Flathead National Forest Plan

Threatened and Endangered Wildlife Species Monitoring Guide and Evaluation of Results (MON-NCDE) (MON-LYNX)

Point of Contact

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Introduction

Wildlife monitoring items in this document include those relevant to the threatened species Canada Lynx (MON-LYNX) and grizzly bear (MON-NCDE). As required by the U.S. Fish and Wildlife Service, the monitoring results for these species is provided to the Service's Ecological Service Office in Helena, MT. The tables below provide a summary of all Flathead National Forest (FNF) Plan monitoring items in Chapter V of the Flathead Forest Plan associated with grizzly bear and Canada lynx and their critical habitat.

Table 1. Monitoring Items for Threatened and Endangered species - grizzly bear (Chapter V of the Flathead Forest Plan)

MON-NCDE-01: Within the NCDE primary conservation area, what is the level of secure core, open motorized route density (greater than one square mile) and total motorized route density (greater than two square miles) within each bear management subunit during the non-denning season?
MON-NCDE-02: **a)** Within the NCDE PCA, what is the number and overnight capacity of developed recreation sites designed and managed for overnight use on NFS lands within each bear management unit, and how does this compare to the baseline? **b)** Within the NCDE primary conservation area, what is the status of administrative sites, day-use developed recreation sites, and trailheads in each bear management unit?
MON-NCDE-03: Within the NCDE primary conservation area, is there a change in the number of allotments? Have conflicts occurred between grizzly bears and livestock on NFS lands?
MON-NCDE-04: If new leasable and locatable mineral activities occur in the PCA, do the record of decision and permit/plan of operation include a monitoring plan for changes in habitat and/or measures to avoid, minimize, or mitigate environmental impacts to grizzly bears or their habitat?
MON-NCDE-05: Within the NCDE primary conservation area, what is the status of grizzly bear subunits that have temporary increases in motorized access due to projects (see glossary)?
MON-NCDE-06: Within the NCDE primary conservation area, are projects (see glossary) completed within the five-year time period specified by guideline FW-GDL-IFS-01?
MON-NCDE-07: In the Salish DCA, what is the density of roads and motorized trails on NFS lands that are open to public use during the non-denning season? In zone 1 outside the Salish DCA, what is the density of roads on NFS lands that are open to public use during the non-denning season?
MON-NCDE-08: What is the risk of human disturbance in areas modeled as grizzly bear denning habitat during the den emergence time period (see glossary)?

Table 2. Monitoring Items for Threatened and Endangered species - Canada lynx (Chapter V of the Flathead Forest Plan)

MON-LYNX-01: How much of lynx critical habitat does not yet provide stand initiation snowshoe hare habitat (PCE1a) but is progressing towards providing PCE1a?
MON-LYNX-02: What is the percentage of lynx critical habitat that has vegetation treatments in stand initiation hare habitat (PCE 1a)?
MON-LYNX-03: If modified precommercial thinning techniques are used in lynx critical habitat, do they increase snowshoe hare habitat (PCE 1a) and/or its persistence?
MON-LYNX-04: What is the percentage of lynx critical habitat that has vegetation treatments in multistoried hare habitat (PCE 1a)?
MON-LYNX-05: Are fuel treatment and vegetation management projects compliant with the Canada lynx vegetation standards in the Northern Rockies Lynx Management Direction?

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.

NCDE GRIZZLY BEAR REQUIRED MONITORING (MON-NCDE)

The NCDE (Northern Continental Divide Ecosystem) grizzly bear standards and guidelines provide the regulatory framework to support grizzly bear conservation and delisting. Flathead National Forest adopted recommendations in the GBCS in its management direction, as did other national Forests with lands in the NCDE.

The agencies and tribes that are signatories to the NCDE grizzly bear conservation strategy (GBCS; NCDE Subcommittee 2021 http://igbconline.org/n-continental-divide-subcommitte/) are committed to being responsive to the needs of the grizzly bear through adaptive management based on the best available science and the results of detailed population and habitat monitoring. Because the NCDE is a dynamic environment, monitoring allows for adaptive management as environmental conditions change. NCDE grizzly bear habitat monitoring data are reported for each of the following NCDE national forests in Region 1: Flathead, Kootenai, Lolo, Helena-Lewis and Clark as part of their Forest Plan monitoring. Consolidated NCDE-wide monitoring reports for motorized access, developed recreation, and livestock grazing are uploaded to the IGBC's NCDE website biennially (https://igbconline.org/n-continental-divide-subcommitte/) and are also included in the project record for the Flathead National Forest's Biennial Monitoring Evaluation Report. This NCDE-wide habitat monitoring will continue if the grizzly bear is delisted, in which case the NCDE monitoring team will take the lead in preparing an annual monitoring report with staff support from the coordinating committee member agencies.

While the bear is listed as threatened, grizzly bear habitat monitoring under the Forest Plan must be reported to the USFWS every two years as required by the 2017 biological opinion on the revised forest plan and its 2018 amended incidental take statement. Habitat data relevant to USFS land management in the NCDE is collected by the USFS while demographic data for the NCDE population is collected by MFWP. Note that the 2021 NCDE grizzly bear conservation strategy was signed as a Memorandum of Understanding by the USFS R1 Regional Forester in 2018. The document has had editorial updates since then but there have been no changes relevant to USFS management. Regardless of the grizzly bear's listing status under ESA, the monitoring questions and indicators listed in the grizzly bear section of this monitoring guide will be used to verify compliance with forest plan standards and guidelines and to evaluate whether conditions are moving towards or achieving the relevant desired conditions of the forest plan.

The R1 Broadscale Monitoring Strategy (BSMS) is designed to provide a framework to uniformly collect and compile data on indicators and measures (identified by the plan-level monitoring programs) at scales larger than one planning unit for purposes of providing context and relevancy for the biennial plan-level monitoring evaluation reports.

MON-NCDE-01: Within the NCDE primary conservation area, what is the level of secure core, open motorized route density (> 1 square mile) and total motorized route density (> 2 square miles) within each bear management subunit during the non-denning season?

Introduction

Objectives of this monitoring question are to determine if the standard and Terms and Conditions of the Biological Opinion are being met. The following forest plan standard outlines this term and condition and is being monitored under this monitoring item:

FW-STD-IFS-02: In each bear management subunit within the NCDE primary conservation area, there shall be no net decrease to the baseline (see glossary) for secure core and no net increase to the baseline open motorized route density or total motorized route density on National Forest System lands during the non-denning season (see glossary). The following conditions are not considered a net increase/decrease from the baseline:

- administrative use (see glossary);
- temporary use of a motorized route for a project (see "project in grizzly bear habitat in the NCDE" definition in the glossary and FW-STD-IFS-03);
- mining activities (as authorized under the Mining Law of 1872) and oil and gas activities (as authorized under the Federal Onshore Oil and Gas Leasing Reform Act of 1987) conducted in accordance with valid existing rights and applicable standards and guidelines;
- updated/improved data on a motorized route without an actual change on the ground;
- changes in technology or projections that result in changed open motorized route density, total motorized route density, or secure core values without actual change on the ground (e.g., a switch from the North American Datum of 1927 to the North American Datum of 1983 geodetic reference system);
- a road closure location is moved a short distance (e.g., to the nearest intersection or turnout) to a better location to allow turn-arounds providing for public safety, to reduce vandalism, or to improve enforcement of the road closure;
- the agency exchanges, acquires, buys, or sells lands;
- a change in a motorized route is necessary to comply with Federal laws (e.g., Federal Rehabilitation Act);
- a change in a motorized route is necessary to address grizzly bear-human conflicts, human safety concerns, or resource damage/concerns (e.g., a road paralleling a stream may be decommissioned and replaced by a new upslope road to reduce water quality impacts);
- a change is made by an adjacent landowner that decreases secure core or increases motorized route densities on a particular national forest;
- emergency situations as defined by 36 CFR § 218.21; and
- temporary roads (see glossary).

Motorized access is covered by incidental take as detailed in the Forest Plan's 2017 Biological Opinion and its 2018 amended Incidental Take Statement.

The Forest must re-initiate consultation with the USFWS if:

1) any project proposes to site-specifically amend a standard, resulting in a deviation from FW-STD-IFS-02, for example,

2) if the Forest exceeds the limits of incidental take provided in the biological opinion (2017) and amended incidental take statement (2018), or

3) if a project may have effects to grizzly bears that were not previously considered during consultation while the NCDE grizzly bear remains listed (for example, if monitoring of IND-WLD-12 or -13 shows estimates submitted in the original project BA have been exceeded).

If the grizzly bear is delisted, in any of the three situations outlined above the NCDE coordinating committee may initiate a biology and management review which examines management of habitat, populations, or efforts of participating agencies to complete their required monitoring. The coordinating committee will respond to the biology and monitoring review with actions to address the deviations from the population or habitat standards (NCDE Subcommittee 2021).

Table 3. Grizzly Bear Monitoring Question MON-NCDE-01. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-STD-IFS-02	IND-NCDE- For each grizzly bear subunit in the PCA: 01. Open motorized route density percentage 02. Total motorized route density percentage 03. Secure core percentage	Wildlife spreadsheet and GIS layers, USFS INFRA database	USFWS REQUIRED TERM AND CONDITION REPORT Submitted every other year. Data is compiled at the end of the calendar year for odd years	Primary-Forest wildlife biologist; Secondary- USFS NCDE GIS specialist

Table 4. Monitoring Item MON-NCDE-01 - Monitoring Data Collection Summary

For monitoring item 01:	Year
Data was last collected or compiled in:	2019 for 2021 report
Next scheduled data collection/compilation:	2021 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

IND-NCDE-01, -02, and -03: The process follows Appendix 6 of the NCDE Conservation Strategy (NCDE Subcommittee 2021), and in all years it uses the same moving window and secure core process that is used for the baseline that was first calculated in 2011 and all of its updates following the application rules in the NCDE Conservation Strategy.

Apply OMRD, TMRD, secure core, and other terms as they are defined in the Forest Plan glossary. Open Motorized Route Density (OMRD) is the percentage of subunit that has greater than 1.0 mile/square mile open motorized route density based on a "moving windows" GIS analysis. For example, a subunit with

0% >1.0 miles per square mile. Total Motorized Route Density (TMRD) is the percentage of subunit that has greater than 2.0 mile/square mile total motorized route density, also based on "moving windows." For example, a subunit with 0% >2.0 miles per square mile. Secure core is the percentage of subunit that provides secure core. An example would be a subunit that provides 94% secure core.

The baseline value for each subunit that is to be entered into Table 5 below follows the application rules in the NCDE Conservation Strategy (NCDE Subcommittee 2021) and as incorporated into the Forest Plan. Thus, that value is either the 2011 value or the updated baseline value. These changes have been tracked in detail in prior versions of the NCDE-wide report(s) and in the ESA consultation for the Forest Plan sent to USFWS on June 3, 2021.

Every two years (2019, 2021, 2023, etc.) the percentages for OMRD, TMRD, and secure core are compiled NCDE-wide by the NCDE GIS specialist on the FNF (Kathy Ake). These reports are available at http://igbconline.org/n-continental-divide-subcommitte/ and are maintained in T:\FS\NFS\Collaboration\GrizzlyBearRecovery\NCDE\GIS\NCDEConsStratAccess\ReportsTracking, but **do not edit the files in that folder**. Extracts from the Flathead NF portion of the most recent version of that report was pasted in Table 5 below. Refer to the NCDE-wide monitoring report for the details about specific subunits (included in the project record of the Biennial Monitoring Evaluation Report). Figure 1 below (Bear Management Subunits across the NCDE) is to be updated if ownership or other changes warrant it.

Results

Application of Flathead National Forest standard FW-STD-IFS-02 requires clear understanding of "baseline" conditions. The Grizzly Bear Conservation Strategy identified the baseline as motorized access conditions in each BMU subunit as of December 31, 2011, but also recognized that under specific conditions the numeric percentage calculations would be updated to reflect these conditions. As outlined in FW-STD-IFS-02, there may be updates in percentage values with no change in on-the-ground conditions (e.g. due to updates in the data, spatial re-alignments of GIS layers, a change in a motorized route by another landowner, and/or acquisition of lands by the Forest Service). In these instances, the baseline percentages are updated, but this is not considered a net increase in OMRD or TMRD nor a decrease in secure core. On-the-ground changes that are due to implementation of projects that underwent consultation with the USFWS prior to the 2018 signing of the revised Forest Plan also updated the baseline, as specified in FW-STD-IFS-02.

The baseline value changes followed the application rules in the NCDE Conservation Strategy (NCDE Subcommittee 2021) and management direction in the Flathead Forest Plan. Figure 1 below displays the Bear Management Units and Subunits across the NCDE with current land agency management and ownership (source: GBCS). Table 5 below provides a comparison of motorized access percentages by Subunit between 2017 and 2019. For those subunits with a percentage change during these two years, the updated value has a green shading for that cell in the table below. For any whole percentage change subsequent to the 2017 monitoring report, the value as of 2019 is shown in **BOLD**. If there is a value enclosed in parentheses, these are cases where a project decision has not been fully implemented on the ground. The subunits where a change or update occurred are described below the table. The 2017 values in the table below are consistent with conditions reported to the USFWS as an amendment to the Forest Plan revision BA in December 2018 and which were included in the 2018 amended Incidental Take Statement.

Figure 1. Map of NCDE Bear Management Subunits

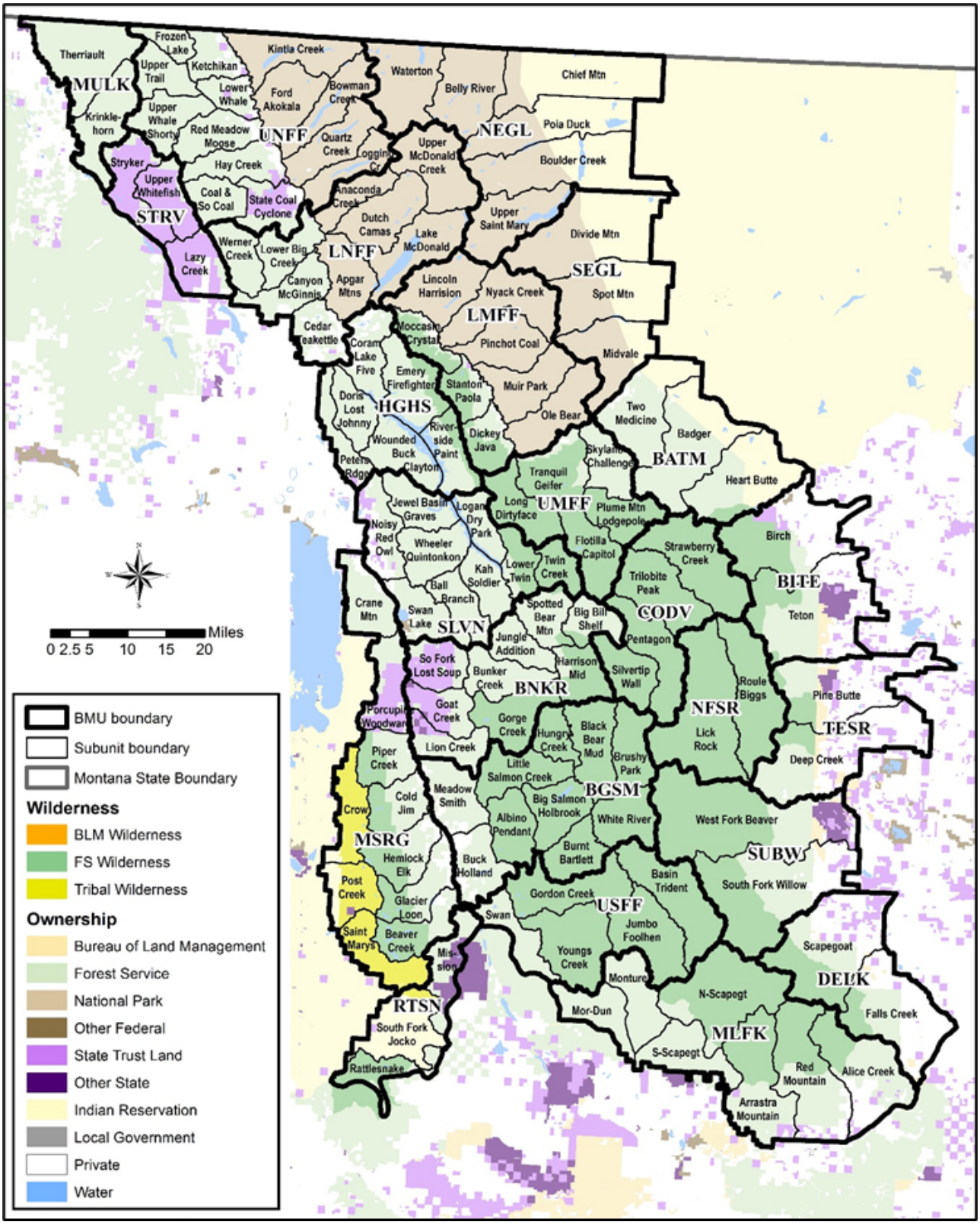


Table 5. 2017 to 2019 Comparisons of OMRD, TMRD, and Secure Core by Bear Management Subunit

BMU	Subunit Name	Principal Agency	Percentages as of 2017			Percentages as of 2019		
			OMRD	TMRD	CORE	OMRD	TMRD	CORE
BGSM	Albino Pendant	FNF-Spotted Bear RD	0	0	100	0	0	100
BGSM	Big Salmon Holbrook	FNF-Spotted Bear RD	0	0	100	0	0	100
BGSM	Black Bear Mud	FNF-Spotted Bear RD	0	0	100	0	0	100
BGSM	Brushy Park	FNF-Spotted Bear RD	0	0	100	0	0	100
BGSM	Buck Holland	FNF-Swan Lake RD	24	44	47	24	44	**48**
BGSM	Burnt Bartlett	FNF-Spotted Bear RD	0	0	100	0	0	100
BGSM	Hungry Creek	FNF-Spotted Bear RD	0	0	100	0	0	100
BGSM	Little Salmon Creek	FNF-Spotted Bear RD	0	0	100	0	0	100
BGSM	Meadow Smith	FNF-Swan Lake RD	18 (20)	53	42	**18 (19)**	53	42
BGSM	White River	FNF-Spotted Bear RD	0	0	100	0	0	100
BNKR	Big Bill Shelf	FNF-Spotted Bear RD	11	6	87	11	6	87
BNKR	Bunker Creek	FNF-Spotted Bear RD	5	3	92	5	3	92
BNKR	Goat Creek	FNF-SLRD & DNRC	23	59	39	**24**	59	**38**
BNKR	Gorge Creek	FNF-Spotted Bear RD	0	0	100	0	0	100
BNKR	Harrison Mid	FNF-Spotted Bear RD	1	0	99	1	0	99
BNKR	Jungle Addition	FNF-Spotted Bear RD	19	19	68	19	**20**	68
BNKR	Lion Creek	FNF-SLRD & DNRC	19	47	51	**18**	47	**50**
BNKR	South Fork Lost Soup	FNF-SLRD & DNRC	25	47	37	25	**49**	**34**
BNKR	Spotted Bear Mtn	FNF-Spotted Bear RD	19	18	68	**20**	**19**	68
CODV	Pentagon	FNF-Spotted Bear RD	0	0	100	0	0	100
CODV	Silvertip Wall	FNF-Spotted Bear RD	0	0	100	0	0	100
CODV	Strawberry Creek	FNF-Spotted Bear RD	0	0	100	0	0	100

