Flathead National Forest Plan

Fire and Fuels Management Monitoring Guide and Evaluation of Results (MON-FIRE)

Point of Contact

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Introduction

This document provides the instructions and information needed to address the forest plan monitoring items associated with fuels management and fire. Recognizing that multiple people may be involved in the forest plan monitoring task, monitoring items have been grouped into separate documents based on the main resource area and primary contact person. The monitoring items included in this document are listed below:

Monitoring Item and Question (Chapter 5 of Flathead Forest Plan)
MON-FIRE-01. What management actions are contributing towards reducing wildland fuels?
MON-FIRE-02. To what extent is natural fire used to achieve desired ecological, social, or economic conditions?
MON-FIRE-03. To what extent is prescribed fire used to achieve desired ecological, social, or economic conditions?

Purpose and Outline of this Document

Each individual monitoring item in the Forest Plan monitoring program (Chapter 5 of the Plan) has been addressed in a document such as this one, which is intended to serve as the primary location for information needed to conduct the monitoring and to record the results. It is designed to aid in the tracking and preservation of monitoring methods, data and results over the life of the plan. It is anticipated that these documents would be revisited and used as a guide to conduct the monitoring for each biennial reporting; to see past results and record new results; and updated where needed based on recommendations for change in the previous biennial report.

This document is **NOT** the final Biennial Monitoring Evaluation Report (MER), but it should contain most if not all the information needed to prepare that report, and functions as project record material for the biennial MER.

Each monitoring item in this document is organized into five main sections:

- **Introduction:** Key information from the monitoring plan (i.e. indicators, plan component being monitored, data source/collection)
- **Methods**: Detailed information on how the monitoring will be accomplished, the intent of the selected indicators, data sources and confidence levels, etc.
- **Results:** Summary of the monitoring data used and the results for the current biennial monitoring report.

- **Discussion of Results**: A fact-based discussion of results.

- **Evaluation of Results for Adaptive Management Finding:** Evaluation of what the results mean in terms of management decisions. This information is incorporated into the Biennial Monitoring Evaluation Report.

FIRE AND FUELS MANAGEMENT MONITORING (MON-FIRE)

MON-FIRE-01. What management actions are contributing towards reducing wildland fuels?

Introduction

Desired conditions in the plan that are being monitored are as follows:

FW-DC-Fire-02: In areas where wildfires on NFS lands pose a threat to communities and community assets (e.g., power lines, communication towers, developed recreation sites, recreation residences, adjacent private land, and structures), wildland fuel is reduced so the expected fire behavior is reduced.

FW-DC-Fire-03: The full range of fire management activities, including wildland fires (prescribed fire and wildfire), are recognized and used by forest administrators as an integral part of achieving ecosystem sustainability, including interrelated ecological, economic, and social components such as improved ecosystem resilience and wildlife habitat, protection of property and other values at risk, and public safety.

Forest-wide objective FW-OBJ-Fire-01 says "Move towards or maintain the desired conditions for fuel management by treatment (such as mechanical or prescribed fire) of forest vegetation on approximately 50,000 to 75,000 acres, utilizing all available management opportunities that contribute to reducing fire impacts to private property and NFS infrastructure, with an emphasis on the wildland-urban interface." These acres are accomplished over the life of the plan (15 years), utilizing all available management opportunities that contribute to reducing fire impacts.

Table 1. MON-FIRE-01. plan components, indicators, data source, data collection interval and point of contact

Plan Component(s)	Indicators	Data Source / Partner	Data collection interval	Point of Contact
FW-OBJ-FIRE-01 FW-DC-FIRE-02 FW-DC-FIRE-03	IND-FIRE-01: Acres of fuel reduction treatments in and out of the wildland-urban interface IND-FIRE-02: Acres of treatment effectiveness by treatment type.	R1 Fire/Fuels Report FACTS database Fuels treatment effectiveness monitoring (FTEM) database	Annually	Forest fire management officer

Methods

IND-FIRE-01: FACTS (Forest Activity Tracking System) is a spatially mapped database recording all management activities and natural events that alter vegetation. Reports from FACTS would provide a summary of treatments in and out of the wildland urban interface and by treatment activity type (e.g., burning, harvesting, etc.).

The FACTS analysis was created as follows:

Facts activities report summarized for FY 19 & 20 and then the ISWUI was used as a summary to find Y = within WUI and N = Not with in WUI and units that didn't specify Y/N were captured as N. (See Separate Write-up for specific FACTs query).

Then activities were grouped and summarized into the report in Table 3.

IND-FIRE-02: Annually, the Fuel Treatment Effectiveness Monitoring (FTEM) application collects data that documents the effectiveness of fuel treatments on wildland fire behavior when a wildland fire intersects with a previously applied hazardous fuels reduction treatment. The effectiveness of fuel treatment activities directly measures success in protecting firefighters and the public from wildland fire, reduces the loss of structures and investments, and documents the need to continue with the integrated vegetation management program. By reviewing this information, the affected treatment types may be evaluated for future implementation or modification of the treatment parameters. The results of this evaluation are summarized for this forest plan monitoring item. FTEM is a module in the Interagency Fuel Treatment Decision Support System (https://iftdss.firenet.gov).

