



Intent, Policy, and Guidance for Fire Danger Rating and Implementing NFDRS2016

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OBJECTIVE(S)

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

1. Outline the expectations for workshop participants, instructors and coaches.
2. Provide an overview of the NFDRS2016 Rollout.
3. Identify sources for specific agency guidance related to fire danger planning and associated weather station networks.
4. Introduce the interagency Fire Danger Operating Plan Template.

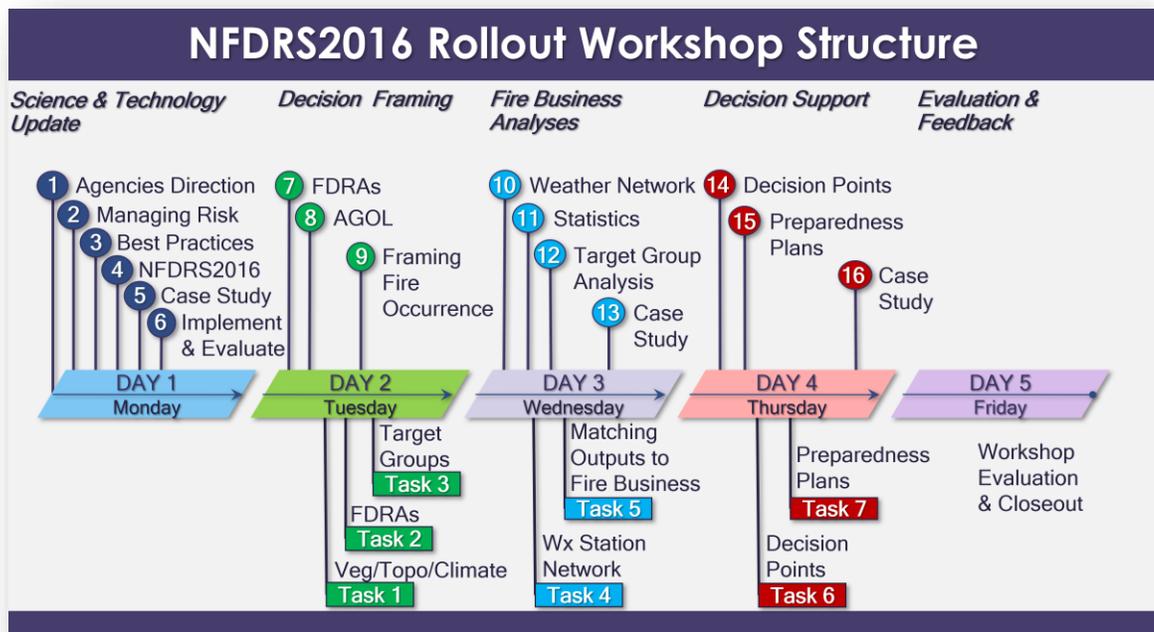
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NARRATIVE

I. INTRODUCTION

Since its implementation in 1972, the National Fire Danger Rating System has been able to provide fire managers with analytics based upon a comparison of current weather observations to archived weather data. The system was first updated in 1978; and again in 1988. Although the original developers intended for periodic improvements to be incorporated as science and technology improved, the system has remained fundamentally untouched the past 40 years. Yet, there is a much greater need for state-of-the-art tools to assist administrators, managers, resource and operational specialists—any decisionmaker—sort through the daunting complexities and conflicting priorities which influence fire-related decisions. These decisions have the potential to result in costly, long-term impacts to the environment; more importantly, the safety and welfare of our employees and the public could be compromised.

This is the first of 16 presentations intended to prepare wildland fire personnel for the consistent implementation of NFDRS2016. A heavy reliance on updates to local interagency Fire Danger Operating Plans (FDOPs) is the basis of this curriculum.



II. ROLLOUT WORKSHOP STRUCTURE & PROCESS

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This workshop is intended to be a series of sequential presentations (or lessons) which “set the stage” (precede) 7 group Tasks (or exercises). This curriculum is intended to be a workshop where Groups, comprised of interagency decision-makers, work collaboratively with their data in their respective jurisdictional area.

The information gleaned from the lessons is intended to provide broad, but consistent, guidance to interagency units as they complete the next task in the development of their Fire Danger Operating Plan. Each of the seven tasks build upon each other sequentially to reach the desired end-state.