BMU	Subunit Name	Principal Agency	Percentages as of 2017			Percentages as of 2019		
			OMRD	TMRD	CORE	OMRD	TMRD	CORE
CODV	Trilobite Peak	FNF-Spotted Bear RD	0	0	100	0	0	100
HGHS	Coram Lake Five	FNF-Hungry Horse RD	30	46	14	30	46	14
HGHS	Doris Lost Johnny	FNF-Hungry Horse RD	57	20	36	**58**	20	**35**
HGHS	Emery Firefighter	FNF-Hungry Horse RD	19	19 (20)	68 (58)	19	19 (20)	68 **(66)**
HGHS	Peters Ridge	FNF-HHRD & SLRD	52	25	34	52	25	34
HGHS	Riverside Paint	FNF-Hungry Horse RD	18	16	71	**19**	16	71
HGHS	Wounded Buck Clayton	FNF-Hungry Horse RD	28	30	66	28	**31**	66
LMFF	Dickey Java	FNF-Hungry Horse RD	9	0	85	9	0	85
LMFF	Moccasin Crystal	FNF-Hungry Horse RD	8	1	81	8	1	81
LMFF	Stanton Paola	FNF-Hungry Horse RD	8	3	83	8	3	83
LNFF	Canyon McGinnis	FNF-GVRD & FNF-TLRD	18	31	50	18	**32**	50
LNFF	Cedar Teakettle	FNF-Glacier View RD	35	36	24	35	36	24
LNFF	Lower Big Creek	FNF-Glacier View RD	19	19	71	19 **(18)**	19	71
LNFF	Werner Creek	FNF-Glacier View RD	29	20	63	29	20	63
MSRG	Beaver Creek	FNF-Swan Lake RD	6	19 (26)	71 (66)	6	19 (26)	71 (66)
MSRG	Cold Jim	FNF-Swan Lake RD	18	54 (55)	44	18	**54**	44
MSRG	Crane Mtn	FNF-Swan Lake RD	28	55	25	28	55	25
MSRG	Glacier Loon	FNF-Swan Lake RD	22	41	52	22	41	52
MSRG	Hemlock Elk	FNF-Swan Lake RD	6	30	63	6	30	**64**
MSRG	Piper Creek	FNF-SLRD & DNRC	19	44	55	19	44	55
MSRG	Porcupine Woodward	FNF-SLRD & DNRC	28	74	15	28	**75**	15
STRV	Lazy Creek	DNRC	52	78	6	**49**	**80**	6
STRV	Stryker	DNRC	34	36	51	**36**	**34**	**48**

BMU	Subunit Name	Principal Agency	Percentages as of 2017			Percentages as of 2019		
			OMRD	TMRD	CORE	OMRD	TMRD	CORE
STRV	Upper Whitefish	DNRC	33	51	53	**34**	**56**	**48**
SLVN	Ball Branch	FNF-Spotted Bear RD	8	12	84	8	12	84
SLVN	Jewel Basin Graves	FNF-Hungry Horse RD	19	19	75	**20**	19	75
SLVN	Kah Soldier	FNF-Spotted Bear RD	19	19	68	19	**20**	68
SLVN	Logan Dry Park	FNF-HHRD & FNF-SBRD	30	35 (36)	54 (51)	30	35 (36)	54 (51)
SLVN	Lower Twin	FNF-Spotted Bear RD	9	2	92	9	2	92
SLVN	Noisy Red Owl	FNF-Swan Lake RD	20	14	59	20	14	59
SLVN	Swan Lake	FNF-Swan Lake RD	40	21 (23)	46	40	21 (23)	46
SLVN	Twin Creek	FNF-Spotted Bear RD	0	0	100	0	0	100
SLVN	Wheeler Quintonkon	FNF-HHRD & FNF-SBRD	25	19	68	**26**	19	68
UMFF	Flotilla Capitol	FNF-HHRD & FNF-SBRD	0	0	100	0	0	100
UMFF	Long Dirtyface	FNF-Hungry Horse RD	0	0	100	0	0	100
UMFF	Plume Mtn Lodgepole	FNF-HHRD & SBRD	0	0	100	0	0	100
UMFF	Skyland Challenge	FNF-Hungry Horse RD	20	17	65	20	17	65
UMFF	Tranquil Geifer	FNF-Hungry Horse RD	0	2	90	0	2	90
UNFF	Coal & South Coal	FNF-Glacier View RD	15	19	73	15	19	73
UNFF	Frozen Lake	FNF-Glacier View RD	10	4	86	10	4	86
UNFF	Hay Creek	FNF-Glacier View RD	25	13	55	**24**	13	55
UNFF	Ketchikan	FNF-Glacier View RD	14	3	73	14	3	73
UNFF	Lower Whale	FNF-Glacier View RD	36	17	50	36	17	50
UNFF	Red Meadow Moose	FNF-Glacier View RD	24 (25)	17	68	24 (25)	17	68
UNFF	State Coal Cyclone	FNF-GVRD & DNRC	29	25	58	29	25	**59**
UNFF	Upper Trail	FNF-Glacier View RD	14	4	88	14	4	88

BMU	Subunit Name	Principal Agency	Percentages as of 2017			Percentages as of 2019		
			OMRD	TMRD	CORE	OMRD	TMRD	CORE
UNFF	Upper Whale Shorty	FNF-Glacier View RD	12	11	86	12	11	86
USFF	Basin Trident	FNF-Spotted Bear RD	0	0	100	0	0	100
USFF	Gordon Creek	FNF-Spotted Bear RD	0	0	100	0	0	100
USFF	Jumbo Foolhen	FNF-Spotted Bear RD	0	0	100	0	0	100
USFF	Youngs Creek	FNF-Spotted Bear RD	0	0	100	0	0	100

Note for table: For any subunit that had a whole percentage change in OMRD, TMRD, or CORE from 2017 to 2019 (bolded number in the table above), the explanation of that change is detailed in the NCDE-wide monitoring report in the project record. If the change updated the baseline, the percentage is noted in bold type. All of these changes to the baseline are allowed under the FNF plan standard (**FW-STD-IFS-02)** and application rules for motorized access on Federal Lands (NCDE Subcommittee 2021 Chapter 3).

Discussion of Results

Evaluation questions:

- *Since the last monitoring report, have there been any net changes to the baseline (see forest plan glossary and text of FW-STD-IFS-02 to see what is considered a change from the baseline) for secure core, open motorized route density, or total motorized route density on NFS lands during the non-denning season?*
    - Between 2017 and 2019 there were 20 grizzly bear subunits in the Primary Conservation Area (PCA) that had updates to their "baseline" percentages for Open Motorized Route Density, Total Motorized Route Density, and/or Secure Core. Almost all of these changes were due to corrections or new data and were not on-the-ground changes.
- *Did changes in the percentages result from on-the-ground changes, or were they just changes in the calculations? If there were changes, which subunits are they and what is the reason?*
    - The reasons for the changes are detailed for each subunit in the NCDE-wide report in the project record.

Evaluation of Results for Adaptive Management Finding

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

Table 6. Summary of Findings for Monitoring Item MON-NCDE-01 – Levels of Secure Core and Open and Total Motorized Route Densities in Bear management Subunits During the Non-denning Season

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?
YES (E) Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired Monitoring demonstrates that there have been no increases above baseline levels of OMRD and TMRD and no decreases of baseline levels of secure core.
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-NCDE-02a: Within the NCDE PCA, what is the number and overnight capacity of developed recreation sites designed and managed for overnight use on NFS lands within each bear management unit, and how does this compare to the baseline?

Introduction

The following standard is monitored by this item:

FW-STD-REC-01: Within the NCDE primary conservation area, the number and capacity of developed recreation sites on NFS lands that are designed and managed for overnight use by the public during the non-denning season (e.g., campgrounds, cabin rentals, huts, guest lodges, recreation residences) shall be limited to one increase above the baseline (see glossary) in number or capacity per decade per bear management unit. The following conditions are not considered an increase from the baseline:

- the agency obtains better information or updated information in its database(s);
- the agency acquires land that contains developed recreation sites;
- the agency increases the number or capacity of a developed recreation site in order to comply with Federal laws;
- the agency maintains or modifies an existing overnight developed or dispersed recreation site in such a way that does not increase the number or capacity of the site (e.g., installing a pit toilet to avoid damage to water resources or installing a bear-resistant food storage structure to reduce grizzly bear-human conflicts);
- the agency modifies an existing developed recreation site to enhance human safety (e.g., enlarging a road pull-out to allow trailers to turn around safely); or
- the agency operates a developed recreation site to allow overnight use only during the denning season (see glossary).
- The agency makes a corresponding reduction in the number or capacity of overnight developed recreation sites in the same bear management unit through any of the following means: (1) equal reduction in capacity at another site; (2) closure of a developed site(s); or (3) consolidation and/or elimination of dispersed camping, when and where it can be enforced effectively, and it is reasonably assured that new dispersed sites will not develop nearby. Note: If these measures are used to offset an increase in number or capacity, they must be in place before the initiation of the increase. If the agency reduces the number or capacity of developed sites below baseline levels, these reductions may be used at a future date to mitigate equivalent impacts of an increase, expansion, or change of use in developed sites within that bear management unit.

Note: This standard does not apply to dispersed recreation sites or to developed recreation sites managed for day-use only (e.g., outfitter camps, roadside trail crossings or interpretive pull-outs; trailheads, picnic areas, or boat launches that are closed at night; ski areas that do not have overnight lodging).

Standard FW-STD-REC-01 allows one increase in the number or overnight capacity of developed recreation sites that are designed and managed for overnight use per BMU per decade (see revised forest plan page 60 for details). For recreation projects, no incidental take was granted in the Plan's biological

opinion. Therefore, the Forest will initiate consultation on recreation projects if an increase in number or capacity of developed recreation sites is proposed in the PCA while the NCDE grizzly bear remains listed. If the NCDE grizzly bear is delisted, a biology and management review will be initiated if there is a project proposal that would site-specifically amend standard **FW-STD-REC-01** or if any deviations from the standards are proposed. Note that Monitoring Question MON-NCDE-02b (pertaining to administrative and day-use sites) is reported separately below.

Table 7. Grizzly Bear Monitoring Question MON-NCDE-02a. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-STD-REC-01	IND-NCDE- For each grizzly bear management unit in the PCA: 04. Number of developed recreation sites (NCDE definition) managed for overnight use in each grizzly bear management unit. 05. Capacity of sites managed for overnight developed recreation use in each grizzly bear management unit. 06. If increases in number or capacity occur, measures used to reduce the risk of grizzly-bear human conflicts.	NCDE Grizzly Bear Report Wildlife spreadsheet and GIS layers*	Every other year at the end of even calendar years	Primary-Forest wildlife biologist; Secondary- USFS NCDE GIS specialist, Forest recreation program manager, and District Wildlife Biologists

*Data maintained by the FNF NCDE GIS specialist since NCDE definitions are not the same as those in the INFRA database.

Table 8. Monitoring Item MON-NCDE-02a - Monitoring Data Collection Summary

For monitoring item 02a:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

IND-NCDE-04, and -05. These are calculated for even years (2020, 2022, 2024, etc.). Because this is a new standard, begin compiling data for projects with signed decisions after December 24, 2018 when the revised forest plan was signed. The current numbers should be compared to the baseline reported in the NCDE Grizzly Bear Conservation Strategy (NCDE Subcommittee 2021). The numbers and capacities of developed recreation sites managed for overnight use in the primary conservation area by Bear Management Unit are compiled by the FNF NCDE GIS specialist. Extracts from the Flathead NF portion of that report are to be included in the table below for this monitoring item. Every two years (2020, 2022, 2024, etc.) the information for overnight developed recreation sites is compiled NCDE-wide by the FNF NCDE GIS specialist. These reports are available at http://igbconline.org/n-continental-divide-subcommitte/ and are maintained in T:\FS\NFS\Collaboration\GrizzlyBearRecovery\NCDE\GIS\NCDEDevelopedSites but **do not edit the files in that folder**.

Any change in the number of individual units (such as campsites) or the capacity designed and managed for overnight use is to be entered into a spreadsheet for each BMU at the time a project decision is signed. Include such changes in the Forest Plan monitoring report after the decision is implemented. Note: If the BMU is partially USFS land, the NCDE data specialist needs to track this indicator for all land managers in a BMU.

Forest Plan glossary definition consistency:

- **Capacity** (of developed recreation sites within the Northern Continental Divide Ecosystem primary conservation area): The number of sites available for overnight use (e.g., the number of sites in a campground; the number of rooms available for lodging (as a commercial rental); or the number of cabins, bunkhouses, or recreation residences managed under a special-use permit). [NCDE]

Other terms for consistency:

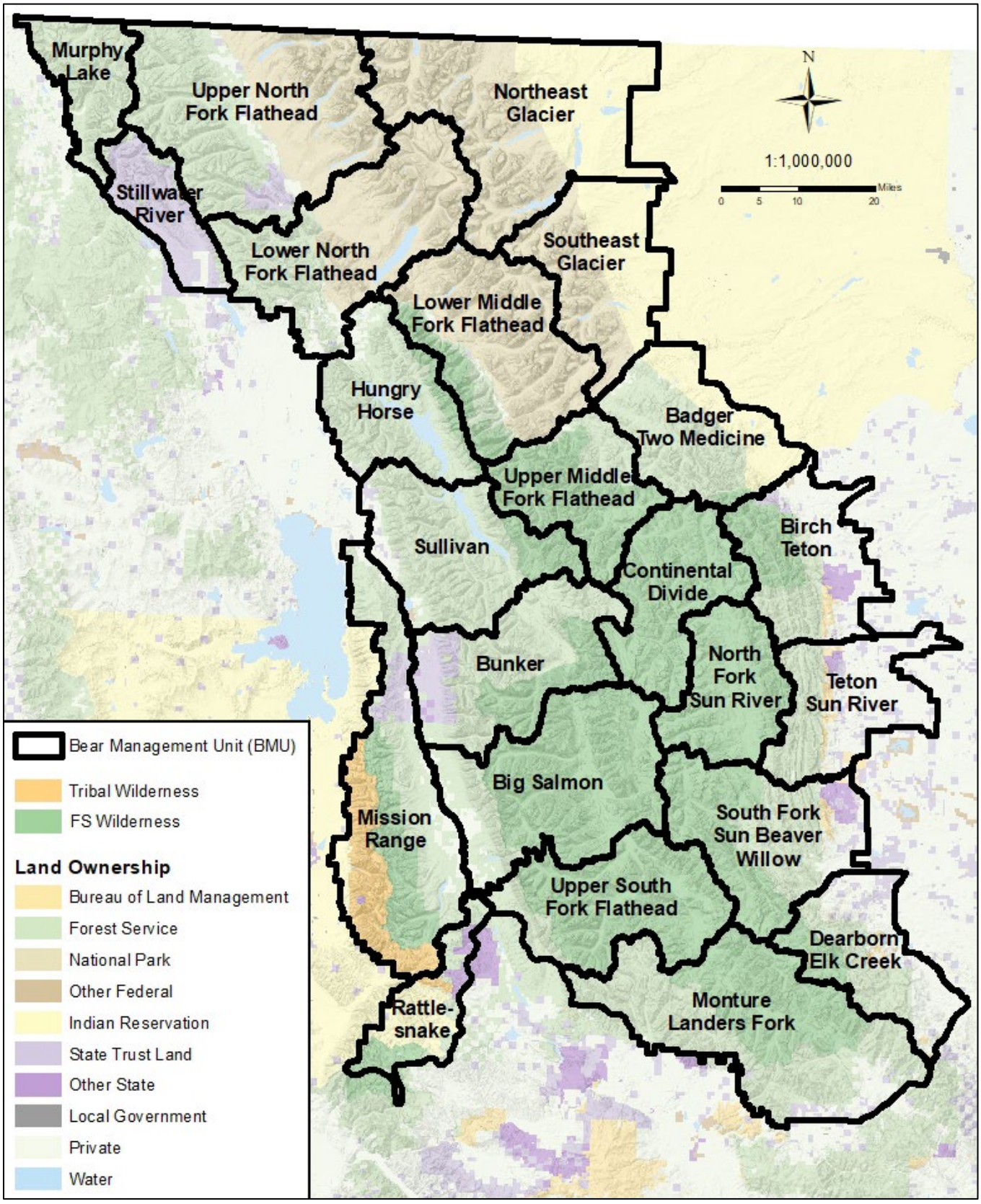
- **Recreational Residences**. These are full-time or seasonal recreational residences on Federal lands. The Forest has no authority to limit increases in capacity at these sites, so capacity is not reported for these essentially private residences. However, any new recreational residences will need to follow the developed recreational site standard.
- **Other Sites with Overnight Use**. Cabin rentals, guest lodges with or without rooms and/or cabins, camps, etc. Capacity is the number of cabins, rooms, bunkhouses, employee beds (Glacier NP), and RV sites.
- **Campgrounds**. Campground development ranges from fully developed with all amenities to minimal development compared to a dispersed site. There are group sites included, although the number accommodated at one group site is variable. Dispersed campsites are not counted here.

IND-NCDE-06: If an increase in number or capacity is implemented (not just planned or consulted on), list the measures that were used to reduce the risk of grizzly-bear human conflicts for each affected site by name.

Results

The Bear Management Units across the NCDE with land agency management and ownership as of 2018 are displayed in Figure 2.

Figure 2. Map of NCDE Bear Management Units (BMUs).



