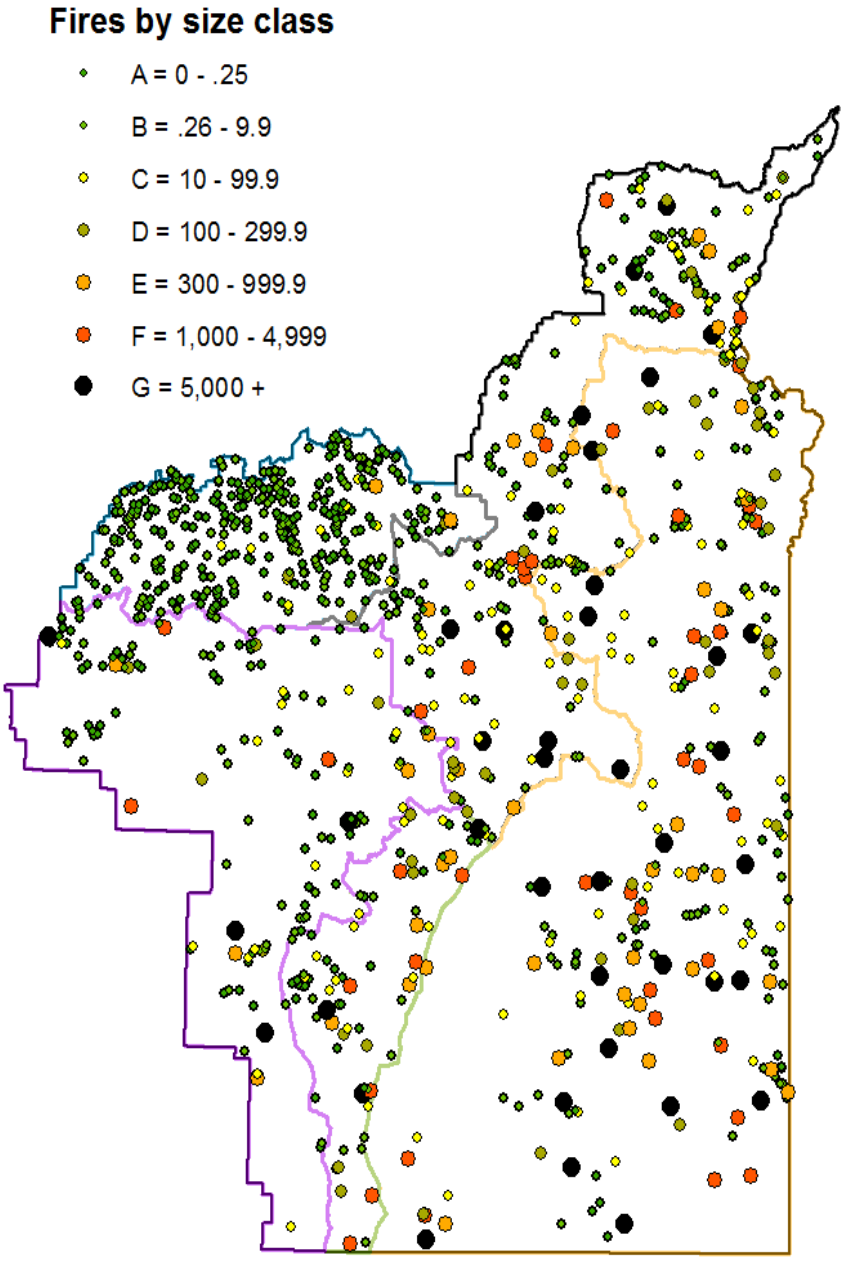
Fire occurrence data for Federal agencies, and most states within the U.S., is available from multiple resources in a variety of file formats. There is no authoritative standard. There are also known data quality issues, which vary across the available corporate datasets. The fire occurrence dataset used in this analysis was a combination of the Fire Program Analysis – Fire Occurrence Dataset (FPA FOD) along with agency specific sources to complete a 10-year fire history.

The FPA FOD is a national scale, quality controlled, consolidated dataset that draws from most of the available reporting systems. It is managed by Karen Short of the Rocky Mountain Research Station (RMRS) and is updated annually with an average of two years lag time. The current dataset contains data from 1996 through 2015 and has all the fields needed for a FireFamilyPlus fire business analysis.



FIRES BY SIZE CLASS

Fires were classified based on fire size classes as defined by the NWCG.



APPENDIX I - FIRE FAMILY PLUS ANALYSIS

I. FireFamilyPlus Analysis Parameters

Table 10: FireFamilyPlus Parameters

Large Fire Size (acres)	3
Multiple Fire Day (fires/day)	3

SIG: FDRA 1: Southern Blues

Weather Station Number →	352305	353501	353515
Weather Station Name	Crane Prairie	Allison	Crow Flat
NFDRS Fuel Model	Y	Y	Y
Data Years Used in Analysis	2009-2018	2009-2018	2009-2018
Weight	1.0	1.0	1.0

Large Fire Size (acres)	50
Multiple Fire Day (fires/day)	2

SIG: FDRA 2: JUNIPER

Weather Station Number →	352420	353522	353613
Weather Station Name	Morgan Mountain	Bald Mountain	Kelsey Butte
NFDRS Fuel Model	Y	Y	Y
Data Years Used in Analysis	2009-2018	2009-2018	2009-2018
Weight	1.0	1.0	1.0

Large Fire Size (acres)	500
Multiple Fire Day (fires/day)	2

SIG: FDRA 3: GRASSLANDS

Weather Station Number →	353612	353613	353614	353618
Weather Station Name	Grassy Mountain	Kelsey Butte	Owyhee Ridge	Alkali Flat
NFDRS Fuel Model	Y	Y	Y	Y
Data Years Used in Analysis	2009-2018	2009-2018	2009-2018	2009-2018
Weight	1.00	1.00	1.00	1.00

Large Fire Size (acres)	150
Multiple Fire Day (fires/day)	2

SIG: FDRA 4: STEENS-PUEBLOS

Weather Station Number →	353424	353511	353526
Weather Station Name	Rock Creek	Riddle Mountain	Moon Hill
NFDRS Fuel Model	Y	Y	Y
Data Years Used in Analysis	2009-2018	2009-2018	2009-2018
Weight	1.00	1.00	1.00

Large Fire Size (acres)	300
Multiple Fire Day (fires/day)	2

SIG: FDRA 5: HIGH DESERT

Weather Station Number →	353520	353521	353525
Weather Station Name	Basque Hills	P-Hill	Foster Flat
NFDRS Fuel Model	Y	Y	Y
Data Years Used in Analysis	2009-2018	2009-2018	2009-2018
Weight	1.00	1.00	1.00

APPENDIX J - FIRE DANGER RATING AREA DETAILS

I. FDRA 1: SOUTHERN BLUES

- General Location

  The Southern Blues FDRA parallels Highway 20 to the north along the ecotone dividing sagebrush steppe to the south and dry pine forests to the north. The east/west borders of this FDRA are roughly represented by Harney County. The majority of the FDRA falls in the jurisdiction of the Emigrant Creek Ranger District of the Malheur Forest, however, much of the southern end of this FDRA is a mix of Burns District BLM and privately-owned ground. There are some large inholdings of private land within this FDRA, with the Silvies Valley Ranch being the most notable (located centrally in this FDRA).

- Vegetation

  Dry ponderosa pine forests dominate this landscape, however, there is a spectrum of unique vegetation sites intermixed in this vegetation. In general, this deviation from dry pine sites can be correlated in potential productivity going above the resource needs supporting growth of ponderosa pine. The more productive areas express mixed conifer species, and the less productive sites express sage-steppe vegetation (much of which has substantial encroachment of western juniper and mountain mahogany). There are also inclusions of quaking aspen stringers, which are typically correlated to wet sites with riparian vegetation.

- Climate

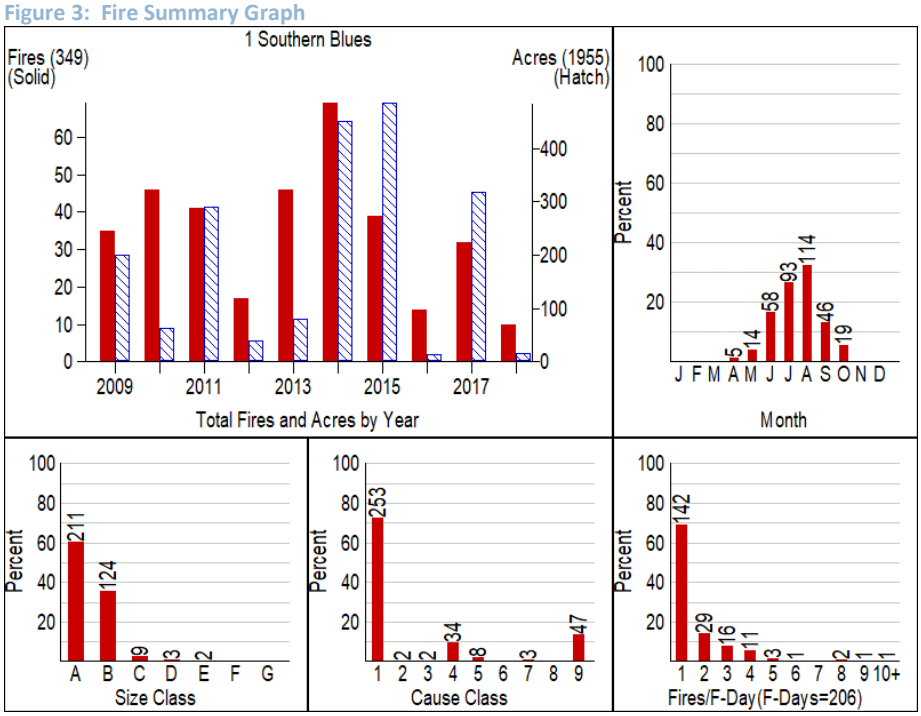
  Climate is typical of the northern Great Basin, with cold-wet winters and wet springs, and warm-dry summers. Based on the PRISM (Parameter-elevation Regressions on Independent Slopes Model; OSU) based GIS products, annual precipitation within Southern Blue FDRA ranges from 12” at some of the lower elevation dry sites to the south to upwards of 30” in high elevation locations to the north (such as Snow Mountain). Mean annual temperatures at the Burns airport average 37 degrees F in the winter (December-February), and 62 degrees F in the summer (June-August).

