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USDA

Forest
Service

Idaho Panhandle
National Forests

June 2016

Monitoring Guide

for 2015 Forest Plan (V2)

Idaho Panhandle National Forests

Cover Photo: Orville Mountain

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Chapter One. IPNF Monitoring Program

On June 23, 2016 an administrative change was made to the monitoring program to transition to the 2012 Planning Rule requirements (Administrative Change #1 to the 2015 Forest Plan). This version (V2) of this guide reflects that change.

Monitoring provides the feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the Forest to determine if a change in plan components or other plan management guidance may be needed, forming a basis for continual improvement and adaptive management. Direction for the monitoring and evaluation of forest plans is found under the 1982 Planning Rule at 36 CFR 219.12(k) and under the 2012 Planning Rule at 36 CFR 219.12.

The plan monitoring program addresses the most critical components for informed management of the Forest's resources within the financial and technical capability of the agency. Every monitoring question links to one or more goals, desired conditions, objectives, standards, or guidelines. However, not every plan component has a corresponding monitoring question.

This monitoring program is not intended to depict all monitoring, inventorying, and data gathering activities undertaken on the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in table 1. Consideration and coordination with broad-scale monitoring strategies, multi-party monitoring collaboration, and cooperation with state agencies where practicable will increase efficiencies and help track changing conditions beyond the Forest boundaries to improve the effectiveness of the plan monitoring program. In addition, project and activity monitoring may be used to gather information for the plan monitoring program if it will provide relevant information to inform adaptive management.

- The monitoring program sets out the plan monitoring questions and associated indicators. It is comprised of a monitoring guide and a biennial evaluation report.
- The monitoring guide provides detailed information on the monitoring questions, indicators, frequency and reliability, priority, data sources and storage, and cost.

An interdisciplinary team will develop a biennial Monitoring Evaluation Report which will summarize the results of completed monitoring, evaluate the data, consider relevant information from broad-scale or other monitoring efforts, and make recommendations to the responsible official. The monitoring evaluation report will indicate whether or not a change to the Forest Plan, management activities, or the monitoring program, or a new assessment, may be warranted based on the new information. The monitoring evaluation report is used to inform adaptive management of the Plan area. The Monitoring Evaluation Report will be made available to the public.

Some kinds of monitoring indicators will require longer time frames for thorough evaluation of results, but a biennial review of what information has been collected will ensure timely evaluation to inform planning. The biennial monitoring evaluation does not need to evaluate all questions or indicators on a biennial basis but must focus on new data and results that provide new information regarding management effectiveness, progress towards meeting desired conditions or objectives, changing conditions, or validation (or invalidation) of assumptions.

Table 1 is the monitoring program. This table displays the monitoring questions, the reference to Forest Plan direction, the indicator(s) for answering the monitoring question, the frequency of

measure, and the precision. Monitoring questions are used to evaluate whether management is moving toward, moving away from, or maintaining desired conditions. The references to forest plan direction provide a link between the monitoring question and the Forest Plan. The forest plan references may not include all relevant direction, but rather the primary direction that is addressed by the monitoring question. Indicators are the specific resource measures used in answering the monitoring questions. Frequency of measure is the timeframe for collecting data on each indicator. Precision is defined as Class A or B. For Class A, mostly quantitative methods are widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good. For Class B, mostly qualitative methods include project records, communications, or less formal measurements, like walk-thru exams or informal visitor surveys. Reliability, accuracy, and precision are good, but usually less than Class A. The associated evaluation process determines if the observed changes are consistent with the Forest Plan and the effectiveness of implementation. Evaluation reports will be produced biennially (as per 2012 Rule, 36 CFR 219.12(d)). Not all questions or indicators will be reported in the biennial Monitoring Evaluation Report.

Table 1. Monitoring Program

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Indicator/Precision
Physical and Biological				
Vegetation	**MON-VEG-01:** To what extent are management activities and natural disturbance processes trending toward desired conditions for vegetation composition, structure, and pattern, increasing resistance and resiliency to disturbance factors including climate change? This includes vegetation dominance type and size, old growth, down wood, snags, fire-killed forest, and insect and disease infested forest.	GOAL-01 – ECO INTEGRITY and RESILIENCY, FW-DC-Veg-01, FW-DC-VEG-02, FW-DC-VEG-03, FW-DC-VEG-05, FW-DC-VEG-07, FW-DC-VEG-08, FW-OBJ-VEG-01, FW-STD-VEG-01, FW-GDL-VEG-01, FW-GDL-VEG-03, FW-GDL-VEG-04, FW-GDL-VEG-05, FW-GLD-VEG-06, FW-DC-WL-14, FW-DC-WL-13	**MON-VEG-01-01:** Acres treated to meet FW-OBJ-VEG-01 **MON-VEG-01-02:** Acres burned **MON-VEG-01-03:** Acres of forest by dominance type and size class compared to the desired condition **MON-VEG-01-04:** Acres meeting the old growth definition (see glossary) as determined by the FIA program **MON-VEG-01-05:** Acres of old growth and acres of recruitment potential old growth, as determined by the Forests' stand inventory and mapping procedures **MON-VEG-01-06:** Acres of old growth treated **MON-VEG-01-07:** Snags per acre forestwide **MON-VEG-01-08:** Number of acres influenced by insects and disease	**Annual/Class A** **Annual/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A** **Annual/Class A** **Annual/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A**
Vegetation	**MON-VEG-02:** Have management activities met Plan objectives and trended towards desired conditions for noxious weeds?	FW-DC-VEG-10, FW-OBJ-VEG-02	**MON-VEG-02-01:** Acres of non-native invasive plants treated **MON-VEG-02-02:** Number of sites of new non-native invasive plant species and number of acres treated	**Annual/Class A** **Annual/Class A**
Fire	**MON-FIRE-01:** To what extent are management activities moving hazardous fuels towards desired conditions?	FW-DC-FIRE-02, FW-OBJ-FIRE-01, FW-DC-SES-04, GA-DC-FIRE-CDA-01, GA-DC-FIRE-LK-01, GA-DC-FIRE-PO-01, GA-DC-FIRE-PR-01, GA-DC-FIRE-SJ-01	**MON-FIRE-01-01:** Acres of hazardous fuel treatments within the WUI, and in areas outside of the WUI	**Annual/Class A**
Fire	**MON-FIRE-02:** To what extent is unplanned fire used to trend	FW-DC-FIRE-03, FW-OBJ-FIRE-02	**MON-FIRE-02-01:** Number of natural, unplanned fire ignitions managed for the maintenance and/or restoration of fire-adapted ecosystems, and the	**Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Indicator/Precision
	vegetation towards desired conditions?		number of natural, unplanned ignition managed with the primary goal of suppression	
Watershed	**MON-WTR-01:** Are soil, water quality, and riparian and aquatic habitats protected and moving towards desired conditions?	FW-DC-WTR-02, FW-DC-WTR-04, FW-GDL-WTR-01, FW-GDL-WTR-03, FW-GDL-SOIL-05, FW-DC-RIP-03, FW-DC-AQH-01	**MON-WTR-01-01**: Number of Best Management Practices (BMPs) evaluations, and number of BMPs planned, with an identification of BMPs that were not implemented correctly or not effective	**Annual/Class A**
Watershed	**MON-WTR-02:** To what extent are management activities moving watersheds towards desired conditions	FW-DC-WTR-01, FW-DC-WTR-02, FW-DC-WTR-03, FW-DC-WTR-04, FW-OBJ-WTR-01, FW-OBJ-WTR-02, FW-STD-WTR-01, FW-GDL-WTR-01	**MON-WTR-02-01**: Acres or miles of restoration activities accomplished, by subwatershed **MON-WTR-02-02:** Acres or miles of restoration activities accomplished by subwatershed in 4a impaired waterbodies **MON-WTR-02-03**: Percent of subwatersheds trended towards an improved condition.	**Annual/Class A** **Annual/Class A** **Every 5 Years/Class A**
Aquatic Habitat	**MON-AQH-01:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired condition to reconnect fragmented stream habitat to increase population resilience to disturbance including climate change?	FW-DC-AQH-02, FW-DC-AQS-01, FW-DC-AQS-04, FW-DC-AQS-05, FW-OBJ-AQH-03	**MON-AQH-01-01:** Miles of reconnected stream habitat	**Annual/Class A**
Soils	**MON-SOIL-01:** To what extent has coarse woody debris been retained for long-term soil productivity and other ecosystem functions?	FW-DC-SOIL-01, FW-DC-SOIL-03, FW-DC-SOIL-04, FW-GDL-SOIL-02, FW-GDL-SOIL-03, FW-DC-VEG-08	**MON-SOIL-01-01:** Number of harvest units surveyed and percent meeting coarse woody debris criteria post-harvest	**Annual/Class A**
Soils	**MON-SOIL-02:** To what extent have design features prevented irreversible damage to soil conditions?	FW-DC-SOIL-02, FW-DC-SOIL-03, FW-DC-SOIL-04; FW-DC-SOIL-05, FW-GDL-SOIL-01, FW-GDL-SOIL-04	**MON-SOIL-02-01:** Number of harvest units surveyed and percent that meet the Regional Soil Quality Standard,	**Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Indicator/Precision
			post-harvest (FSM, R1 Supplement No. 2500-99-1)	
Federally Listed Species	**MON-FLS-01:** To what extent is forest management contributing to the conservation of federally listed species and moving toward habitat objectives?	FW-DC-WL-03, FW-DC-WL-05, FW-STD-WL-01, FW-STD-WL-02, FW-STD-WL-03, FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-05, FW-DC-VEG-08, FW-DC-VEG-11, FW-OBJ-VEG-01, FW-GDL-VEG-03, FW-DC-FIRE-03	**MON-FLS-01-01:** Grizzly Bear: progress towards achieving and maintaining standards for percent core area, OMRD, and TMRD within the Recovery Zones (see monitoring requirements for the Grizzly Bear Access Amendment in appendix B) **MON-FLS-01-02:** Canada lynx: changes in lynx habitat as a result of moving towards the desired conditions for vegetation through vegetation management, prescribed fire, or natural disturbance (see monitoring requirements for the NRLMD in appendix B) **MON-FLS-01-03:** Bull Trout populations trends based on redd counts in known spawning reaches (see monitoring requirements for INFISH in appendix B)	**Annual/Class A** **Annual/Class A** **Annual/Class A**
Focal Species	**MON-FOC-01:** Are habitat trends for the landbird assemblage and macroinvertebrate assemblage consistent with the objectives?	FW-OBJ-WL-03, FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-03, FW-DC-VEG-04, FW-DC-VEG-05, FW-DC-VEG-07, FW-DC-VEG-11, FW-OBJ-VEG-01, FW-STD-VEG-01, FW-GDL-VEG-01, FW-GDL-VEG-04, FW-GDL-VEG-05, FW-GDL-VEG-06, FW-DC-FIRE-03, FW-OBJ-AQH-02	**MON-FOC-01-01:** Landbird assemblage (insectivores): a) number of acres where planned ignitions were used to maintain/improve habitat; b) percentage of natural unplanned ignitions managed for the maintenance or restoration or fire adapted ecosystems **MON-FOC-01-02:** Changes in the River Invertebrate Prediction and Classification System (Observed/Effect model) score	**Annual/Class A** **Every 5 Years/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Indicator/Precision
Wildlife	**MON-WL-01:** Have management activities met Plan objectives and maintained or improved habitat to achieve desired terrestrial habitat conditions	FW-OBJ-WL-01 FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-03, FW-DC-VEG-04, FW-DC-VEG-05, FW-DC-VEG-07, FW-DC-VEG-08, FW-DC-VEG-11, FW-OBJ-VEG-01, FW-STD-VEG-01, FW-GDL-VEG-01, FW-GDL-VEG-03, FW-GDL-VEG-04, FW-GDL-VEG-05, FW-GDL-VEG-06, FW-DC-FIRE-03	**MON-WL-01-01:** Acres of terrestrial habitat restored or enhanced. Also see results for **MON-VEG-01-01** through **MON-VEG-01-05**, **MON-VEG-02-02**, **MON-VEG-02-03**, and **MON-FIRE-02-02**	**Annual/Class A**
Wildlife	**MON-WL-02:** Are habitat trends for elk consistent with the objectives?	FW-OBJ-WL-02, FW-GDL-WL-13	**MON-WDL-02-01:** Elk: number of management units providing >30% security on NFS lands during the hunting season	**Annual/Class A**
Human Uses and Designations of the Forest				
Access and Recreation	**MON-AR-01:** Have appropriate management actions been taken on recreation sites where opportunities have been identified, use is at or near capacity, or where there are resource concerns?	FW-DC-AR-01, FW-OBJ-AR-01, FW-OBJ-AR-02, MA6-DC-AR-01, MA7-DC-AR-01, MA7-DC-AR-5, GA-DC-AR-CDA-03, GA-DC-CDA-04, GA-DC-AR-LK-04, GA-DC-LK-5, GA-DC-AR-LK-06, GA-DC-AR-PO-01, GA-DC-AR-PO-	**MON-AR-01-01:** Number and type of recreation sites **MON-AR-01-02:** Number of Persons at One Time (PAOT – capacity) **MON-AR-01-03:** Amount of deferred maintenance for developed recreation sites **MON-AR-01-04:** Number of recreation partnerships	**Every 5 Years/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Indicator/Precision
		03, GA-DC-AR-PR-01, GA-DC-AR-SJ-04, GA-DC-AR-SJ-07	**MON-AR-01-05**: Changes in percent of Forest in each ROS setting	**Every 5 Years/Class A**
Access and Recreation	**MON-AR-02:** Have management activities trended towards desired conditions for a minimum transportation system that provides recreation opportunities, safe and efficient public and agency access, and are environmentally compatible?	FW-DC-AR-03, FW-DC-AR-04, FW-DC-AR-05, FW-DC-AR-07, FW-OBJ-AR-03, MA6-DC-AR-03	**MON-AR-02-01**: Miles of road open year-long **MON-AR-02-02:** Miles of road open seasonally **MON-AR-02-03:** Miles of roads maintained by maintenance level **MON-AR-02-04:** Miles of roads decommissioned **MON-AR-02-05**: Miles of roads put into intermittent storage	**Annual/Class A** **Annual/Class A** **Annual/Class A** **Annual/Class A** **Annual/Class A**
Access and Recreation	**MON-AR-03:** To what extent are motorized and non-motorized winter and summer trail recreation opportunities available for a variety of users?	FW-DC-AR-03, FW-DC-AR-04, FW-DC-AR-05, FW-OBJ-AR-04, FW-OBJ-AR-05, MA5a/b/c-DC-AR-03, MA6-DC-AR-03, MA7-DC-AR-03, GA-DC-AR-CDA-06, GA-DC-AR-CDA-07, GA-DC-AR-LK-05, GA-DC-LK-06, GA-DC-AR-PO-03, GA-DC-AR-PR-01, GA-DC-AR-SJ-07	**MON-AR-03-01**: Acres open to over-snow vehicle use **MON-AR-03-02:** Miles of managed over-snow vehicle trails **MON-AR-03-03**: Miles of managed cross-country ski trails **MON-AR-03-04:** Miles of trail designated for motor vehicle use year-long or seasonally **MON-AR-03-05:** Miles of trails maintained for varied managed uses (e.g., hiker, equestrian, mountain biking, OHV, motorcycle)	**Annual/Class A** **Annual/Class A** **Annual/Class A** **Annual/Class A** **Annual/Class A**
Access and Recreation	**MON-AR-04:** What are the trends in visitation forestwide, and are visitors satisfied with the facilities, access, services, and perception of their safety?	FW-DC-AR-01, FW-DC-AR-04, MA6-DC-AR-01, MA7-DC-AR-01, MA7-DC-AR-05	**MON-AR-04-01:** Visitor use and trends in use forestwide **MON-AR-04-02:** Percent Satisfaction Index (National Visitor Use Monitoring) for developed facilities, access, services, and perception of safety	**Every 5 Years/Class A**
Wilderness	**MON-WLDN-01:** Have management activities met Plan objectives and trended towards management area desired conditions for designated wilderness?	MA1a-DC-AR-01, MA1a-DC-AR-04	**MON-WLDN-01-01:** Designated Wilderness managed to minimum stewardship level (based on ten elements from national protocol on measuring. Elements are listed at	**Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Indicator/Precision
			http://wilderness.net/NWPS/documents/FS/10YWSC%20Elements.pdf	
Cultural Resources	**MON-CR-01:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired condition to identify, evaluate, and nominate cultural resources for listing on the National Register of Historic Places?	FW-DC-CR-01, FW-OBJ-CR-01, FW-OBJ-CR-02	**MON-CR-01-01:** Number of properties identified **MON-CR-01-02:** Number of properties evaluated **MON-CR-01-03:** Number of properties nominated	**Annual/Class A** **Annual/Class A** **Annual/Class A**
Cultural Resources	**MON-CR-02:** To what extent are historic properties interpreted and public education provided to move towards desired conditions?	FW-DC-CR-02, FW-OBJ-CR-03, FW-OBJ-CR-04	**MON-CR-02-01:** Number of newly interpreted or updated historic properties	**Every 5 Years/Class A**
American Indian Rights and Interests	**MON-AI-01:** To what extent has the Forest progressed toward establishing Tribal agreements for the access and acquisition of forest products for traditional cultural uses?	FW-DC-AI-02, FW-OBJ-AI-01	**MON-AI-01-01**: Number of forest product acquisition agreements finalized	**Every 5 Years/Class A**
American Indian Rights and Interests	**MON-AI-02:** How much has coordination between the IPNF and consulting Tribes increased?	FW-DC-A1-01, FW-OBJ-AI-02	**MON-AI-02-01**: Number of cooperatively developed communication plans established	**Every 5 Years/Class A**
Production of Natural Resources				
Timber	**MON-TBR-01**: To what extent is the Forest meeting Forest Plan objectives and trending towards desired conditions to provide a mix of timber products in response to market demands?	FW-DC-TBR-01, FW-OBJ-TBR-01	**MON-TBR-01-01:** MMBF offered and MMBF sold annually	**Annual/Class A**
Timber	**MON-TBR-02:** To what extent is the Forest meeting NFMA requirements and desired	FW-DC-VEG-05, FW-STD-TBR-02 (Also 1982 Rule requirement [219.12(k)(5)(iii)])	**MON-TBR-02-01**: Number of even-aged regeneration harvest units	**Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Indicator/Precision
	conditions on size of harvest openings?		exceeding 40 acres in size and category for exceeding	
Timber	**MON-TBR- 03:** To what extent are regeneration units restocked to trend towards vegetation desired conditions?	FW-DC-VEG-04, FW-DC-VEG-11, FW-DC-TBR-02, FW-DC-TBR-03, FW-STD-TBR-03 (Rule requirement [219.12(k)(5)(i)])	**MON-TBR- 03-01:** On lands suitable for timber production, percent of acres with regeneration harvest that are adequately restocked within 5 years of harvest	**Annual/Class A**
Minerals	**MON-MIN-01**: Are reclamation activities improving ecological and human health conditions?	FW-DC-MIN-01, FW-OBJ-MIN-01	**MON-MIN-01-01:** Number of reclaimed abandoned mine sites over a five-year period. Number reclaimed to reduce the risk to human health	**Every 5 Years/Class A**
Economic and Social Environment				
Social and Economic Systems	**MON-SOC-01**: To what extent is forest management contributing towards desired conditions for a stable and functioning local economy?	FW-DC-SES-02	**MON-SOC-01-01:** Number of jobs and thousands of dollars in labor income from IPNF management and percent of total planning area1 jobs and income	**Every 5 Years/Class A**
Social and Economic Systems	**MON-SOC-02:** Is the cost of implementing the Forest Plan consistent with that predicted in the FEIS?	Rule requirement (219.12(k)(3))	**MON-SOC-02-01:** Forest annual budget	**Annual/Class A**

