INSTRUCTOR: Instructor's Name(s)

LESSON: Lesson 13 – Case Study

UNIT: Day 3

WORKSHOP: NFDRS2016 Rollout Workshop

OBJECTIVE(S)

Upon completion of this lesson, participants will be able to:

1. Demonstrate an approved FDOP which illustrates the connection between local fire occurrence issues and decisions based on fire danger products.

NARRATIVE

I. INTRODUCTION

This case study will be presented in four parts:

- Overview of the two incidents
- Background information regarding local interagency FDOP
- The FDOP and decision-support
- Discussion questions

II. THE SITUATION: BALD MOUNTAIN AND POLE CREEK FIRES

A. Bald Mountain Incident Overview

The Bald Mountain Fire was discovered on August 24 at 12:23 hours in the Mount Nebo Wilderness of the Uinta-Wasatch-Cache National Forest near Bald Mountain. Bald Mountain was caused by lightning; most likely started from a storm two days prior which brought a copious amount of rain.

The WFDSS comments associated with the Bald Mountain Fire revealed four primary reasons for choosing a monitor strategy:

1. It was a natural ignition;

2. A recent rain event brought over 2" of precipitation in approximately 11 hours two days prior to the discovery of the Bald Mountain Fire;

Note:

> The closest RAWS (Rays Valley) recorded 2.28" of rain on August 22nd. Bald Mountain was discovered two days later. Although fire danger moderated significantly during the period of precipitation, it was very short-lived. The Burning Index returned to the 90th percentile within 3 days; the Energy Release Component returned to the 90th percentile within 10 days.

3. The elevation of the fire was thought to be nearly 11,000 feet;

Note:

> Nearly every reference to the Bald Mountain Fire elevation at the point of origin is thought to be "just below 11,000 ft."; however, a closer examination of the elevation at the coordinate given for the origin is near 9,200 ft.; not much higher in elevation than the Pole Creek Fire at 8,200'. The peak elevation of Bald Mountain is 10,918 ft.; it's likely that the peak elevation was mistakenly considered to be the fire elevation.

4. The location of the fire was in a designated wilderness area.

   Over the course of the next 2-3 weeks, the fire grew to about 20 acres.

   On the afternoon of September 12, the fire became very active due to low RH and high winds and quickly spread downslope through the evening and the following day.

B. Pole Creek Incident Overview

The Pole Creek Fire was started by lightning on September 6 at 10:39 hours.

The fire is located in the Nebo Loop area south of Summit trail #113 on the Spanish Fork Ranger District of the Uinta-Wasatch-Cache National Forest in Juab County. This area is heavily used by recreationists. The Pole Creek Fire was reported to be approximately ¼-acre on September 8th and 9th.

III. BACKGROUND INFORMATION REGARDING LOCAL INTERAGENCY FDOP

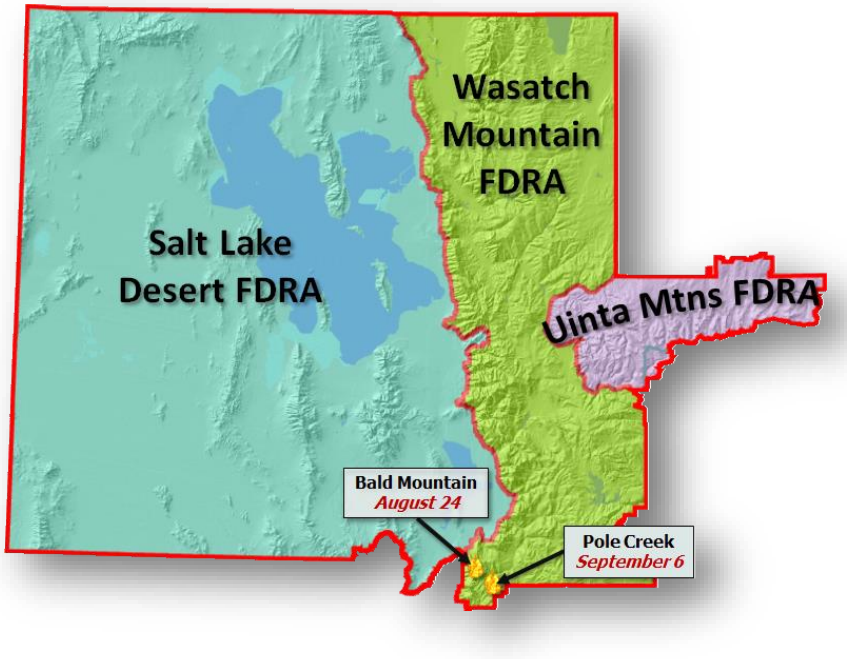
The Northern Utah Interagency Fire Danger Operating Plan provides fire danger-based decision-support to the five primary wildland fire management agencies responsible for wildland fire management in Northern Utah (BLM, USFS, USFWS, NPS, and State of Utah). The Northern Utah FDOP can be found here => https://gacc.nifc.gov/gbcc/dispatch/ut-nuc/management/docs/FDOP_NUtah_FDOP_2012.pdf