- Topography

  In general elevation rises from the south to the north in this FDRA, with numerous drainages dissecting the landscape. Predominate flow is from north to south with the majority of watersheds dropping into the Harney Basin. However, there are small upper reaches to two watersheds within this FDRA that are ultimately sea run: The John Day River system to the north central and the Malheur River system to the north east. Elevation within this FDRA ranges from 4,200 feet on the southern end near Harney Basin to over 7,000 feet at the northern end at Snow Mountain.

- FDRA 1: SOUTHERN BLUES – Fire Summary Graph

Figure 3: Fire Summary Graph



Size Class:

A =	0 —	.25	acres
B =	.30 —	9	acres
C =	10 —	99	acres
D =	100 —	299	acres
E =	300 —	999	acres
F =	1000 —	4999	acres
G =	5000 +		acres

Cause Class:

1 = Lightning	6 =Railroad
2 = Equipment	7 =Arson
3 = Smoking	8 =Children
4 = Campfire	9 =Misc
5 = Debris Burning	

II. FDRA 2: JUNIPER

- General Location

  This FDRA incorporates the Oregon communities of Crowley, Venator, Riverside, Juntura, Drewsey, Westfall, Crane, Buchanan, and Ironside.

- Vegetation

  Vegetation within this FDRA can be characterized as sage-steppe. Along the lower elevations within this FDRA, multiple disturbances resultant of wildfire have created areas where annual grasses dominate: specifically cheatgrass and medusahead wild rye. Other areas are typical sage-steppe with Mountain and Wyoming big sagebrush and perennial grasses that transition to juniper woodlands with gains in elevation and latitude.

- Climate

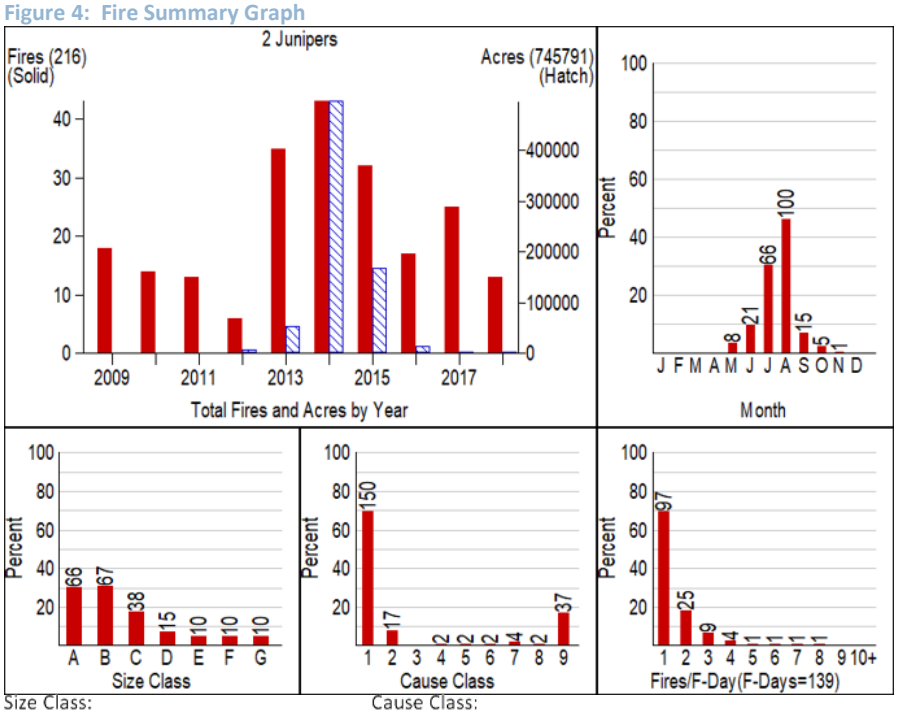
  Much of this area is over the 13” precipitation zone. Snow tends to accumulate beginning in October, with spring run-off lasting through April. Much of the precipitation occurs as winter snow and spring rains. Summers tend to be dry.

- Topography

  This FDRA is characterized by numerous rocky peaks over 5,000 feet. The southern end of the FDRA is a transition from the Steens Mountain range to the Stockade range. Many peaks are prevalent in between Highway 20 and Highway 26, the most notable is Castle Rock. The series of jagged peaks continues north throughout Baker County to all edges of the FDRA.

- FDRA 2: JUNIPER – Fire Summary Graph

Figure 4: Fire Summary Graph



Size Class:

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B =	.30 —	9	acres
C =	10 —	99	acres
D =	100 —	299	acres
E =	300 —	999	acres
F =	1000 —	4999	acres
G =	5000 +		acres

Cause Class:

1 = Lightning	6 =Railroad
2 = Equipment	7 =Arson
3 = Smoking	8 =Children
4 = Campfire	9 =Misc
5 = Debris Burning	

III. FDRA 3: GRASSLANDS

- General Location

  This FDRA incorporates the Oregon communities of Brogan, Vale, Ontario, Nyssa, Jordan Valley, Burns Junction, and Rome.

- Vegetation

  This FDRA is characterized by Great Basin fuel types. Shrub species with grass understories can be found throughout the FDRA. Annual grasses are prevalent and, in some areas, the dominant vegetation. Agricultural fields are found in the north of this FDRA surrounding the communities of Brogan, Vale, Nyssa, and Ontario. In the far southern end of the FDRA, decadent stands of Wyoming and Mountain sagebrush dominate. The rest of the FDRA is primarily grasses with patches of shrub islands. Small, isolated patches of pinon junipers can be found along the east boundary and into Idaho, south and east of Jordan Valley, Oregon.

- Climate

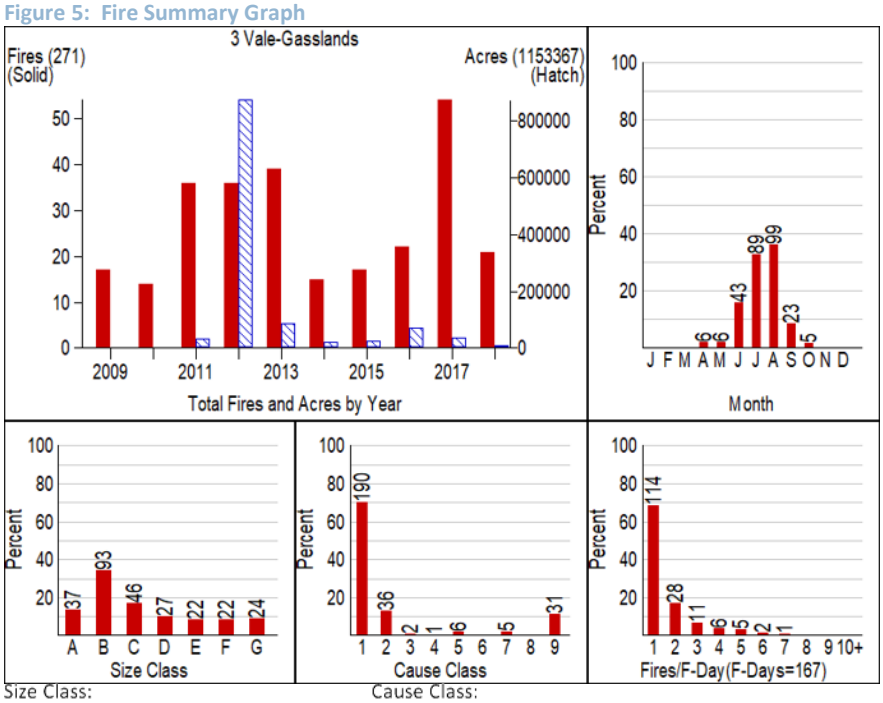
  Much of this FDRA is near the 10” precipitation zone, associated with the Snake River Plains. There are areas with peaks that receive abundant precipitation. The Sheepshead Mountains west of Burns Junction and the area around Mahogany Mountain, north of Jordan Valley, receive approximately 20” of precipitation. In the southern end of the FDRA, the Trout Creek Mountains and area south of Jackson Summit near McDermitt, Nevada can receive yearly precipitation near 30”.