Since the FNF Forest Plan decisions was signed, there have been no increases in the number or capacity of developed recreation sites managed for overnight use in the primary conservation area, therefore no additional measures have been needed to reduce the risk of grizzly-bear human conflicts related to increases in such sites or their capacity.

Because the 2020 NCDE-wide report is still in preparation, Table 9 provides a comparison of developed recreation sites managed for overnight use in the primary conservation area between 2011 and 2018 by Bear Management Unit. Due to the annual due dates for that report, this is expected to also be the case for subsequent Forest Plan monitoring reports. **Bold** entries indicate an update or change. Yellow (or lighter) shading indicates there was an update and correction to the baseline, and that the baseline value will be updated. Blue (or darker) shading indicates there was an update in which the baseline value remains the same, which allows for decision space. The BMUs where a change or update occurred are detailed in the NCDE-wide report in the project record.

Table 9. 2011 and 2018 Comparisons of Numbers and Capacities of Overnight Developed Recreation Sites.

BMU Name	Recreational Residences		Campgrounds				Other Sites with Overnight Use			
			# of Campgrounds		# of Campsites		# of Sites		Capacity	
	2011	2018	2011	2018	2011	2018	2011	2018	2011	2018
Big Salmon	32	32	5	5	66	66	3	3	8 cabins; 9 rooms	8 cabins; 9 rooms
Bunker	---	---	8	8	57	**59**	3	3	17 cabins; 2 rooms 4 bunk-houses	17 cabins; 2 rooms 4 bunk-houses
Continental Divide	---	---	---	---	---	---	---	---	---	---
Hungry Horse	---	---	**19**	**19**	**169**	**169**	**---**	1	**---**	1 cabin
Lower Middle Fork Flathead	10	10	12	12	32	32	---	---	---	---
Lower North Fork Flathead	**3**	1	17	17	545	545	10	10	54 cabins; 186 rooms 2 bunk-houses; 362 employee beds	**51 cabins; 185 rooms; 2 bunk-houses; 1 residence** 362 employee beds
Mission Range	1	1	1	1	25	25	1	1	1 cabin	1 cabin
Sullivan	20	20	15	15	114	114	2	2	9 cabins; 1 room; 1 bunk-house	9 cabins; 1 room; 1 bunk-house
Stillwater River	---	---	2	2	3	3	---	---	---	---

BMU Name	Recreational Residences		Campgrounds				Other Sites with Overnight Use			
			# of Campgrounds		# of Campsites		# of Sites		Capacity	
	2011	2018	2011	2018	2011	2018	2011	2018	2011	2018
Upper Middle Fork Flathead	---	---	2	2	21	21	2	2	2 cabins	2 cabins
Upper North Fork Flathead	**---**	---	24	24	184	**182**	6	**8**	6 cabins	**9 cabins**
Upper South Fork Flathead	---	---	---	---	---	---	**1**	**1**	**1 cabin**	**1 cabin**

Discussion of Results

Evaluation questions:

- *Since the last monitoring report, has there been any net increase or decrease to the number or capacity of developed recreation sites designed and managed for overnight use on NFS lands during the non-denning season? If so, which bear management unit (BMU) is involved and what is the change?*
    - Between 2011 and 2018, there were six grizzly Bear Management Units (BMUs) in the PCA that had updates to their "baseline" for sites developed for overnight recreation use. Most of these changes were due to corrections or new data and were not on-the-ground changes. One BMU, Hungry Horse, has an increase in the number or capacity of developed recreation sites with overnight use compared to on-the-ground conditions in 2011. This change occurred through consultation with the USFWS before the Revised Forest Plan decision was signed in 2018 and thus this change did not use a one-per-decade per BMU allowed increase.
- *If there was an increase in the number or capacity but it was not counted towards the one increase that is allowable per decade, explain how the increase in number or capacity was mitigated within the same BMU to the extent the baseline was not increased.*
    - Since the revised forest plan was signed, there have been no changes nor rearrangements in number of sites nor capacity.
- *For any BMU with a change, list measures included in the project decision that are intended to reduce the risk of grizzly bear-human conflicts (see Guideline FW-GDL-REC).*
    - Since the revised forest plan was signed, there have been no increases in number of sites nor capacity relative to the baseline, so no additional measures were needed.

Evaluation of Results for Adaptive Management Finding

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

Table 10. Summary of Findings for Monitoring Item MON-NCDE-02a – Sites Developed for Overnight Recreation Use in Each Bear management Unit

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?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired Monitoring demonstrates that there have been no increases in either the number or capacity of developed recreation sites managed for overnight use in the PCA.
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-NCDE-02b: Within the NCDE primary conservation area, what is the status of administrative sites, day-use developed recreation sites, and trailheads in each bear management unit?

Introduction

The numbers of new administrative sites, day-use developed recreation sites, and trailheads are reported for the PCA, but these types of recreation sites are not included in the limit of one increase per BMU per decade (Monitoring Question MON-NCDE-02a, above). If there is an increase in the number or capacity of either day use or overnight developed recreation sites, the following guideline applies:

Guideline FW-GDL-REC-01 states: "Within the NCDE primary conservation area, if the number or capacity of **day use or overnight** developed recreation sites is increased, the project should include one or more measures to reduce the risk of grizzly-bear human conflicts in that bear management unit. The measure(s) should be in place prior to completion of the project or be included as one of the project design criteria. Measures can include but are not limited to additional public information and education; providing backcountry food-hanging poles or bear-resistant food or garbage storage devices; project design criteria that would limit capacity increases to those needed for public health and safety; and increasing law enforcement and patrols."

Table 11. Grizzly Bear Monitoring Question MON-NCDE-02b. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-GDL-REC-01	IND-NCDE- For each grizzly bear management unit in the PCA: 07. Number of new administrative sites, day-use developed recreation sites or trailheads (NCDE definition) in each grizzly bear management unit.	Wildlife spreadsheet and GIS layers*	Every other year at the end of even calendar years	Primary-Forest wildlife biologist; Secondary- USFS NCDE GIS specialist and Forest recreation program manager, and District Wildlife Biologists

*Data maintained by the FNF NCDE GIS specialist since NCDE definitions are not the same as those in the INFRA database.

Table 12. Monitoring Item MON-NCDE-02b - Monitoring Data Collection Summary

For monitoring item 02b:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

IND-NCDE-07: This is to be calculated for even years starting with 2018-2020 data. Because this is a new standard, begin compiling data for projects that have signed decisions after December 24, 2018 when the revised forest plan was signed. The current numbers should be compared to the baseline reported in

the Grizzly Bear Conservation Strategy (NCDE Subcommittee 2021). If day-use sites increase in number compared to the baseline, the spreadsheet will list measures implemented to reduce grizzly bear-human conflicts, as listed in the project record of decision. The spreadsheet should show project name and year the measures are first implemented.

Terms for consistency:

- Day-Use Trailheads. Trailheads range from fully developed to a turn-out at a road closure.
- Other Day-Use Sites. Site includes businesses, restaurants, river/lake access, picnic areas, points of interests, etc.
- Administrative Sites. Administrative sites include ranger stations, work centers, guard stations, active fire lookouts, etc. While these sites are not subject to the Developed Site standards, increases in the number of administrative sites on Federal lands are to be minimized so they are reported to provide transparency and accountability.

Every two years (2020, 2022, 2024, etc.) the information for day-use and administrative sites is compiled NCDE-wide by the FNF NCDE GIS specialist. These reports are maintained in T:\FS\NFS\Collaboration\GrizzlyBearRecovery\NCDE\GIS\NCDEDevelopedSites but **do not edit the files in that folder**. Extracts from the Flathead NF portion of the most recent version of that report are included in the table below. Refer to the NCDE-wide monitoring report for details about specific subunits (included in the project record of the Biennial Monitoring Evaluation Report).

Results

Because the 2020 NCDE-wide report is still in preparation, the table below provides a comparison between 2011 and 2018 of developed recreation sites managed for overnight use in the primary conservation area by Bear Management Unit. Bold entries indicate an update or change. Yellow (or lighter) shading indicates there was an update and correction to the baseline, and that the baseline value will be updated. BMUs where a change or update occurred are detailed in the NCDE-wide monitoring report (located in the project record for the Biennial Monitoring Evaluation Report).

Table 13. 2011 and 2018 Comparisons of Day-use and Administrative Sites.

BMU Name	Day-Use Trailheads		Other Day-Use Sites		Administrative Sites	
	2011	2018	2011	2018	2011	2018
Big Salmon	7	7	6	5	11	11
Bunker	27	27	5	5	4	4
Continental Divide	---	---	---	---	4	4
Hungry Horse	39	39	22	22	5	4
Lower Middle Fork Flathead	16	16	8	7	12	12
Lower North Fork Flathead	64	63	34	35	23	23
Mission Range	17	17	5	5	---	---
Sullivan	32	32	12	12	10	10
Stillwater River	1	1	---	---	1	1
Upper Middle Fork Flathead	14	14	1	1	5	5

BMU Name	Day-Use Trailheads		Other Day-Use Sites		Administrative Sites	
	2011	2018	2011	2018	2011	2018
Upper North Fork Flathead	39	39	8	8	21	19
Upper South Fork Flathead	5	5	2	2	6	6

Discussion of Results

Evaluation questions:

- *Since the last monitoring report, have there been any net increases or decreases to the number of administrative sites, day-use developed recreation sites or trailheads on NFS lands during the non-denning season? If so, which bear management unit (BMU) is involved and what is the change? Is it an on-the-ground change or just update to the numbers?*
    - The number of day-use recreation trailheads in the PCA decreased in one BMU. Other Day-Use Sites decreased in two BMUs and increased in one BMU. The number of Administrative Sites decreased in one BMU and a vacant administrative site was converted to a cabin rental in another BMU.

Evaluation of Results for Adaptive Management Finding

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

Table 14. Summary of Findings for Monitoring Item MON-NCDE-02b -- Administrative Sites, Day-use Developed Recreation Sites, and Trailheads in Each Bear Management Unit

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?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired Monitoring demonstrates that there have been no increases in the number of new administrative sites, day-use developed recreation sites, or trailheads in the PCA.
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 <u>where</u> change may be needed include**: Monitoring program, plan component, management activity, plan assessment, program strategy or approaches documents, public engagement strategy.

MON-NCDE-03: Within the NCDE primary conservation area, is there a change in the number of allotments? Have conflicts occurred between grizzly bears and livestock on NFS lands?

Introduction

There is no history of grizzly bear-livestock conflicts on NFS lands of the Flathead National Forest, but there have been conflicts in other parts of the NCDE. As a result, a standard applies to grazing allotments and any conflicts will be monitored:

> FW-STD-GR-05 states: Within the NCDE primary conservation area, there shall be no increase in the number of active cattle grazing allotments above the baseline (see glossary) on NFS lands. Note: Existing allotments may be combined or divided as long as that does not result in grazing allotments in currently unallotted lands.

For grazing, no incidental take was issued in the biological opinion on the Forest Plan. Therefore, the Forest will initiate consultation if there are proposed changes in allotment management or grazing permits that may have effects on grizzly bears that were not previously considered during consultation.

Table 15. Grizzly Bear Monitoring Question MON-NCDE-03. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-STD-GR-05	IND-NCDE- 08. Number of livestock allotments in the PCA (by livestock type). 09. Permitted animal unit months for sheep allotments. 10. Number of grizzly bear-livestock conflicts on NFS lands by grizzly bear management zone (e.g., PCA, DCA) and livestock type.	NCDE Grizzly Bear Report NCDE grizzly bear conflict database updated by MFWP	Every other year at the end of the calendar year even years	Primary-Forest wildlife biologist; Secondary- USFS NCDE GIS specialist

Table 16. Monitoring Item MON-NCDE-03 - Monitoring Data Collection Summary

For monitoring item 03:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

IND-NCDE-08: This is to be calculated for even years. The number and types of permitted livestock allotments in the primary conservation area are compiled by the NCDE GIS specialist on the FNF (Kathy Ake). Extracts from the Flathead NF portion of that report is to be included in the table below for this monitoring item. In 2018, the only allotments in the PCA were on Swan Lake Ranger District. Report on

these allotments and whether there has been a change. No new active allotments are allowed under Standard FW-STD-GR-05, although existing allotments may be combined or divided as long as that does not result in grazing allotments in currently unallotted lands.

IND-NCDE-09. The Forest has no sheep allotments. This was included in this report to document that this is the case.

IND-NCDE-10. MFWP grizzly bear management specialist will be contacted to determine if there have been any livestock-related conflicts since December 2018 for purposes of the 2021 report (if so, list in tables below by the PCA, DCA and the rest of zone 1). The revised forest plan defines livestock as domestic animals raised for commercial production purposes. Thus, this monitoring item includes grizzly bear-cattle conflicts in FNF allotments.

Every two years (2020, 2022, 2024, etc.) the information for livestock grazing is compiled NCDE-wide by the FNF NCDE GIS specialist. These reports are available at http://igbconline.org/n-continental-divide-subcommitte/ and are maintained in T:\FS\NFS\Collaboration\GrizzlyBearRecovery\NCDE\GIS\NCDEGrazing but **do not edit the files in that folder**. Extracts from the Flathead NF portion of the most recent version of that report were pasted into the table below. Refer to the NCDE-wide monitoring report for details about specific BMUs (located in the project record of the Biennial Monitoring Evaluation Report).

Results

Summary information about livestock grazing in the PCA on the Forest is provided in the table below. There are no sheep allotments and there have been no grizzly bear-livestock conflicts on Flathead National Forest lands during the reporting period.

Table 17. Grazing allotments in the PCA

Year	# of Active Allotments / Leases[1]	Type	Acres of Allotments / Leases[2]	# of Allotments / Leases with Active Permittees	AUMs[3]
2018	3	Cattle	33,460	3	497
2020	3	Cattle	33,460	3	497

[1]Number of allotments/leases that are not closed. Allotment/lease may or may not have an active permittee.

[2]Acres for the entire allotment/lease, which may or may not include other land ownerships than the agency issuing the allotment/lease.

[3]Number of Animal Unit Months permitted for allotment/lease, whether or not the allotment/lease is in use or not.

Discussion of Results

Evaluation questions:

- *Has there been a change in the baseline in the PCA? If so, list the name of each allotment where there has been a change.*
    - There has not been any change.
- *For each allotment with a change, list whether the allotment has been closed or combined, or is vacant. List whether the grazing permit is inactive or in non-use status (see grazing allotment or*

grazing permit in inactive or non-use status in glossary [e.g. change in status from active to in-active]).
    - There has not been any change.
- *Have there been any livestock-related grizzly bear conflicts in an allotment on Forest lands in the PCA? If so, what is the cause? Have there been any deviations from required mitigation measures or monitoring?*
    - There have not been any conflicts.
- *Have there been any livestock-related grizzly bear conflicts in an allotment in the Salish DCA or the rest of Zone 1?* (NOTE: In 2018 there were no active allotments in the Salish DCA on the FNF).
    - There have not been any conflicts.
- *Have there been any deviations from required mitigation measures or monitoring?*
    - There have not been any conflicts.

Evaluation of Results for Adaptive Management Finding

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

Table 18. Summary of Findings for Monitoring Item MON-NCDE-03 – Status of Livestock Allotments

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?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired Monitoring data show there have been no increases or other changes in livestock allotments and no livestock-related grizzly bear conflicts.
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-NCDE-04: If new leasable and locatable mineral activities occur in the PCA, do the record of decision and permit/plan of operation include a monitoring plan for changes in habitat and/or measures to avoid, minimize, or mitigate environmental impacts to grizzly bears or their habitat?

Introduction

For minerals, there is no incidental take in the biological opinion. Therefore, the Forest will initiate consultation if there are proposed changes in minerals management, leases, or permits that may have effects to grizzly bears that were not previously considered during consultation.

The Forest Service defines three types of mineral (and energy) resources. This monitoring item applies to the following two types:

- Locatable minerals: Commodities such as gold, silver, copper, zinc, nickel, lead, platinum, etc., and some nonmetallic minerals such as asbestos, gypsum, and gemstones.
- Leasable minerals: Commodities such as oil, gas, coal, geothermal resources, and deposits of potassium, sodium phosphates, oil shale, sulfur, and solid minerals on lands acquired through the Mineral Lands Leasing Act of 1920, as amended; the Geothermal Steam Act of 1970, as amended; or the Acquired Lands Act of 1947, as amended.

The following forest plan components are being monitored:

FW-STD-E&M

01 Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), mining activities (as authorized under the Mining Law of 1872) and oil and gas activities (as authorized under the Federal Onshore Oil and Gas Leasing Reform Act of 1987) occurring on NFS lands, where feasible, shall avoid, minimize, and/or mitigate environmental impacts to grizzly bears or their habitat, subject to existing rights. Stipulations or mitigation measures already included in existing leases, permits, or plans of operation on NFS lands shall not be changed, nor will additional stipulations or mitigation measures be added without the agreement of the holder of the lease, permit, or plan of operation.

02 Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), new or reauthorized permits, leases, and/or plans of operation shall include a clause providing for modification or temporary cessation of activities, if needed, to resolve a grizzly bear-human conflict situation.

03 New plans of operation, permits, and/or leases for mineral activities shall include measures to reasonably mitigate potential impacts of mineral development for the following:

- land surface and vegetation disturbance;
- water table alterations that affect bear foods on the surface; and
- construction, operation, and reclamation of mine-related facilities such as impoundments, rights-of-way, motorized routes, pipelines, canals, transmission lines, or other structures.

04 Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), in addition to measures included in the food/wildlife attractant special order(s), new plans of operation, permits, and/or leases for mineral activities shall include the following measures regarding grizzly bear attractants:

- bear-resistant food storage and garbage containers shall be used at development sites and at any campgrounds or dispersed sites where exploration or production-related human occupancy is anticipated;
- garbage shall be removed in a timely manner;
- road kills shall be removed daily during active operating periods to a designated location determined in close coordination with MFWP;
- feeding of wildlife shall not be allowed; and
- locations of work camps shall be approved in advance of operations. Food storage requirements shall be strictly adhered to in all work camps.