The Northern Utah FDOP has been revised five times (since 2000). Since 2004, the Northern Utah Interagency Fire Center (NUIFC) area has been used for an example study area for the Advanced NFDRS course taught at the National Advanced Fire and Resource Institute (NAFRI) in Tucson, Arizona. In addition, this plan has been utilized as an example for many Fire Danger Operating Plans throughout the United States. This widespread exposure can be attributed to

the support by fire management leadership and serves as an interagency example where consistent and effective applications of fire danger decisions have been successfully applied across multiple jurisdictional boundaries.

C. Fire Danger Rating Areas

Fire Danger Rating Areas were delineated based upon an analysis of climate, vegetation, and topography. After these environmental factors were considered, the draft FDRAs were edge-matched to existing Response Zones. It was important that existing Response Zones were not split by an FDRA to avoid additional workload and confusion for operational personnel.



D. Fire Danger Applications

5. Preparedness

a. Preparedness Level Determination

Local Preparedness Level Worksheet

#1	**Energy Release Component (ERC)**									
	Model 7G (FDRA #1)	0 – 55		56 – 72		73 – 87		88 – 94		95 +
	Model 7G (FDRA #2)	0 – 49		50 – 64		65 – 76		77 – 83		84 +
	Model 7G (FDRA #3)	0 – 30		31 – 40		41 – 50		51 – 61		62 +
#2	**Live Fuel Moisture (%)**									
	Sagebrush (Salt Lake Desert FDRA)	100 +	< 100	100 +	< 100	100 +	< 100	100 +	< 100	100 +	< 100
	Oakbrush (Wasatch Mountains FDRA)	100 +	< 100	100 +	< 100	100 +	< 100	100 +	< 100	100 +	< 100
	Pine Needles (Uinta Mountains FDRA)	100 +	< 100	100 +	< 100	100 +	< 100	100 +	< 100	100 +	< 100
#3	**1-hour Fuel Loading (tons/acre)**									
	> 1 ton/acre		No	Yes	No	Yes	No	Yes	No	Yes	
	Local Preparedness Level	1		2		3		4		5	

b. Preparedness Plan

Each agency is expected to *consider* pre-identified management actions based upon five local Preparedness Levels.

Appendix G – Preparedness Level Actions

The following Preparedness Level actions are guidelines for agency personnel. They are discretionary in nature and usually will require a consensus between agency personnel prior to implementation.

Responsible Party	Suggested Action	PL 1	PL 2	PL 3	PL 4	PL 5	Affected Entity
Agency Administrator	Ensure supervisors approve fire availability of staff and notify Duty Officer.	•	•	•	•	•	Agency
	Ensure resource advisors are designated and available for fire assignments.	•	•	•	•	•	Agency
	Evaluate work/rest needs of fire staff.		•	•	•	•	Agency
	Consider need for fire restriction or closures.				•	•	Public Industry
	Provide appropriate political support to fire staff regarding the implementation of preparedness level actions.			•	•	•	Agency Public Industry
	Review and transmit severity requests to the appropriate level.				•	•	Agency
	Issue guidance to respective agency staff indicating severity of the season and increased need and availability for fire support personnel.				•	•	Agency
Fire Staff Officer or FMO	Evaluate season severity data (BI and ERC trends for season, fuel loadings, live FM, drought indices, and long term forecasts).	•	•	•	•	•	Agency
	Evaluate fire staff work/rest requirements.		•	•	•	•	Agency

6. Staffing

c. Staffing Level Determination

Staffing Levels are established to assist fire managers with internal/agency staffing decisions. NUIFC's process for determining local Staffing Levels is not the same as Staffing Level calculated directly from WIMS. WIMS calculates Staffing Level on climatological breakpoints; NUIFC calculates Staffing Level are a function of Dispatch Level, current fire activity, and the potential for ignitions in the next 24-hour period.