- Topography

  Much of this FDRA is below 5,000 feet in elevation, except for the far southern portion surrounding McDermitt, Nevada and various peaks scattered throughout. Rivers cut through this landscape creating steep canyons and distinct divides with very few opportunities to cross. The remaining portions of this FDRA are rolling desert plains typical of the Great Basin.

- FDRA 3: GRASSLANDS – Fire Summary Graph

Figure 5: Fire Summary Graph



Size Class:

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B =	.30 —	9	acres
C =	10 —	99	acres
D =	100 —	299	acres
E =	300 —	999	acres
F =	1000 —	4999	acres
G =	5000 +		acres

Cause Class:

1 = Lightning	6 =Railroad
2 = Equipment	7 =Arson
3 = Smoking	8 =Children
4 = Campfire	9 =Misc
5 = Debris Burning	

IV. FDRA 4: STEENS-PUEBLOS

- General Location

  The Steens-Pueblos FDRA is named after the respective mountain ranges captured within. The Pueblo Mountains originate to the south near the Oregon-Nevada border to the west of Denio, Nevada, and run up to the north of Fields, Oregon, where Highway 205 goes up and over Long Hollow Pass and into Catlow Valley. Long Hollow Pass designates the transition from the Pueblos into the Steens Mountain. The Steens Mountain runs roughly from southwest to northeast and is capped to the north by the Folley Farm Pass on Highway 78. Communities that skirt around the Steens Mountain are Frenchglen to the northwest, Diamond to the north, Andrews to the east, and Fields on the southern end.

- Vegetation

  Vegetation is just as varied as the topography exhibited on the Steens. Lower elevations express typical sage-steppe plant communities, with some small inclusions of salt desert-shrub communities on the eastern side along the Alvord Desert. Along with the progressive rise of the mountain, there is also, in general, a

rise in annual precipitation and plant productivity. Moving up the mountain, the varieties of big sagebrush shift from more arid adapted varieties such as Wyoming and Basin into the heartier, yet more water dependent varieties such as mountain big sagebrush. Along with this increased productivity, other woody species also increase, with a notable band of western juniper entering most plant communities at approximately 5,500-feet elevation in northern aspects and slightly higher on southern facing aspects. Juniper dominance begins to drop out of communities above elevations of 7,000 feet, and quaking aspen becomes more dominant in wetter sites, and mountain sagebrush and mahogany are more dominant in the drier sites. Due to the long winters and heavy snow loads on the higher elevation sites, much of the vegetation above the 7,500-8,000-elevation range becomes alpine and stunted in growth form.

- Climate

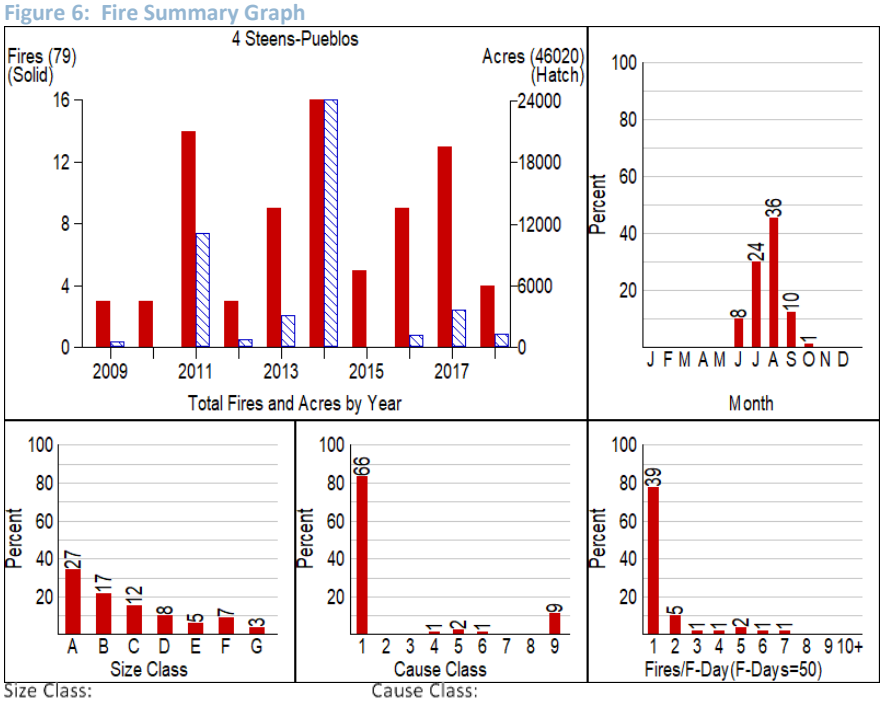
  Climate on the Steens-Pueblos runs the spectrum from dry desert (Alvord Desert) in the rain shadow on the eastern side, to wet alpine areas in the higher elevations that run snowmelt summer long. Climate is typical of the northern Great Basin, with cold-wet winters and wet springs, and warm-dry summers. Based on the PRISM-based GIS products, annual precipitation within the Steens-Pueblos FDRA ranges from 8” on the lower elevations on the eastern side, to nearly 50” in the higher elevation sites. Due to the Steens’ impressive topography, this mountain range has a strong influence on general weather patterns moving through the area. Storms typically become split or track around this feature. During the summer this is a common area for thunderstorms to develop.

- Topography

  Topography is largely what the Steens Mountain is known for. The Steens is a large, lifted fault-block that abruptly drops on its eastern side from elevations of nearly 10,000 feet to just above 4,000 feet on the Alvord Desert. On the western side of the mountain, the lifting of this block is subtle in comparison to the eastern side, however, there are impressive glacially created gorges associated with the streams that run off the mountain to the west and north. Notable examples of these gorge drainages are Kiger, Little Blitzen, and Big and Little Indian creeks. These sharply cut drainages significantly fragment navigation on the Steens Mountain.

- FDRA 4: STEENS-PUEBLOS - Fire Summary Graph

Figure 6: Fire Summary Graph



Size Class:

A =	0 —	.25	acres
B =	.30 —	9	acres
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Cause Class:

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2 = Equipment	7 =Arson
3 = Smoking	8 =Children
4 = Campfire	9 =Misc
5 = Debris Burning	

V. FDRA 5: HIGH DESERT

- General Location

  This FDRA encompasses all the lower elevation, drier sites on Burns District. The boundary runs from the western border of the Burns District into the higher elevation FDRAs to the east and north (Steens-Pueblos, Juniper Belt, and Southern Blues, respectively). Numerous communities and the bulk of the Harney County population are captured within this FDRA. Some of the communities within and adjacent to this FDRA include Burns-Hines, Riley, Wagontire, Crane, Lawen, Princeton, Frenchglen, Fields, and Denio.

- Vegetation

  Most of the vegetation within this FDRA is sage-steppe habitat represented by drier varieties of big sagebrush, such as Wyoming and Basin. These drier sites are the most susceptible to conversion to annual grasses. In general, the areas within this FDRA that have burned from wildfires have a high level of annual grass in the vegetation community. Many of the older (>20 years) burn scars were aggressively seeded with non-native cultivars such as crested wheatgrass, and most of these "seedings" are still intact. More recent (<20 years) burn scars typically have a much higher level of annual grasses still present. Within this area there are small inclusions of salt desert shrub vegetation that is typically located around alkaline lakebed playas. Much of the ground within the Harney Basin (north central portion of this FDRA) is private and has been converted to agricultural uses: predominately pivots for alfalfa but also some flood irrigated meadow systems as well. The Malheur National Wildlife Refuge spans the central portions of this FDRA and is predominately associated with riparian systems (predominately the Blitzen system to the south and the Silver Creek system to the west). Most of this area is flood irrigated in the spring and supports riparian vegetation that stays relatively wet through the peak summer months.

- Climate

  Climate is typical of the northern Great Basin, with cold-wet winters and wet springs, and warm-dry summers. Based on the PRISM-based GIS products, annual precipitation within this FDRA ranges from 10" in the drier sites such as Catlow Valley, to upwards of 16" on some of the elevated features such as Square Mountain to the south. In comparison to the other FDRAs on the Burns District, this FDRA represents the driest sites that are exposed to the longest fire season.