05 Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), if minerals activities have the potential to adversely affect grizzly bears or their habitat as determined by a site-specific analysis, new plans of operation, permits, and/or leases for mineral activities shall include the following mitigation measures, stipulations, and surface use criteria regarding grizzly bear habitat:

- ground-disturbing activities in identified grizzly bear spring habitat (as identified in a site-specific biological evaluation or other environmental document) shall be avoided between April 1 and June 30. If timing restrictions are not practicable, other measures shall be taken to reasonably mitigate negative impacts of mineral activity to grizzly bears.
- seismic activity in identified grizzly bear denning habitat (as identified in a site-specific biological evaluation or other environmental document) shall be avoided during the denning season (see glossary). If timing restrictions are not practicable, other measures shall be taken to reasonably mitigate negative impacts of mineral activity to grizzly bears.
- cumulative impacts of multiple, concurrent seismic and/or drilling operations shall be limited by timing restrictions. If timing restrictions are not practicable, reasonable and appropriate measures shall be taken to mitigate negative impacts to the grizzly bear.
- reasonable and appropriate measures regarding the maintenance, rehabilitation, restoration, or mitigation of functioning aquatic systems and riparian management zones shall identify how reclamation will occur, plant species to be used in reclamation, a time frame of when reclamation will be completed, and monitoring criteria; and
- reclamation and revegetation of motorized routes, drilling pads, and other areas disturbed from mineral activities shall be completed as soon as practicable by the operator.

06 Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), if mineral activities have the potential to adversely affect grizzly bears or their habitat as determined by a site-specific analysis, new plans of operation and permits shall include the following mitigation measures regarding motorized access:

- public motorized use that is not associated with minerals activities shall be prohibited on motorized routes constructed for exploration and/or development;
- a traffic management plan shall be developed as part of the proposed activity to identify when and how motorized routes will be used, maintained, and monitored (if required) and how motorized route standards and guidelines will be implemented after activities have ended;
- helicopter use associated with seismic activity, exploration, drilling, or development must follow an approved plan or permit; and

- speed limits shall be adopted on motorized routes if needed to prevent or reduce collisions with grizzly bears.

07 Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), minerals contractors and lessees shall require employees to attend training related to safely living near and working in grizzly bear habitat prior to starting work and on an annual basis thereafter.

08 Within the NCDE primary conservation area, new leases for leasable minerals shall include a no surface occupancy stipulation (see glossary).

Table 19. Grizzly Bear Monitoring Question MON- NCDE-04. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-STD-E&M-01 through 08	IND-NCDE-11: Number of permits authorized in the PCA and mitigation measures included in the permit/plan of operations where it is determined there is potential for adverse effects to the grizzly bear population or its habitat resulting from leasable or locatable mineral activities.	Permit or leasing decisions	On the year the monitoring report is required, check with RO to see if any new requests for leasable or locatable minerals permits or leases have been requested or issued.	Primary-Forest wildlife biologist Secondary-Region 1 Forest Service minerals management specialist

Table 20. Monitoring Item MON-NCDE-04 - Monitoring Data Collection Summary

For monitoring item 04:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

Because this is a new standard, begin compiling data for permits that are issued after December 24, 2018 when the revised forest plan was signed. Include information about all mitigation measures that are applied to reduce effects on grizzly bears for consistency with the NCDE "E&M" direction in the Forest Plan. NOTE: It is unlikely that we have had new permit authorizations on FNF. Check with RO Minerals/Geology Program Manager Michael Huffine to see if there have been any changes during the previous two years.

IND-NCDE-11: Number of leasable or locatable mineral permits authorized in the PCA. As of 2020, the data resides on the T: drive in the project area under the Data folder geodatabases:ForestPlanRevisionFEIS.gdb-- DocumentationSUDS_IssuedPermts2017Jul7.pdf.

Results

There are no leasable or locatable mineral explorations or developments in the PCA on the Forest.

Discussion of Results

There is a low potential for new permit authorizations to change in the PCA, but if there is a change, potential evaluation questions are:

- *Have there been any changes in the number of leasable or locatable mineral authorizations in the primary conservation area compared to the baseline (see glossary)? If there are new leasable or locatable mineral activities proposed and it is determined there is potential for adverse effects to the grizzly bear population or its habitat, what measures are included in the permit or lease authorization to avoid, minimize, or mitigate environmental impacts to grizzly bears or their habitat?*
    - There continue to be no leasable or locatable mineral explorations or developments in the PCA on the Forest.
- *Has there been any net increase to the baseline for the number of minerals permits or leases on NFS lands in the primary conservation area or demographic connectivity area?*
    - No, there have not.
- *What measures to reduce human-grizzly bear conflicts are included in the project decision?*
    - There have been no increases, so no additional measures were needed.
- *What measures to reduce the risk of grizzly-bear human conflicts are required in the mineral permit or lease? What is the date of implementation?*
    - NA.
- *Has there been any on-the-ground monitoring of effectiveness of measures implemented?*
    - NA.
- *Have there been any grizzly bear-human conflicts or grizzly bear mortalities associated with a minerals operation?*
    - No, there have not.

Evaluation of Results for Adaptive Management Finding

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

Table 21. Summary of Findings for Monitoring Item MON-NCDE-04 – Operations Association with Mineral Activities

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?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired
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-NCDE-05: Within the NCDE primary conservation area, what is the status of grizzly bear subunits that have temporary increases in motorized access due to projects (see glossary)?

Introduction

Temporary changes in motorized access are covered by incidental take in the Forest's biological opinion as long as they comply with the standard as specified in the terms and conditions in the applicable biological opinion (2017) and amended incidental take statement (2018). The forest plan component monitored by this monitoring item is the following:

FW-STD-IFS-03: In each bear management subunit within the NCDE primary conservation area, temporary changes in the open motorized route density, total motorized route density, and secure core shall be allowed for projects (as defined by "project (in grizzly bear habitat in the NCDE)" in the glossary).

The 10-year running average for open motorized route density, total motorized route density, and secure core numbers shall not exceed the following limits per bear management subunit:

- Five percent temporary increase in open motorized route density in each subunit (i.e., open motorized route density baseline plus 5 percent);
- Three percent temporary increase in total motorized route density in each subunit (i.e., total motorized route density baseline plus 3 percent);
- Two percent temporary decrease in secure core in each subunit (i.e., secure core baseline minus 2 percent).

Exceptions to this standard include

  - emergency situations as defined by 36 CFR § 218.21 and
  - actions where valid existing rights preclude or constrain agency discretion (e.g., certain contracts, permits, leases, etc.).

Refer to appendix C for an example of how to calculate and apply the running average and temporary increase/decrease.

If the 10-year running average exceeds requirements specified in FW-STD-IFS-03 for any project or if a project may have effects to grizzly bears that were not previously considered during consultation, the Forest will re-initiate consultation on the project if the NCDE grizzly bear remains listed. Note that a term and condition for temporary changes due to projects was added to this standard (see Forest Plan ROD) so that concurrent changes can occur in no more than three adjacent subunits.

Table 22. Grizzly Bear Monitoring Question MON-NCDE-05

	Indicator(s)	Data Source(s) / partners	Data Collection Interval	Point of Contact
FW-STD-IFS-03	IND-NCDE - For each grizzly bear management subunit with a project: 12. Percent change in the 10-year running average of open motorized route density, total motorized route density, and secure core for each subunit that has had temporary increases in projects (see appendix C for examples of methods).	REQUIRED TERM AND CONDITION REPORT Project-level spreadsheet for 10-year running average Spreadsheet developed by Forest wildlife biologist and GIS specialist	Calculated for each subunit in each "project" (see LNP glossary for NCDE definition) in the PCA when each decision is signed.	Primary: Forest wildlife biologist. Secondary: Project wildlife biologists (calculate OMRD, TMRD, and secure core for grizzly bear subunits, do 10-year running average calculations, and collect other info)

Table 23. Monitoring Item MON-NCDE-05 - Monitoring Data Collection Summary

For monitoring item 05:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

Data compiling began for projects with decisions signed after December 24, 2018 (revised forest plan signed) because this is a new standard.

IND-NCDE-12: For each grizzly bear subunit in the PCA with a "project" as it is defined in the Forest Plan glossary: Percent change in the 10-year running average of open motorized route density, total motorized route density, and secure core for each subunit that has had temporary increases in projects. This is summarized from project decisions as updated by any changes throughout its entire implementation. Between monitoring reports, it is tracked in the "Project5-3-2Calculations.xlxs" spreadsheet in T:\FS\NFS\Collaboration\GrizzlyBearRecovery\NCDE\GIS\NCDEConsStratAccess\FNF. From that data, enter information into the table below, using whole numbers for percentages. Because more than one project could affect a subunit at one time, each subunit gets one row in this table.

The 10-year running average for each subunit with an active "project" (see glossary for NCDE "project") begins with the first grizzly bear non-denning season after the final record of decision for the revised forest plan was signed (as listed in the 2018 amended incidental take statement). For "project" use the name of the NEPA project or use the name of Timber Sales or subdivisions if they qualify as separate "projects". Follow the process in Appendix 6 of the NCDE Conservation Strategy (NCDE Subcommittee 2021).

Each January, ask contract administrators and/or other staff working in the PCA to provide the date each road was opened for BMP work or was constructed. Once contract work is completed, get the date each road is closed or re-closed to return to baseline OMRD, TMRD, or secure core percentages.

If a project analyzed in a NEPA document is sold as separate timber sales, the project biologist should calculate the running average based upon OMRD, TMRD, and core from the start of each timber sale until the completion of each timber sale whenever previously closed roads are open or use exceeds allowable administrative use levels of 30 days or 6 trips (3 round trips) per week during a non-denning season (from 1 April through 30 November).

Tables 24a, 24b, and 25 summarize information that can be gleaned from project BAs, decision documents, or wildlife biologists' memories, along with updates for project implementation. Each subunit or project gets one row in each table. Note that Table 24b's values are to be updated as project implementation proceeds.

Results

Table 24a. Subunit-specific information for Monitoring Question MON-NCDE-05, values used for Section 7 consultation, based on project design.

Subunit Name	NCDE "Project" Name(s)	Year 1 % values	Highest % changes in 10-year running average	Subunit stays within 5-3-2 limit?	Subunit-specific Comments
Cedar Teakettle	Crystal Cedar	35% OMRD 36% TMRD 24% Core	+ 5% OMRD + 1% TMRD - 0% Core	Yes	
Lazy Creek	Taylor Hellroaring	52% OMRD 78% TMRD 6% Core	+ 3% OMRD + 1% TMRD - 0% Core	Yes	Subsequent to project analysis, baseline value for OMRD was corrected to 49% and TMRD was corrected to 80%. See subunit narrative for Question MON-NCDE-01 above.
Swan Lake	March Madness	43% OMRD 25% TMRD 46% Core	+ 1% OMRD + 1% TMRD - 0% Core	Yes	These %s include ongoing work from Weed Lake Project, which was signed under the prior Forest Plan.
XX subunit	XX future project	X% OMRD X% TMRD X% Core	+ X% OMRD + X% TMRD - X% Core		

Table 25b. Subunit-specific information for Monitoring Question MON-NCDE-05, values as updated by project implementation.

Subunit Name	NCDE "Project" Name(s)	Year 1 % values	Highest % changes in 10-year running average	Subunit stays within 5-3-2 limit?	Subunit-specific Comments
Cedar Teakettle	Crystal Cedar	35% OMRD 36% TMRD 24% Core	+ 5% OMRD + 1% TMRD - 0% Core	Yes	No change due to implementation adjustments.
Lazy Creek	Taylor Hellroaring	52% OMRD 78% TMRD 6% Core	+ 3% OMRD + 1% TMRD - 0% Core	Yes	No change due to implementation adjustments.
Swan Lake	March Madness	40% OMRD 21% TMRD	+ 1% OMRD + 1% TMRD	Yes	So far, 1 temporary road has been dropped.

Subunit Name	NCDE "Project" Name(s)	Year 1 % values	Highest % changes in 10-year running average	Subunit stays within 5-3-2 limit?	Subunit-specific Comments
		46% Core	- 0% Core		
XX subunit	XX future project	X% OMRD X% TMRD X% Core	+ X% OMRD + X% TMRD - X% Core		

Table 26. Project-specific information for Monitoring Question MON-NCDE-05

NCDE "Project" Name	Subunit Names(s)	OMRD or TMRD increase or core decrease in more than 3 adjacent subunits?	Was public access on new roads effectively blocked?	Was public access on new roads offset?	Project-specific Comments
Crystal Cedar	Cedar Teakettle	No	Yes	Not needed	
Taylor Hellroaring	Lazy Creek	No	Yes	Not needed	
March Madness	Swan Lake	No	Yes	Not needed	
XX future project					

Discussion of Results

Evaluation questions:

- *Are there any project decisions signed after December 24, 2018 resulting in a temporary increase in OMRD or TMRD or a temporary decrease in secure core? What are the subunit names and percent increases in the 10-year-running average?*
  - Yes. See tables above.
- *Do all projects meet the USFWS term and condition that projects cannot result in a concurrent increase in OMRD or TMRD or decrease in secure core in more than 3 adjacent subunits?*
  - Yes. See tables above.
- *Once the project is implemented, are there any percentage changes that deviated from what was anticipated in the project decision that could have effects to the grizzly bear?*
  - There have not been any implementation changes that moved towards increased road densities or decreases in secure core, although implementation of the March Madness Project moved these parameters in the other direction. See tables above.
- *If new roads were constructed for a project, was public access physically blocked with an effective gate or other closure device during project activities so that public use does not occur?*
  - Yes.
- *If a new road was not physically blocked, was another road with the same or greater mileage physically closed with an effective closure prior to or concurrent with new road construction so that there is no net increase in routes open to public use?*
  - This was not needed.
- *Is FW-STD-IFS-03 (5-3-2) being met?*
  - Yes, the standard is being met.

- *Upon completion of implementation of a project, if the 10-year running average allowed by FW-STD-IFS-03 is exceeded, what are the reasons? Were there project delays that resulted in temporary increases in more than 3 adjacent subunits?*
    - This has not occurred.

Evaluation of Results for Adaptive Management Finding

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

Table 27. Summary of Findings for Monitoring Item MON-NCDE-05 – Temporary increases in Motorized Access

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?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired based on subunit specific tracking of OMRD, TMRD, and secure core motorized access parameters.
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-NCDE-06: Within the NCDE primary conservation area, are projects (see glossary) completed within the five-year time period specified by guideline FW-GDL-IFS-01?

Introduction

Completing a project (see glossary) in 5 years is covered by incidental take as long as it complies with **FW-GDL-IFS-01** and the terms and conditions in the applicable biological opinion (2017) and its amended incidental take statement (2018)**. The guideline being monitored is as follows:**

FW-GDL-IFS-01: In each bear management subunit within the NCDE primary conservation area, each project (as defined by "project (in grizzly bear habitat in the NCDE)" in the glossary) should be designed so that on-the-ground implementation does not exceed 5 years to reduce the potential of grizzly bears being disturbed or displaced. Exceptions may be made where necessary to accommodate, for example,

- actions where existing rights preclude or constrain agency discretion (e.g., certain contracts, permits, leases);
- prescribed burning (including slash disposal), best management practices to protect water quality, or required reforestation activities; or
- emergency situations as defined by 36 CFR § 218.21.

If an extension to the five-year time limitation is required (e.g., to meet contractual obligations or to complete on-the-ground treatments), the reasons should be documented in writing prior to authorization of the extension.

While the NCDE grizzly bear remains listed, if deviation from this standard is proposed or if there are effects to grizzly bears which were not previously considered during consultation the Forest will initiate consultation. If the grizzly bear is delisted, a biology and management review will be initiated. A biology and management review examines management of habitat, populations, or efforts of participating agencies to complete their required monitoring. The coordinating committee will respond to the biology and monitoring review with actions to address the deviations from the population or habitat standards (Grizzly Bear Conservation Strategy 2018).

Table 28. Grizzly Bear Monitoring Question MON- NCDE-06. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-GDL-IFS-01	IND-NCDE- 13. For each grizzly bear subunit in the PCA with a project (see glossary): Number of years to complete a project (see FW-STD-IFS-03 and the definition of "project (in grizzly bear habitat in the NCDE)" in the glossary).	REQUIRED TERM AND CONDITION REPORT Spreadsheet developed by Forest wildlife biologist	Data collection: gather data from project administrators each year.	Primary: Forest Wildlife Biologist (calculates whether a project is completed in 5 years or gets information from project biologists). Secondary: Timber sale Administrators (provide information to forest or district biologists for

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
				operations on roads previously restricted)

Table 29. Monitoring Item MON-NCDE-06 - Monitoring Data Collection Summary

For monitoring item 06:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

Because this is a new standard, begin compiling data for projects with decisions signed after December 24, 2018 when the revised forest plan was signed.

IND-NCDE-13: For each grizzly bear subunit in the PCA with a "project" as defined for the NCDE (see glossary): Number of years to complete a project (the definition of "project (in grizzly bear habitat in the NCDE)" in the glossary). Maintain this information for each NCDE "project" in the FNF_ProjectDurationTracking spreadsheet in T:\FS\NFS\Collaboration\GrizzlyBearRecovery\NCDE\GIS\NCDEConsStratAccess\FNF.

For each subunit with a "project" as defined for NCDE, report this in the table below with a separate row for each subunit and for each project. Use the name of a NEPA project or the name of Timber Sales or subdivisions if they qualify as separate "projects". For each subunit, the project biologist should calculate the time it takes to complete the "project" from its start through completion whenever previously closed roads are open or use exceeds 30 days or 6 trips (3 round trips) per week during a non-denning season from 1 April through 30 November and where a temporary change in OMRD, TMRD, and/or secure core %s will occur.

Meet with the contract administrators annually after December 1 to see which projects had activities lasting more than 30 days or 3 trips per week during the previous non-denning season. If a "project" is not completed in 5 years, the contract administrator needs to provide the specific reason. As specified in the Term and Condition, the Forest would need to contact the Service immediately to determine further consultation needs. You will also need to check to make sure the delay did not cause more than 3 adjacent subunits to have projects at the same time and adjust the 5-3-2 table for any affected subunits that had roads open longer than anticipated.

Because FW-GDL-IFS-01 is a guideline, alternate means could be pursued during project development to meet the guideline's purpose of reducing "the potential of grizzly bears being disturbed or displaced", although this would not meet the Term and Condition. If this occurs, contact the USFWS to determine if additional consultation is needed and provide information in the discussion section below.