Chapter Two

Resource: Vegetation

MON-VEG-01

1) Monitoring Question (MON-VEG-01): To what extent are management activities and natural disturbance processes trending toward desired conditions for vegetation composition, structure, and pattern, and increasing resistance and resiliency to disturbance factors including climate change? This includes vegetation dominance type and size class, old growth, down wood, snags, fire-killed forest, and insect and disease infested forest.

2) Forest Plan References:

- **GOAL-VEG-01**
- **FW-DC-VEG-01**
- **FW-DC-VEG-02**
- **FW-DC-VEG-03**
- **FW-DC-VEG-04**
- **FW-DC-VEG-05**
- **FW-DC-VEG-06**
- **FW-DC-VEG-07**
- **FW-DC-VEG-08**
- **FW-DC-VEG-11**
- **FW-OBJ-VEG-01**
- **FW-STD-VEG-01**
- **FW-STD-VEG-02**
- **FW-GDL-VEG-01**
- **FW-GDL-VEG-03**
- **FW-GDL-VEG-04**
- **FW-GDL-VEG-05**
- **FW-GDL-VEG-06**
- **FW-DC-RIP-04**
- **GOAL-WL-01**
- **FW-DC-WL-10**
- **FW-DC-WL-12**
- **FW-DC-WL-13**
- **FW-DC-WL-14**

3) Performance Indicator(s):

- **MON-VEG-01-01:** Acres treated towards achieving FW-OBJ-VEG-01;
- **MON-VEG-01-02:** Acres burned;
- **MON-VEG-01-03:** Acres of forest by dominance type and size class compared to the desired condition;
- **MON-VEG-01-04:** Acres meeting the old growth definition (see glossary of the Forest Plan) as determined by the FIA program;
- **MON-VEG-01-05:** Acres of old growth and acres of recruitment potential old growth, as determined by the Forests' stand inventory and mapping procedures;
- **MON-VEG-01-06:** Acres of old growth treated;
- **MON-VEG-01-07:** Snags per acre forestwide; and
- **MON-VEG-01-08:** Number of acres influenced by insects and disease.

4) Forest Plan Rationale and Explanation: T Multiple indicators were used to address this monitoring question due to the multi-faceted nature of the question.

- **MON-VEG-01-01:** The number of acres that are treated on the Forest towards achieving FW-OBJ-VEG-01 is a strong indication of how much active management is occurring to

help trend the vegetation towards the desired conditions that are articulated for forest vegetation within the Forest Plan (e.g. GOAL-VEG-01 and FW-DC-VEG-01 through 05).

- **MON-VEG-01-02:**The number of acres that are burned on the Forest (both planned and unplanned) is an indicator of whether or not our desire (FW-DC-FIRE-03) is being met to have wildland fire play an increased role in helping to trend the vegetation conditions towards the desired conditions while serving important ecosystem functions.
- **MON-VEG-01-03:** The number of acres of forest vegetation by dominance type and size class relative to the desired conditions that are expressed in the Forest Plan is directly related to the monitoring question. This indicator will demonstrate to what extent management activities and natural processes are trending the forest vegetation towards desired species composition measured by dominance types (FW-DC-VEG-01) and structure as measured by size class (FW-DC-VEG-02) of the forest vegetation.
- **MON-VEG-01-04:** The FIA plot based old growth analysis provides a relatively inexpensive means to monitor old growth amounts across the Forest to determine if more old growth is developing over time as desired and articulated in the Forest Plan (FW-DC-VEG-03).
- **MON-VEG-01-05:** This monitoring indicator is necessary to spatially track old growth and recruitment potential old growth across the Forest. Unlike the FIA plot based old growth analysis (see MON-VEG-01-04), this stand level inventory and mapping procedure allows one to know where the old growth stands are spatially located on the Forest, and allows for the identification and tracking of recruitment potential old growth stands. For project planning at the site-specific scale, this information is very important and it also provides another tool in addition to the FIA plot based system in which to monitor how much and what kind of old growth exists across the Forest.
- **MON-VEG-01-06:** This monitoring indicator is needed to track how many acres of old growth stands were treated. FW-DC-VEG-03 includes the desired condition that old growth stands become more resistant and resilient towards disturbances and stressors such as wildfires, droughts, insects and disease, and potential climate change effects. Some examples of treatments that may be used in old growth stands for the purpose of trending stands towards the desired conditions are included in the FEIS.
- **MON-VEG-01-07:** The number and size of snags on the Forest is directly related to how well the Forest is moving towards FW-DC-VEG-07 and FW-DC-WL-13.
- **MON-VEG-01-08:** As indicated by the forestwide desired condition plan component FW-DC-VEG-06, the desire is that root disease fungi and certain forest insects have less of an impact in killing trees in the future. Therefore, this indicator will be used to measure how management activities and natural disturbances affect the prevalence of some key forest insects and diseases. Acres of key I&Ds would be tracked; such as mountain pine beetle (killing LP and WP), Douglas-fir bark beetle, fir engraver, spruce bark beetle, white pine blister rust, and armillaria and laminated root diseases.