- A. **Groups:** Each group is comprised of interagency specialists who represent their respective agency in a local (or 3rd Tier) Dispatch Center. The target is those who have the delegated responsibility to make staffing, response, and preparedness decisions for their agency.

- B. **Pre-workshop Webinars:** Five webinar components have been made available for Geographic Area Leadership to help facilitate pre-workshop tasks. These webinars include an overview of NFDRS2016, ArcGIS set-up, delineation of response zones, building a FireFamilyPlus database, and model evaluation. The success of the workshop is contingent upon completion of these webinars.

- C. **Presentations:** The presentations are intended to be short (less than 1 hour) facilitative discussions which provide essential information and collaborative dialog for all workshop participants. The presentations are intended to present just enough information and concepts, that there is consistency amongst the Groups as they begin the corresponding Task.

- D. **Tasks:** The information gleaned from the presentations is intended to provide broad, but consistent, guidance to interagency units as they complete the next task in the development of their Fire Danger Operating Plan. Each of the seven tasks build upon each other sequentially to reach the desired end-state.

- E. **Case Studies:** Three examples of fire danger applications compare past/current NFDRS with NFDRS2016. Lessons 5, 13, and 16 are intended to be decisional and analytical case studies which challenge participants to move to higher orders of learning by prompting them to ask “how” the issues are related to one another and “why” things happen the way they do. By learning how to identify the patterns of decision-makers, participants can improve their analytic skills. The curriculum provides two cases studies for Lessons 5 & 13. Lesson 16 is open for a local case study example.

III. WORKSHOP EXPECTATIONS

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A. Instructors

1. Start / end presentation(s) on time
2. Keep focused on the lesson intent; avoid “chasing rabbits”
3. Encourage questions, but answer with brevity; defer detailed explanations to the coaches when with their groups

B. Coaches

1. Mentor, coach, motivate and facilitate
2. Be the group’s personal subject-matter expert
3. Keep the group focused and on-schedule
4. Be available; be approachable
5. Stay engaged; don’t miss a breakout / meeting

C. Participants

1. Participants are expected to participate and fully engage as a team member with their respective group
2. Participants should be respectful of other participants, instructors, and coaches.
3. Participants should address questions, comments, and concerns with their respective coach(es)
4. Become aware disclose your cognitive biases; keep an open mind; be receptive to new concepts and procedures

IV. OVERVIEW OF THE NFDRS2016 ROLLOUT PLAN

A. Background

1. Researchers at the Rocky Mountain Research Station (RMRS) Missoula Fire Sciences Laboratory in Montana, Montana, developed a new process to calculate live and dead fuel moisture in the fire danger models we refer to (collectively) as the National Fire Danger Rating System (or NFDRS).

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2. At the September 17, 2014, National Wildfire Coordination Group (NWCG) Executive Board meeting, the proposal to incorporate changes to NFDRS was presented and adopted.
3. NFDRS2016 was field tested during the 2017 fire season, and the results indicated the new system was ready for broad scale implementation.
4. In December 2017, an initial Rollout Plan was developed and disseminated from the Forest Service to all other Federal, State, and Private wildland fire agencies.
5. A National NFDRS2016 Rollout Workshop was held at the National Advanced Fire & Resource Institute (NAFRI) in Tucson, AZ, from April 30 to May 4, 2018.
6. The Geographic Area Leadership Group Evaluation and Curriculum meeting was held at NAFRI from October 2 – 4, 2018 to provide additional support and guidance to the leadership from each geographic area.
7. The NFDRS2016 rollout workshops began during winter/spring 2019 as a collaborative interagency endeavor endorsed by the NWCG Fire Danger Subcommittee.

B. Guidance and Direction

1. National Wildfire Coordinating Group (NWCG)
 - a. Memorandum No 14-018 — Issued November 2014
 - (1) The NWCG Executive Board announced the approval to make changes to the NFDRS
 - (2) Expected the changes to be complete in 2016
 - (3) This memorandum included a briefing paper
 - b. [Memorandum No 16-019](#) — Issued September 2016
 - (1) Provided an update on the revisions to NFDRS.
 - (2) Announced that workshops to support the transition to NFDRS2016 were being arranged for each Geographic Area for winter 2016-spring 2017.
 - (3) Completion of the updated system, NFDRS2016, was expected November 1, 2016.