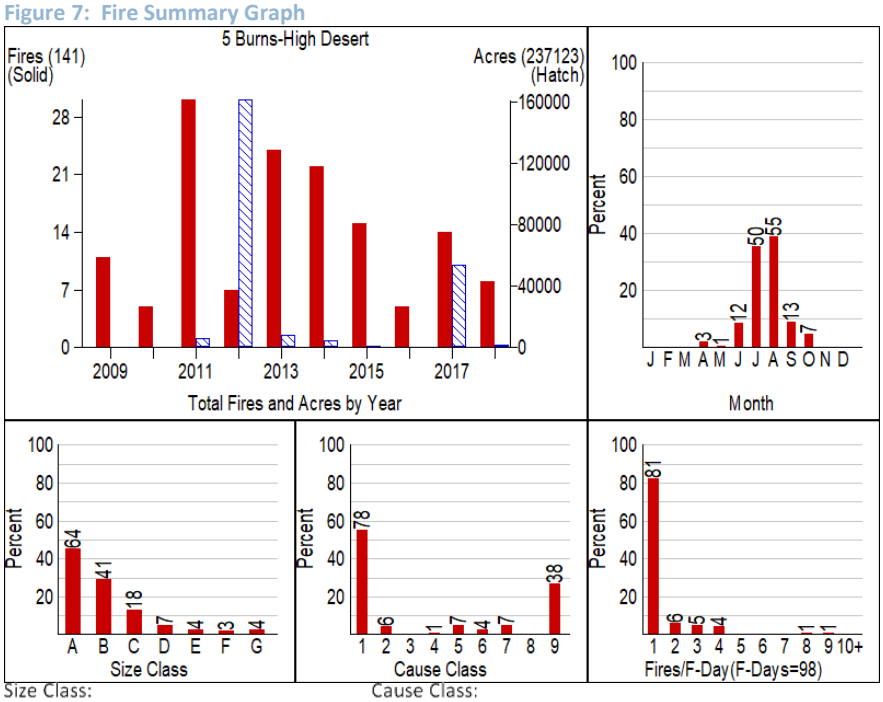
- Topography

  Topography is relatively flat through most of this FDRA, although there are some elevated features within. Some of the more notable features contained within this FDRA include: Square and Hawks mountains to the south, Jack Mountain Rim (paralleling Highway 205 north of Frenchglen), and Wagontire and Squaw Butte to the northwest. Elevation averages 4,500-5,000 feet across most of this FDRA,

however, some of these features (such as Wagontire at 6,440 feet) rise substantially above this elevation.

- FDRA 5: HIGH DESERT – Fire Summary Graph

Figure 7: Fire Summary Graph



Size Class:

A =	0	—	.25 acres
B =	.30	—	9 acres
C =	10	—	99 acres
D =	100	—	299 acres
E =	300	—	999 acres
F =	1000	—	4999 acres
G =	5000	+	acres

Cause Class:

1 = Lightning	6 =Railroad
2 = Equipment	7 =Arson
3 = Smoking	8 =Children
4 = Campfire	9 =Misc
5 = Debris Burning	

APPENDIX K - STATISTICAL ANALYSIS

Prior to completing any analysis using FireFamilyPlus software, all daily weather observations were reviewed for accuracy. Outliers were verified, gaps in data were corrected, and station compliance was verified. Fire occurrence data was also reviewed for accuracy. It is a best practice to use 10 years of data to perform analysis. The analysis period for this FDOP is 2009-2019.

Scientific literature has shown that climatological patterns in the western United States have shifted, particularly in the last 20 years. Historical patterns of weather and fire occurrence data validate the literature. Fire seasons have become longer on both ends of the season schedule. Additionally, acreages burned over this time have steadily increased.

Statistical outputs associated with fire occurrence data combined with historical weather are used to determine "goodness of fit." This is a statistical model that describes how well a set of observations meet the modelled trends. Measures of goodness of fit summarize the discrepancy between observed values and values expected using the models.

Statistical analysis was conducted for Fire Day (FD), Large Fire Day (LFD), and Multi-Fire Day (MFD) for each weather SIG associated with each FDRA within the FDOP to determine the most appropriate NFDRS Fuel Model and NFDRS output to best model the fire situation within each FDRA. The outcome of the statistical analysis frames the rationale for use of NFDRS outputs to aid in fire management and fire business decisions.

The four items used to analyze data in the interpretation of goodness of fit are:

1. Correlation coefficient (R^2). The most common interpretation of r-squared is how well the regression model fits the observed data. For example, an r-squared of 60 percent reveals that 60 percent of the data fit the regression model. Generally, a higher r-squared indicates a better fit for the model. An R^2 of 1 indicates a perfect correlation.
2. Chi-squared (Chi^2). This is a statistical test applied to sets of categorical data to evaluate how likely it is that any observed difference between the sets arose by chance. A Chi^2 less than 13 indicates excellent fit. A Chi^2 of less than 20 is considered good. Over 20 is poor and over 26 is very poor.
3. The P-value associated with Chi^2. The P-value describes the probability of observing large differences purely by chance. It determines the confidence interval for testing. The P-value ranges from 0 (no chance) to 1 (absolute certainty). A P-value of 0.5 means a 50 percent chance and 0.05 means a 5 percent chance of achieving accurate results by chance.
4. Data range. A large data range defines the decision space. A large data range allows for more flexibility in setting thresholds and breakpoints for fire business and fire management decisions.

It is important to note that sometimes there is no "good fit" and the best you can do is pick between the best of the worst. Additionally, the best fit may not work for the intended

purpose. A good example of this would be using a highly variable index and fuel model to implement campfire restrictions. This would result in changing restriction levels daily, which would be extremely difficult to implement and enforce. The outcome of this scenario would be potential damage to credibility with the public and industrial interests.

The following tables list all NFDRS fuel models (V (grass), W (grass-shrub), X (brush), Y (timber), and Z (slash)) and the statistics associated with NFDRS outputs for each FDRA.

SIG/Station#	Index	FM	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG - Southern Blues	BI	V	0.19	51.18	0	0.07 - 0.17	1 (C)	0.22	8.7	0.3681	0.19 - 0.4	3 (C)	0.3	7.21	0.5144	0.07 - 0.29
SIG - Southern Blues	BI	W	0.14	53.02	0	0.07 - 0.16	1 (C)	0.34	5.43	0.7112	0.19 - 0.4	3 (C)	0.34	8.54	0.3826	0.07 - 0.30
SIG - Southern Blues	BI	X	0.14	52.46	0	0.07 - 0.14	1 (C)	0.06	9.67	0.289	0.22 - 0.3	3 (C)	0.29	13.02	0.1111	0.08 - 0.36
SIG - Southern Blues	BI	Y	0.51	45.37	0	0.03 - 0.21	1 (C)	0.14	14.27	0.075	0.16 - 0.3	3 (C)	0	9.62	0.2931	0.16 - 0.17
SIG - Southern Blues	BI	Z	0.52	38.35	0	0.03 - 0.24	1 (C)	0.06	25.09	0.0015	0.19 - 0.3	3 (C)	0.01	15.08	0.0576	0.14 - 0.21
SIG - Southern Blues	ERC	V	0.31	32.83	0	0.06 - 0.20	1 (C)	0.7	2.32	0.8034	0.16 - 0.4	3 (C)	0.2	3.3	0.5095	0.11 - 0.24
SIG - Southern Blues	ERC	W	0.22	46.37	0	0.07 - 0.17	1 (C)	0.37	6.23	0.5133	0.18 - 0.4	3 (C)	0.28	8.86	0.2627	0.08 - 0.27
SIG - Southern Blues	ERC	X	0.29	41.26	0	0.06 - 0.16	1 (C)	0.13	14.48	0.07	0.16 - 0.3	3 (C)	0.35	6.06	0.6403	0.10 - 0.34
SIG - Southern Blues	ERC	Y	0.52	43.88	0	0.03 - 0.21	1 (C)	0.46	6.24	0.6201	0.11 - 0.4	3 (C)	0.14	15.42	0.0515	0.06 - 0.28
SIG - Southern Blues	ERC	Z	0.49	45.08	0	0.04 - 0.21	1 (C)	0.28	8.78	0.361	0.14 - 0.4	3 (C)	0.01	4.18	0.8402	0.14 - 0.19
SIG - Southern Blues	IC	V	0.38	34.21	0	0.06 - 0.25	1 (C)	0.57	3.64	0.8877	0.18 - 0.5	3 (C)	0.18	12.3	0.1383	0.08 - 0.26
SIG - Southern Blues	IC	W	0.29	44.36	0	0.06 - 0.23	1 (C)	0.31	10.28	0.2461	0.18 - 0.5	3 (C)	0.32	7.35	0.4995	0.07 - 0.27
SIG - Southern Blues	IC	X	0.43	38.74	0	0.06 - 0.24	1 (C)	0.52	4.08	0.8496	0.17 - 0.4	3 (C)	0.22	8.16	0.4178	0.08 - 0.26
SIG - Southern Blues	IC	Y	0.49	44.51	0	0.05 - 0.28	1 (C)	0.25	10.97	0.2031	0.18 - 0.4	3 (C)	0.02	16.67	0.0337	0.13 - 0.21
SIG - Southern Blues	IC	Z	0.46	44.69	0	0.05 - 0.27	1 (C)	0.37	5.85	0.6642	0.19 - 0.4	3 (C)	0.07	12.52	0.1293	0.12 - 0.22
SIG - Southern Blues	SC	W	0.04	56.59	0	0.08 - 0.13	1 (C)	0.07	12.04	0.1495	0.24 - 0.3	3 (C)	0.22	13.12	0.108	0.06 - 0.28
SIG - Southern Blues	SC	V	0.08	49.42	0	0.08 - 0.17	1 (C)	0.1	6.27	0.6175	0.24 - 0.3	3 (C)	0.32	8.48	0.3878	0.06 - 0.27
SIG - Southern Blues	SC	X	0.03	55.3	0	0.08 - 0.12	1 (C)	0.02	16.64	0.034	0.26 - 0.3	3 (C)	0.45	6.22	0.6226	0.05 - 0.34
SIG - Southern Blues	SC	Y	0.74	14.41	0.006	0.03 - 0.23	1 (C)	0.14	9.77	0.0018	0.21 - 0.3	3 (C)	0.02	4.68	0.1967	0.15 - 0.21
SIG - Southern Blues	SC	Z	0.64	19.43	0.013	0.04 - 0.34	1 (C)	0.04	9.98	0.2661	0.24 - 0.3	3 (C)	0.02	9.32	0.3159	0.13 - 0.21