Staffing Level Worksheet
Northern Utah Interagency Fire Center

Dispatch Level →		LOW		MODERATE		HIGH	
Fire Activity? (Y/N)	N	1	2	2	3	3	4
	Y	2	3	3	4	4	5
		N	Y	N	Y	N	Y

Significant Fire Potential?
Forecasted High Risk Day/Event (Y/N)

d. Staffing Plan

Each agency develops their own respective management actions based upon five Staffing Levels.

7. Prevention

e. Adjective Level Determination

Although WIMS will automatically calculate the adjective class rating, NUIFC manually determine Adjective Fire Danger Rating based upon fire business thresholds. The actual determination of the daily adjective rating is based on the current or forecasted value of a selected staffing index (ERC) and ignition component using a table (such as this one below).

Wasatch Mountains FDRA
Adjective Fire Danger Rating

Staffing Index (ERC-G)					
0 – 54	L	L	L	M	M
55 – 68	L	M	M	M	H
69 – 76	M	M	H	H	VH
77 – 83	M	H	VH	VH	E
84 +	H	VH	VH	E	E
	0-20	21-45	46-65	66-80	81-100

Ignition Component (G)

f. Sign Plan (in the Prevention Plan)

8. Response

g. Response Level Determination

Dispatch Level Worksheet
Northern Utah Interagency Fire Center

Fire Danger Rating Area (FDRA)	Burning Index (Model G)		
Salt Lake Desert FDRA	0 - 65	66 - 83	84 +
Wasatch Mountains FDRA	0 - 59	60 - 73	74 +
Uinta Mountains FDRA	0 - 43	44 - 58	59 +
Dispatch Level →	LOW	MODERATE	HIGH

h. Response Plan

Agency personnel use the response level (dispatch level) to assign initial attack resources based on pre-planned interagency “Run Cards.” Combined with predefined Response Zones, the Response Level is used to assign an appropriate mix of suppression resources to a reported wildland fire based upon fire danger

potential. The response levels are derived from the most appropriate NFDRS index and/or component that correlate to fire occurrence. Burning Index (BI) with NFDRS Fuel Model G has been determined to be the most appropriate NFDRS index that statistically correlates to the potential for large fires to occur. Due to the ability of BI to reflect the most current fire danger potential, and the Dispatch Center's ability to track agency personnel throughout the course of any given day, BI is computed and implemented for initial attack response levels until a qualified Incident Commander evaluates the need for the dispatched resources.

ZONE 26
South Nebo Unit (USFS, Private, Juab County)
FDRA: 479 (Wasatch)

Follow these procedures in the order listed

PROCEDURES	****Contact Richfield Interagency Fire Center to coordinate the response.** -Ensure aviation dispatches and assigned air frequencies are coordinated between Richfield Interagency Fire Center and NUIFC. *If report meetz discretionary criteria call appropriate Duty Officer to determine response (Reference p.1)* **Dispatch closest forces based on current dispatch level** - See table below for number and type of resources to be dispatched. Suggested closest resources (these are only suggestions to help the dispatcher get started): Juab County Fire Warden FS Engine (Spanish Fork) FS IA Squad (Spanish Fork) BLM Engine (Little Sahara) FS Engine (Pleasant Grove) FS Ownership, verify default initial response on Red/Green map. Ensure Duty Officer and IC informed. **If aircraft is dispatched:** Consider/Initiate a TFR **Primary notifications:** FS South Zone Duty Officer Richfield Interagency Fire Center (435) 896-8404 Utah Valley Dispatch (801) 794-3970 Juab County Dispatch (435) 623-1344 have them notify the County Fire Warden FS Patrol Captain [redacted] acting, if a threat to FS land

DISPATCH LEVEL	LOW	MODERATE	HIGH
RESOURCES (Minimum)	•Contact Duty Officer	•1 Resource- Engine or IA Squad	•2 Resources- Engines or IA Squads •1 Helicopter

IV. THE FDOP AND DECISION-SUPPORT

E. Preparedness Actions

F. Staffing Actions

G. Prevention Actions

H. Response Actions

V. DISCUSSION QUESTIONS

I. Xxxxx

9. Xxxxx

a. Xxxxx

(1) Xxxxx

(a) Xxxxx

VI. SUMMARY

J. Xxxxx

REVIEW OBJECTIVE(S)

REFERENCES