The regional office has summarized the data and provided in a spreadsheet.

Results

Table 2: Monitoring Evaluation Report – summary of data sources for MON-FIRE-01. Management actions contributing towards reducing wildland fuels

Year of Report	Indicator	Date of Data Collection/Compilation	Data confidence
2021	**IND-FIRE-01**	FACTS data base: Fiscal Year 2019 and 2020 acres accomplished	High

Table 3: Monitoring results for MON-FIRE-01. Management actions contributing towards reducing wildland fuels

Indicator	Monitoring date and data results 2021 (Years 2019/2020 combined)	Monitoring date and data results 2023 (Years 2021, 2022)		
IND-FIRE-01: Acres of fuel reduction treatments - Inside WUI - Outside WUI	 14,241.4 7,616.5			
Treatment Types:				
Broadcast Burning	965.5			
Pile Burning	2,302.5			
Timber Harvesting	5,065.4			

Indicator	Monitoring date and data results 2021 (Years 2019/2020 combined)	Monitoring date and data results 2023 (Years 2021, 2022)		
Mechanical	380.2			
Chip/Crush	533.1			
PCT/CT	6,470.0			
Pile/Move	5,673.8			
Prune	255.7			
Fuel Break	211.7			
IND-FIRE-02: Acres of treatment effectiveness by treatment type				
Treatment Acres Burned	93.7			
Treatment Contribute to Control - Rate	78%			
Fire Behavior change Rate	78%			
Strategic Location	78%			

Discussion of Results

The acres of fuel reduction from 2010 to 2018 inside WUI averaged 7,267 ac./yr. and outside WUI 2,432 ac/yr. These are comparable to the monitoring period. The data from FACTS was simplified into groups by activity code with documentation to support future comparison.

While the mechanical and contract work is dependent on funding the amount of prescribed burning has been weather dependent. We have missed three consecutive years of unfavorable fall weather conditions resulting in the relatively low number of acres burned by broadcast. This has left a large number of units uncompleted. We are prepared to take advantage of any opportunities that come open. However, the use of summer burning and wildfires may ultimately be part of the long-term solution considering the unreliable fall burning windows.

Currently, the agency is pushing for increased output in fuels acres accomplished. So, the overall trend should increase.

We have recently completed the 10-year CFLRP project which has decreased current funding of fuels work to the Forest. We continue to compete for additional funds from the agency. Also, the Forest has engaged with the National Forest Foundation partly to work on external funding opportunities that may provide additional funds in the future.

The Fuels Treatment Effectiveness results of 78% are related to pile treatments that the fires likely didn't actually burn into the piles perimeter but did burn into the unit. Likely an interpretation by evaluators on how to account for the change in the fuel conditions. Or an interpretation by the evaluator that may need clarification.

Evaluation of Results for Adaptive Management Finding

The following findings and recommendations resulted from the evaluation of monitoring results as documented above.

Table 4. Summary of Findings for Monitoring Item MON-FIRE-01

1. Plan Monitoring Results: Does the monitoring question and indicator(s) provide the information necessary to understand the status of the associated plan component listed above?
YES
Recommendations
2. Plan Implementation Status [1]: Do monitoring results demonstrate progress of the associated plan components for with this monitoring item?
YES, however, more time is necessary to better determine whether the types and amounts of treatments are effective since the last two years have had average to below average conditions for fires.
Recommendation –
3. Type of change under consideration [2]: If corrective action/change was indicated under either #1 or #2, where might that change might be needed?
NA

[1] **PLAN IMPLEMENTATION STATUS: (A) Uncertain –** Availability of data **or** Interval of data collection beyond this reporting cycle (*indicate date of next time this monitoring item will be evaluated*); **(B) Uncertain -** More time/data are needed to understand status or progress of the plan component(s)**; (C) Uncertain -** Methods inadequate to assess the status or progress toward achieving plan component(s) (**D**) **NO -** Implementation of plan component(s) ARE NOT trending, progressing, and/or conducted as desired**; (E) YES -** Implementation of plan component(s) ARE trending, progressing, and/or conducted as desired
[2] **CHOICES for where change may be needed include**: Monitoring program, plan component, management activity, plan assessment, program strategy or approaches documents, public engagement strategy

MON-FIRE-02. To what extent is natural fire used to achieve desired ecological, social, or economic conditions?

MON-FIRE-03. To what extent is prescribed fire used to achieve desired ecological, social, or economic conditions?

Introduction

Fire is a primary ecological process on the Flathead National Forest that has shaped and maintained forest and non-forest ecosystems that in turn sustain the native plant communities and animal species. Fire on the landscape occurs due to natural and planned ignitions. Desired conditions in the forest plan recognize the importance of fire and maintaining natural fire regimes while reducing the negative impacts of wildfires to watershed health, wildlife habitat, and community values at risk.