Results

Table 30. Subunit-specific information for Monitoring Question MON-NCDE-06

Subunit Name	NCDE "Project" Name(s)	Month/Year of "Project" Start	Month/Year of "Project" Completion	Total Years of Activity	Project and Subunit-specific Comments (i.e. reasons for exceeding 5 years, other approaches taken for meeting FW-GDL-IFS-01, etc.
Lazy Creek	Taylor Hellroaring		NA	NA	
Cedar Teakettle	Crystal Cedar		NA	NA	
Swan Lake	March Madness		NA	NA	

Discussion of Results

Evaluation questions:

- *Did any NCDE "projects" take longer than 5 years to complete?*
  - Projects signed under the 2018 Forest Plan have not yet neared a 5-year duration for implementation.
- *If a project is not completed in 5 years or percentages are not restored within one year of completion of the project, what are the reasons? Does there need to be any change in project decisions, incorporation of design criteria in contract, or contract administration?*
  - NA
- *Did any projects pursue alternate means of achieved the purpose of FW-GDL-IFS-01? If so, how would this purpose be achieved as well or better than would the 5-year limit? What steps were taken for project consultation?*
  - No project decisions have been signed that pursued this approach for this guideline.

Evaluation of Results for Adaptive Management Finding

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

Table 31. Summary of Findings for Monitoring Item MON-NCDE-06 – Project Completion Timeframes Inside Primary Conservation Area

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 (A) - Availability of data or Interval of data collection beyond this reporting cycle**.** At least 5 years are needed to see if any project exceeds 5 years.
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-NCDE-07: In the Salish DCA, what is the density of roads and motorized trails on NFS lands that are open to public use during the non-denning season? In zone 1 outside the Salish DCA, what is the density of roads on NFS lands that are open to public use during the non-denning season?

Introduction

Motorized access in Zone 1 is covered by incidental take in the biological opinion as long as it complies with GA-SM-STD-01 and the terms and conditions in the applicable biological opinion (2017) and amended incidental take statement (2018).

Standard GA-SM-STD-01 reads as follows:

Within the Flathead National Forest portion of NCDE zone 1 *outside* the Salish demographic connectivity area (see figure B-10), there shall be no net increase above the baseline (see glossary) in the density of roads open to public motorized use on NFS lands. *Inside* the Salish demographic connectivity area, there shall be no net increase above the baseline (see glossary) in the density of roads and trails open to public motorized use during the non-denning season on NFS lands. Density is calculated by dividing the total miles open to public motorized use on NFS lands during the non-denning season, by the total square miles of NFS lands in that same area. This standard does not apply to the following:

- motorized use by agency personnel or others authorized by the appropriate agency personnel;
- the temporary opening of a road for a short period of time to allow for public firewood gathering and other authorized uses (see also FW-STD-IFS-04);
- updated/improved road data without an actual change on the ground;
- changes in technology or projections that result in changed calculations without actual change on the ground (e.g., a switch in geodetic systems from the North American Datum of 1927 to the North American Datum of 1983);
- moving a road closure location a short distance (e.g., to the nearest intersection or turnout) to a better location to allow turn-arounds that provide for public safety, to reduce vandalism, or to improve enforcement of the road closure;
- exchanging, acquiring, buying, or selling lands by the agency;
- a change in an open road that is necessary to comply with Federal laws (e.g., the Architectural Barriers Act of 1968, as amended);
- motorized use for mining activities (as authorized under the Mining Law of 1872) and oil and gas activities (as authorized under the Federal Onshore Oil and Gas Leasing Reform Act of 1987) because these types of permitted resource development are subject to existing rights and have a separate set of standards and guidelines;
- a change in an open road that is necessary to address grizzly bear-human conflicts, human safety concerns, or resource damage or concerns (e.g., a road paralleling a stream may be decommissioned and replaced by a new upslope road to reduce water quality impacts);
- motorized use for emergency situations as defined by 36 CFR § 218.21;
- temporary roads (see glossary).

Table 32. Grizzly Bear Monitoring Question MON-NCDE-07. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
GA-SM-STD-01	IND-NCDE- 14. Density of roads and motorized trails on NFS lands in the DCA that are open to public motor vehicle use during the non-denning season. 15. Density of roads on NFS lands in zone 1 outside the DCA that are open to public motor vehicle use during the non-denning season.	Miles of roads and trails open to public motorized use determined through the USFS INFRA database; and spatial representation in USFS forests routed layers. USFS GIS database for acres of NFS lands, boundaries of zone 1 and Salish DCA.	Data collected at the end of the calendar year, odd years	Primary-Forest wildlife biologist; Secondary- USFS NCDE GIS specialist

Table 33. Monitoring Item MON-NCDE-07 - Monitoring Data Collection Summary

For monitoring item 07:	Year
Data was last collected or compiled in:	2019 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

IND-NCDE-14, -15: to be calculated for odd years starting with 2019 data

Because this is a new standard, begin compiling data after December 24, 2018 when the revised forest plan was signed.

IND-NCDE-14: Density of roads and trails on NFS lands in the Salish Demographic Connectivity Area that are open to public motor vehicle use during the non-denning season. Miles, closure types, and dates/season of restrictions determined through the INFRA database and spatial representation in the Forests' routed layers, divided by square miles of NFS lands in the Ownership GIS layer. Miles of roads that are not physically closed to public motorized vehicle use at any time during the non-denning season are included as open unless they comply with exceptions in standard GA-SM-STD-01. As referenced in the standard, the exception to allow "short-term public use" is intended to be the same as for the PCA (no more than 30 consecutive days and not during hunting season) unless a different time period is adopted based upon consultation with the USFWS. Trails are considered open to motorized use if shown in the INFRA database as such as well as on the NVUM map.

IND-NCDE-15: Density of roads on NFS lands in Zone 1 but outside the Salish Demographic Connectivity Area that are open to public motor vehicle use during the non-denning season. This excludes trails but is otherwise the same as IND-NCDE-14.

This information is collected by the FNF NCDE GIS Specialist, although it is not part of the NCDE-wide report. It is maintained in

T:\FS\NFS\Collaboration\GrizzlyBearRecovery\NCDE\GIS\NCDEConsStratAccess\ReportsTracking but **do not edit the files in that folder**. Include extracts from the Flathead NF portion of the most recent version of that report in the tables below.

Results

Table 34. Linear Density of Motorized Roads and Trails across the Salish DCA.

	Open Roads (Miles)	Motorized Trails (Miles)	Total (Miles)	NFS Lands (Square Miles)	Linear Density of Public Open Motorized Roads and Trails (Miles/Square Mile)
2017	217	14	231	150	1.5
2019	217	14	231	150	1.5

Table 35. Linear Density of Motorized Roads across Zone 1 Outside the Salish DCA

	Open Roads (Miles)	NFS Lands (Square Miles)	Linear Density of Public Open Motorized Roads Only (Miles/Square Mile)
2017	338	212	1.6
2019	340	212	1.6

Discussion of Results

Evaluation questions:

- *If there were changes, were they changes on the ground or just changes in the numbers*?
  - There were no changes on the ground between 2017 and 2019. The miles of open roads reported in Zone 1 outside the DCA increased from 338 to 340 miles. The two miles were extensions of Roads 2910 and 90859A that were constructed in 2016 but were not yet accounted for when the data was pulled from INFRA in 2017.
- *Were new roads constructed for a project with a decision signed after December 24, 2018 when the revised forest plan was signed?*
  - No, they were constructed for the McGriffin Timber Sale, which was part of the Griffin NEPA decision.
- *If new roads were constructed for a project, was public access physically blocked with an effective gate or other closure device during project activities so that public use does not become established?*
  - Road construction is included in the 2020 Salish Good NEPA decision. It has not yet been implemented but includes measures to offset any increase.
- *If a new road was not physically blocked, was another road with the same or greater mileage physically closed with an effective closure prior to or concurrent with new road construction so that there is no net increase in the linear density of routes open to public use?*
  - Road construction is included in the 2020 Salish Good NEPA decision. It has not yet been implemented but includes measures to offset any increase.
- *Were new motorized trails constructed inside the Salish DCA?*
  - No new motorized trails have been planned or implemented.

Evaluation of Results for Adaptive Management Finding

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

Table 36. Summary of Findings for Monitoring Item MON-NCDE-07 – Road Densities Salish DCA and Zone 1

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?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired based on tracking of the densities of roads and trails that are open to public motorized use in the Salish DCA and elsewhere in Zone 1.
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-NCDE-08: What is the risk of human disturbance in areas modeled as grizzly bear denning habitat during the den emergence time period (see glossary)?

Introduction

In the PCA, the revised forest plan displays currently designated routes and areas open to motorized over-snow use, including information about their seasons. The Forest consulted on proposed changes in designated routes as well as changes in suitability.

Motorized over-snow vehicle access is covered by incidental take as long as it complies with **FW-STD-REC-05** and the terms and conditions in the applicable biological opinion (2017) and amended incidental take statement (2018)**. FW-STD-REC-05 reads as follows:**

> Within grizzly bear denning habitat modeled by MFWP in the NCDE primary conservation area, there shall be no net increase in percentage of area or miles of routes designated for motorized over-snow vehicle use on NFS lands during the den emergence time period (see glossary).

Table 37. Grizzly Bear Monitoring Question MON-NCDE-08. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-STD-REC-05	IND-NCDE-16. In the NCDE primary conservation area, the percentage of modeled grizzly bear denning habitat (as updated by MFWP) where public motorized over-snow vehicle use is allowed during the den emergence time period.	Motorized over-snow routes, route corridors, and areas where motorized over-snow use is designated during the den emergence time period based upon most recent decision; over-snow use map. Most recent grizzly bear denning GIS layer from MFWP.	As applicable to evaluate a new decision on motorized over-snow use	Primary-Forest wildlife biologist; Secondary- USFS NCDE GIS specialist

Table 38. Monitoring Item MON-NCDE-08 - Monitoring Data Collection Summary

For monitoring item 08:	Year
Data was last collected or compiled in:	2018
Next scheduled data collection/compilation:	2022
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

IND-NCDE-16: This indicator will be reported when a forest-wide, site-specific winter travel decision is made or when denning habitat modeled by MFWP has been updated.

This data is available in T:\FS\NFS\Flathead\Project\SO\ForestPlanRevision\GIS\FEIS\Product\Spreadsheets\NCDE for 2017. Do not edit the files in that folder. The Forest Plan FEIS analyzed the following: 1) areas where motorized

over-snow vehicle use is suitable and 2) designated routes as shown on the forest WMVUM maps, as modified in the ROD adopting alternative B modified for the FNF revised forest plan.

Contact MFWP to get their most up-to-date GIS layer for modeled denning habitat and check to see whether dates of the non-denning season have changed based upon monitoring. As specified in the NCDE Grizzly Bear Conservation Strategy (NCDE Subcommittee 2021), dates for the non-denning season will be adjusted if 10-year average den emergence data for females or females with offspring shows a shift of at least a week.

- Use the GIS model of grizzly bear denning habitat that was used for the forest plan revision unless the model has been updated by MFWP.
- Use den emergence definition in the revised forest plan glossary, beginning April 1, unless the beginning of non-denning season has been updated by MFWP.
- Use the GIS layer showing designated routes and areas where public motorized over-snow vehicle use is allowed in the PCA during the den emergence time period (after April 1). Compare this to December 24, 2018 when the revised forest plan ROD was signed. If WMUVMs or temporary permits allow for changes to motorized over-snow use in the PCA after April 1 (compared to existing allowable use at the time the forest plan ROD was signed), these should be included for purposes of evaluating standard compliance and consultation should occur.

Results

Table 39. Motorized over-snow use during the den emergence time period in the Primary Conservation Area

Year	Modeled grizzly bear denning habitat in the (PCA)	Designated motorized Over-Snow Vehicle Routes open at any time during den emergence time period (April 1 to May 1 unless FWP indicates other dates) in modeled denning habitat	Motorized Over-Snow Vehicle Acres suitable for motorized over-snow use at any time during den emergence time period (April1 to May 1 unless FWP indicates other dates) in modeled denning habitat	Percent of modeled denning habitat where motorized over snow use may occur during the den emergence time period
2017	1,015,280 acres	661 miles	59,017 acres	13%
2019	1,015,280 acres	661 miles	59,017 acres	13%

Discussion of Results

Evaluation questions

- *Has there been any change to the percentage of modeled denning habitat suitable for motorized over-snow vehicle use on NFS lands during the den emergence time period due to changes in habitat modeled by MFWP? If so, what is the net change?*
    - For the 2021 monitoring report, there is no change in this monitoring indicator as Montana FWP has not updated their GIS model for grizzly bear denning habitat and the Forest has not changed where oversnow travel is allowed.
- *Has there been any change to the acres or miles suitable for motorized over-snow vehicle use at any time during den emergence time period (April 1 to May 1 unless FWP indicates other dates)?*

Is the change in designated miles or allowable area due to on-the-ground changes or is it due to calculations, such as an update of GIS layers?

- No. The site-specific process which will implement the forest plan's suitability has not yet been completed.

- *Has there been any decision to change the miles of designated routes as shown on the WMVUMs maps? Has there been any decision to change areas where motorized over-snow use is allowable as shown on the WMVUMs, consistent with suitability displayed and analyzed in the revised forest plan?*
  - No. The site-specific process which will implement the forest plan's suitability has not yet been completed.

Evaluation of Results for Adaptive Management Finding

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

Table 40. Summary of Findings for Monitoring Item MON-NCDE-08 – Risk of Human Disturbance in Grizzly Bear Denning Habitat

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?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired based on the lack of change since 2017
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.

CANADA LYNX HABITAT REQUIRED MONITORING (MON-LYNX)

Introduction

For Canada lynx monitoring items, exceptions and exemptions to the Canada lynx standards are covered by incidental take in the biological opinion (2017) and its amended incidental take statement (2018) as long as it complies with the Forest Plan standards and the purposes of its guidelines. The Forest must re-initiate consultation with the USFWS if any project proposes to site-specifically amend the standards, or if the Forest exceeds the limits of incidental take provided, or if a project may have effects to Canada lynx that were not previously considered during consultation.

USFWS required monitoring for Canada lynx is included in this monitoring guide section, submitted annually to the USFS R1 regional office. The R1 Broadscale Monitoring Strategy (BSMS) includes compilation of data for Canada lynx habitat. The tables in the sections below list the forest plan monitoring questions and indicators for lynx habitat, to be provided to the public every two years in the Forest Plan Biennial Monitoring Evaluation Report. The R1 Broadscale Monitoring Strategy (BSMS) for meso-carnivores provides information on Canada lynx populations. The meso-carnivore monitoring program is designed to provide a framework to uniformly collect and compile species data at scales larger than one planning unit for purposes of providing context and relevancy for the biennial plan-level monitoring evaluation reports (see meso-carnivore section of wildlife species/habitat monitoring guide).

Summary of recommended changes to Forest Plan monitoring questions or indicators for Canada lynx

As of 2020, the Flathead National Forest is considered occupied by Canada lynx. Most of the Forest is designated lynx critical habitat with the notable exception of two Lynx Analysis Units (LAUs) in the "Island Unit" south of Highway 2 and west of Highway 93 (Blacktail and Haskill Mount). Two Monitoring Questions, MON-LYNX-01 and -03, were originally specific to lynx critical habitat but would be more informative if expanded to cover all lynx habitat. Thus, those two Monitoring Questions will be retained but will now cover all 109 LAUs that are wholly or partially within the Flathead National Forest, not just the 107 LAUs that have critical habitat.

There is considerable duplicity between Monitoring Questions MON-LYNX-05 (monitoring of lynx habitat required by USFWS Terms and Conditions (NRLMD and FNF Appendix A) and MON-LYNX-02 and -04 (monitoring for lynx critical habitat). It is recommended that Monitoring Questions MON-LYNX-02 and -04 be dropped because the data collected for indicators IND-LYNX-09 and -13 under Monitoring question MON-LYNX-05 will provide this data, covering all of the LAUs across the Forest and both critical and non-critical habitat.

These changes all provide a consistent approach to evaluating the FNF Revised Forest Plan desired condition FW-WL-DC-05. Monitoring questions MON-LYNX-01 thru 04 assesses progress towards FNF Revised Forest Plan desired condition FW-DC-WL-05, which states "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population."

MON-LYNX-01: How much of lynx critical habitat does not yet provide stand initiation snowshoe hare habitat (PCE 1a) but is progressing towards providing this habitat?

Introduction

This monitoring considers the percentage of lynx habitat in each LAU that is not yet hare habitat due to wildfires and vegetation management. This data can be assessed in terms of progress towards desired conditions, based upon the best available scientific information, as well as compliance with USFWS terms and conditions for lynx standard VEG S1. The desired condition being monitored by this item is FW-DC-WL-05, as follows:

> "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population."

Table 41. MON-LYNX-01. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-DC-WL-05	IND-LYNX- 01: Percentage of lynx critical habitat on NFS lands in each lynx analysis unit that is not yet winter snowshoe hare habitat due to wildfire 02. Percentage of lynx critical habitat on NFS lands in each lynx analysis unit that is not yet winter snowshoe hare habitat due to vegetation management projects	FNF lynx habitat GIS layer. FACTS and FSVEG – units 20 years post regeneration harvest and precommercial thinning, unless updated by project-specific information FNF mappable wildfire GIS layer in last 20 years unless updated by project-specific information	Every 2 years	Primary: Forest Wildlife Biologist Secondary: Project biologists (compile data for each project).

Table 42. Monitoring Item MON-T&E-LYNX-01 - Monitoring Data Collection Summary

For monitoring item 01:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Recommended modification to MON-LYNX-01 and its indicators:

It is recommended that the word "critical' be removed from Monitoring Question MON-LYNX-01 and its indicators, and it be expanded to cover all lynx habitat, not just lynx critical habitat. This will be more informative and would cover all 109 LAUs that are wholly or partially within the Flathead National Forest, not just the 107 LAUs that have critical habitat. This change, along with the changes recommended for other lynx monitoring items, contributes to providing a consistent approach to

evaluating the FNF Revised Forest Plan desired condition FW-WL-DC-05. Monitoring questions for lynx would assess progress towards FNF Revised Forest Plan desired condition FW-DC-WL-05, which states "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population".

Methods

Forest wildlife program leader will compile data for these monitoring indicators for Canada lynx habitat monitoring using GIS analysis of the Forest's GIS layers for potential lynx habitat and mappable wildfires along with queried data for accomplished vegetation management units. For the revised forest plan, the assumption was made that moderate and high severity burn areas are regenerated and will not yet provide winter snowshoe hare habitat (a component of PCE1a) for 20 years, on average. For purposes of vegetation management, the assumption is made that regeneration treatment units accomplished in FACTS within the last 20 years will not yet provide winter snowshoe hare habitat, on average. If these units have been precommercially thinned, the assumption is made that it takes 20 years after thinning before they may provide winter snowshoe hare habitat. If there is project-specific data indicating otherwise, these assumptions can be modified.