SIG/Station#	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG - Junipers	BI	Y3	0.68	28.89	0.0003	0.01 - 0.29	50 (C)	0.2	8.7	0.3684	0.14 - 0.52	2 (C)	0.24	4.71	0.7877	0.18 - 0.43
SIG - Junipers	BI	V3	0.83	8.5	0.3861	0.03 - 0.32	50 (C)	0.16	6.06	0.6411	0.25 - 0.46	2 (C)	0.45	10.4	0.2384	0.13 - 0.69
SIG - Junipers	BI	W3	0.77	14.57	0.0681	0.03 - 0.29	50 (C)	0.55	1.15	0.9971	0.24 - 0.45	2 (C)	0.6	4.46	0.8136	0.15 - 0.59
SIG - Junipers	BI	X3	0.78	11.92	0.1547	0.02 - 0.25	50 (C)	0.11	7.25	0.5103	0.24 - 0.43	2 (C)	0.54	5.99	0.6486	0.12 - 0.64
SIG - Junipers	BI	Z3	0.71	19.97	0.0104	0.01 - 0.28	50 (C)	0.11	14.05	0.0806	0.16 - 0.49	2 (C)	0.24	4.83	0.7751	0.19 - 0.42
SIG - Junipers	ERC	Y3	0.54	38.63	0	0.02 - 0.24	50 (C)	0.53	4.14	0.8439	0.14 - 0.57	2 (C)	0.16	7.51	0.4826	0.20 - 0.44
SIG - Junipers	ERC	V3	0.65	21.7	0.0055	0.03 - 0.26	50 (C)	0.16	3.05	0.8024	0.28 - 0.38	2 (C)	0.23	9.5	0.2189	0.18 - 0.50
SIG - Junipers	ERC	W3	0.71	17.69	0.0236	0.03 - 0.24	50 (C)	0.11	7.38	0.496	0.26 - 0.40	2 (C)	0.28	6.31	0.6122	0.21 - 0.44
SIG - Junipers	ERC	X3	0.84	9.7	0.2868	0.02 - 0.22	50 (C)	0.13	3.3	0.914	0.25 - 0.37	2 (C)	0.41	5.82	0.6677	0.13 - 0.47
SIG - Junipers	ERC	Z3	0.58	30.81	0.0002	0.01 - 0.23	50 (C)	0.19	11.43	0.1784	0.17 - 0.50	2 (C)	0.04	6.59	0.5811	0.24 - 0.37
SIG - Junipers	IC	Y3	0.6	30.48	0.0002	0.02 - 0.26	50 (C)	0.03	11.66	0.1673	0.27 - 0.36	2 (C)	0.01	14.76	0.064	0.28 - 0.34
SIG - Junipers	IC	V3	0.59	35.09	0	0.03 - 0.36	50 (C)	0.17	3.72	0.8814	0.25 - 0.47	2 (C)	0.41	7.47	0.4869	0.18 - 0.58
SIG - Junipers	IC	W3	0.65	30.63	0.0002	0.03 - 0.38	50 (C)	0.22	4.3	0.8288	0.24 - 0.49	2 (C)	0.44	5.38	0.7165	0.20 - 0.55
SIG - Junipers	IC	X3	0.67	26.47	0.0009	0.03 - 0.32	50 (C)	0.17	4.71	0.7881	0.25 - 0.43	2 (C)	0.19	12.64	0.1247	0.20 - 0.47
SIG - Junipers	IC	Z3	0.66	24.02	0.0023	0.02 - 0.27	50 (C)	0.05	13.37	0.0996	0.26 - 0.38	2 (C)	0	10.26	0.2474	0.29 - 0.32
SIG - Junipers	SC	Y3	0.69	14.1	0.007	0.01 - 0.29	50 (C)	0.87	0.09	0.9548	0.23 - 0.44	2 (C)	0.24	1.59	0.4509	0.24 - 0.39
SIG - Junipers	SC	V3	0.62	18.72	0.0164	0.04 - 0.41	50 (C)	0.19	7.39	0.4953	0.25 - 0.55	2 (C)	0.33	17.08	0.0292	0.17 - 0.79
SIG - Junipers	SC	W3	0.67	17.28	0.0273	0.03 - 0.43	50 (C)	0.18	6.83	0.5554	0.25 - 0.54	2 (C)	0.3	16.65	0.034	0.17 - 0.74
SIG - Junipers	SC	X3	0.53	16.93	0.0309	0.03 - 0.32	50 (C)	0.15	8.84	0.3556	0.26 - 0.50	2 (C)	0.33	15.92	0.0435	0.16 - 0.76
SIG - Junipers	SC	Z3	0.57	19.96	0.0105	0.02 - 0.32	50 (C)	0.19	6.57	0.5835	0.25 - 0.47	2 (C)	0.24	5.16	0.7401	0.24 - 0.44

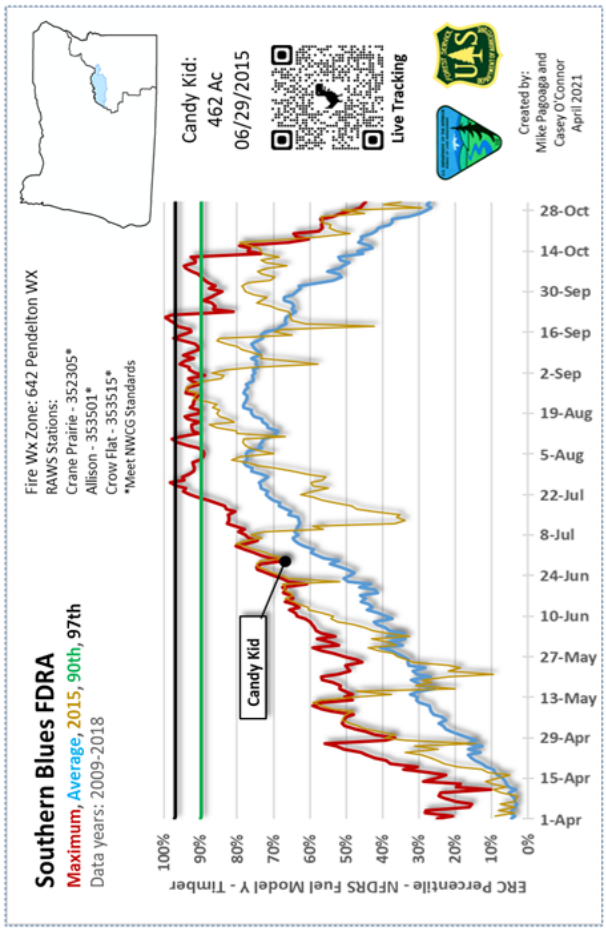
SIG/Station#	Index	FM	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG - Vale-Grassland	BI	V	0.89	9	0.3422	0.03 - 0.42	500 (C)	0.69	5.97	0.651	0.07 - 0.64	2 (C)	0.45	10.66	0.2219	0.13 - 0.59
SIG - Vale-Grassland	BI	W	0.83	13.86	0.0855	0.03 - 0.38	500 (C)	0.67	7.73	0.4604	0.06 - 0.65	2 (C)	0.47	9.52	0.3007	0.12 - 0.59
SIG - Vale-Grassland	BI	X	0.88	7.3	0.5047	0.02 - 0.33	500 (C)	0.74	4.75	0.7837	0.06 - 0.64	2 (C)	0.26	18.73	0.0164	0.12 - 0.59
SIG - Vale-Grassland	BI	Y	0.92	6.78	0.561	0.01 - 0.38	500 (C)	0.54	8.67	0.3708	0.03 - 0.63	2 (C)	0.52	6.18	0.6275	0.06 - 0.60
SIG - Vale-Grassland	BI	Z	0.88	8.45	0.3912	0.01 - 0.39	500 (C)	0.61	3.86	0.8693	0.06 - 0.62	2 (C)	0.55	4.45	0.8139	0.10 - 0.61
SIG - Vale-Grassland	ERC	V	0.83	17.75	0.0232	0.03 - 0.38	500 (C)	0.66	8	0.2381	0.06 - 0.65	2 (C)	0.56	6.9	0.33	0.13 - 0.57
SIG - Vale-Grassland	ERC	W	0.76	23.69	0.0026	0.03 - 0.31	500 (C)	0.69	8.33	0.402	0.05 - 0.64	2 (C)	0.72	3.7	0.8828	0.12 - 0.55
SIG - Vale-Grassland	ERC	X	0.82	16.01	0.0422	0.01 - 0.27	500 (C)	0.89	2.61	0.9566	0.02 - 0.61	2 (C)	0.72	3.84	0.871	0.08 - 0.53
SIG - Vale-Grassland	ERC	Y	0.92	8.71	0.3677	0.01 - 0.28	500 (C)	0.78	3.62	0.8899	0.02 - 0.57	2 (C)	0.49	7.86	0.4476	0.05 - 0.55
SIG - Vale-Grassland	ERC	Z	0.88	11.18	0.1918	0.01 - 0.29	500 (C)	0.63	7.91	0.4424	0.01 - 0.60	2 (C)	0.49	7.59	0.4746	0.05 - 0.55
SIG - Vale-Grassland	IC	V	0.84	14.09	0.0795	0.03 - 0.44	500 (C)	0.59	9.42	0.3079	0.07 - 0.70	2 (C)	0.67	5.41	0.7124	0.12 - 0.64
SIG - Vale-Grassland	IC	W	0.81	16.6	0.0346	0.03 - 0.48	500 (C)	0.72	6.36	0.6072	0.07 - 0.73	2 (C)	0.6	7.61	0.4725	0.13 - 0.65
SIG - Vale-Grassland	IC	X	0.87	11.39	0.1804	0.02 - 0.43	500 (C)	0.76	5.12	0.7448	0.06 - 0.69	2 (C)	0.72	4.36	0.8229	0.11 - 0.63
SIG - Vale-Grassland	IC	Y	0.86	15.21	0.0553	0.02 - 0.36	500 (C)	0.58	8.62	0.3758	0.05 - 0.62	2 (C)	0.61	5.7	0.6813	0.09 - 0.58
SIG - Vale-Grassland	IC	Z	0.86	13.83	0.0863	0.02 - 0.37	500 (C)	0.61	7.01	0.5356	0.05 - 0.63	2 (C)	0.58	6.59	0.581	0.10 - 0.60
SIG - Vale-Grassland	SC	V	0.65	16.24	0.039	0.04 - 0.38	500 (C)	0.49	5.52	0.7006	0.15 - 0.64	2 (C)	0.29	8.25	0.4095	0.20 - 0.62
SIG - Vale-Grassland	SC	W	0.81	10.57	0.2274	0.04 - 0.44	500 (C)	0.48	8.53	0.3837	0.14 - 0.73	2 (C)	0.44	6.36	0.6066	0.19 - 0.67
SIG - Vale-Grassland	SC	X	0.75	10.34	0.2417	0.04 - 0.43	500 (C)	0.31	10.45	0.2346	0.15 - 0.67	2 (C)	0.37	6.16	0.6296	0.20 - 0.65
SIG - Vale-Grassland	SC	Y	0.64	17.32	0.0039	0.02 - 0.33	500 (C)	0.33	3.96	0.2658	0.14 - 0.61	2 (C)	0.1	6.03	0.1101	0.20 - 0.54
SIG - Vale-Grassland	SC	Z	0.44	24.36	0.002	0.04 - 0.25	500 (C)	0.41	2.61	0.9566	0.20 - 0.48	2 (C)	0.1	12.83	0.1179	0.24 - 0.51