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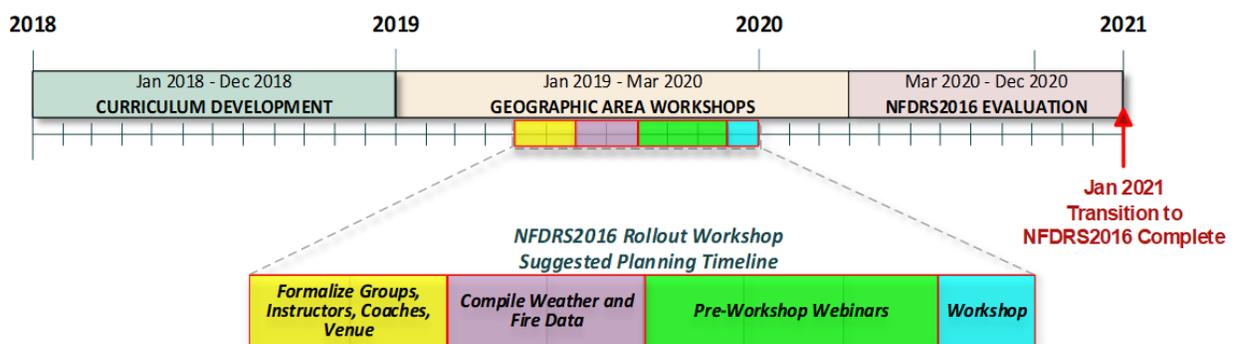
- c. [Memorandum No 18-001](#) — Issued February 2018
 - (1) Announced the release of NFDRS2016 to replace the 1978 and 1988 versions of NFDRS
 - (2) Established a timeline for full transition by May 2020.
 - d. [Memorandum No 19-002](#) — Issued July 2019
 - (1) Updated the rollout plan, including the timeline due to capacity issues, compounded by the prolonged federal government shutdown which was creating challenges in conducting the Geographic Area NFDRS 2016 Rollout workshops.
 - (2) The National Incident Management Organization (NIMO) and the Joint Fire Science Program Exchange Networks (JFSP) would be assisting with the rollout effort.
 - (3) Geographic Area rollout workshops will be completed prior to March 2020.
 - (4) Evaluation of thresholds and decisions between March 2020 and December 2020.
 - (5) Complete transition to NFDRS2016 by January 2021.
2. Interagency Standards for Fire and Fire Aviation Operations (Red Book)
- The [Interagency Standards for Fire and Fire Aviation Operations](#) (Red Book, [Chapter 10](#)) states: “At the local level, preparedness planning and the resultant activities begin with a Fire Danger Operating Plan (FDOP), which includes a number of other plans that result in coordinated actions based on the fire situation.
- a. **USDI - Bureau of Land Management** the Red Book provides policy and guidance for Bureau of Land Management fire and aviation program management as referenced in BLM Manual Section (MS) [9200 Fire Program Management](#). In accordance with [BLM IM FA-IM-2019-004](#), some Red Book language is replaced by the IM pertaining to the FDOP for the BLM.
 - b. **USDA Forest Service** the Red Book is intended to be a program reference guide that documents the standards for operational procedures and practices for the USDA Forest Service Fire and Aviation Management program

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- c. **USDI - Fish and Wildlife Service** - Red Book supplements policy for the U.S. Fish and Wildlife Service (Service or FWS) Wildland Fire Management Program.
- d. **USDI - National Park Service** - Red Book is considered supplemental policy to NPS [Reference Manual #18](#) and [Director's Order #18](#) *Wildland Fire Management*.
- e. **USDI – Bureau of Indian Affairs** - Red Book is supplemental policy to the [Indian Affairs Manual \(IAM\)](#), Part 90, Chapter 1. Organization and Responsibilities

C. Timeline (Past & Present)

1. **January 2018 to April 2018:** Formation of Geographic Area groups.
2. **April 2018 to December 2018:** Sponsored a National Rollout Workshop at NAFRI the week of April 1 – May 4, 2018; curriculum for S-491, ANFDRS, and the roll-out curriculum were modified to incorporate NFDRS2016; GA Leadership Groups attended an Evaluation & Curriculum meeting at NAFRI to prepare for GA workshops.
3. **January 2019 to March 2020:** Geographic Area Leadership groups conducted NFDRS2016 rollout workshops for local units.
4. **March 2020 to December 2020:** Local units will evaluate NFDRS 2016 outputs and finalize new fire management decision thresholds based on the new model.
5. **January 2021:** All units will be fully transitioned to NFDRS 2016
6. **January 2022:** NFDRS 78/88 versions will be decommissioned.