5) Performance Indicator 1: Acres treated towards achieving FW-OBJ-VEG-01.

a) Description: Examples of the types of treatments that may be implemented toward achieving FW-OBJ-VEG-01 as well as additional information on the two quantitative objectives within that Plan component are described in chapter 2 of the Plan.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: The FACTS database contains the necessary information for this indicator. The types of treatments that are appropriate to include are activities such as timber harvest, planting, thinning, management of fire (including planned ignitions and the use of natural, unplanned ignitions), mechanical fuel treatments, re-vegetation with native species, blister rust pruning, integrated tree improvement activities, non-native invasive plant treatments, and other integrated pest management activities including forest health protection suppression and prevention activities. Existing protocols and standards exist for measuring these treatment acres.

d) Data Storage: FACTS database.

e) Spatial Unit: The actual area treated on the Forest.

f) Frequency of Measurement: Activities are entered into FACTS as they are accomplished and would be summarized on an annual basis.

g) Precision/Reliability: Class A.

h) Analysis Methods: Query FACTS for acres of appropriate treatment types that were accomplished.

i) Who (Cooperators): None.

j) Cost: S.O. GIS/database asst. (GS-11) 1 day = $343, Forest Silviculturist (GS-12) 1 day = $405 for a total of $748.

k) References: None.

5) Performance Indicator 2: Acres burned.

a) Description: Acres that are burned by planned and unplanned ignitions would be reported. Planned ignitions are those set intentionally for management purposes. Unplanned ignitions are wildfires from an unplanned event such as lightning or accidental human-caused. For planned ignitions, the intent is to include the acres of broadcast burning and underburning as part of this indicator, rather than include burn activities such as grapplepile or handpile burning.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: The FACTS database contains the necessary information for tracking the amount of planned, prescribed burning that is conducted on the Forest. The National Fire and Aviation Management Web (FAMWEB) Application data warehouse (https://fam.nwcg.gov/fam-web/) contains the information and reports that can be run in order to report on the number of acres burned by unplanned ignitions. In addition, the Fire Statistic System (FIRESTAT) and associated databases provide the protocols for data collection and input for wildfires.

d) Data Storage: FACTS database.

e) Spatial Unit: The area burned on the Forest.

f) Frequency of Measurement: Activities are entered into FACTS and FIRESTAT on an annual basis.

g) Precision/Reliability: Class A.

h) Analysis Methods: Query FACTS for acres of appropriate treatment types that were accomplished and run a report for acres burned via unplanned ignitions (wildfires).

i) Who (Cooperators): None.

j) Cost: S.O. GIS/database asst. (GS-11) 0.5 days = $172, Forest FMO (GS-12) 0.5 days = $202 for a total of $374.

k) References: None.

5) Performance Indicator 3: Acres of forest by dominance type and size class compared to the desired condition.

a) Description: Acres of forest by dominance types and size classes as shown in the forest plan. Dominance types describe the tree species composition within a stand. The existing dominant tree species or species groups are aggregated for the forest by biophysical setting. Size class defines the average diameter (DBH) of trees within a stand and are grouped into four categories or ranges of diameters; seedling/sapling (0-4.6 inch DBH), small (5.0-9.0 inch DBH), medium (10.0-14.9 inch DBH), and large (15.0+ inch DBH). Size class is also aggregated for the forest by biophysical setting.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: FIA plot data and the established regional protocols would be used to determine how much of the forested vegetation occurs within each dominance type group and a comparison would be made relative to the desired condition that is presented in the Forest Plan. A similar process would be conducted for the size classes. The FIA program has established data collection protocols and the Regional Office (Forest Inventory and Analysis group) has established analysis protocols.

d) Data Storage: FIA/FSVeg databases.

e) Spatial Unit: The forested area on the IPNF.

f) Frequency of Measurement: Every 5 years (the FIA program re-measures plots on a 10-year cycle, with 10 percent of the total plots re-measured each year).

g) Precision/Reliability: Class A.

h) Analysis Methods: Query FACTS for acres of appropriate treatment types that were accomplished and run a report for acres burned via unplanned ignitions (wildfires).

i) Who (Cooperators): None.

j) Cost: R.O. Inventory & Analysis Group. (GS-12) 3 days = $1,215, Forest Silviculturist (GS-12) 1 day = $405 for a total of $1,620

k) References: None.

5) Performance Indicator 4: Acres meeting the old growth definition (see glossary of the Forest Plan) as determined by the FIA program.

a) Description: The Forest uses Green et al. 1992 (errata corrected 12/11) for the definition and criteria for old growth and Region One has an established analysis protocol (see references below) using FIA plots to determine the acres of old growth on each National Forest in the Region. Old growth forests are considered ecosystems that are distinguished by old trees and related structural attributes. They encompass the later stages of stand development that typically differ from earlier stages in characteristics such as tree age, tree size, number of large trees per acre and basal area.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: FIA plot data and the established regional protocols would be used to determine how many acres (and percent of total) of forested vegetation meet or exceed the minimum criteria that are used to define old growth.

d) Data Storage: FSVeg databases.

e) Spatial Unit: The total forested area on the Forest as well as the various geographic areas (GAs) across the Forest.

f) Frequency of Measurement: Every 5 years (the FIA program re-measures plots on a 10-year cycle, with 10% percent of the total plots re-measured each year).

g) Precision/Reliability: Class A.

h) Analysis Methods: FSVeg and Common Stand exam protocols along with Green et al. 1992 (errata corrected 12/11). Compare forestwide layer and data to earlier version(s) and summarize increased/decreased acres by old growth and recruitment potential old growth.

i) Who (Cooperators): None.

j) Cost: S.O. GIS/database asst. (GS-11) 1 day = $343, Forest Silviculturist (GS-12) 1 day = $405 for a total of $748.

k) References:
Green, P., Joy, J., Sirucek, D., Hann, W., Zack, A., & Naumann, B. (1992 errata corrected 12/11). Old growth forest types of the Northern Region. Missoula, MT: United States Department of Agriculture, Forest Service, Northern Region. 60 p.

5) Performance Indicator 5: Acres of old growth and acres of recruitment potential old growth, as determined by the Forests' stand inventory and mapping procedures.

a) Description: Acres of old growth and acres of recruitment potential old growth, as determined by the Forests' stand inventory and mapping procedures. As mentioned above for performance indicator # 4, old growth is defined by Green et al. 1992. Recruitment potential old growth is defined in the glossary to the Forest Plan as well as in the glossary contained in the FEIS. The FEIS (Forest Vegetation section) contains an old growth section that provides more information on the Forests' stand inventory and mapping procedures.

b) Unit of Measure: Acres (acres of old growth and acres of recruitment potential old growth).

c) Standards/Steps for Data Collection: FSVeg (http://www.fs.fed.us/nrm/fsveg/index.shtml) and the common stand exam protocols are

used for identifying old growth and recruitment potential old growth stands. Forestwide GIS coverage of old growth and recruitment potential old growth will be maintained based on field validation and project decisions. Along with the GIS coverage, there will be field survey data and stand designations stored in FACTS and FSVeg.

d) Data Storage: FSVeg databases.

e) Spatial Unit: The total forested area on the Forest as well as the various geographic areas (GAs) across the Forest.

f) Frequency of Measurement: Stand Exams are entered into FSVeg on an annual basis as they are accomplished.

g) Precision/Reliability: Class A.

h) Analysis Methods: FSVeg and Common Stand exam protocols along with Green et al. 1992 (errata corrected 12/11). Compare forestwide layer and data to earlier version(s) and summarize increased/decreased acres by old growth and recruitment potential old growth.

i) Who (Cooperators): None.

j) Cost: S.O. GIS/database asst. (GS-11) 1 day = $343, Forest Silviculturist (GS-12) 1 day = $405 for a total of $748.

k) References:
Green, P., Joy, J., Sirucek, D., Hann, W., Zack, A., & Naumann, B. (1992 errata corrected 12/11). Old growth forest types of the Northern Region. Missoula, MT: United States Department of Agriculture, Forest Service, Northern Region. 60 p.

5) Performance Indicator 6: Acres of old growth treated.

a) Description: Acres of old growth treated by vegetation management, including planned ignitions (underburning) and mechanical means. Old growth stands may be treated with a management activity such as harvest, and/or burning. Some examples of treatments that may be used in old growth stands for the purpose of trending stands towards the desired conditions are included in the FEIS.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: FSVeg and the FACTS databases contain the necessary information to reporting how many acres of old growth have been treated. The treatment would be recorded in FACTS and old growth stands are indicated as such in the Special Use code in FSVeg.

d) Data Storage: FSVeg & FACTS databases.

e) Spatial Unit: The actual acres of old growth treated on the Forest.

f) Frequency of Measurement: Treatments are entered into FACTS on an annual basis as they are accomplished.

g) Precision/Reliability: Class A.

h) Analysis Methods: A query of FACTS and FSVeg would provide the information.

i) Who (Cooperators): Forest Service.

j) Cost: S.O. GIS/database asst. (GS-11) 1 day = $343, Forest Silviculturist (GS-12) 1 day = $405 for a total of $748.

k) References: None.

5**) Performance Indicator 7:** Snags per acre forestwide.

a) Description: Snags per acre forestwide. This indicator will utilize FIA plot data and identify the number of snags/acre in two size classes (i.e., >15" and >20" DBH) that occur on the Forest, by biophysical setting and dominance group.

b) Unit of Measure: Number of snags.

c) Standards/Steps for Data Collection: FIA plot information will be used and established analysis protocol (Bollenbacher et al. 2009, Czaplewski, R.L. 2004) will be followed.

d) Data Storage: FSVeg/FIA databases.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: Every 5 years (the FIA program re-measures plots on a 10-year cycle, with 10 percent of the total plots re-measured each year).

g) Precision/Reliability: Class A.

h) Analysis Methods: Analysis protocol cited in item #7 above would be used to determine snag quantities by size class and dominance group. Those numbers would be compared to the numbers at the beginning of the Forest Plan implementation period to determine trends.

i) Who (Cooperators): None.

j) Cost: R.O. Inventory & Analysis Group (GS-12) 3 days = $1,215, Forest Silviculturist (GS-12) 1 day = $405 for a total of $1,620.

k) References:

Bollenbacher, B., Bush, R. & R. Lundberg. (2009). Report 09-06 v1.3 titled "Estimates of Snag Densities for Northern Idaho Forests in the Northern Region." Region One Vegetation Classification, Mapping, Inventory and Analysis Report.

Czaplewski, R.L. (2004). Application of Forest Inventory and Analysis (FIA) Data to Estimate the Amount of Old Growth Forest and Snag Density in the Northern Region of the National Forest System. USDA Forest Service; Research and Development Deputy Area; Rocky Mountain Research Station; Natural Resource Assessment, Ecology, and Management Science Research, Research Work Unit RMRS-4852; 2150 Centre Ave. Bldg. A., Fort Collins, CO 80526. http://fsweb.r1.fs.fed.us/forest/inv/fia_data/analysis.htm.

