

Flathead National Forest Plan

Infrastructure (Roads) Monitoring Guide and Evaluation of Results (MON-IFS)

Point of Contact

Primary - Forest Engineer: Jennifer Brady

Consult with Forest Biologist and Aquatics Program Manager as needed

Introduction

This document provides the instructions and information needed to address the monitoring of the road infrastructure on the FNF. Trails are also an important infrastructure and are covered in the Recreation monitoring section.

The monitoring items included in this document are listed below:

Monitoring Item and Question (Chapter 5 of Flathead Forest Plan)
MON-IFS-01. Are road closure devices effective at restricting public motorized use?
MON-IFS-02. What is the status of the road system on the Forest?

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. A list of general questions (see below) and in some cases more specific resource-based questions are provided to help guide this discussion
- **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.

MON-IFS-01. Are road closure devices effective at restricting public motorized use?

Introduction

Forest plan component FW-DC-IFS-12 states that “Road closure devices are maintained so that they are effective.” Monitoring will occur to ensure that devices remain effective.

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

Plan Components	Indicator(s)	Data Source / Partner	Data collection interval	Point of Contact
FW-DC-IFS-12	IND-IFS-01. Number and percentage of road closure devices checked and percentage determined to be effective at restricting public motorized use	FNF annual field monitoring INFRA	Biennial	Primary: Assistant Forest Engineer Secondary: Forest Wildlife biologist

Methods

Road closure devices will be checked in the field for their effectiveness using tablet-based data collection that limits and standardizes data entries and requires photos. This structured forest-wide approach will lead to consistent and repeatable analysis with minimal duplication of field efforts.

Starting in 2020, results were documented via a Survey123/Field Maps process. An initial field check of all devices that are accessed along open roads is planned by the year 2021 to establish baseline conditions and assess their effectiveness.

Data collected are to be reviewed to exclude surveys from analysis when appropriate. Examples to consider include:

- A gate on a road that is open according to NVUM or that accesses a USFS administrative site such as a corral or worksite.
- Roads inside active timber sales where motorized use is authorized via a NEPA decision that involved Section 7 consultation with the USFWS.
- Barriers inside campgrounds.
- Private (non USFS) gates.
- Situations where the inspector said a vehicle might be able to get around the device but there was no indication that it has occurred.

In future years, we expect to inspect all higher priority closures and subsample the rest, but the sampling process for future years has not yet been finalized. We will use findings from the 2021 field season to explore the following options, among others:

- Monitor all high-priority closure devices at least once each year?
- Monitor all moderate-priority closure devices at least once every three years?
- Monitor all closure devices on a maximum 5-year cycle?
- Assign each Ranger District to inspect a set percentage of their closures each year?
- Geographically focus inspections for more efficient repairs?

Suggestions for identifying high and moderate priority closures for the inspection strategy for future years:

- Berms and gates that are frequently damaged or breached by the public. Will need to define “frequent” and how many years to check these after no further problems have been detected.
- Recently installed road closures and recent road obliterations. Will need to define how many years to check these if no problems are detected.
- All road closures inside active Timber Sale Areas. Will need to sort out availability of Timber Sale Administrators to inspect these closures and whether to code these closures as inspected in the AGOL process to avoid duplication of effort.
- Road closures that affect relatively secure areas in the Salish Demographic Connectivity Area for grizzly bears.
- Road closures that affect grizzly bear “secure core” areas in the grizzly bear Primary Conservation Area (PCA). These often include berms behind gates that may warrant their own subsampling.

The total number of road closure devices used to calculate the percentage of devices that were inspected is the number that are encountered when driving any road that is open seasonally or yearlong to public wheeled motorized use.

Results

Table 2. Monitoring results for MON-IFS-01. Road closure device effectiveness

Monitoring indicator	2019	2020	2021	2022
IND-IFS-01.				
Number and percentage of road closure devices checked	# Inspected	# Inspected	# Inspected	# Inspected
Spotted Bear	200	79		
Hungry Horse/Glacier View		334		
Swan Lake	123	618		
Tally Lake	110	150		
TOTAL	433 (50% of devices)	1,181 (~100% of devices)		
IND-IFS-01				
Number and percentage determined to be effective at restricting public motorized use	# Effective (and % effective)	# Effective (and % effective)	# Effective (and % effective)	# Effective (and % effective)
Spotted Bear	182 (91%)	77 (97%)		
Hungry Horse/Glacier View		308 (92%)		
Swan Lake	118 (96%)	554 (90%)		
Tally Lake	103 (94%)	146 (97%)		
TOTAL	433 inspected 93% effective	1,181 inspected 92% effective	___ inspected ___% effective	___ inspected ___% effective
Combined two-year total	1,488 effective out of 1,614 inspected = 92% effective			

Discussion of Results

As of the end of 2020, across the Flathead NF there were 867 road closure devices accessed by open roads (this figure does not include administrative gates nor gates/barriers that are found behind other yearlong closures). A total of 1,614 road closure inspections were done in 2019 and 2020, with an overall effectiveness of 92%.

Some devices were inspected more than once, and it is possible that some devices were included that should have been screened out. Nevertheless, about half of them were inspected in 2019 and all or nearly all of them were inspected in 2020.