FW-DC-FIRE-03 states "The full range of fire management activities, including wildland fires (prescribed fire and wildfire), are recognized and used by forest administrators as an integral part of achieving ecosystem sustainability, including interrelated ecological, economic, and social components such as improved ecosystem resilience and wildlife habitat, protection of property and other values at risk, and public safety."

Table 5. MON-FIRE-02 and 03 plan components, indicators, data source, data collection interval and point of contact

Plan Component(s)	Indicators	Data Source / Partner	Data collection interval	Point of Contact
FW-DC-FIRE-03	IND-FIRE-02: Number and acres of natural fire ignitions managed for ecological, social, or economic reasons and the number of natural ignitions managed with the primary goal of suppression IND-FIRE-03: Number and acres of prescribed fire ignitions managed for ecological, social, or economic reasons	R1 Fire/Fuels Report Fire Statistics System (FIRESTAT) Wildland Fire Decision Support System (WFDSS) FACTS	Annually	Forest fire management officer

Methods

IND-FIRE-03: Annually basic fire information is required to be reported in the national FIRESTAT database – a Forest Service application. This database would be accessed and data summarized for the monitoring period (the two years prior to each monitoring report), recording the number and acres of natural fire ignitions managed for various primary goals. Information would be supplemented if needed with rationale from the wildland fire decision support system (WFDSS).

IND-FIRE-04: FACTS (Forest Activity Tracking System) is a spatially mapped database recording all management activities and natural events that alter vegetation. Reports from FACTS would provide a summary of prescribed fire treatments for the monitoring period.

Results

Table 6: Monitoring Evaluation Report – summary of data sources for MON-FIRE-02 and 03. Use of natural and prescribed fire to achieve desired ecological, social or economic conditions.

Year of Report	Indicator	Date of Data Collection/Compilation	Data confidence
2021	**IND-FIRE-02**	FIRESTAT database reporting of Fiscal Year 2019 and 2020 natural ignitions	High
2021	**IND-FIRE-03**	FACTS data base: Fiscal Year 2019 and 2020 accomplished acres accomplished	High

Table 7: Monitoring results for MON-FIRE-02 and 03. Use of natural and prescribed fire to achieve desired ecological, social or economic conditions

Indicator	Monitoring date and data results 2021 (Years 2019 & 2020 combined)		
IND-FIRE-02: Natural Fire Ignitions			
Number/acres managed for multiple-resource reasons	10/ 7,236.65		
Number/acres managed primarily with goal of suppression	75/ 18.71		
IND-FIRE-03: Prescribed Fire Ignitions			
Number/acres managed for multiple-resource reasons	26/ 811.5		

Discussion of Results

- Given the nature of the last two fire seasons (average to below average conditions) we did take advantage of fires in remote areas for long duration management. We likely missed a few opportunities on fires in the front country. The Drumming fire did reburn an older fire scar.
- Amazingly 2020 did not have the significant increase in human caused fires on the Forest as was expected given the overwhelming response to COVID by recreationists filling virtually every available roadside pullout with camping most of the summer. We only had 43 fires in 2020 compared to the average of 65.
- Fall opportunities for landscape burning was minimal due to cool and wet conditions in 2019 and extended national fire season with PL 4&5 in 2020.

Evaluation of Results for Adaptive Management Finding

The following findings and recommendations resulted from the evaluation of monitoring results as documented above.

Table 8. Summary of Findings for Monitoring Item MON-FIRE-02 and 03

1. **Plan Monitoring Results**: Does the monitoring question and indicator(s) provide the information necessary to understand the status of the associated plan component listed above?
YES
Recommendations
2. **Plan Implementation Status** [1]: Do monitoring results demonstrate progress of the associated plan components for with this monitoring item?
YES – based on only two seasons that limited both fires and prescribed burning. *Continue to collect data and revisit over next 3 years.*
Recommendation –
3. **Type of change under consideration** [2]: If corrective action/change was indicated under either #1 or #2, <u>where</u> might that change might be needed?
NA.

[1] **PLAN IMPLEMENTATION STATUS: (A) Uncertain -** Interval of data collection beyond this reporting cycle (*indicate date of next time this monitoring item will be evaluated*); **(B) Uncertain -** More time/data are needed to understand status or progress of the plan component(s)**; (C) Uncertain -** Methods inadequate to assess the status or progress toward achieving plan component(s).(**D**) **NO -** Implementation of plan component(s) ARE NOT trending, progressing, and/or conducted as desired**; (E) YES -** Implementation of plan component(s) ARE trending, progressing, and/or conducted as desired

[2] **CHOICES for <u>where</u> change may be needed include**: Monitoring program, plan component, management activity, plan assessment, program strategy or approaches documents, public engagement strategy