5) Performance Indicator 8: Number of acres influenced by insects and disease.

a) Description: Number of acres influenced by insects and disease. The Forest Health Protection division of the State and Private Forest branch of the Forest Service conducts

annual Aerial Detection Surveys (ADS) of key forest insects and diseases. The Forest Health Protection summarizes the annual survey information by acres and causal agent by county.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: The Forest Health Protection has standards and established protocols for ADS (http://www.fs.fed.us/foresthealth/technology/ads_standards.shtml).

d) Data Storage: The Forest Health Protection stores maps and data of ADS on: http://www.fs.fed.us/foresthealth/technology/adsm.shtml. The Forest Health Protection staff is able to summarize acreage information by Forest and causal agent.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: The Forest Health Protection conducts surveys annually and prepares summaries of that data.

g) Precision/Reliability: Class A.

h) Analysis Methods: Analysis protocol cited in item #7 above would be used. The acreage numbers by key I&D species will be summarized by year. Those numbers will be used to track trends over time to determine if impacts from those agents are generally going down as desired.

i) Who (Cooperators): None.

j) Cost: Forest Health Protection Staff (aerial detection staff, pilot, and plane expense) =$5,000 (rough estimate)?? Forest Silviculturist (GS-12) 1 day = $405 for a total of $5,405.

k) References: None.

6) Responsibility: Forest silviculturist.

7) Authority: There are no legal requirements to use these indicators, although there are agency requirements to be accountable for assigned targets and some of these indicators are tied to components in the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: The following performance indicators would be reported on a biennial basis: 1, 2, 5 and 6. The following indicators would be reported on a 5-year frequency: 3, 4, 7 and 8.

10) How Evaluated:

- **Performance Indicator 1:** The number of acres that are treated to meet FW-OBJ-VEG-01 would be evaluated to determine how the Forest is progressing over time towards meeting the objectives noted in FW-OBJ-VEG-01. The desire is that over the life of the plan, at least the numbers of acres noted in FW-OBJ-VEG-01 are treated.
- **Performance Indicator 2:** As articulated in FW-DC-FIRE-03, the desire is to increase the number of acres that are burned on the Forest in recognition that fire plays critical ecological functions and that not enough burning has occurred on the Forest in the recent

past. Acres burned (both planned and unplanned) should be depicted over time and the desire is to see a trend of increased acres burned. In addition to reporting acres that burned via planned and unplanned ignitions, a qualitative discussion should address the effectiveness of these burned areas in helping to trend the forest vegetation towards desired conditions.

- **Performance Indicator 3:** The number of acres of forested vegetation by dominance type and size class should be illustrated and compared to the desired amounts and the trends noted. The desire is that over time, the acres within each dominance type and the acres within each size class will trend towards the desired conditions articulated in the Plan. As was done in the Plan, the information should be displayed in two ways; for the Forest as a whole, and for each of the biophysical settings.
- **Performance Indicator 4:** Via the FIA protocol, the number of acres that meet the definition for old growth on the Forest as well as the number of acres meeting the old growth in each Geographic Area (GA) should be displayed. The goal is that the amount will increase over time at both the Forest and GA scales.
- **Performance Indicator 5:** Via the Forests' stand inventory and mapping procedures, the number of acres meeting the definition of old growth, and the number of acres that have been identified as recruitment potential old growth, would be displayed. The desire over time is to see the acres of both old growth and recruitment potential old growth to increase relative to existing amounts.
- **Performance Indicator 6:** In the Plan and FEIS there is an acknowledgement that some types of old growth require disturbances to maintain their structure, composition and function. Relative to current levels, the desire is to see more stands and acres treated of old growth (in appropriate circumstances) over time in order to maintain them.
- **Performance Indicator 7:** Using FIA plot data, the number of snags/acre in two size classes (i.e., >15" and >20" DBH) that occur on the Forest would be reported by biophysical setting and dominance group. Over time, the desire is to see the number of these larger snags per acre increase.
- **Performance Indicator 8:** Using Aerial Detention Surveys, the number of acres of insect and diseases would be reported for key agents. The desire is that over time, the acres being impacted by root disease fungi, bark beetles and defoliators will decrease.

11) Author: Dave Cobb.

MON-VEG-02

1) Monitoring Question (MON-VEG-02): Have management activities met Plan objectives and trended towards desired conditions for noxious weeds?

2) Forest Plan References:

- **GOAL-01**
- **FW-DC-VEG-10**
- **FW-OBJ-VEG-02**
- **Additional MA-specific direction (e.g., MA1a-GDL-VEG-01)**

3) Performance Indicator(s):

- **MON-VEG-02-01:** Acres of non-native invasive plants treated; and

- **MON-VEG-02-02:** Number of sites of new non-native invasive plant species and number of acres treated.

4) Forest Plan Rationale and Explanation:

- **MON-VEG-02-01:** The acres of non-native invasive plants treated will indicate movement towards the objective to treat 15,000 – 30,000 acres over the first decade of the plan, which indirectly shows progress towards the desired condition to prevent and control the spread of weeds. Monitoring the number of sites of new non-native invasive plants and number acres treated will show movement towards the desired condition that newly invading, non-native invasive plant species are treated and populations are contained or eradicated. This will also indicate movement towards the objective that all sites of newly invading plant species are treated. There are two Plan components that are directly related to this monitoring indicator, FW-DC-VEG-10 and FW-OBJ-VEG-02. In addition, there are a number of other MA specific components that are related to this indicator (e.g., MA1a-GDL-VEG-01).
- **MON-VEG-02-02:** There are two plan components that are directly related to this monitoring indicator, FW-DC-VEG-10 and FW-OBJ-VEG-02. In addition, there are a number of other MA specific components that are related to this indicator (e.g., MA1a-GDL-VEG-01). The emphasis that is expressed in FW-DC-VEG-10 is towards the detection and treatment of newly invading species (versus the treatment of long-established species) as those species may be effectively contained or eradicated. This indicator focuses on new invaders and provides a measure that may be used to evaluate how well the Forest is progressing towards meeting two plan components (FW-DC-VEG-10 and FW-OBJ-VEG-02).

5) Performance Indicator 1: Acres of non-native invasive plants treated.

a) Description: The acres of non-native invasive plants that have been treated, including chemical application and biological control.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: FACTS for activity accomplishments (treated acres); TERRA for the inventory of non-native invasive plants.

d) Data Storage: FACTS, TERRA.

e) Spatial Unit: The treated area (polygon in database).

f) Frequency of Measurement: Treatments would be recorded when they occur and input at least annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Combine treatments in FACTS with TERRA shapefiles. Run the FACTS Invasive Performance Report to determine acres treated and efficacy. Query TERRA for new invasive sites and combine with FACTS treatments to determine new invasives treated.

15) Who (Cooperators): None.

18) Cost: Database specialist (GS-7) 1 day= $261 Forest Silviculturist (GS-12) 0.5 day=$202 for a total of $463.

20) References: None.

5) Performance Indicator 2: Number of sites of new non-native invasive plant species and number of acres treated.

a) Description: The number of individual sites where new, non-native invasive plant species have been found and the number of sites and number of acres of these new infestations that have been treated, including chemical application and biological control.

b) Unit of Measure: Number and acres.

c) Standards/Steps for Data Collection: FACTS for activity accomplishments (treated acres); TERRA for the inventory of non-native invasive plants.

d) Data Storage: FACTS, TERRA.

e) Spatial Unit: Individual infestation sites and treated area (polygon in database).

f) Frequency of Measurement: Treatments would be recorded when they occur and input at least annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Combine treatments in FACTS with TERRA shapefiles.

i) Who (Cooperators): None.

j) Cost: Database specialist (GS-7) 1 day= $261 Forest Silviculturist (GS-12) 0.5 day=$202 for a total of $463.

k) References: None.

6) Responsibility: Forest silviculturist.

7) Authority: There are no legal requirements to use these indicators, although there are agency requirements to be accountable for assigned targets and some of these indicators are tied to components in the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: Review the trend of treatment acres and new infestations. Determine if treated acres are trending towards the forest plan objective: 15,000 – 30,000 acres over the first decade and treatment of all newly invasive sites. To evaluate movement towards the desired condition, include number of acres restored (based on efficacy). List the new invaders found on the forest each year and the number of sites. Calculate the percentage of new sites that are treated to determine if treatment is trending towards forest plan objective of treating all new invasive species sites. Describe the trend and whether there is movement towards, away from, or neutral to the forest plan desired condition.

To determine the trend in new infestations and treatment of invasive plants, fill in the following list and tables:

Table 2. Newly non-native invasive plant species found on the Forest

Year	Species	Number of Sites	Total Acres
2014	INVAD1	3	30
2014	INVAD2	2	12

Table 3. Acres of Treatment for Non-native Invasive Plant Species by Species and Year

Fiscal Year	Species	New Invasive? (yes, no)	Acres Treated	Percent Effective	Acres Restored
2014	ARAB3	No	386	88	340
2014	INVAD1	Yes	30	90	27
2014	CYOF	No	150	85	128

Table 4. Total Acres of Treatment and Restoration by Year of Non-native Invasive Plant Species by Year

Fiscal Year	Acres Treated	Acres Restored
2014	566	495

Table 5. Total Acres of Treatment and Restoration by Year for Newly Non-native Invasive Plant Species

Fiscal Year	Acres Treated	Acres Restored
2014	530	27

The narrative would describe which newly invasive species are being found on the forest, describing trends for the years monitored. It would summarize the species that are being treated and total acres. The narrative would also describe overall efficacy of treatments and restoration of acres. The narrative would then make conclusions on the overall trend for weed treatments, achievement of forest plan objectives, and progress regarding movement towards desired condition.

11) Author: Dave Cobb.

Resource: Fire

MON-FIRE-01

1) Monitoring Question (MON-FIRE-01): To what extent are management activities moving hazardous fuels towards desired conditions?

2) Forest Plan References:

- **FW-DC-FIRE-01**
- **FW-DC-FIRE-02**
- **FW-OBJ-FIRE-01**
- **DW-DC-SES-04**
- **Additional MA-specific direction**

3) Performance Indicator(s):

- **MON-FIRE-01-01:** Acres of hazardous fuel treatments within the WUI, and in areas outside of the WUI.

4) Forest Plan Rationale and Explanation: Hazardous fuel treatments help ensure that the Forest meets the direction of providing for firefighter and public safety in all fire management activities (FW-DC-FIRE-01 and FW-DC-SES-04) and reducing hazardous fuels (FW-DC-FIRE-03). By reducing hazardous fuels in areas with values at risk, the fire behavior can be modified to increase the likelihood of low intensity surface fires and limit crown fire initiation and spread. This helps provide a safer fire environment for both firefighters and the public. It also reduces negative natural resource impacts. This indicator is meant to provide a measure in which to evaluate progress towards these desired conditions. The Forest Objective (FW-OBJ-FIRE-01) is to annually treat 5,000 to 15,000 acres.

5) Performance Indicator 1: Acres of hazardous fuel treatments within the WUI, and in areas outside of the WUI.

a) Description: Acres of hazardous fuel treatments, including mechanical vegetation treatments and planned and unplanned ignitions, broken down by inside or outside the WUI. This indicator does not include activity fuel treatment.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: FACTS database protocols.

d) Data Storage: FACTS.

e) Spatial Unit: Treated area.

f) Frequency of Measurement: Treatments would be recorded annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Query FACTS for activities of hazardous fuel treatment (key point).

i) Who (Cooperators): None.

j) Cost: Forest AFMO (GS-11) 1.0 day=$343 for a total of $343.

k) References: None.

6) Responsibility: Forest AFMO.

7) Authority: There is no legal requirement to use these indicators, although there are agency requirements to be accountable for assigned targets and some of these indicators are tied to components in the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: See discussion in Forest Plan Rationale and Explanation section above.

11) Author: Dave Cobb.

MON-FIRE-02

1) Monitoring Question (MON-FIRE-02): To what extent is unplanned fire used to trend vegetation towards desired conditions?