SIG/Station#	Index	FM	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG - Steens-Pueblos	BI	V	0.34	11.61	0.1693	0.01 - 0.09	55 (C)	0.38	2.74	0.9498	0.25 - 0.75	2 (C)	0	5.62	0.5847	0.20 - 0.25
SIG - Steens-Pueblos	BI	W	0.23	15.88	0.0441	0.01 - 0.09	55 (C)	0.51	2.69	0.9524	0.26 - 0.74	2 (C)	0	10.77	0.0957	0.22 - 0.22
SIG - Steens-Pueblos	BI	X	0.15	21.3	0.0064	0.01 - 0.06	55 (C)	0.14	11.37	0.1816	0.26 - 0.77	2 (C)	0.11	3.92	0.8644	0.15 - 0.37
SIG - Steens-Pueblos	BI	Y	0.75	7.8	0.4534	0.00 - 0.17	55 (C)	0.15	10.5	0.2319	0.23 - 0.68	2 (C)	0.02	13.97	0.03	0.16 - 0.30
SIG - Steens-Pueblos	BI	Z	0.63	11.48	0.1758	0.00 - 0.16	55 (C)	0.14	9.44	0.3066	0.29 - 0.70	2 (C)	0.02	4.72	0.6946	0.18 - 0.31
SIG - Steens-Pueblos	ERC	V	0.48	9.51	0.1469	0.01 - 0.08	55 (C)	0.14	10.01	0.0402	0.28 - 0.60	2 (C)	0.01	6.31	0.0976	0.18 - 0.27
SIG - Steens-Pueblos	ERC	W	0.38	14.26	0.0752	0.01 - 0.07	55 (C)	0.15	10.69	0.2201	0.29 - 0.63	2 (C)	0.05	11.7	0.0391	0.15 - 0.29
SIG - Steens-Pueblos	ERC	X	0.54	6.52	0.5894	0.01 - 0.06	55 (C)	0.15	10.31	0.2441	0.25 - 0.62	2 (C)	0.01	10.21	0.1772	0.20 - 0.25
SIG - Steens-Pueblos	ERC	Y	0.71	16.78	0.0325	0.00 - 0.12	55 (C)	0.15	8.53	0.3833	0.23 - 0.65	2 (C)	0	8.7	0.191	0.21 - 0.23
SIG - Steens-Pueblos	ERC	Z	0.79	7.33	0.5019	0.00 - 0.12	55 (C)	0.22	6.62	0.5777	0.22 - 0.67	2 (C)	0	6.88	0.332	0.19 - 0.26
SIG - Steens-Pueblos	IC	V	0.68	6.43	0.5997	0.01 - 0.16	55 (C)	0.37	5.5	0.7032	0.23 - 0.70	2 (C)	0.03	5.42	0.4907	0.17 - 0.26
SIG - Steens-Pueblos	IC	W	0.49	12.76	0.1202	0.01 - 0.14	55 (C)	0.38	2.64	0.955	0.26 - 0.67	2 (C)	0.02	4.47	0.6128	0.18 - 0.26
SIG - Steens-Pueblos	IC	X	0.47	14.54	0.0687	0.01 - 0.11	55 (C)	0.23	5.51	0.7014	0.24 - 0.67	2 (C)	0	6.54	0.4785	0.19 - 0.25
SIG - Steens-Pueblos	IC	Y	0.51	15.23	0.0548	0.01 - 0.10	55 (C)	0.23	2.98	0.9357	0.28 - 0.61	2 (C)	0.03	8.79	0.268	0.12 - 0.35
SIG - Steens-Pueblos	IC	Z	0.59	10.58	0.2265	0.01 - 0.10	55 (C)	0.08	6.7	0.5696	0.28 - 0.62	2 (C)	0.08	7.02	0.3192	0.13 - 0.34
SIG - Steens-Pueblos	SC	W	0.06	18.35	0.0187	0.02 - 0.05	55 (C)	0.25	4.77	0.7818	0.30 - 0.81	2 (C)	0.15	6.54	0.3654	0.16 - 0.44
SIG - Steens-Pueblos	SC	V	0.11	12.01	0.1506	0.02 - 0.06	55 (C)	0.17	5.49	0.7044	0.30 - 0.80	2 (C)	0.38	1.75	0.9724	0.16 - 0.43
SIG - Steens-Pueblos	SC	X	0.02	18.43	0.0182	0.02 - 0.04	55 (C)	0.07	10.65	0.2225	0.30 - 0.82	2 (C)	0.29	5.44	0.6069	0.13 - 0.61
SIG - Steens-Pueblos	SC	Y	0.42	12.01	0.0617	0.01 - 0.14	55 (C)	0.73	0.31	0.8568	0.33 - 0.63	2 (C)	0.14	0.31	0.5755	0.20 - 0.25
SIG - Steens-Pueblos	SC	Z	0.33	20.85	0.0076	0.01 - 0.15	55 (C)	0.02	9.8	0.2794	0.37 - 0.62	2 (C)	0.08	3.91	0.5619	0.16 - 0.39