Recent research on Canada lynx in the Northern Rockies provides an indication of desired conditions for lynx. Different studies used different definitions of home ranges. Kosterman and others (2018) defined a portion of a home range termed a female "core use area" and they defined "stand initiation" slightly more broadly than it is defined for Standard VEG S1. LAUs approximate the size of a female lynx home range in the Northern Rockies (25 to 50 square miles) and contain at least 10 square miles of lynx habitat in subalpine fir and spruce habitat types (Ruediger et. al. 2000; USDA Forest Service 2007). Consequently, they typically also include areas that are too dry or open for snowshoe hares and as such are more similar to home ranges than to female "core use areas". Kosterman and others found that in female lynx core use areas with high connectivity of mature forest, the probability of producing a litter increased significantly as the proportion of small diameter regenerating forest increased from ~5% to ~10% and remained consistently high in core use areas with up to ~20% of small diameter regenerating forest. The probability of producing a litter declined slightly beyond ~20%. Holbrook and others (2019) stated that lynx avoided areas of sparse vegetation. They found that a high-quality habitat mosaic for female lynx contains about 18-19 percent advanced regenerating forest at the home range scale and cautioned that numbers should be used in a general sense and in combination with previous work in the Rocky Mountains (e.g. Squires et al. 2008, 2010; Ivan and Shenk 2016) and most appropriately applied in field evaluations on the ground. In discussing desired conditions for lynx habitat and critical habitat PCE1a, categories of 12-20% were used for evaluation and discussion of desired conditions for female lynx and 12 to up to 25% of an LAU for lynx of all sex and age classes (Kosterman et al. 2018, Holbrook et al. 2019, USDA FS 2007, Ruediger at al. 2000). Fires and vegetation management activities that regenerate lynx habitat will be avoided by lynx for 10-20 years but will provide desired conditions as they progress towards providing dense horizontal cover.

FACTS activity data query steps:

1. Most Recent Precommercial Thinning and Regeneration Harvest in past 20 years: Extract data from the SDE table "S_USA.ACTIVITY_FACTS_ATTRIBUTES" on the Oracle platform on the SDE_EDW server. Query for [PROC_FOREST = '0110' AND DATE_ACCOMPLISHED > timestamp '1999-12-30 00:00:00']. Then select all regeneration harvests and PCT activities with

the query ["ACTIVITY_C" >= '4100' AND "ACTIVITY_C" < '4200' OR "ACTIVITY_C" = '4521'], inverse the selection, and delete all activities that did not fit the query. Spatially join the table to FNF's FACTS activities polygons layer extracted from the Geospatial Interface: FACTS Activity Polygon EDW.

GIS data sources and steps:

1. For area that was regenerated by wildfire, start with FNF's GIS data for fire perimeters (T:\FS\Reference\GIS\r01_flt\LayerFile\Fire\Fire History Perimeters.lyr). Make a copy in your workspace, use a definition query so that only the past 20 years are included, and put a dummy value (i.e. 1000) into the "year" field. Run the Dissolve (Data Management) tool, dissolving on the "Year" field, and turning off multipart feature creation. The result is one set of polygons for all areas that burned over the 20 years.
2. For lynx habitat across the Forest, start with the "LynxHabitatOnlyPhaseI2013Nov17" layer in the Forest's GIS library, as this is the layer used for the 2018 Forest Plan (or use a later version if it has been updated). Because this is buffered out beyond FNF lands, clip this to only lands managed by Flathead NF.
3. Use GIS to union fire polygons with potential lynx habitat (no gaps). Then union this with the results of the vegetation management query of FACTS (above). Then union this with the LAUs. This will result in a layer that has all of the lynx habitat, all of the areas burned and/or regenerated or thinned in the past 20 years, and all of the LAUs.
4. Recalculate the acres, then Export these fields to an Excel file: Lynx habitat ("DESCRIPTION"), LYNXAU_NAME, FIREYEAR, NEPA_SIGNE, NEPA_DOC_N, ACTIVITY, DATE_COMPL, and NewAcres.
5. Use a Pivot Table to calculate percentages of lynx habitat for each LAU and paste the data into the table below. Make sure to subtract any overlapping acres that were subsequently regenerated by wildfire.
6. Use the table formula tool to sum the percentages for the last column in the table.
    - NOTE: FNF's "Fire History Perimeters" GIS data does not include fire-severity information. MTBS data (https://www.mtbs.gov/direct-download) does provide burn severities but it includes only fires larger than 1,000 acres and generally lacks the previous 2 years of fires. The many smaller and more recent fires that are included in FNF's fire-perimeter GIS data make up for not being able to exclude the low-severity burn areas. Also, when potential lynx foraging habitat burns it typically does so at moderate or high burn severities and some areas burned more than once. If project-specific information provides information showing a substantial portion within a fire perimeter burned with low severity, we may use its GIS polygons of moderate- and high-severity fire instead of that fire's outside fire perimeter.

Results

The table below provides percentages of young regenerating forest for evaluating the number of LAUs that meet or are progressing towards LAU is estimated to be in a range that meets or is moving towards desired conditions for female lynx, or where the probability of litter production may decrease slightly

(also see MON-LYNX-05). All but the Blacktail and Haskill Mount LAUs are in Canada lynx critical habitat.

Table 43. Percentage of Canada lynx habitat that is not yet hare habitat due to regeneration harvest, precommercial thinning, or wildfire, with distribution by LAU.

Lynx Analysis Unit	Acres of potential lynx habitat on NFS lands	Percent regenerated by wildfire 2001-2020[a]	Percent regenerated by vegetation management activities 2001-2020[b]	Total (Percent of lynx habitat regenerated by either wildfire or vegetation management 2001-2020)
Albino Necklace	14,267	11.5%	0.0%	11.5%
Ashley Herrig	7,001	0.0%	17.8%	17.8%
Babcock Creek	11,664	41.8%	0.3%	42.0%
Bear Creek	21,037	16.7%	0.4%	17.0%
Bent Whitcomb	21,314	60.2%	0.0%	62.8%
Big Prairie Cayuse	11,043	48.8%	0.0%	48.8%
Big Salmon Lake	22,215	45.6%	0.0%	45.6%
Black Bear Helen	14,767	58.2%	0.0%	58.2%
Blacktail	13,680	0.3%	22.1%	22.3%
Bond	10,900	0.0%	0.3%	0.3%
Buck	9,947	15.5%	3.7%	19.2%
Bunker Creek	23,270	45.2%	0.1%	45.3%
Canyon	23,565	45.0%	0.4%	50.3%
Challenge Granite	17,420	5.1%	0.4%	5.5%
Clayton Anna	16,178	65.2%	0.1%	70.6%
Coram Abbot	6,651	0.0%	0.0%	0.0%
Cox Creek	19,937	4.5%	0.0%	4.5%
Dirtyface Spruce	13,022	5.4%	0.0%	5.4%
Dolly Vardon Creek	24,866	15.0%	0.0%	15.0%
Doris Creek	24,108	24.0%	0.1%	27.7%
Dryad Miner	16,883	0.5%	0.0%	0.5%
Elk	19,009	6.9%	5.7%	12.6%
Emery Creek	12,840	16.0%	1.8%	17.8%
Essex Java	14,050	0.0%	0.0%	0.0%
Evers Reid	9,588	0.3%	11.0%	11.5%
Felix Logan	17,468	4.2%	0.3%	4.5%
Foolhen Danaher	25,442	0.7%	0.0%	0.7%
Glacier	21,117	40.2%	2.6%	45.9%
Graves Forest	21,215	8.2%	0.0%	8.2%
Haskill Mount	7,880	0.0%	9.9%	9.9%
Hay	22,301	0.0%	0.3%	0.3%

Lynx Analysis Unit	Acres of potential lynx habitat on NFS lands	Percent regenerated by wildfire 2001-2020[a]	Percent regenerated by vegetation management activities 2001-2020[b]	Total (Percent of lynx habitat regenerated by either wildfire or vegetation management 2001-2020)
Holbrook Bartlett	29,120	47.1%	0.0%	47.1%
Holland	8,437	0.0%	4.8%	4.8%
Hungry Horse Creek	11,534	0.0%	0.0%	0.0%
Hungry Picture	18,561	34.7%	0.0%	34.7%
Kah Soldier	15,286	9.2%	3.2%	12.4%
Krause	13,303	0.1%	0.0%	0.1%
Lakalaho	21,133	0.1%	1.4%	1.5%
Lake Five	2,744	0.0%	0.2%	0.2%
Lion	10,958	0.0%	2.5%	2.5%
Little Salmon Creek	27,764	10.9%	0.0%	10.9%
Lodgepole Creek	21,318	3.6%	0.0%	3.6%
Long Cy	21,493	23.2%	0.0%	23.2%
Lost	12,362	12.1%	0.0%	12.1%
Lost Jack Mid	13,183	91.3%	0.0%	91.3%
Lost Tally	9,581	0.0%	4.3%	4.3%
Lower Beaver	16,743	0.3%	13.1%	13.4%
Lower Big	18,532	92.7%	0.2%	93.2%
Lower Coal	13,959	58.1%	0.0%	58.1%
Lower Good	19,910	0.1%	6.6%	6.7%
Lower Gordon Creek	15,796	42.2%	0.0%	42.2%
Lower Griffin	17,685	15.9%	5.0%	22.6%
Lower Whale	18,325	27.3%	0.2%	27.5%
Lower White River	17,905	37.8%	0.0%	37.8%
Lower Youngs Creek	18,886	35.6%	0.0%	35.6%
Martin Stillwater	15,792	0.0%	9.5%	9.5%
Meadow	7,396	42.5%	3.3%	52.0%
Moccasin Nyack	13,423	2.4%	0.1%	2.5%
Moose	11,103	0.1%	3.1%	3.1%
Mud Lake	10,489	61.8%	0.0%	61.8%
Murray Canyon	12,622	0.0%	1.5%	1.5%
North Crane	10,253	0.0%	0.4%	0.4%
North Trail	26,695	1.2%	0.2%	1.4%
Pale Clack	13,959	10.0%	0.0%	10.0%
Paola Ridge	9,532	0.1%	1.2%	1.3%
Peters Crossover	17,923	0.0%	0.0%	0.0%

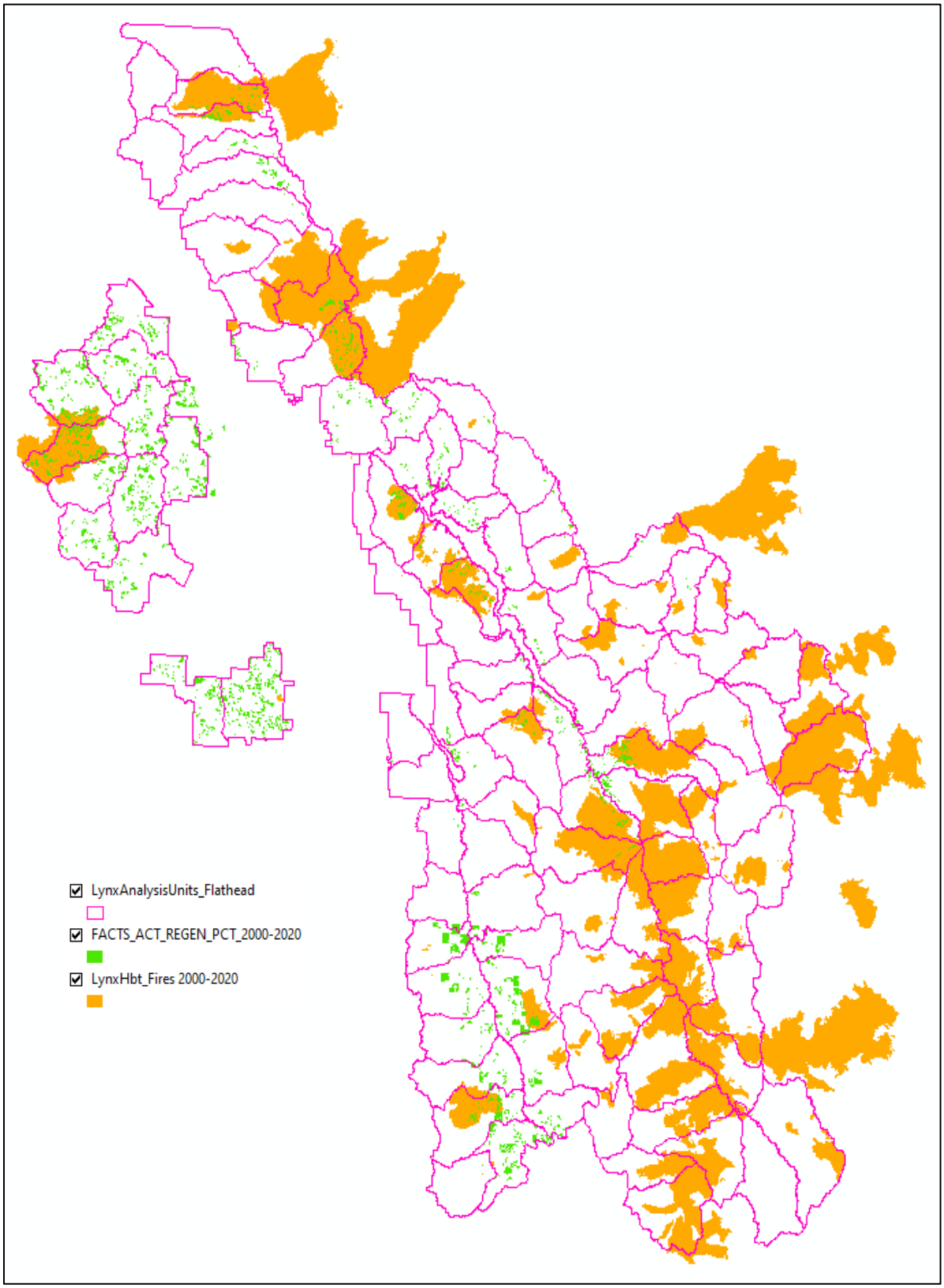
Lynx Analysis Unit	Acres of potential lynx habitat on NFS lands	Percent regenerated by wildfire 2001-2020[a]	Percent regenerated by vegetation management activities 2001-2020[b]	Total (Percent of lynx habitat regenerated by either wildfire or vegetation management 2001-2020)
Piper	18,998	0.2%	8.2%	8.4%
Porcupine	8,084	0.0%	0.0%	0.0%
Quintonkon Creek	15,884	6.7%	0.1%	6.8%
Rapid Basin	29,819	14.5%	2.6%	17.1%
Red Meadow	21,939	0.0%	0.0%	0.0%
Schmidt	9,673	0.0%	0.0%	0.0%
Shadow Dean	27,403	4.6%	0.0%	4.6%
Sheppard	21,335	79.7%	0.2%	94.1%
Silvertip Creek	12,541	35.4%	0.0%	35.4%
Slippery Bill	12,581	14.4%	0.0%	14.5%
Soup	2,351	0.0%	0.0%	0.0%
South Cold	18,171	0.0%	2.9%	2.9%
South Crane	13,932	0.0%	0.0%	0.0%
South Firefighter	10,723	0.0%	2.8%	2.8%
South Trail Tepee	20,235	75.6%	0.1%	78.7%
South Woodward	13,571	0.9%	9.0%	9.9%
Spotted Bear Mountain	20,943	52.7%	0.3%	52.9%
Squeezer	10,757	1.7%	0.0%	1.7%
Stadium Gorge	25,089	11.7%	0.0%	11.7%
Stanton Grant	16,795	0.0%	0.2%	0.2%
Stony Jungle	17,714	61.0%	0.0%	63.8%
Strawberry Creek	16,690	57.5%	0.0%	57.5%
Sullivan Creek	27,738	16.0%	0.0%	17.4%
Teakettle	6,864	0.0%	0.0%	0.4%
Three Sisters Bungalow	27,658	18.1%	0.0%	18.1%
Trail Bowl	24,725	89.9%	0.0%	89.9%
Twin Creek	18,890	5.2%	0.1%	5.3%
Upper Beaver	10,681	0.2%	0.3%	0.5%
Upper Big	18,025	23.8%	0.1%	23.8%
Upper Coal	23,875	6.5%	0.0%	6.5%
Upper Good	28,328	14.6%	7.9%	26.4%
Upper Gordon Creek	12,637	5.0%	0.0%	5.0%
Upper Griffin	15,815	0.0%	6.7%	6.7%
Upper Logan	17,877	0.0%	11.5%	11.5%
Upper Trail	15,383	0.0%	0.0%	0.0%

Lynx Analysis Unit	Acres of potential lynx habitat on NFS lands	Percent regenerated by wildfire 2001-2020[a]	Percent regenerated by vegetation management activities 2001-2020[b]	Total (Percent of lynx habitat regenerated by either wildfire or vegetation management 2001-2020)
Upper Whale	21,747	0.0%	0.0%	0.0%
Upper White River	12,522	10.7%	0.0%	10.7%
Upper Youngs Creek	26,017	56.5%	0.0%	56.5%
Vinegar Moose	21,481	10.0%	0.0%	10.0%
West Columbia	7,847	0.0%	0.0%	0.0%
Wheeler Creek	15,083	0.0%	0.5%	0.5%
Wildcat Mountain	15,825	20.1%	0.0%	21.3%
Woodward	3,742	0.0%	1.1%	1.1%
Total	**1,797,199**	**20.1%**	**1.5%**	**22.2%**

a. For purposes of forestwide monitoring, it is estimated that forests burned by stand-replacing wildfire in the previous 20 years are not yet winter snowshoe hare habitat. Burned areas may include areas with previous regeneration harvest and wildfires may overlap, so wildfire and regeneration percentages are not additive.

b. Acres are based on the Forest Service Activity Tracking System database, which does not include vegetation treatments not yet implemented.