2020 was the first pilot year of a new system for collecting and managing closure effectiveness data. We discovered that many devices were incorrectly recorded as ineffective, such as gates that were properly seasonally open or that were being used by timber sales in accordance with NEPA decisions. The surveying issues were all or mostly corrected before the 2021 pilot year, and results will be directly comparable from year to year after that point.

Evaluation of Results for Adaptive Management Finding

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

Table 3. Summary of Findings for Monitoring Item MON-IFS-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 this monitoring item?
UNCERTAIN – (B)- More time/data are needed to understand status or progress of the Plan Component(s); Data for all front-country road closures will be available by next monitoring cycle, by which time the monitoring strategy is expected to be finalized.
Recommendation – NA
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-IFS-02. What is the status of the road system on the Forest?

Introduction

The forest plan component FW-DC-IFS-06 states “A sustainable transportation system serves land management and public needs and purposes. It is interconnected with Federal, State, tribal, county, city, and private public roads and trails to provide access to lands, infrastructure, and inholdings where appropriate.”

Objectives that support this desired condition are listed below. Objectives will occur over the life of the forest plan, considered to be over the first 15 years of plan implementation.

FW-OBJ-IFS-01: Decommission or place into intermittent stored service 30 to 60 miles of roads. Priorities are roads causing resource damage in priority watersheds and/or roads located within desired nonmotorized recreation opportunity spectrum settings and/or roads within bull trout watersheds.

FW-OBJ-IFS-02: Complete 100 to 300 miles of reconstruction or road improvement projects within desired roaded recreation opportunity spectrum settings.

FW-OBJ-IFS-03: Annually, maintain up to 1,000 miles of operational maintenance level 2 through 5 roads (see glossary).

Table 4. MON-IFS-02 plan components, indicators, data source, data collection interval and point of contact

Plan Components	Indicator	Data Source / Partner	Data collection interval	Point of Contact
FW-DC-IFS-06 FW-OBJ-IFS-01 through 03 FW-GDL-IFS-03	IND-IFS- 02. Miles of roads open year-long by operational maintenance level 03. Miles of roads open seasonally by operational maintenance level 04. Miles of roads maintained by operational maintenance level 05. Miles of roads decommissioned 06. Miles of roads put into intermittent stored service 07. Miles of reconstruction or improvement projects 08. Number of culverts inspected, assessed, and/or cleaned	gPAS - Instructions to acquire data summary INFRA	Biennial	Primary: Assistant Forest Engineer; Secondary: Aquatics program manager

Methods

The miles of road constructed, reconstructed, maintained, decommissioned and put into storage are part of the annual accomplishment reporting for the FNF. The database manager reviews Timber Sale and public works contracts and puts road miles into Infra data base. Miles of open and seasonally open are in INFRA.

Results

Table 5: Monitoring results for MON-IFS-02. Status of the road system

Monitoring Indicator	Monitoring date 2021 (2019/2020)	
IND-IFS-02. Miles of roads <u>open year-long</u> by operational maintenance level	ML1- 0 miles ML2- 263.11 miles ML3- 580.56 miles ML4- 156.73 miles ML5- 28.71 miles TOTAL – 1029 miles	
IND-IFS-03. Miles of roads <u>open seasonally</u> by operational maintenance level	ML1- 0 miles ML2- 224.16 miles ML3- 156.95 miles ML4- 17.91 miles TOTAL - 399.02	
IND-IFS-04. Miles of roads maintained by operational maintenance level	In FY19: TOTAL = 315.48 ML1=63.13 miles ML2= 30.06 mile ML3= 138.79 miles ML4= 80.31 miles ML5= 3.19 miles In FY20: TOTAL = 475.91 ML1=25.90 miles ML2= 69.63 miles ML3= 224.99 miles ML4= 155.39 miles ML5= 0 miles	
IND-IFS-05. Miles of roads decommissioned	In FY19; 0.4 miles decommissioned. In FY20: 0 miles decommissioned.	
IND-IFS-06. Miles of roads put into intermittent stored service	0 miles in either 2019 or 2020	
IND-IFS-07. Miles of reconstruction or improvement projects	FY19: 4.15 miles reconstructed FY20: 3.45 miles reconstructed.	

Discussion of Results

The Flathead Forest is accomplishing activities that support a sustainable transportation system serving land management and public needs and purposes and progressing towards achieving the plan objectives.

Evaluation of Results for Adaptive Management Finding

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

Table 6. Summary of Findings for Monitoring Item MON-IFS-02

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 (E), based on progress shown in Table 5
Recommendations – Drop culvert inspection indicator/Add new indicator for new road construction
2. Plan Intent ¹: Do monitoring results demonstrate progress of the associated plan components for this monitoring item?
YES
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?
<p>Forest Plan Monitoring program</p> <p>Recommend dropping IND-IFS-08, The Forest Plan Revised Biological Opinion requires the Forest Service to submit an annual report summarizing culvert inspection results from the prior field season to the US Fish and Wildlife Service. This detailed report includes number of culverts inspected, along with detailed information about failure risk and potential consequences to bull trout habitat. (USFWS BO on bull trout, term and condition). REPLACE this indicator with a new one: “Miles of new road construction” because road construction is a part of the way the Forest manages for a sustainable transportation system that serves land management and public needs and purposes</p> <p>Correction to forest plan components being monitored is needed. FW-GDL-IFS-03 should be removed from the list of components monitored.</p>

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