SIG/Station#	Index	FM	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG - High Desert	BI	V2	0.53	12.7	0.1228	0.02 - 0.20	300 (C)	0.33	8.44	0.295	0.02 - 0.45	2 (C)	0.05	9.4	0.3096	0.12 - 0.24
SIG - High Desert	BI	W2	0.62	9.01	0.3416	0.02 - 0.17	300 (C)	0.25	15.52	0.0298	0.01 - 0.42	2 (C)	0.04	17.41	0.0261	0.11 - 0.25
SIG - High Desert	BI	X2	0.47	9.13	0.331	0.02 - 0.12	300 (C)	0.29	10.67	0.2212	0.01 - 0.41	2 (C)	0.26	4.08	0.8496	0.09 - 0.33
SIG - High Desert	BI	Y2	0.47	9.13	0.331	0.02 - 0.12	300 (C)	0.29	10.67	0.2212	0.01 - 0.41	2 (C)	0.26	4.08	0.8496	0.09 - 0.33
SIG - High Desert	BI	Y2	0.71	11.7	0.1651	0.01 - 0.23	300 (C)	0.35	6.61	0.5794	0.02 - 0.45	2 (C)	0.22	10.27	0.2468	0.06 - 0.38
SIG - High Desert	ERC	V2	0.67	10.53	0.1607	0.02 - 0.16	300 (C)	0.54	2.3	0.5129	0.03 - 0.26	2 (C)	0	5.36	0.2523	0.17 - 0.17
SIG - High Desert	ERC	W2	0.68	11.56	0.1718	0.02 - 0.15	300 (C)	0.48	1.75	0.8822	0.02 - 0.29	2 (C)	0	11.42	0.1214	0.16 - 0.19
SIG - High Desert	ERC	X2	0.67	8.77	0.3622	0.01 - 0.11	300 (C)	0.37	2.95	0.8895	0.01 - 0.27	2 (C)	0.01	9.72	0.2854	0.16 - 0.19
SIG - High Desert	ERC	Y2	0.67	8.77	0.3622	0.01 - 0.11	300 (C)	0.37	2.95	0.8895	0.01 - 0.27	2 (C)	0.01	9.72	0.2854	0.16 - 0.19
SIG - High Desert	ERC	Y2	0.65	21.67	0.0056	0.01 - 0.17	300 (C)	0.22	7.07	0.4213	0.01 - 0.31	2 (C)	0.01	8.51	0.385	0.16 - 0.19
SIG - High Desert	IC	V2	0.59	17.83	0.0225	0.02 - 0.24	300 (C)	0.29	10.2	0.1777	0.02 - 0.39	2 (C)	0.03	11.18	0.1915	0.14 - 0.21
SIG - High Desert	IC	W2	0.68	12.87	0.1165	0.02 - 0.22	300 (C)	0.32	9.38	0.2267	0.02 - 0.43	2 (C)	0.06	8.09	0.4248	0.12 - 0.23
SIG - High Desert	IC	X2	0.78	9.13	0.3314	0.02 - 0.22	300 (C)	0.27	9.92	0.1931	0.02 - 0.31	2 (C)	0.03	7.26	0.5091	0.13 - 0.23
SIG - High Desert	IC	Y2	0.78	9.13	0.3314	0.02 - 0.22	300 (C)	0.27	9.92	0.1931	0.02 - 0.31	2 (C)	0.03	7.26	0.5091	0.13 - 0.23
SIG - High Desert	IC	Y2	0.79	12.29	0.1385	0.01 - 0.19	300 (C)	0.36	5.63	0.5835	0.02 - 0.25	2 (C)	0.07	11.79	0.1609	0.14 - 0.24
SIG - High Desert	SC	V2	0.16	23.34	0.003	0.04 - 0.13	300 (C)	0.22	19.26	0.0074	0.04 - 0.55	2 (C)	0.18	8.26	0.4084	0.04 - 0.28
SIG - High Desert	SC	W2	0.31	10.82	0.2121	0.04 - 0.11	300 (C)	0.25	12.1	0.0973	0.03 - 0.46	2 (C)	0.09	17.54	0.0249	0.06 - 0.29
SIG - High Desert	SC	X2	0.1	12.4	0.134	0.04 - 0.07	300 (C)	0.22	12.71	0.1222	0.03 - 0.41	2 (C)	0.21	9.94	0.2695	0.04 - 0.35
SIG - High Desert	SC	Y2	0.1	12.4	0.134	0.04 - 0.07	300 (C)	0.22	12.71	0.1222	0.03 - 0.41	2 (C)	0.21	9.94	0.2695	0.04 - 0.35
SIG - High Desert	SC	Y2	0.53	9.17	0.3281	0.03 - 0.16	300 (C)	0.42	4.04	0.6711	0.04 - 0.47	2 (C)	0.51	3.88	0.8678	0.01 - 0.37

APPENDIX L - POCKET CARDS

I. FDRA 1: SOUTHERN BLUES



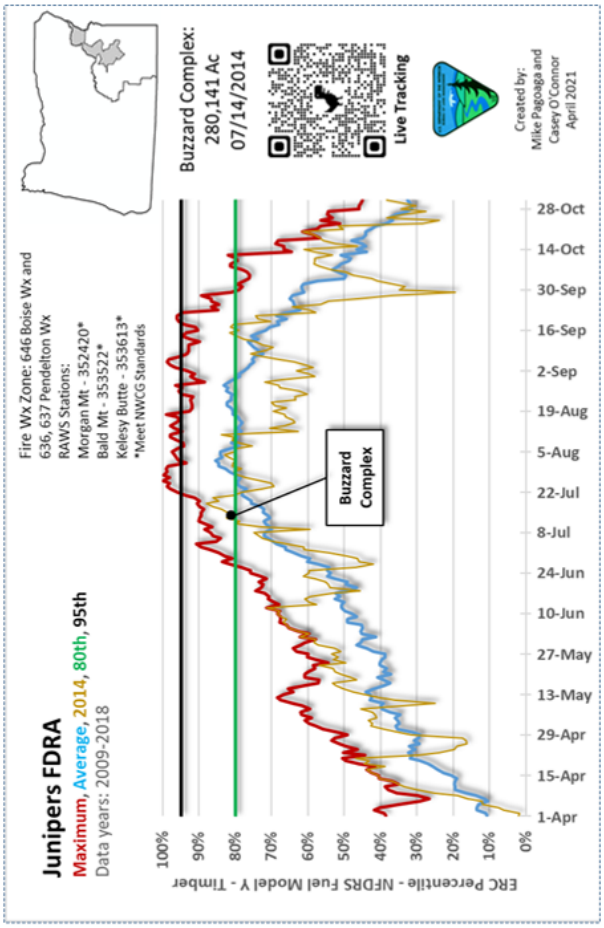
FIRE DANGER FACTS
ENERGY RELEASE COMPONENT
• ERC is calculated from the 1300 RAWS daily observations of temperature, humidity, precipitation, and daily ranges of temp & RH
• ERC can serve as a good characterization of a fire season as it tracks seasonal fire danger trends
• ERC has low variability and is the best fire danger component for indicating effects of intermediate to long-term drying on fire behavior
• Wind is **NOT** part of the ERC equation
LOCAL FACTORS
• There are many areas of recent fuels treatment work on the North End of the Zone with large accumulations of dead/down slash. Be especially cautious around cuts that still have needles attached (red slash).
• The Egley Fire Complex (2007) grew to >150,000 acres in ~10 days burning along the fringe between pine forests (heavy fuels) and sagebrush steppe (flashy fuels). Within this fire scar (as well as the old Pine Springs Basin Fire from 1990) there has been regrowth of grass and shrub components and there is the potential for a re-burn (especially following a frost kill in shrubs).
• 80% of large fires (>3 acres) occur on days with a Min. RH <21%.

Local Watchout Thresholds	
Any combinations of these factors significantly increase the potential for extreme fire behavior and containment difficulty.	
20ft winds	> 5
Min Rh	< 20%
Max Temp	> 80°

Past Fire Experience

Name	Size	Date	BI	ERC	TEMP	RH	Wind
Candy Kid	462	6/29/15	69%	67%	92	18	6
Drewsey	365	7/10/14	74%	66%	87	13	6
Theimer #2	276	8/21/11	79%	85%	89	17	3
Cow Creek	231	6/26/17	74%	70%	87	13	4
#9278	136	9/29/09	72%	74%	78	9	7

II. FDRA 2: JUNIPERS



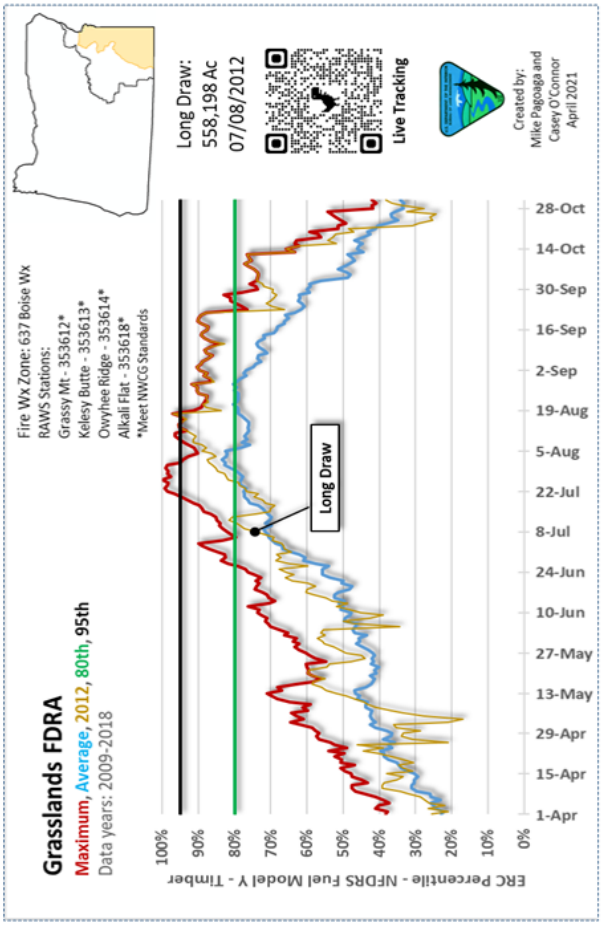
FIRE DANGER FACTS
ENERGY RELEASE COMPONENT
• ERC is calculated from the 1300 RAWS daily observations of temperature, humidity, precipitation, and daily ranges of temp & RH
• ERC can serve as a good characterization of a fire season as it tracks seasonal fire danger trends
• ERC has low variability and is the best fire danger component for indicating effects of intermediate to long-term drying on fire behavior
• Wind is **NOT** part of the ERC equation
LOCAL FACTORS
• Terrain is a significant factor of large fire growth within this FDRA, impacting weather patterns. Take extra precautions where wind and terrain align.
• Current fuels treatments within this FDRA are focused on Juniper encroachment. Be especially cautious around cuts that still have needles attached (red slash).
• Rugged terrain and limited access make initiating suppression strategies difficult.
• Lightning is the primary cause of ignitions, due to the presence of Pinyon Juniper ignitions can lay dormant for a few days following a lightning event.