2) Forest Plan References:

- **FW-DC-FIRE-03**
- **FW-OBJ-FIRE-02**

3) Performance Indicator(s):

- **MON-FIRE-02-01:** Number of natural, unplanned fire ignitions managed for the maintenance and/or restoration of fire-adapted ecosystems, and the number of natural, unplanned ignitions managed with the primary goal of suppression

4) Forest Plan Rationale and Explanation: As indicated in FW-DC-FIRE-03 (pages 21 and 22 of Forest Plan), the desire is to increase the use of wildland fire across the Forest in recognition that it is needed to help trend the vegetation towards the desired conditions and serving other important ecosystem functions. While still suppressing undesirable wildfires, other fires will be allowed to play their natural role in ecosystem function and maintenance.

5) Performance Indicator 1: Number of natural, unplanned fire ignitions managed for the maintenance and/or restoration of fire-adapted ecosystems, and the number of natural, unplanned ignitions managed with the primary goal of suppression.

a) Description: This indicator tracks the number and acres of natural, unplanned fires by how they were managed (for resource benefit or for suppression).

b) Unit of Measure: Number of fire ignitions (and acres).

c) Standards/Steps for Data Collection: FIRESTAT and FACTS database protocols. The National Fire and Aviation Management Web (FAMWEB) Application data warehouse (https://fam.nwcg.gov/fam-web/) contains the information and reports that can be run. In

addition, the Fire Statistic System (FIRESTAT) and associated databases provide the protocols for data collection and input for wildfires.

d) Data Storage: FIRESTAT and FACTS.

e) Spatial Unit: Individual fires at Forest scale.

f) Frequency of Measurement: Annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Query FIRESTAT/FACTS.

i) Who (Cooperators): None.

j) Cost: Forest AFMO (GS-11) 1.0 day=$343 for a total of $343.

k) References: None.

6) Responsibility: Forest AFMO and Dispatch Center Manager.

7) Authority: There is no legal requirement to use these indicators, although there are agency requirements to be accountable for assigned targets and some of these indicators are tied to components in the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: See discussion in Forest Plan Rationale and Explanation section above.

11) Author: Dave Cobb.

Resource: Watershed

MON-WTR-01

1) Monitoring Question (MON-WTR-01): Are soil, water quality, and riparian and aquatic habitats protected and moving towards desired conditions?

2) Forest Plan References:

- **FW-DC-WTR-02**
- **FW-DC- WTR-04**
- **FW-DC-RIP-03**
- **FW-DC-AQH-01**
- **FW-GDL-WTR-01**
- **FW-GDL-WTR-03**
- **FW-GDL-SOIL-05**

3) Performance Indicator(s):

- **MON-WTR-01-01**: Number of Best Management Practices (BMPs) evaluations, and number of BMPs planned, with an identification of BMPs that were not implemented correctly or not effective

4) Forest Plan Rationale and Explanation: Monitoring BMPs is necessary to validate that the agency is meeting the intent of the Clean Water Act and State water quality laws and regulations to show compliance and effort to reduce or mitigate effects from non-point sources of sediment. Use of BMPs are intended to move soil and aquatic resources towards the desired conditions in the Forest Plan in passive restoration subwatersheds, recognizing that BMPs are protective, but legacy effects from past management activities on Forest Service lands will continue to improve, where BMPs were not applied historically. Reviews are also used to identify BMPs that are not effective and provide a mechanism for adopting a new BMP, or modify an existing BMP.

5) Performance Indicator 1: Number of Best Management Practices (BMPs) evaluations, and number of BMPs planned, with an identification of BMPs that were not implemented correctly or not effective.

a) Description: Indicator tracks the number of BMP evaluations that occurred and evaluates both implementation and effectiveness of national or regional soil and water conservation practices (i.e., BMPs).

b) Unit of Measure: Number of BMPs that were not implemented correctly or were not effective, as a fraction of total BMPs applied.

c) Standards/Steps for Data Collection: An interdisciplinary team will use project level NEPA documentation of design features from the appendix: “Application of Soil and Water Conservation Practices” in conjunction with the associated BMP Review Form. A review of all BMPs applied for an entire project is not necessary and a subset of project activities is appropriate. One review from each Zone, each year, is desirable. A Zone may not have a project to review in a given year, in which case another project on another Zone could be used to supplement the effort, but not required.

d) Data Storage: BMP reviews will be stored in the Forest’s 2500WatershedAirMgmt folder at

O:\NFS\IdahoPanhandle\Program\2500WatershedAirMgmt\Watershed\Water_Quality\BMPs\Reviews.

e) Spatial Unit: Project level and forestwide.

f) Frequency of Measurement: Annually.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: Record the number of reviews conducted each year and the number of BMPs that failed to be implemented incorrectly, or were not effective. Convert those to a fraction of the number applied for a given sample (reporting format is provided below in table 2 and 3). Document specific BMPs, that were not implemented correctly or were not effective, in order to evaluate the need to change or adapt those practices.

i) Who (Cooperators): Cooperators and other stakeholders are welcome to assist or observe reviews, although none have been specifically identified here.

j) Cost: Using an average cost to government of $343/day for a GS-11 employee and $405/day for a GS-12 employee. Given approximately 5 GS-11 employees/district/review for 1 day each (~$5,000) and one day of a GS-12 (program manager) to compile data for report (~$400), the cost is estimated at ~$5,500/year.

k) References:

Ice, G. (2013). Protecting Forest Water Quality: Progress and management implications. Watersheds Research Cooperative Policy Workshop. Salem, OR. November 13, 2013.

Ice, G. (2014). The effectiveness of forestry Best Management Practices. 24th Annual Water Quality Workshop: Monitoring, Assessment, and Management. Boise, ID. February 6, 2014.

Seyedbagheri, K. A. (1996). Idaho forestry best management practices: Compilation of research on their effectiveness. General Technical Report INT-GTR-339. USDA Forest Service, Intermountain Research Station, Ogden, Utah.

6) Responsibility: Forest watershed and fisheries program manager.

7) Authority: Reviews themselves are not required, but BMPs are necessary to meet the intent of the Clean Water Act and Idaho Water Quality Law (Idaho Code §39-3601) in regards to protecting beneficial uses from non-point sources of pollution. These reviews will also show compliance with project design features to minimize or eliminate the potential for non-point source pollutants to reach aquatic ecosystems.

8) Monitoring Priority: Priority B - required by Forest Plan, but not required by law.

9) Frequency of Evaluation Report: Three reviews are expected to be completed each year and reported at the frequency of the Evaluation Report (biennially).

10) How Evaluated: It is anticipated that projects will be implemented correctly and effective greater than 95 percent of the time (5 percent not effective) and results will validate or invalidate that assumption. It is also assumed that at >95 percent success, the Forest will trend soil and aquatic resources towards the desired conditions and objectives outlined in the Forest Plan. Use the tables below to record analysis.

Table 6. Implementation of BMPs and their Effectiveness

Calendar Year	# of Reviews	Number of BMPs that were not Implemented Correctly (as a fraction of # applied)	Number of BMPs that were not Effective (as a fraction of # applied)

Table 7. BMP Reviews that were not Implemented Correctly or not Effective, Why, and Recommended Corrective Action

Calendar Year	Running List of BMPs that were not Implemented or Effective	Why did BMP fail; Implementation or Effectiveness?	Recommended Corrective Action

11) Author: Dan Scaife

MON-WTR-02

1) Monitoring Question (MON-WTR-02): To what extent are management activities moving watersheds towards desired conditions?

2) Forest Plan References:

- **FW-DC-WTR-01**
- **FW-DC- WTR-02**
- **FW-DC-WTR-03**
- **FW-DC-WTR-04**
- **FW-OBJ-WTR-01**
- **FW-OBJ-WTR-02**
- **FW-STD-WTR-01**
- **FW-GDL-WTR-01**

3) Performance Indicator(s):

- **MON-WTR-02-01**: Acres or miles of restoration activities accomplished, by subwatershed;
- **MON-WTR-02-02:** Acres or miles of restoration activities accomplished by subwatershed in 4a impaired waterbodies; and
- **MON-WTR-02-03**: Percent of subwatersheds trended towards an improved condition.

4) Forest Plan Rationale and Explanation: The Forest Plan has a strong emphasis in watershed restoration and tracking the amount of restoration activities will show the agencies intent and accountability to improve overall watershed condition across the entire planning area.

The Forest Plan has a strong emphasis in watershed restoration and tracking the amount of restoration activities will show the agencies intent and accountability to improve overall watershed conditions in impaired waters identified by the state.

The Forest Plan has a strong emphasis in watershed restoration and tracking the relative amount of change across the landscape will be an indicator of the movement towards desired conditions.

5) Performance Indicator 1: Acres or miles of restoration activities accomplished, by subwatershed.

a) Description: Primary restoration activities include stream channel or riparian habitat restoration, road decommissioning, and upland restoration. This measure will identify all watershed restoration activities (either acres or miles) accomplished in all subwatersheds.

b) Unit of Measure: Miles of stream channel restored or enhanced, acres of watershed improved, and miles of road decommissioned.

c) Standards/Steps for Data Collection: Sum all mile and acres restored each year from the appropriate database of record.

Stream Miles (Restored) (Accomplishment reporting protocols were developed by specialists from the entire IPNFs Forest Aquatics program during the winter of 2012/2013):

- If removing a complete barrier include all stream miles accessible;
- If barrier is only a partial barrier or hydrologically inadequate then count 1 half mile/site;
- Stream restoration, project length to the nearest ½ mile;
- If restoration includes in-channel work and riparian planting, only count project length to the nearest half mile (i.e., do not double count);
- If restoration includes riparian planting only, count project length to the nearest half mile; and
- If conducting road maintenance, such as gravelling or other actions that are intended to reduce sediment, count stream miles, based on road mileage treated to the nearest half mile. Do not count blading.

Watershed Acres [Restored]:

- When removing a culvert, or replacing a culvert or other stream crossing, count 1 acre/site. Ditch relief culverts are not counted;
- If decommissioning a road within an RHCA, then multiply road length by 40*;
- If riparian planting, riparian thinning, or other riparian enhancement, multiply linear distance treated by 40* if treating both sides of a riparian buffer, the multiply both linear distances by 40 and add together;
- If decommissioning upland roads or skid trails, then multiply road length by 5**; and
- If roads are closed by default, (i.e., brushed in and deemed closed from a NEPA decision) use the same factors as above.

- * Riparian improvements or riparian road decommissioning. Riparian acres are counted as a function of the road length, using maximum INFISH buffer width of 300 feet, regardless of fish bearing or not, to provide more consistency in target reporting and add less complexity. Conversion factor - road miles decommissioned in riparian x 40 (300ft x 5,280ft/mile = 1,584,000ft2/mile ÷ 43,560 ft2/acre = 36.3 (~ 40 acres/mile).

** Upland road decommissioning. Conversion factor – road miles decommissioned x 5 15ft average road width (includes cuts and fills).

d) Data Storage: Data is stored in the agencies target accomplishment database(s) of record; currently WorkPlan, WFRP, WIT, or INFRA.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: Annually.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: No specific technical analysis is conducted, other than a running total of all miles and acres restored (reporting format is provided below).

i) Who (Cooperators): None.

j) Cost: Estimated using an average cost to government for a GS-12 employee ($405) for 1 day to compile information from target accomplishment databases.

k) References: None.

5) Performance Indicator 2: Acres or miles of restoration activities accomplished by subwatershed in 4a impaired waterbodies.

a) Description: This measure will identify all watershed restoration activities (either acres or miles) accomplished in subwatersheds identified on the 4a impaired waterbodies for Idaho and may include activities described in Performance Indicator 1.

b) Unit of Measure: Miles of stream channel restored or enhanced, acres of watershed improved, and miles of road decommissioned.

c) Standards/Steps for Data Collection: Sum all mile and acres restored each year in each subwatershed with water quality limited stream segments. This will be a subset of MON-WTR-02-01. See MON-WTR-02-01 for a description of how to account for values reported.

d) Data Storage: Data is stored in the agencies target accomplishment database(s) of record; currently WorkPlan, WFRP, or INFRA.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: Annually.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: No specific analysis is conducted, other than a running total of all miles and acres restored as a subset of MON-WTR-02-01 values.

i) Who (Cooperators): None.

j) Cost: Estimated using an average cost to government for a GS-12 employee ($405) for 1 day to compile information from target accomplishment databases and identify which are within impaired waterbodies.

k) References:
State of .Idaho, Department of Environmental Quality, and Integrated Report.