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V. INTERAGENCY FIRE DANGER OPERATING PLAN (FDOP) TEMPLATE

- A. An Interagency Fire Danger Operating Plan template has been developed for you to use. It represents the best efforts of multiple subject-matter experts over the course of several years.
- B. **Desired End-State:** The expectation at the end of the workshop is that each group has developed the following:
1. **Fire Danger Operating Plan (FDOP)** – an interagency FDOP which describes, for each Fire Danger Rating Area (FDRA), an analysis of historical fire occurrence and weather observations with rationale to support decision points determined from either climatological breakpoints or fire business thresholds. Minimally, each group will determine the following fire danger levels (reference Lesson 3 and FDOP Template):
 - a. Preparedness Levels (5)
 - b. Staffing Levels (5)
 - c. Response Levels (3-5)
 - d. Adjective Fire Danger Rating Levels (5)
 2. **Appendices** – Minimally, the following plans will be incorporated as preparedness action plans tiered from the FDOP (Lesson 3 and FDOP Template):
 - a. **Preparedness Level Plan:** Preparedness plans provide management direction given identified levels of burning conditions, fire activity, and resource commitment; they are required at national, state/regional, and local levels. Preparedness Levels (1 to 5) are determined by incremental measures of burning conditions, fire activity, and resource commitment. Fire danger rating is not the only factor which determines Preparedness Levels; however, it is certainly a critical measure of burning conditions. Fire danger rating, and other inputs to the determination of Preparedness Levels, is identified and documented in the FDOP; the associated actions at each of the five Preparedness Levels is documented in the Preparedness Level Plan.
 - b. **Staffing Plan:** The Staffing Plan describes escalating responses that are usually noted in the FMP. As fire danger increases or decreases, pre-identified actions can be identified 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

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cannot meet initial attack, prevention, or detection needs. The decision points are identified and documented in the FDOP; the associated staffing and planned actions are located the Staffing Plan.

- c. **Response Plan:** Initial Response Plans (often referred to as “Run Cards”) specify the fire management response (e.g. number and type of suppression assets to dispatch) within a defined geographic area (referred to as a Response Zone). The determination of Response Levels is described and documented in FDOP. The associated number and type of suppression resources dispatched to fire is documented in the associated Initial Response Plan. Since the initial response to reported fires is typically an interagency effort, fire managers, including dispatch personnel, should meet annually prior to fire season to review and revise the pre-determined responses in the Response Plan.
- d. **Prevention Plan (Only the Fire Danger Components):** Using Adjective Fire Danger Rating Levels determined in the FDOP, include (at a minimum) those sections that pertain to fire danger-based decisions affecting the public, such as who and when fire danger signs are changed.

Refer to agency-specific guidance/policy regarding the incorporation of other fire danger-related decisions, such as restrictions and closures.

VI. SUMMARY

The FDOP provides the framework for decision support based on fire danger rating. However, the specific actions which are associated with the decision points identified in the FDOP are outlined in subordinate plans; specifically, Staffing, Response, Prevention, and Preparedness Level Plans.

This curriculum is designed to walk participants through the process of incorporating NFDRS2016 in Fire Danger Operating Plans. Federal agencies have endorsed this curriculum to accomplish the transition to NFDRS2016 by January 2021.

REVIEW OBJECTIVE(S)

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

1. Outline the expectations for workshop participants, instructors and coaches.
2. Provide an overview of the NFDRS2016 Rollout.
3. Identify sources for specific agency guidance related to fire danger planning and associated weather station networks.

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4. Introduce the interagency Fire Danger Operating Plan Template.

REFERENCES

- National Interagency Fire Center. (2020, January 01). Interagency Standards for Fire and Fire Aviation Operations. *Interagency Standards for Fire and Fire Aviation Operations*. (I. S. Operations, Ed., & I. S. Group, Compiler) Boise, ID, US: National Interagency Fire Center (U.S.). Retrieved from National Interagency Fire Center - Policies: https://www.nifc.gov/policies/pol_ref_redbook.html
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