Figure 3. Distribution of wildfires and regeneration harvest from 2000-2020 by lynx analysis unit



Discussion of Results

Evaluation questions:

- *How many LAUs have a percentage of habitat in each LAU that has been regenerated by wildfire or vegetation treatment over the preceding 20 years that ranges from 12-20% (and thus is meets or is progressing towards desired conditions for young regenerating forests supporting snowshoe hare (and PCE1a) within a range that supports female lynx?*
    - This information is provided for each LAU for 2001 through 2020 in the table above. In summary, there are 14 of 109 LAUs where the percentage of young regenerating forest is estimated to be in a range that will provide desired conditions for female lynx and PCE1a, based on modeling and extrapolating from research.
- *How many LAUs have a percentage of habitat in each LAU that has been regenerated by wildfire or vegetation treatment over the preceding 20 years that ranges from 12-25% (and thus is meets or is progressing towards desired conditions for young regenerating forests supporting snowshoe hare (and PCE1a) within a range that supports lynx of all sex and age classes, but with a slightly lower probability of litter production?*
    - There appear to be 13 LAUs with 12-20% and 5 LAUs with 20-25% of their lynx habitat in or progressing towards a young regenerating forest state.
- *Is regenerating forest a result of wildfire, vegetation management or both?*
    - In Wilderness LAUs it is the result of wildfire. Outside of wilderness it is due to vegetation management or both wildfire and vegetation management (see figure above).
- *Do monitoring results differ between lynx habitat and designated lynx critical habitat?*
    - All but two LAUs discussed above are in critical habitat. The Haskill Mount and Blacktail LAUs, which do not have critical habitat, have very little wildfire activity in the past 20 years, but have a lot of regeneration harvest. In the Haskill Mount LAU, about 10% of lynx habitat was regenerated by vegetation management from 2001-2020. In the Blacktail LAU, about 22% of lynx habitat was regenerated by vegetation management from 2001-2020 (see figure above, showing the 2 LAUs in the west central portion of the forest that are isolated).

Evaluation of Results for Adaptive Management Finding

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

Table 44. Summary of Findings for Monitoring Item MON-LYNX-01 – Lynx Habitat Progressing Towards PCE1a

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: minor modification to wording of question and indicator -
2. Plan Implementation Status [1]: Do monitoring results demonstrate progress of the associated plan components for this monitoring item?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired based on tracking percentages of young regenerating forest by LAU across the Forest.
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?
Forest Plan Monitoring program - This Monitoring Question and indicator were changed to remove the word "critical", and instead to cover all lynx habitat. Refer to discussion earlier in this section for the rationale.

[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.

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Kosterman, M.K., Squires, J.R., Holbrook, J.D., Pletscher, D.H., Hebblewhite, M. 2018. Forest structure provides the income for reproductive success in a southern population of Canada lynx. Ecological Applications, 28(4), 2018, pp. 1032–1043.

MON-LYNX-02: What is the percentage of lynx critical habitat that has vegetation treatments in stand initiation hare habitat (PCE 1a)?

Introduction

This monitoring question assesses progress towards FNF Revised Forest Plan desired condition FW-DC-WL-05, which states "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population."

Table 45. MON-LYNX-02. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-DC-WL-05	IND-LYNX- 03. Number of acres of lynx critical habitat on NFS lands in each lynx analysis unit that were precommercially thinned using exceptions to VEGS5 04. Number of acres of lynx critical habitat on NFS lands in each lynx analysis unit that were precommercially thinned using wildland-urban interface exemptions to VEGS5	FNF GIS layers of LAUS, lynx critical habitat, lynx habitat, and WUI boundaries. FACTS-FSVeg GIS layer showing areas where precommercial thinning was accomplished since December 24, 2018.	Every 2 years	Forest Wildlife Biologist

Recommended modification to MON-LYNX-02 and its indicators:

It is recommended that MON-LYNX-02 and its associated indicators **be dropped** because this data would already be provided under the monitoring item MON-LYNX-05, as explained below:

As of 2020, the Flathead National Forest is considered occupied by Canada lynx. Most of the Forest is designated lynx critical habitat with the notable exception of two Lynx Analysis Units (LAUs) in the "Island Unit" south of Highway 2 and west of Highway 93 (Blacktail and Haskill Mount). There is considerable duplicity between Monitoring Questions MON-LYNX-02 (monitoring for lynx critical habitat) and MON-LYNX-05 (monitoring of lynx habitat required by USFWS Terms and Conditions (NRLMD and FNF Appendix A). In this case, mapped potential lynx habitat on the Flathead Forest is nearly the same spatial area as designated lynx Critical Habitat. Vegetation treatments impacting mature multistoried and stand initiation hare habitat are summarized under MON-LYNX-05. The data collected for indicators IND-LYNX-09 and -13 under monitoring question MON-LYNX-05 will cover all of the LAUs across the Forest and include both critical and non-critical habitat. This change, along with the changes recommended for other lynx monitoring items, contributes to providing a consistent approach to evaluating the FNF Revised Forest Plan desired condition FW-WL-DC-05. Monitoring questions for lynx would assess progress towards FNF Revised Forest Plan desired condition FW-DC-WL-05, which states "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population". Additionally, impacts to Critical Habitat PCEs including PCE1a are disclosed in project-level analyses.

Evaluation of Results for Adaptive Management Finding

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

Table 46. Summary of Findings for Monitoring Item MON-LYNX-02 – Lynx Critical Habitat With Treatments in PCE1a

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, but recommend dropping this monitoring question because it duplicates information provided under MON-LYNX-05, under the indicators IND-LYNX-09 and IND-LYNX-13.
Recommendations –
2. Plan Implementation Status [1]: Do monitoring results demonstrate progress of the associated plan components for this monitoring item?
Yes (E) - same as MON-TE&V-LYNX-05
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?
Forest Plan Monitoring Program Recommend dropping this Monitoring Question MON-LYNX-02 and its indicators (IND-LYNX-03 and IND-LYNX-04) due to duplicity with two of the monitoring indicators in MON-T&E-LYNX-05.

[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-LYNX-03: If modified precommercial thinning techniques are used in lynx critical habitat, do they increase snowshoe hare habitat (PCE 1a) and/or its persistence?

Introduction

This monitoring item is intended to track implementation of modified precommercial thinning techniques in areas burned by wildfire or regenerated by timber harvest on the Flathead National Forest. It is monitoring the forest plan desired condition FW-DC-WL-05, which states "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population".

Exception #2 allows precommercial thinning that reduces snowshoe hare habitat for research purposes or genetic tree tests. Exception #3 allows the reduction of snowshoe hare habitat by precommercial thinning where new information supports a determination that the project is 1) not likely to adversely affect lynx; or 2) that a project is likely to have short term adverse effects, but would result in long-term benefits to lynx and its habitat. As required for Exception #3, this information must be peer reviewed and accepted by the regional level of the Forest Service, and state level of the Fish and Wildlife Service prior to implementation.

Table 47. Canada lynx habitat monitoring question MON-LYNX-03. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Date Collection Interval	Point of Contact
FW-DC-WL-05	IND-LYNX- 05. Number of acres of lynx critical habitat that were treated with modified thinning techniques under VEG S5 exception #2 or #3 06. The percentage of dense horizontal cover developing over time in areas treated with modified thinning techniques compared to areas treated with conventional thinning techniques.	Project level decision documents FNF GIS layers of LAUS lynx habitat, and WUI boundaries FACTS-FSVeg GIS layer showing areas where precommercial thinning was accomplished since December 24, 2018.	Every two years	Primary: Forest Wildlife Biologist Secondary: Project biologists (compile data for each project).

Table 48. Monitoring Item MON-LYNX-03 Monitoring Data Collection Summary

For monitoring item 03:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Recommended modification to MON-LYNX-03 and its indicators:

It is recommended that the word "critical" be removed from Monitoring Question MON-LYNX-03 and its indicators, and it be expanded to cover all lynx habitat, not just lynx critical habitat. This will be more informative and would cover all 109 LAUs that are wholly or partially within the Flathead National Forest, not just the 107 LAUs that have critical habitat. This change, along with the changes recommended for other lynx monitoring items, contributes to providing a consistent approach to evaluating the FNF Revised Forest Plan desired condition FW-WL-DC-05. Monitoring questions for lynx would assess progress towards FNF Revised Forest Plan desired condition FW-DC-WL-05, which states "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population".

Methods

Start by listing all NEPA projects signed under the 2018 Forest Plan that approve precommercial thinning under VEG S5 exception #2 or #3 using modified techniques to reduce effects on lynx or snowshoe hares If the RO and USFWS approve modified precommercial thinning in lynx habitat using Exception #3 to VEGS5, then IND-WILD-19 will track that accomplishment.

If formal research includes looking at the development of dense horizontal cover, this would be reported for IND-WILD-20. Additional discussion questions should be added below based on this research. Also report this if the Forest does any field measurements to this effect, i.e. to compare areas treated with modified precommercial thinning techniques with those that have the same habitat type and thinning year but were treated with conventional thinning techniques. Data collection is to monitor effects on snowshoe hare habitat over time if these exceptions are used. An administrative study or silviculture post-thinning surveys could be conducted every 5 years for 15 years.

Results

IND-LYNX-05. No precommercial thinning has applied alternative prescriptions to reduce effects on hares and lynx in NEPA decisions signed in 2019 or 2020, nor have any NEPA projects specifically planned for this. No precommercial thinning using Exception #2 to VEGS5 was approved or accomplished in 2019 or 2020. The use of precommercial thinning using Exception #3 to VEGS5 has not yet been approved, although the Forest is developing a proposal.

IND-LYNX-06. A multi-forest research study titled "Adaptive Complexity Thinning", is currently in development with University of Montana, Nature Conservancy of Montana, and the USFS Rocky Mountain Research Station. In 2020, pre-thin field surveys were done in the Good Creek drainage for potential thinning and control stands for this research. No Forest-level monitoring has yet been done to compare dense horizontal cover developing over time in areas treated with modified thinning techniques compared to areas treated with conventional thinning techniques.

Table 49. Precommercial thinning in Canada lynx habitat using exceptions 2 and 3 to VEGS5 and monitoring of development of dense cover

LAU Name	IND-LYNX-05. Number of acres of lynx habitat on NFS lands in each LAU treated with modified thinning under VEG S5 exception #2	IND-LYNX-06. Number of acres of lynx habitat on NFS lands in each LAU treated with modified thinning under VEG S5 exception #3	IND-LYNX-06. Monitoring of development of dense cover?[1]
None as of end of 2020	NA	NA	NA

[1]If YES, provide a summary of findings below in relation to the discussion question. Note that IND-LYNX-06 does not require use of Exceptions #2 or #3 to VEGS5.

Discussion of Results

Evaluation questions:

- *Does monitoring (using post-treatment plots over time and/or the Forest Vegetation Simulator) show that treated stands are progressing towards desired conditions for multi-storied hare habitat over time such as multiple canopy layers, increased density of tree crowns, and retention of desirable tree species such as sub-alpine fir and spruce?*
    - Not yet.
- *Do monitoring results differ between lynx habitat and designated lynx critical habitat?*
    - No, the results are the same either way.

Evaluation of Results for Adaptive Management Finding

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

Table 50. Summary of Findings for Monitoring Item MON-LYNX-03 – Lynx Habitat with Modified Precommercial Thinning

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 – minor wording change to question and indicator – remove word “critical”
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); This type of thinning and data collection has not yet occurred under the 2018 LMP and thus the data are not yet available.
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?

Forest Plan Monitoring Program: Recommend modifying monitoring question and indicators to remove the word "critical". This would no longer exclude two LAUs that are outside lynx critical habitat and instead provide results for all lynx habitat. See discussion above for rationale.

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

MON-LYNX-04: What is the percentage of lynx critical habitat that has vegetation treatments in multistoried hare habitat (PCE 1a)?

Introduction

As explained below in this section, it is recommended that this Monitoring Question and its indicators be dropped from the Forest Plan monitoring program. The data would already be included in the results under Monitoring Question MON-LYNX-05, indicators IND-LYNX-09 and -13.

Table 51. MON-LYNX-04. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
FW-DC-WL-05	IND-LYNX- 07. Number of acres of multistory hare habitat in lynx critical habitat on NFS lands in each lynx analysis unit that were treated using exceptions to VEGS6. 08. Number of acres of multistory hare habitat in lynx critical habitat on NFS lands in each lynx analysis unit that were treated using wildland-urban interface exemptions to VEGS6	Project-level decision documents and Biological Assessments FNF GIS layers of LAUs, lynx critical habitat, lynx habitat, and WUI boundaries FACTS-FSVeg GIS layer showing areas where vegetation treatments using exceptions and exemptions was accomplished since December 24, 2018. Tracking of planned vegetation management in multistoried hare habitat.	Every 2 years	Primary: Forest Wildlife Biologist Secondary: Project biologists (compile data for each project).

Recommended modification to MON-LYNX-04 and its indicators:

It is recommended that MON-LYNX-04 and its associated indicators (IND-LYNX-07 and -08) be dropped because this data would already be provided under the monitoring item MON-LYNX-05, as explained below:

As of 2020, the Flathead National Forest is considered occupied by Canada lynx. Most of the Forest is designated lynx critical habitat with the notable exception of two Lynx Analysis Units (LAUs) in the "Island Unit" south of Highway 2 and west of Highway 93 (Blacktail and Haskill Mount). There is considerable duplicity between Monitoring Questions MON-LYNX-04 (monitoring for lynx critical habitat) and MON-LYNX-05 (monitoring of lynx habitat required by USFWS Terms and Conditions (NRLMD and FNF Appendix A). Mapped potential lynx habitat on the Flathead Forest is nearly the same spatial area as designated lynx Critical Habitat. Vegetation treatments impacting mature multistoried and stand initiation hare habitat are summarized under MON-LYNX-05. The data collected for indicators IND-LYNX-09 through -13 under Monitoring question MON-LYNX-05 will cover all of the LAUs across the Forest and include both critical and non-critical habitat. This change, along with the changes recommended for other lynx monitoring items, contributes to providing a consistent approach to evaluating the FNF Revised Forest Plan desired condition FW-WL-DC-05. Monitoring questions for lynx would assess progress towards FNF Revised Forest Plan desired condition FW-DC-WL-05, which states "Within Canada lynx critical habitat mapped by the USFWS, boreal forest landscapes support a mosaic of

differing forest successional stages, providing the physical or biological features essential to the conservation and recovery of the Canada lynx population". Additionally, impacts to Critical Habitat PCEs including PCE1a are disclosed in project-level analyses.

Evaluation of Results for Adaptive Management Finding

Table 52. Summary of Findings for Monitoring Item MON-LYNX-04 – Lynx Critical Habitat With treatments in Multistoried PCE1a

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 – but recommend dropping the monitoring question MON-LYNX-04 and its indicators (IND-LYNX-07 and -08) because it duplicates information provided under MON-LYNX-05
Recommendations –
2. Plan Implementation Status [1]: Do monitoring results demonstrate progress of the associated plan components for this monitoring item?
YES (E) – same as MON-TE&V-LYNX-05
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?
Forest Plan Monitoring Program Recommend dropping this Monitoring Question MON-LYNX—04 and its indicators (IND-LYNX-07 and -08) due to duplicity with the monitoring indicators under MON-T&E-LYNX-05.

[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-LYNX-05: Are fuel treatment and vegetation management projects compliant with the Canada lynx vegetation standards in the Northern Rockies Lynx Management Direction (revised forest plan Appendix A)?

Introduction

The following monitoring items are required in the biological opinion for the forest plan (USFWS 2017) and amended incidental take statement (2018) in order to monitor compliance with the vegetation standards outlined in the Northern Rockies Lynx Management Direction (appendix A in the Forest Plan). The Forest has sent this information to the USFS regional office for over a decade, but the Forest updated its exception and exemption acres in 2017 with Forest Plan revision and again in 2018 just before the Forest Plan was signed. This will ensure the Forest does not exceed the limits of incidental take provided in the applicable biological opinion (2017) and amended Incidental Take Statement (2018).

The Terms and Conditions from the amended incidental take statement (USFWS, 2018, pp. 18-19) are nondiscretionary. Monitoring indicators IND-LYNX-09 through -11 for Canada lynx in the forest plan were based on these terms and conditions. Reference to the specific Forest Plan monitoring indicator is listed at the end of each of the term and conditions, which are slightly paraphrased here for clarity.

<u>The following terms and conditions implement reasonable and prudent measure #1:</u>

The Forest Service shall ensure that new or future projects conducted under the exemptions from standards VEG S1, S2, S5, and S6 on the Flathead National Forest:

1. Do not occur in greater than 93,066 acres in the wildland-urban interface (the cumulative total of exemption acres allowed in the wildland urban interface since December 24, 2018) [IND-LYNX-09; NOTE: The 2017 Biological Opinion provided Incidental Take for 93,723 acres. This was amended in December 2018 (USFWS 2018) to subtract the 657 acres of WUI exemption acres that were used in 2018].
2. Do not result in more than three adjacent lynx analysis units that do not meet the standard VEG S1 of no more than 30 percent of a lynx analysis unit that is not yet snowshoe hare habitat [IND-LYNX-10].
3. Projects allowed per the exemptions or exceptions to VEG S5 and S6 shall not occur in any lynx analysis unit exceeding VEG S1, except for protection of structures [IND-LYNX-11].

<u>The following term and conditions implement reasonable and prudent measure #2:</u>

The Forest Service shall ensure that vegetation management projects conducted under exceptions to VEG S5 and S6 on the Flathead National Forest adhere to the following:

4. Timber management projects (as defined in [BO] appendix 5) shall not regenerate more than 15 percent of lynx habitat on Forest lands within a lynx analysis unit in a 10-year period [IND-LYNX-12].
5. Do not occur in greater than 15,012 acres [IND-LYNX-13; NOTE: The 2017 Biological Opinion provided Incidental Take for 15,460 acres the cumulative total of exemption acres since the end of 2017. This was amended in December 2018 (USFWS 2018) to subtract the 448 acres of exception acres that were used in 2018].

The following term and conditions implement reasonable and prudent measure #3:

In support of the monitoring and reporting requirements of the NRLMD, the Flathead National Forest shall provide to the USFWS and the USDA Forest Service Northern Region (Region 1) Office in Missoula summaries of the reporting requirements listed below. The summaries shall be submitted to the USFWS Montana Ecological Services Office in Helena, Montana, by April 1 of each year or other date through mutual agreement. The summaries shall document the following information related to fuel treatment and vegetation management projects occurring in lynx habitat:

> Individual fuels treatment and vegetation management projects conducted in lynx habitat under the exemptions and exceptions to the vegetation standards VEG S1, S2, S5, and S6 may reduce the quality or quantity of snowshoe hare habitat. Some projects are likely to result in detectable and measurable effects to lynx (the USFWS biological opinion's analysis found that this may rise to the level of take), while other projects will not result in a detectable, measurable effect to lynx (i.e., may affect, but not likely to adversely affect). *The acreages of all projects will be tracked and aggregated to ensure that over the life of the revised forest plan, the number of acres impacted does not exceed the acres projected to be treated and the effects analyzed in the biological opinion.* This approach to tracking and monitoring ensures that the proposed action is implemented as proposed and is consistent with the USFWS analysis. In addition, given the long timespan of the proposed action, this process provides information that can help determine whether consultation reinitiation ever becomes necessary.