5) Performance Indictor 3: Percent of subwatersheds trended towards an improved condition.

a) Description: This is an evaluation of the Watershed Characterization Spreadsheet and Salmonid Assessment Spreadsheet used in the EIS for Forest Plan revision and is anticipated to show overall improvement to the physical environment and native salmonids across the planning area.

b) Unit of Measure: Percent of subwatersheds across the planning area that have moved towards an improved physical and biological condition.

c) Standards/Steps for Data Collection: Rerun the metrics in the watershed characterization spreadsheet V2.5 (February 2011) and update population information codes in the Salmonid Assessment Spreadsheet V7.0 (January 2013).

d) Data Storage: Data is stored in the spreadsheets noted above.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: Every 5 years.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: Supporting documentation can be found in appendix D of the Forest Plan.

i) Who (Cooperators): May need to coordinate with Idaho Department of Fish and Game to evaluate status codes in the Salmonid Assessment Spreadsheet.

j) Cost: Estimated using an average cost to government of $405/day for a GS-12 employee for 5 days ($2,025 total cost), in order to compile information from Forest GIS data and update salmonid population information.

k) References: None.

6) Responsibility: Forest watershed and fisheries program manager.

7) Authority: There are no legal requirements to record these values, although there are agency requirements to be accountable for assigned targets.

8) Monitoring Priority: Priority B - required by Forest Plan, but not required by law.

9) Frequency of Evaluation Report: Data is summarized for each fiscal year and reported at the frequency of the Evaluation Report (biennially).

10) How Evaluated:

Performance Indicator 1: Evaluation report should include an interpretation of trend towards meeting Forest Plan desired conditions and objectives in narrative format based on information provided in Table 8.

Table 8. Watershed Restoration for All Watersheds

Fiscal Year	Miles of Stream Restored or Enhanced	Miles of Road Decommissioned	Acres of Watershed Improved

Performance Indicator 2: Include an interpretation of trend towards meeting Forest Plan desired conditions and objectives in narrative format as it relates to values documented in Table 9.

Table 9. Watershed Improvement for all Watersheds

Fiscal Year	Miles of Stream Restored or Enhanced	Miles of Road Decommissioned	Acres of Watershed Improved

Performance Indicator 3: Include an interpretation of trend towards meeting Forest Plan desired conditions and objectives in narrative format as it relates to values presented in Table 10 and Table 11.

Table 10. Watershed Condition Characterization

Watershed Characterization Spreadsheet Version	Year	# of Subwatersheds Rated as Low	# of Subwatersheds Rated as Moderate	# of Subwatersheds Rated as High
V2.5 (Feb 2011)	2014	48	58	40

Watershed Characterization Spreadsheet Version	Year	# of Subwatersheds Rated as Low	# of Subwatersheds Rated as Moderate	# of Subwatersheds Rated as High

Table 11. Watershed Management

Salmonid Assessment Spreadsheet Version	Year	# of Conservation Subwatersheds	# of Active Restoration Subwatersheds	# of Passive Restoration Subwatersheds
V7.0 (Jan 2013)	2014	48	56	40

11) Author: Dan Scaife.

Resource: Aquatic Habitat

MON-AQH-01

1) Monitoring Question (MON-AQH-01): To what extent is the Forest meeting Forest Plan objectives and trending towards desired condition to reconnect fragmented stream habitat to increase population resilience to disturbance including climate change?

2) Forest Plan References:

- **FW-DC-AQH-02**
- **FW-DC-AQS-01**
- **FW-DC-AQS-04**
- **FW-DC-AQS-05**
- **FW-OBJ-AQH-03**

3) Performance Indicator(s):

- **MON-AQH-01-01:** Miles of reconnected stream habitat

4) Forest Plan Rationale and Explanation: Miles of reconnected habitat will provide inferences on meeting desired conditions and objectives for providing access for all life histories of aquatic species. In anticipation of given climate change scenarios, providing access to as much available habitat as possible is expected to provide refugia for cold water aquatic species. In anticipation of given climate change scenarios, providing access to as much available habitat as possible is expected to provide refugia for cold water aquatic species.

5) Performance Indicator 1: Miles of reconnected stream habitat.

a) Description: Habitat is reconnected through the improvement or replacement of existing in-stream structures (e.g., culverts, bridges, etc…) that impede the movement of aquatic dependent organisms.

b) Unit of Measure: Miles.

c) Standards/Steps for Data Collection: Record miles of reconnected habitats and number of structures removed, replaced, or enhanced.

d) Data Storage: Data will typically be recorded in WorkPlan or the Wildlife, Fish, and Rare Plants (WFRP) database.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: Annually.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: Compare the miles of reconnected habitat to the objective FW-OBJ-AQH-01.

i) Who (Cooperators): None.

j) Cost: Estimated using an average cost to government of a GS-12 employee ($405) for one day to review and report WorkPlan or WFRP data.

k) References:
http://www.fs.fed.us/restoration/Aquatic_Organism_Passage/index.shtml.

6) Authority: There are no legal requirements to record this data.

7) Monitoring Priority: Priority B - required by Forest Plan, but not required by law.

8) Frequency of Evaluation Report: Biennially.

9) Responsibility: Forest watershed and fisheries program manager.

10) How Evaluated: Provide an analysis of trend towards meeting that objective of 30 to 55 miles of reconnected habitats over the life of the Forest Plan using information in the following table to evaluate if objective is being achieved, or if adjustments to management are needed.

Table 12. Miles of Reconnected Stream Habitat by Fiscal Year

Fiscal Year	Number of Structures Removed, Replaced, or Enhanced	Miles of Reconnected Stream Habitat

11) Author: Dan Scaife.

Resource: Soils

MON-SOIL-01

1) Monitoring Question (MON-SOIL-01): To what extent has coarse woody debris (CWD) been retained for long-term soil productivity and other ecosystem functions?

2) Forest Plan References:

- **FW-DC-SOIL-01**
- **FW-DC-SOIL-03**
- **FW-DC-SOIL-04**
- **FW-GDL-SOIL-02**
- **FW-GDL-SOIL-03**
- **FW-DC-VEG-08**

3) Performance Indicator(s):

- **MON-SOIL-01-01:** Number of harvest units surveyed and percent meeting coarse woody debris criteria, post-harvest

4) Forest Plan Rationale and Explanation: Coarse woody debris is an appropriate performance indicator because research has shown that sufficient amounts of it contribute important functions to soil productivity. These include the enhancement of nutrient cycling, maintaining carbon storage, and supporting soil microbial communities and biochemical processes.

5) Performance Indicator 1: Number of harvest units surveyed and percent meeting coarse woody debris criteria, post-harvest.

a) Description: Coarse woody debris is considered to be downed woody material that is greater than or equal to 3 inches in diameter.

b) Unit of Measure: Unit of measure will be given in tons/acre and compared to a range to determine if the level meets recommendations.

c) Standards/Steps for Data Collection: A modified version of Handbook for Inventorying Downed Woody Material (GTR-INT-16) will be used. The modification will focus on material 3 inches or greater only.

d) Data Storage: Reviews will be stored within the Forest's 2550SoilMgmt folder.

e) Spatial Unit: The area monitored will be the activity unit.

f) Frequency of Measurement: Monitoring will not occur until at least 2 years have elapsed from the completion of management activities.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: Record the average number in tons/acre for each unit monitored. Record whether or not the unit average is within the recommended range, above the range, or below the range.

i) Who (Cooperators): Soil technician and/or trained seasonal employees, and other trained Forest Service personnel might also assist the Forest Soil Scientist in data collection.

j) Cost: For purposes of this effort, estimated using an average cost to government of a GS-11 employee ($343) for 2 days on each Zone, for a total of ~$5,000/year. Cost may be extremely variable in a given year and dependent upon how many personnel are available.

k) References:
Handbook for Inventorying Downed Woody Material (GTR-INT-16) USFS (1974).

Graham, R.T., Harvey, A.E., Jurgenson, M.F., Jain, T.B. Tonn, J.R., and Page-Dumroese, D.S. (1994). Managing coarse woody debris in forests of the Rocky Mountains. USDA Forest Service Intermountain Research Station. Research paper INT-RP-477.

6) Responsibility: Forest soil scientist.

7) Authority: The monitoring requirement for the performance measure is found in the Forest Plan.

8) Monitoring Priority: Priority B - required by Forest Plan, but not required by law.

9) Frequency of Evaluation Report: Data will be collected annually and reported biennially.

10) How Evaluated: Review the trends of units meeting coarse woody debris requirements. Record the average number in tons/acre for each unit monitored. Record whether or not the unit average is within the recommended range, above the range, or below the range. Express this as a percentage of units that meet the recommendations, using the table below. By meeting the Plan direction for coarse woody debris, the activity units are trending positively toward the desired condition where soil organic matter and down woody debris support healthy mycorrhizal populations, prevent erosion, and soil productivity and hydrologic function are protected and enhanced. Tracking these may aid in identification of those practices that may need modification to improve coarse woody debris levels in activity units. Describe the trend and whether there is movement towards, away from, or neutral to the forest plan desired condition.

Table 13. Number of Units Monitored and Percent Meeting Coarse Woody Debris Criteria

Fiscal Year	Number of Units Monitored	Number of Units Meeting Recommendations	Percentage of Units Meeting Recommendations

11) Author: Chandra Neils.

MON-SOIL-02

1) Monitoring Question (MON-SOIL-02): To what extent have design features prevented irreversible damage to soil conditions?

2) Forest Plan References:

- **FW-DC-SOIL-02**
- **FW-DC-SOIL-03**
- **FW-DC-SOIL-04**
- **FW-DC-SOIL-05**
- **FW-GDL-SOIL-01**
- **FW-GDL-SOIL-04**

3) Performance Indicator(s):

- **MON-SOIL-02-01:** Number of harvest units surveyed and percent that meet the Regional Soil Quality Standard, post-harvest (FSM, R1 Supplement No. 2500-99-1)

4) Forest Plan Rationale and Explanation: Detrimental soil disturbance is an appropriate performance measure because research has established a link between it and declining productivity when the threshold is exceeded. Minimizing soil disturbance is important for soil productivity because soil that remains in place retains ecosystem functions important for nutrient cycling, maintaining carbon storage, and supporting soil microbial communities and biochemical processes.

5) Performance Indicator 1: Number of harvest units surveyed and percent that meet the Regional Soil Quality Standard, post-harvest (FSM, R1 Supplement No. 2500-99-1).

a) Description: Units will be surveyed post activity to determine if they meet Regional Soil Quality Standard for detrimental soil disturbance. Planned design features for each unit will be recorded, along with any effectiveness information. A percentage of units that met the standard will be reported.

b) Unit of Measure: Detrimental Soil Disturbance will be measured as a percent of the unit.

c) Standards/Steps for Data Collection: The steps to monitoring for detrimental soil disturbance are clearly defined as part of the Regional Soil Quality Standard and in GTR-WO-82a and GTR-WO-82b, and will be followed for this application.

d) Data Storage: Reviews will be stored within the Forest's 2550SoilMgmt folder.

e) Spatial Unit: The spatial unit will be the activity unit. There will be several each year from all zones.

f) Frequency of Measurement: Units will be randomly chosen for monitoring and a different set will be chosen each year. The exception would be those units that the Forest Service agreed to monitor as part of NEPA. In that case, the monitoring will occur as planned in NEPA.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: The recommended approach for analysis is contained in GTR-WO-82b and will be used in this application. Calculate the percentage of timber sale units evaluated that meet the Regional Soil Quality Standard.

i) Who (Cooperators): Soil technician and/or trained seasonal employees, and other trained Forest Service personnel might also assist the Forest Soil Scientist in data collection.

j) Cost: For purposes of this effort, Estimated using an average cost to government of a GS-11 employee ($343) for 5 days on each Zone, for a total of ~$5,000/year.

k) References:
Forest Service Manual (FSM), R1 Supplement No. 2500-99-1.