Local Watchout Thresholds	
Any combinations of these factors significantly increase the potential for extreme fire behavior and containment difficulty.	
20ft winds	> 8
Min Rh	< 20%
Max Temp	> 80°

Past Fire Experience

Name	Size	Date	BI	ERC	TEMP	RH	Wind
Buzzard Complex	280,141	7/14/14	94%	81%	93	13	11
Windy Ridge	103,811	8/11/15	75%	78%	87	16	9
Bendire Complex	48,849	8/11/15	75%	78%	87	16	9
Cedar Mt	23,948	8/8/13	82%	86%	89	13	9

III. FDRA 3: GRASSLANDS



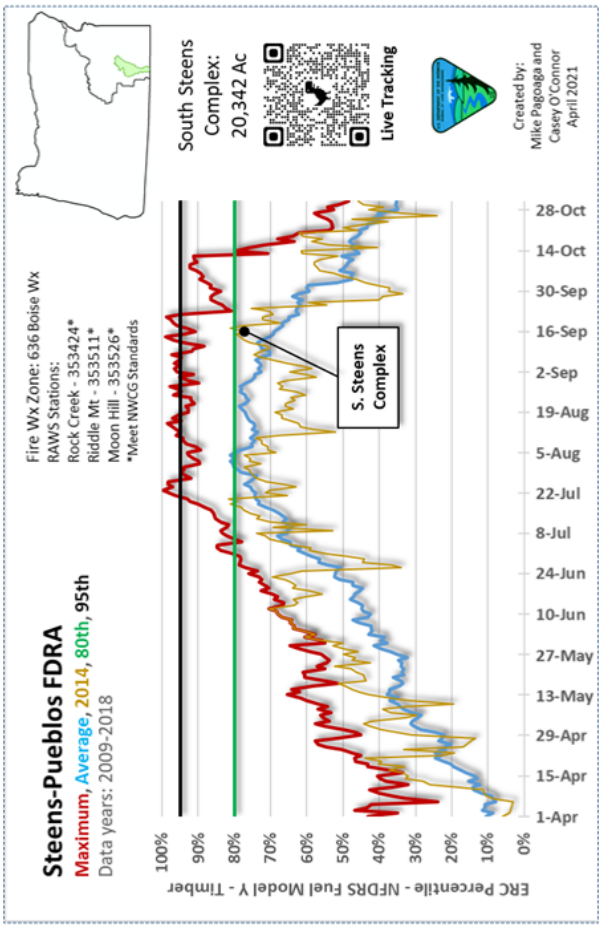
FIRE DANGER FACTS
ENERGY RELEASE COMPONENT
• ERC is calculated from the 1300 RAWS daily observations of temperature, humidity, precipitation, and daily ranges of temp & RH
• ERC can serve as a good characterization of a fire season as it tracks seasonal fire danger trends
• ERC has low variability and is the best fire danger component for indicating effects of intermediate to long-term drying on fire behavior
• Wind is **NOT** part of the ERC equation
LOCAL FACTORS
• Always KEEP ONE FOOT IN THE BLACK!
• Fine flashy fuels in this Fire Danger Rating Area can exhibit rapid fire growth
• There have been numerous large fires throughout this FDRA. Much of the shrub lands have been converted to grass. Fires move quickly through light flashy fuels and are heavily influenced by wind.
• The Long Draw Fire (2012) was estimated to grow about 400,000 ac in one burn period. Since then, there have been numerous smaller fires within this scar.
• Nearly 25% of all fires have been large fires (>500 acres).

Local Watchout Thresholds	
Any combinations of these factors significantly increase the potential for extreme fire behavior and containment difficulty.	
20ft winds	> 5
Min Rh	< 15%
Max Temp	> 90°

Past Fire Experience

Name	Size	Date	BI	ERC	TEMP	RH	Wind
Long Draw	558,198	7/8/12	69%	71%	94	11	10
Holloway	170,304	8/5/12	74%	86%	93	9	7
Owyhee	46,444	7/1/13	65%	61%	100	14	9
Cherry Rd	35,194	8/21/16	74%	87%	91	11	8
Owyhee Cyn	22,327	6/5/16	56%	61%	90	17	7

IV. FDRA 4: STEENS-PUEBLOS



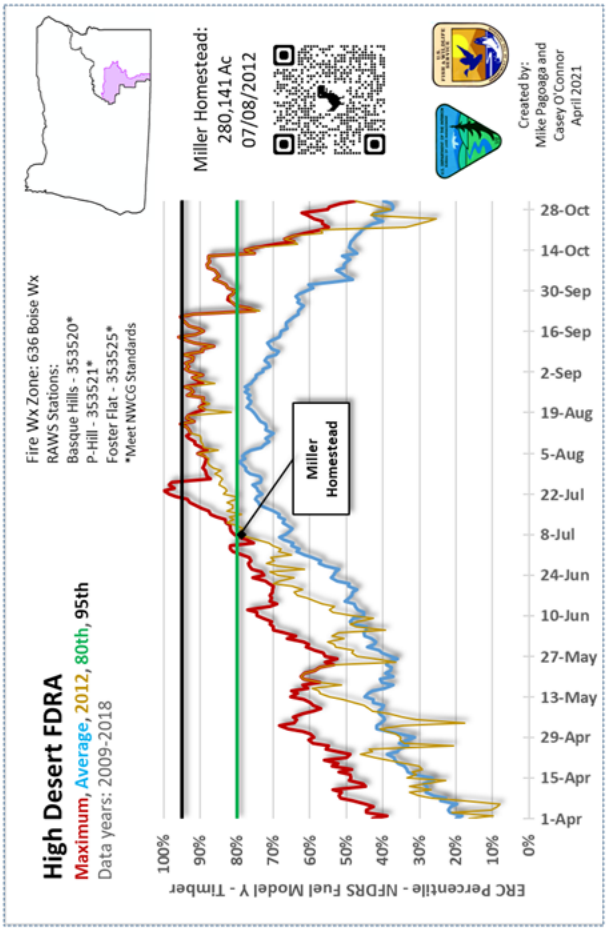
FIRE DANGER FACTS
ENERGY RELEASE COMPONENT
• ERC is calculated from the 1300 RAWS daily observations of temperature, humidity, precipitation, and daily ranges of temp & RH
• ERC can serve as a good characterization of a fire season as it tracks seasonal fire danger trends
• ERC has low variability and is the best fire danger component for indicating effects of intermediate to long-term drying on fire behavior
• Wind is **NOT** part of the ERC equation
LOCAL FACTORS
• Strong downslope winds are likely from high elevation cooling in afternoons at locations with abrupt elevation differences (East Side of Steens Mountain). Be prepared for fires to come down hill in the evening (especially off the east rim).
• Respect the diversity of topography, fuels, and weather (wind) exhibited within this unique landscape. Diurnal wind patters greatly impact fire spread.
• 30% of all starts within this FDRA reach large fire criteria (>150 acres).

Local Watchout Thresholds	
Any combinations of these factors significantly increase the potential for extreme fire behavior and containment difficulty.	
20ft winds	> 5
Min Rh	< 20%
Max Temp	> 80°

Past Fire Experience

Name	Size	Date	BI	ERC	TEMP	RH	Wind
S. Steens Complex	20,342	9/16/14	75%	75%	81	19	13
DSL Complex	6,534	8/25/11	66%	75%	88	14	9
House Crk	2,769	8/8/13	59%	74%	84	16	9
Upper Mine	2,500	7/24/17	70%	83%	91	12	9

V. FDRA 5: HIGH DESERT



FIRE DANGER FACTS
ENERGY RELEASE COMPONENT
• ERC is calculated from the 1300 RAWS daily observations of temperature, humidity, precipitation, and daily ranges of temp & RH
• ERC can serve as a good characterization of a fire season as it tracks seasonal
• ERC has low variability and is the best fire danger component for indicating effects of intermediate to long-term drying on fire behavior
• Wind is **NOT** part of the ERC equation
LOCAL FACTORS
• Always KEEP ONE FOOT IN THE BLACK!
• Fine flashy fuels in this Fire Danger Rating Area can exhibit rapid fire growth, however offer functional safety zone shortly after flame front passage.
• Fuels in this area facilitate rapid ROS; the Cinder Butte Fire in 2017 made a 20 mile run in ~ 6 hours. Miller Homestead fire in 2012 had ~80,000 acres of growth in one burn period.
• Pay attention to alignment of ERC and BI. High end combination of these two indices facilitates extreme fire days. This has occurred on nearly all large fire days within this area

Local Watchout Thresholds	
Any combinations of these factors significantly increase the potential for extreme fire behavior and containment difficulty.	
20ft winds	> 5
Min Rh	< 15%
Max Temp	> 90°

Past Fire Experience

Name	Size	Date	BI	ERC	TEMP	RH	Wind
Miller Homestead	160,801	7/8/12	66%	73%	96	7	9
Cinder Butte	52,464	8/2/17	60%	80%	98	10	5
Lava	7,081	8/12/13	52%	65%	87	13	6
Catlow	5,249	10/1/11	72%	64%	86	10	19
Gumboot	4,420	7/14/14	55%	65%	97	11	8