As stated in the amended incidental take statement in 2018 (USFWS 2018), required monitoring specified in the biological opinion that is relevant to this monitoring question does not require annual reporting to the USFWS. Instead, the Biological Assessment that is prepared for each site-specific project shall be accompanied by a report of the acres to be treated under the exemptions and/or exceptions from the vegetation management standards VEG S1, S2, S5, and S6. The report shall also include the total acres treated using exemptions or exceptions to date on the FNF as a whole, a map indicating the spatial distribution of past treatments, and an account of the acres treated by LAU. This total shall include the acres in the proposed project, other projects that have signed decisions, and those projects that have completed section 7 consultation. In addition, each BA shall report whether or not the site-specific projects meet all applicable revised forest plan guidelines for lynx. If guidelines were not met, rationale is to be provided as to how they meet the purposes of the guidelines. Each BA will report any three adjacent lynx analysis units within the action area that have more than 30 percent of lynx habitat in a stand initiation structural state that does not yet provide winter snowshoe hare habitat, either because of natural events, vegetation management or fuel treatment projects, or any combination of these or other causes. Each BA will also report by LAU the amount of lynx habitat treated through vegetation management projects as allowed by exceptions to VEG S5 and S6; record the type of exception, acres, location (LAU) and whether or not standard VEG S1 was adhered to.

Table 53. MON-LYNX-05. Plan components, indicators, data source, data collection interval

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
Appendix A of the Forest Plan (Northern Rockies Lynx Management Direction) Standards	IND-LYNX- 09.Cumulative total acres of fuel treatment projects in lynx habitat conducted under exemptions to standards VEGS1, S2, S5, and S6 within the WUI (as defined by HFRA),	Project-level decision documents and Biological Assessments and possibly	Every 2 years.	Primary: Forest Wildlife Biologist Secondary: Project biologists (compile data

Plan Component(s)	Indicator(s)	Data Source(s) / Partners	Data Collection Interval	Point of Contact
VEGS1, VEGS2, VEGS5, VEGS6	by LAU and forestwide, since the end of 2017. 10. Number of projects/acres treated in lynx habitat conducted under exemptions to standards VEGS1, S2, S5, and S6 that result in more than three adjacent lynx analysis units that do not meet the standard VEG S1 (more than 30 percent of a lynx analysis unit that is not yet snowshoe hare habitat.) 11. Number of projects/acres treated in lynx habitat that create stand initiation hare habitat (e.g., regeneration harvest) that occur in LAUs that exceed VEGS1 (have >30% of area currently in stand initiation stage that does not yet provide hare habitat). 12. Number of timber management projects conducted under exceptions to VEG S5 and VEGS6 that regenerate more than 15 percent of lynx habitat on Forest lands within a lynx analysis unit in a 10-year period. 13. Cumulative total acres of vegetation treatments conducted under exceptions to VEG S5 and VEGS6 since the end of 2017.	project GIS data on lynx effects. FNF GIS layers of LAUs, lynx habitat, and WUI boundaries. FACTS-FSVeg GIS layer showing areas where vegetation management was accomplished since December 2018 Tracking of planned vegetation management in multistoried hare habitat.		for each project).

Table 54. Monitoring Item MON-LYNX-05 Monitoring Data Collection Summary

For monitoring item 05:	Year
Data was last collected or compiled in:	2020 for 2021 report
Next scheduled data collection/compilation:	2022 for 2023 report
Last MER evaluation for this monitoring item:	NA
Next scheduled MER evaluation of this monitoring item:	2023

Methods

For each project decision affecting hare habitat, the project biologists submit data for the indicators and when using exceptions/exemptions to VEG S1, S2, S3 and S4, to the Forest biologist, who tracks this information via a table that is sent to USFWS along with all Biological Assessments for projects that use VEGS5 or VEGS6 exceptions or exemptions. The most recent version of that table for this reporting period will be pasted below.

Note that, like Standards VEG S1, S2, S5, and S6, this monitoring item pertains only to "**vegetation management**" as defined by the NRLMD and in the Forest Plan Appendix A's glossary: "Vegetation management changes the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire or timber harvest. For the purposes of this decision, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use."

For IND-LYNX-10, -11, and -12, report on the number and names of NEPA projects that would be inconsistent with the relevant standards, and thus would require a project-specific Forest Plan amendment.

Because it evaluated accomplished treatments, for VEGS5 this monitoring item does not rely on precommercial thinning as it was planned or as it went through ESA consultation. Instead, it uses FACTS data along with the assumption that precommercial thinning in potential lynx habitat occurred in sapling snowshoe hare habitat and that such thinning applied an exemption to VEGS5 if it occurred inside the WUI or an exception to VEGS5 if it occurred outside the WUI. If possible, a column will be added to FACTS to track VEGS5 exceptions and exemptions so that these can be selected once there are recorded as accomplished in FACTS.

Unlike MON-LYNX-02, exceptions to VEGS6 cannot be inferred from any combination of potential lynx habitat value and/or types of vegetation treatment. Field surveys conducted at the project level identify areas that provide multi-storied winter snowshoe hare habitat (a component of PCE1a). Project NEPA documents and Biological Assessments disclose whether multistoried hare habitat would be affected by exemptions to VEGS6 (Forest Plan Appendix A). FACTS data will be used in concert with this project-level information to track the accomplishment of these treatments.

FACTS activity data query steps for IND-LYNX-09 and -13:

1. Vegetation Management Accomplished under 2018-2020 Decisions: Extract data from the SDE table “S_USA.ACTIVITY_FACTS_ATTRIBUTES” on the Oracle platform on the SDE_EDW server. Query for [PROC_FOREST = '0110' AND NEPA_SIGNED_DATE > timestamp '2016-12-14 00:00:00']. Then manually remove 1) unaccomplished activities, 2) activities that did not meet the NLRMD definition of “vegetation management”, 3) activities under a decision signed prior to December 2018, and regeneration harvest that had subsequent overlapping PCT. Then spatially join the table to FNF’s FACTS activities polygons layer extracted from the Geospatial Interface: FACTS Activity Polygon EDW.

GIS analysis data sources and steps for IND-LYNX-09 and -13:

1. Use the results of the FACTS activity data query for vegetation management (see above for definition) that was accomplished during the previous two years using project decisions under the 2018 Forest Plan. Limit these to NEPA projects that used VEGS6 exceptions and exemptions.
2. Union this activity data with potential lynx habitat (trimmed to FNF lands), the WUI, and the LAUs (no gaps). This will result in a layer that has all of the lynx habitat, the WUI, all of the areas treated under NEPA decision in the past two years, and all of the LAUs.
3. Add a data column in GIS for tracking your findings regarding treatments in multistory hare habitat. One NEPA project and LAU at a time, individually review the treatment units that planned to use VEGS6 exceptions and exemptions. GIS files used for project-level lynx effects analysis will likely be very helpful for this step.
4. For the discussion below, use ArcGIS to view the distribution of accomplished VEGS5 and VEGS6 exceptions and exemptions across the Forest. You can also view the map that was sent to USFWS along with the most recent Biological Assessment for a project that uses exceptions and/or exemptions, which is to be pasted below.

5. Recalculate the acres, then Export these fields to an Excel file: Lynx habitat ("DESCRIPTION"), LYNXAU_NAME, WUI, NEPA_SIGNE, NEPA_DOC_N, ACTIVITY, DATE_COMPL, and NewAcres.
6. Use pivot tables to sum the acres of precommercial thinning inside the WUI (WUI exemptions) and outside the WUI (non-WUI exceptions) by LAU to paste into the table in the results section below for IND-LYNX-09.
7. Use a pivot table to sum the acres of vegetation management in multistory hare habitat inside the WUI (WUI exemptions) and outside the WUI (non-WUI exceptions) by LAU to paste into the table in the results section below for IND-LYNX-13 (non-WUI exceptions).

Results

For IND-LYNX-10, -11, and -12, no projects that would be inconsistent with the relevant standards, therefore "none".

For IND-LYNX-09 and IND-LYNX-13, see the following two tables. For NEPA decisions under the 2018 Revised Forest Plan, only 4 acres of exceptions or exemptions using have been accomplished on the ground. Thousands of acres of WUI treatments using exemptions are under contract but not yet implemented. Note that ESA consultation for the Frozen Moose Project has been completed and its decision is expected to be signed soon.

Table 55. Acres of Vegetation Management that used non-WUI exceptions to VEGS5 (precommercial thinning) or to VEGS6 (treatments in multistory lynx habitat) in Canada lynx habitat on NFS lands in each Lynx Analysis Unit (Indicator IND-LYNX-09).

NEPA Project Name	Lynx analysis unit	Lynx habitat on NFS lands treated using non-WUI exceptions to VEG S5 (acres)	Lynx habitat on NFS lands treated using non-WUI exceptions to VEG S6 (acres)
Taylor Hellroaring	NA	0	0
Salish Good	NA	0	0
Frozen Moose	NA	0	0

Table 56. Acres of Vegetation Management that used WUI exemptions VEGS5 (precommercial thinning) or to VEGS6 (treatments in multistory lynx habitat) in Canada lynx habitat on NFS lands in each Lynx Analysis Unit (Indicator IND-LYNX-13).

NEPA Project Name	Lynx analysis unit	Lynx habitat on NFS lands treated using WUI exemptions to VEG S5 (acres)	Lynx habitat on NFS lands treated using WUI exemptions to VEG S6 (acres)
Taylor Hellroaring	Lakalaho	0	4
Salish Good	NA	0	0
Frozen Moose	NA	0	0

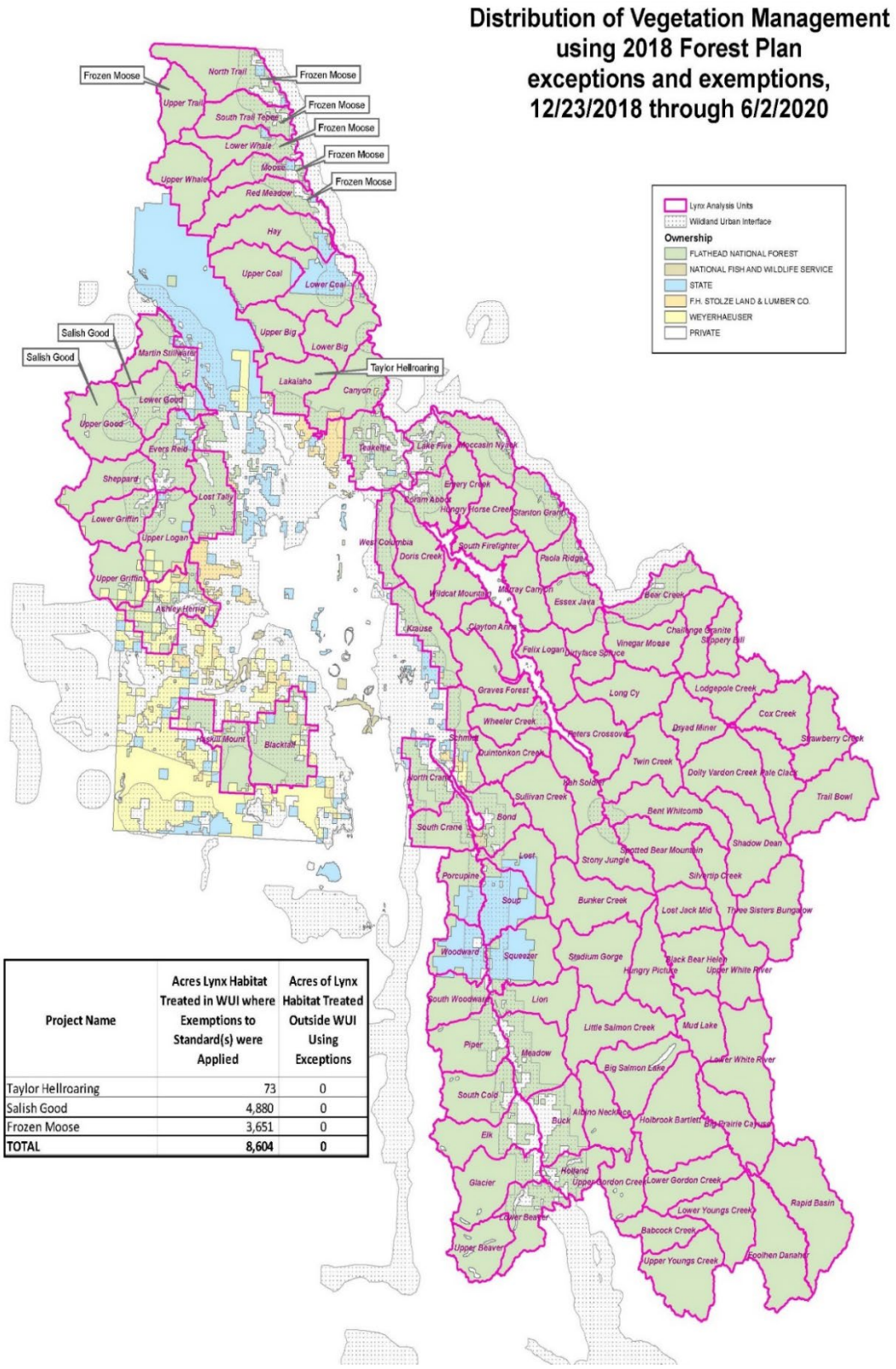
The table and figure below display planned use of VEGS5 and VEGS6 exception and exemption acres under the 2018 Flathead Forest Plan. This table and map were sent to USFWS in August 2020 with the Biological Assessments for the Frozen Moose Project, as it was the most recent project on the Forest to consult on the use of VEGS5 or VEGS6 exceptions or exemptions. **Note that these are planned not**

accomplished acres. The Hellroaring Basin Improvements Project was included in the table because it reduced lynx foraging habitats. However, it did not use any exception or exemption acres because VEGS5 and VEGS6 do not apply to removal of vegetation for permanent developments such as ski runs.

Table 57. Planned Use of VEGS5 and VEGS6 Exception and Exemption acres under the 2018 Forest Plan that have been through ESA Section 7 Consultation through December 2020 (see map below for the distribution of these planned acres across Flathead National Forest). IND-LYNX-13.

	Lynx Analysis Unit	WUI Exemption Acres (VEG S5 and VEGS6)	Non-WUI Exception Acres		
			Whitebark Pine VEGS6	Other Resource Benefits	Total
Forest Plan Consultation ITS (12/21/2018 update)	**All LAUs across Flathead N.F.**	**93,723**			**15,640**
Taylor Hellroaring	Lakalaho	4	0	0	0
	Upper Big	70	0	0	0
Hellroaring Basin Improvements	Lakalaho	0	0	0	0
Crystal Cedar	Teakettle	0	0	0	0
Salish Good Resource Management	Lower Good	3,100	0	0	0
	Upper Good	1,780	0	0	0
Frozen Moose	Lower Whale	446	0	0	0
	Moose	272	0	0	0
	North Trail	61	0	0	0
	Red Meadow	23	0	0	0
	South Trail Tepee	2,848	0	0	0
	Upper Trail	0	0	0	0
Total Acres exemptions used on Flathead N.F. since 12/21/2018		**8,604**	**0**	**0**	**0**
Updated Balances		**85,119**			**15,640**

Figure 4. Distribution of projects which used VEGS5 and VEG S6 exceptions and exemptions from December 24, 2018 through December 31, 2020 (see above for the acres planned in each Lynx Analysis Unit).



Project Name	Acres Lynx Habitat Treated in WUI where Exemptions to Standard(s) were Applied	Acres of Lynx Habitat Treated Outside WUI Using Exceptions
Taylor Hellroaring	73	0
Salish Good	4,880	0
Frozen Moose	3,651	0
TOTAL	**8,604**	**0**

Discussion of Results

Evaluation questions:

- *Are the acres treated under exceptions and exemptions to vegetation standards in Appendix A within the bounds anticipated in the incidental take statement or is additional consultation needed?*
    - Exceptions and exemptions are within the bounds anticipated in the ITS and no projects are inconsistent with the standards or guidelines.
- *Did regeneration harvest occur in any LAU that had 30% or more in a structural stage that does not yet provide snowshoe hare habitat, or did any timber management project regenerate more than 15% of lynx habitat on NFS lands in any LAU?*
    - This did not occur.
- *How many LAUs have a percentage of habitat in each LAU that has been regenerated by wildfire or vegetation treatment over the preceding 20 years that exceeds 30%?*
    - There are 26 of 109 LAUs where the percentage of young regenerating forest is estimated to exceed 30% (IND-LYNX-11-see table under MON-LYNX-01).
- *Do three adjacent LAUS have more than 30 percent of lynx habitat in a stand initiation structural state that does not yet provide winter snowshoe hare habitat, either because of natural events, vegetation management or fuel treatment projects, or any combination of these or other causes (VEGS1) IND-LYNX-11?*
    - Yes, but this is not due to vegetation management. These LAUs exceed 30% due to wildfire. If three adjacent LAUS have more than 30 percent of lynx habitat in a stand initiation structural state that does not yet provide winter snowshoe hare habitat, vegetation management that reduces additional snowshoe hare habitat in these LAUs was not conducted.
- *Are the acres treated or planned under exceptions and exemptions to vegetation standards in Appendix A fairly evenly distributed across areas available for vegetation management on the Forest?*
    - Given that only three projects have been through consultation that would use any of these acres, it is too soon to address this question.
- *Do monitoring results differ between lynx habitat and designated lynx critical habitat?*
    - The Haskill Mount and Blacktail LAUs, which do not have critical habitat, had very little wildfire activity in the past 20 years. They have 10% and 22% regeneration harvest in the last 20 years, respectively.

Evaluation of Results for Adaptive Management Finding

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

Table 58. Summary of Findings for Monitoring Item MON-LYNX-05 – Project Consistency with Vegetation Standards for Canada Lynx

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, with edits to indicators as described below
Recommendations –
2. Plan Implementation Status [1]: Do monitoring results demonstrate progress of the associated plan components for this monitoring item?
YES (E) - Implementation of Plan Component(s) ARE trending, progressing, and/or conducted as desired based on tracking the WUI exemption acres treated and the acres of non-WUI exception treatments. In addition, in no LAUs did regeneration timber harvest take the recent stand initiation habitat above 30% nor were there any LAUs with >15% of lynx habitat regenerated in a 10-year period
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?
Forest Plan Monitoring Program. Indicators IND-LYNX-09 and 13 for this monitoring question were modified to replace “since the end of 2017” with “since the end of 2018”. This would bring the report into consistency with the LMP’s Incidental Take Statement as it was amended in December 2018

[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.