6) Responsibility: Forest soil scientist.

7) Authority: The monitoring requirement for the performance measure is found in the Forest Plan.

8) Monitoring Priority: Priority B - required by Forest Plan, but not required by law.

9) Frequency of Evaluation Report: Randomly selected units are expected to be monitored each year and reported in the Evaluation Report (biannually).

10) How Evaluated: Review the trend of the percentage of units meeting regional soil quality standards. Calculate the percentage of units meeting R1 soil quality standards. By meeting the criteria, the activity units contribute to the desired conditions where soil impacts are minimized; soil productivity and hydrologic function are protected and enhanced. Tracking these will aid in identification of those practices that are consistently implemented with high success and those that may need modification to improve their effectiveness. Describe the trend and whether there is movement towards, away from, or neutral to the forest plan desired condition. Fill in the following table to describe trends.

Table 14. Number of Units Monitored and Percent that Meet the Regional Soil Quality Standard

Fiscal Year	Number of Units Monitored	Number of Units that Met R1 Soil Quality Standards	Percentage of Units that Met R1 Soil Quality Standards

11) Author: Chandra Neils.

Resource: Federally Listed Species

MON-FLS-01-01

1) Monitoring Question (MON-FLS-01): (Grizzly Bear) To what extent is forest management contributing to the conservation of federally listed species and moving toward habitat objectives?

2) Forest Plan References:

- **FW-DC-WL-03**
- **FW-DC-WL-05**
- **FW-STD-WL-02**
- **FW-STD-WL-03**

3) Performance Indicator(s):

- **MON-FLS-01-01: (**Grizzly Bear) Progress towards achieving and maintaining standards for percent core area, OMRD, and TMRD within the Recovery Zones (see monitoring requirements for the Grizzly Bear Access Amendment in appendix B of the Forest Plan)

4) Forest Plan Rationale and Explanation: In its biological opinion (2011) to the Grizzly Bear Access Amendment and the revised Plan (2013) the USFWS identified terms and conditions that the Forest must comply with in order for the take exemption in the Incidental Take Statement to be valid. These terms and conditions are considered non-discretionary. Contributing toward recovery of grizzly bears in both the Selkirk and Cabinet/Yaak and Northern Continental Divide recovery zones is incorporated into the desired condition of the Plan.

5) Performance Indicator 1: (Grizzly Bear) Progress towards achieving and maintaining standards for percent core area, OMRD, and TMRD within the Recovery Zones (see monitoring requirements for the Grizzly Bear Access Amendment in appendix B).

a) Description: For each BMU for that portion of the Selkirk (SE) and Cabinet Yaak (CYE) recovery zones on the Forest:

- Core – Acres of core habitat expressed as a percentage of the total BMU;
- Total Motorized Route Density (TMRD) and Open Motorized Route Density (OMRD) – Miles of total and open motorized routes within a density category (2.0 and 1.0 miles per square mile respectively) expressed as a percentage of the total BMU; and
- Ongoing list detailing the locations, dates, duration, and circumstances for invoking the Grizzly Bear Access Amendment allowance for entering core area for the purposes of road decommissioning or stabilizations; and
- To ensure the effective implementation of the open road density parameter, at least 30 percent of closure devices (gates and barriers) would be monitored annually within the Selkirk and Cabinet-Yaak Recovery Zones as per Design Element III in the Access Amendment.

For the Bears Outside of the Recovery Zone (BORZ) polygons:

- Linear miles of total and open roads in BORZ polygons

The current status of each of these criteria is compared to the levels established in the 2011 Grizzly Bear Access Amendment, or for the case of BORZ, the updated baseline conditions.

Definitions:

Core – An area of secure habitat within a BMU that contains no motorized travel routes or high use non-motorized trails during the non-denning season and is more than 500 meters from a drivable road. Core areas do not include any gated roads but may contain roads that are impassable due to vegetation or constructed barriers. Core areas strive to contain the full range of seasonal habitats that are available in the BMU.

TMRD (Total Motorized Route Density) **–** Calculations made with the moving windows technique that includes open roads, restricted roads, roads not meeting all reclaimed criteria, open motorized trails, and railroads. The percent of the analysis area in relevant route density classes is calculated.

OMRD (**O**pen Motorized Route Density) **–** Calculations made with the moving windows technique that includes open roads, other roads not meeting all restricted or obliterated criteria, open motorized trails, and railroads. The percent of the analysis area in relevant route density classes are calculated.

Administrative Use – Motorized vehicle use by personnel of resource management agencies on restricted roads (i.e., not open to the public) outside of core areas. This includes contractors and permittees in addition to agency employees. Administrative use is tracked in order to determine OMRD.

In the Selkirk ecosystem, if administrative use exceeds certain levels (57 trips during the entire Bear Year, 19 trips in the spring, 23 trips in the summer, or 15 trips in the fall), then the road is considered open for that Bear Year.

- Active bear year (non-denning season) – April 1 to November 15;
- Spring – April 1 to June 15;
- Summer – June 16 to September 15; and
- Fall – September 16 to November 15.

In the Cabinet-Yaak ecosystem, if administrative use exceeds certain levels (60 trips during the entire Bear Year, 18 trips in the spring, 23 trips in the summer, or 19 trips in the fall) then the road is considered open for that Bear Year.

- Active bear year (non-denning season) – April 1 to November 30;
- Spring – April 1 to June 15;
- Summer – June 16 to September 15; and
- Fall – September 16 to November 30.

Interagency Grizzly Bear Committee (IGBC) road and trail definitions/codes:

1. Impassable Roads: Road that is not reasonably or prudently passable by conventional 4-wheel passenger, all-terrain vehicles, or motorcycles.
2. Restricted Roads: Road that is legally restricted with barriers, typically with gates. Administrative motorized use may occur on these roads.

3. Barriered Roads: Road that is legally restricted with barriers, typically berms or rocks. No administrative use permitted.
4. Open Roads: Road open to motorized use during any portion of the active bear season.
5. Open Motorized Trails: Trails that are passable by motorcycle or all-terrain vehicles and are not legally restricted.
6. Open Non-motorized Trails: Trails that are not reasonably or prudently passable by motorcycles or all-terrain vehicles and are not legally restricted.
7. Restricted Trails: Trails that are legally restricted and are passable by motorcycles or all-terrain vehicles.
8. High use non-motorized trails: Trails that receive an average of 20 or more parties per week of non-motorized use.
9. Railroads

b) Unit of Measure: Varies (see 'Performance Indicator Description' above).

c) Standards/Steps for Data Collection: Each district is responsible for tracking administrative use/closure devise and updating individual BMU GIS layers with road status changes (i.e., IGBC codes). The tracking of admin use is done at the district level and data entered into spreadsheets at O:\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\NZ\access_mgmt\(sandpoint/bonners/priest_lake)\. The updated data would be used to create a current Bear Year roads layer in order to calculate core, TMRD, and OMRD within the BMUs. Linear miles of total and open roads within the BORZ would also be calculated. Each district is responsible for tracking when core areas are entered for the purposes of road decommissioning or stabilizations and reporting the dates/locations to the SO.

d) Data Storage: Hard copies of administrative use records and closure device monitoring would be kept at the districts and data entered electronically at O:\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\NZ\access_mgmt\(sandpoint/bonners/priest_lake)\. Changes to IGBC codes or other road updates would be tracked in GIS layers. Completed core, TMRD, OMRD, and BORZ outputs (GIS layers) would be kept in the GIS library in the appropriate BMU and Bear Year folder at T:\FS\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\GIS\SO\access_mgmt\.

e) Spatial Unit: BMU or BORZ polygon.

f) Frequency of Measurement: Biennially for Forest Plan monitoring and annual reports to USFWS as per the BO for the Grizzly Bear Access Amendment (2011).

g) Precision/Reliability: Class A.

h) Analysis Methods: Within each BMU directory, create a new folder (workspace) for that year. From Citrix, open an ArcInfo workstation window and navigate to that directory. Copy the existing BMU roads coverage (buffered by 900 m) into the directory, and adjust IGBC codes as needed to reflect changes from the previous year (this is most easily done in the table from ArcMap). Using the "reselect" command from the workstation window, create two roads layers to be used in the analysis. First, reselect for IGBC code 2, 4, 5, and 10 routes and save as a separate coverage to be used for the TMRD and Core calculations.

Next, reselect for IGBC code 4, 5, and 10 routes and save as a separate coverage to be used for the OMRD calculations. Due to the buffering of routes involved in core calculations, and the size of the "window" used in the OMRD and TMRD calculations, routes outside but adjacent to individual BMUs influence the results of the calculations (so BMUs are buffered by 900 m). Routes for adjacent jurisdictions (e.g., KNF and CNF) should be included as well. Only those routes on adjacent jurisdictions that would be included in the analysis area of the Core, TMRD, and OMRD calculations would need to be included. If no changes from the previous year for those other ownerships, use the previous year's version for the current Bear Year.

In both road coverages create a field called "code" and fill all with a 1 (this will be the Item_name in the "linegrid" command below).

Core would be calculated by buffering all the open motorized routes, gated roads and railroads (same layer to be used for TMRD using IGBC code 2, 4, 5, and 10 routes) by 0.31 mi (500 m). A percentage of each BMU in core would be calculated.

OMRD and TMRD would use a "moving windows" analysis to calculate road densities. The analysis area is broken into pixels (grid cells), for which a road density for a set "window" around that pixel is calculated.

The IPNF moving windows model uses a 30 m grid cell size. The window is circular and uses a 30-cell (900 m) radius (0.56 mi).

Note that these files need to be coverages in ArcInfo Workspaces created in ArcCatalog (instead of just folders). You cannot use shapefiles.

TMRD would use the same set of routes as the core calculations (IGBC code 2, 4, 5, and 10 routes) and use a moving windows method to calculate the amount of each BMU in road density categories (0 mi/mi^2, 0.1-0.9 mi/mi^2, 1-1.9 mi/mi^2, ≥2.0 mi/mi^2). A percentage of each BMU with ≥2 mi/mi^2 would be calculated.

To run moving windows, follow these steps. From the ArcInfo workstation:

Step 1 - convert data from vector to raster (use reselected roads coverage)
arc >: *linegrid filename filenameg Item_name*
arc >: *Cell size 30, zero*
asks - convert entire coverage: *y*
the zero fills null cells

arc: *grid*

step 2 - roving windows raw data
grid: *filenamerw = focalsum (filenameg,circle,30,data)*

step 3 - data sliced into categories created in the density lookup table
grid: *filenames = slice (filenamerw,table,density.rmp)*
the density.rmp should be filed in the same directory you are working in or include the path in the command

grid: *quit*

step 4 - sliced and vectorized rw data – **convert to poly**
arc: *gridpoly filenames filenamep*

step 5 - data clipped to BMU boundary (boundary file found in main BMU directory)
arc: *identity bmubdry filenamep filenamec poly*
the boundary file should be filed in the same directory you are working in or include the path in the command

***cleanup = can/should delete all intermediate files when done (keep *filenamec*)**
[use "kill *filename* all"]

Density lookup table* (density.rmp):

1	0	mapped as 0 mi / sq mi
2	1 66	mapped as >0-1 mi / sq mi
3	67 133	mapped as >1-2 mi /sq mi
4	134 9999	mapped as >2 mi / sq mi

*this table factors in the 0.805 raster-to-vector conversion overestimation reported in Wakkinen and Kasworm (1997)

Road density is reported as follows:
Open Road = % of BMU >1 mi/sq mi (i.e., gridcodes 3 &4)
Total Road = % of BMU >2 mi/sqmi (i.e., gridcode 4)

Type a small case letter q to exit the arc window.

OMRD would be calculated using a moving windows method as well, with the calculations based on those routes that are open to public motorized use or exceeded administrative use levels for the current Bear Year. The percentage of each BMU with ≥ 1 mi/mi^2 would be calculated.

Run OMRD in the same manner as TMRD but using the open roads coverage (i.e., IGBC code routes 4, 5, and 10).

Linear miles of total and open routes would be calculated for each BORZ polygon by simply tallying in GIS how many miles of routes on NFS lands were within the BORZ in that Bear Year. BORZ road coverages can be found in T:\FS\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\GIS\SO\access_mgmt\outside\

Calculate the percentages of each BMU in core, grid codes 3 + 4 (OMRD) and grid code 4 (TMRD), out to 2 decimal places. Use these numbers to populate the spreadsheet at O:\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\2670WildlifeTES\TES_species\grizzly bear\igbc\access_mgmt\documents\Griz_BMU_summary_2decimals.xls. (create a new worksheet in the spreadsheet for that year as needed)

Document the locations of coverages (roads, core, TMRD and OMRD) created for each Bear Year in O:\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\2670WildlifeTES\TES_species\grizzl

y bear\igbc\access_mgmt\documents\Griz_BMU_Coverages.xls. (create a new worksheet in the spreadsheet for that year as needed)

To track IGBC route code changes by BMU from year to year, summarize the changes for each BMU and create an MS Word document (bmu_chng[*year*].doc). File in O:\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\2670WildlifeTES\TES_species\grizzly bear\igbc\access_mgmt\documents\

The percentages for core, TMRD, OMRD, and miles of total and open roads in the BORZ would be compared to the levels set in the Grizzly Bear Access Amendment, or the updated baseline in the case of BORZ.

The districts would be asked to report the instances for entering core blocks for road stabilization/watershed work. Districts would also report the total number of closure devices monitored annually as per Design Element III in the Access Amendment. Closure monitoring data can be found in spreadsheets in O:\NFS\IdahoPanhandle\Program\2600WildlifeMgmt\NZ\access_mgmt\(sandpoint/bonners/priest_lake)\

Use the previous year's monitoring report as a template to complete the current Bear Year's report to send to USFWS. Coordinate with the Lolo, Colville, and Kootenai National Forests to submit a comprehensive report for the Cabinet-Yaak and Selkirk ecosystems.

i) Who (Cooperators): The Forest (districts and supervisor's office).

j) Cost: Costs for this indicator include gathering and compiling information on each of the parameters identified and running the appropriate analyses. Costs to update INFRA and review model outputs at the districts:

- District GIS specialist and/or transportation planner GS-7 @ $250/day for 3 days = $750 for 4 units (districts) = $3,000.
- District wildlife biologist GS-9 @ $300/day for 5 days = $1,500 for 4 units (districts) = $6,000.
- Cost to run the models and compile the report:
- SO or district GIS specialist GS-9 @ $300/day for 5 days = $1,500.
- GS-12 Fish and Wildlife Program Manager @ $400/day for 5 days = $2,000.
- Total costs = $12,500.

k) References:

Wakkinen, W. L. and W. F. Kasworm. 1997. Grizzly Bear and Road Density Relationships in the Selkirk and Cabinet-Yaak Recovery Zones. Idaho Department of Fish and Game and U.S. Fish and Wildlife Service. 28 pp.

USDI Fish and Wildlife Service. (2013). Endangered Species Act Section 7 Consultation Biological Opinion on the Revised Forest Plan for the Idaho Panhandle National Forest. USFWS Montana Field Office and North Idaho Field Office. August 28, 2013. 411 pp.

USDI Fish and Wildlife Service. (2011). Endangered Species Act Section 7 Consultation Biological Opinion on the Forest Plan Amendments for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones on the Kootenai, Idaho

Panhandle, and Lolo National Forests. USFWS Montana Field Office and North Idaho Field Office. October 18, 2011. 227 pp.

6) Responsibility: Forest Fish/Wildlife Program Manager, district wildlife biologists, with help from district/SO GIS specialists and transportation planners/engineers.

7) Authority: Terms and Conditions in the BOs for the Grizzly Bear Access Amendment (2011) and the revised Forest Plan (2013).

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Annual.

10) How Evaluated: The results from the monitoring calculations for core, OMRD, and TMRD within the recovery zones by BMU, and linear miles of open and total roads in each BORZ will be compared against the standards set forth in the Forest Plan and Access Amendment. To document the extent to which forest management is contributing to the conservation of grizzly bear, describe the progress towards the milestones identified in the Access Amendment (pages 66-68 in the Access Amendment ROD) for bringing all BMUs into compliance by the year 2019.

To facilitate the evaluation, fill in the following tables where there is XX with the current year's information.

Table 15. Cabinet-Yaak Bear Management Unit Summary for the 20XX Bear Year - [April 1 through November 30 (Cabinet-Yaak)]. Values in blue parentheses reflect standards set in place in November 2011 for the Cabinet-Yaak (USDA Forest Service 2011)

Bear Management Unit	Open Roads >1 mi/mi² %	Total Roads >2 mi/mi² %	% Core
Cabinet-Yaak			
18 (Boulder)	XX (33)	XX (29)	XX (55)
19 (Grouse)	XX (59)	XX (55)	XX (37)
20 (North Lightning)	XX (35)	XX (20)	XX (61)
21 (Scotchman)	XX (34)	XX (26)	XX (62)
Selkirk Recovery Zone			
Blue Grass	XX (33)	XX (26)	XX (55)
Long-Smith	XX (25)	XX (15)	XX (67)
Kalispell-Granite	XX (33)	XX (26)	XX (55)
Salmo-Priest	XX (33)	XX (26)	XX (64)
Sullivan-Hughes	XX (24)	XX (19)	XX (61)
Myrtle	XX (33)	XX (24)	XX (56)
Ball-Trout	XX (20)	XX (13)	XX (69)
Lakeshore	XX (82)	XX (56)	XX (20)

Table 16. Bear Year 20XX motorized access conditions for Bears Outside of Recovery Zone (BORZ) areas situated on the Idaho Panhandle National Forest

BORZ Name	Grizzly Bear Ecosystem	Total Roads on NFS Lands (Linear Miles) 20XX/(baseline)	Open Roads on NFS Lands (Linear Miles) 20XX/(baseline)
Priest Lake	Selkirk	XX (316.4)	XX (314.4)
Pack River	Selkirk	XX (41.9)	XX (37.9)
Mission-Moyie	Cabinet-Yaak	XX (200.3)	XX (167.3)

Table 17. Summary of restricted and closed route monitoring within the Selkirk and Cabinet-Yaak Recovery Zones located on the Idaho Panhandle National Forest, 20XX. Data on file at the district offices

Closure Type	Number of Devices	Number of Closures Monitored in Bear Year 20XX	Percent monitored for Bear Year 20XX
Gate/Barrier	XX	XX	XX

Table 18. List of ongoing locations, dates, duration, and circumstances for invoking the allowance for entering core area for the purposes of road decommissioning or stabilizations in the IPNF portion of the Selkirk and Cabinet-Yaak Recovery Zones

BMU	Location	Date	Duration	Circumstances

11) Author: Jeremy Anderson.

MON-FLS-01-02

1) Monitoring Question (MON-FLS-01): (Canada lynx) To what extent is forest management contributing to the conservation of federally listed species and moving toward habitat objectives?

2) Forest Plan References:

- **FW-DC-WL-03**
- **FW-STD-WL-01**
- **FW-DC-VEG-01**
- **FW-DC-VEG-02**
- **FW-DC-VEG-05**
- **FW-DC-VEG-08**
- **FW-DC-VEG-11**
- **FW-OBJ-VEG-01**
- **FW-GDL-VEG-03**
- **FW-DC-FIRE-03**

3) Performance Indicator(s): MON-FLS-01-02: (Canada lynx) Changes in lynx habitat as a result of moving towards the desired conditions for vegetation through vegetation management, prescribed fire, or natural disturbance (see monitoring requirements for the NRLMD in appendix B of the Forest Plan). Components of this indicator:

- Changes in lynx habitat as a result of forests being regenerated (i.e., status of LAUs with regard to VEG S1 and VEG S2 from the NRLMD); and
- Snow compacting activities in lynx habitat.

Note: There are also project level reporting requirements from the NRLMD (page 9 in Attachment 1 of the NRLMD ROD) and associated BO (pages 82-83 in USFWS 2007) that would continue to be tracked but are not part of this Forest Plan level monitoring report.

4) Forest Plan Rationale and Explanation: The Plan identifies that direction in the Northern Rockies Lynx Amendment (NRLMD) will be used in the management of lynx and lynx habitat on the Forest (FW-STD-WL-01). The NRLMD (USDA 2007) contains standards for both of these lynx habitat components (standards VEG S1 and VEG S2), as well as reporting and monitoring requirements.

The Plan identifies that direction in the Northern Rockies Lynx Amendment (NRLMD) will be used in the management of lynx and lynx habitat on the Forest (FW-STD-WL-01). The NRLMD (USDA 2007) contains objectives and guidelines for human use projects including snow compacting activities, ski areas etc. The NRLMD ROD contains required monitoring for this indicator (NRLMD ROD, attachment page 9).

5) Performance Indicator Component 1: Changes in lynx habitat as a result of forests being regenerated.

a) Description: This indicator will be used to determine changes in the amount of lynx habitat within each LAU in an early stand initiation stage that does not currently provide winter snowshoe hare habitat, by assessing:

- The amount of lynx habitat in an early stand initiation stage that does not currently provide winter snowshoe hare habitat as a result of: natural events, vegetation management or fuel treatment projects, or any combination of these or other causes. (Up to 30 percent of the lynx habitat in an LAU may be in this condition, see standard VEG S1).
- The amount of lynx habitat in an early stand initiation stage that does not currently provide winter snowshoe hare habitat as a result of regeneration harvest over a ten year period. (Up to 15 percent of lynx habitat in an LAU may be regenerated through timber management projects over a ten year period, see standard VEG S2).

Definitions (USDA 2007, NRLMD ROD)

Standard VEG S1 – Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages limit disturbance in each LAU as follows:

If more than 30 percent of lynx habitat in an LAU is in a stand initiation structural stage that does not provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects (NRLMD ROD attachment 1 pages 2 and 3).

Standard VEG S2 – Timber management projects shall not regenerate more than 15 percent of lynx habitat on NFS lands within an LAU in a ten year period (NRLMD ROD attachment 1 page 3).

Vegetation Management – Vegetation management changes the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire and timber harvest. For 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 (NRLMD ROD attachment 1 page 15).

Timber Management – Timber management consists of growing, tending, commercially harvesting, and regenerating crops of trees (NRLMD ROD attachment 1 page 14).

Project – All or any part or number of the various activities analyzed in an EIS, EA, or DM. For example, the vegetation management in some units or stands analyzed in an EIS could be for fuel reduction. Therefore, those units or stands would fall within the term fuel treatment project even if the remainder of the activities of the EIA is being conducted for

other purposes, and the remainder of those units or stands have other activities prescribed for them. All units in an analysis do not necessarily need to be for fuel reduction purposes for certain units to be considered a fuel reduction project (NRLMD ROD attachment 1 page 13).

Regenerate (regeneration harvest in the glossary) – The cutting of trees and creating an entire new age class, an even-age harvest. The major methods are clearcutting, seed tree, shelterwood, and group selective cuts (Helms, 1998 in USDA 2007, NRLMD ROD attachment 1 page 14).

Stand Initiation Structural Stage – The stand initiation stage generally develops after a stand replacing disturbance by fire or regeneration timber harvest. A new single story layer of shrubs, tree seedlings, and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands (Oliver and Larson, 1996 in USDA 2007, NRLMD ROD attachment 1 page 14).

Winter Snowshoe Hare Habitat – Winter snowshoe hare habitat consists of places where young trees or shrubs grow densely (thousands of woody stems per acre) and tall enough to protrude above the snow during winter, so snowshoe hare can browse on the bark and small twigs (LCAS in USDA NRLMD ROD 2007). Winter snowshoe hare habitat develops primarily in the stand initiation, understory re-initiation and old forest multistoried structural stages (NRLMD ROD attachment 1 page 15).

Lynx Habitat in an Unsuitable Condition – Lynx habitat in an unsuitable condition consists of lynx habitat in the stand initiation structural stage where the trees are generally less than approximately 10 to 30 years old and have not grown tall enough to protrude above the snow during winter. Stand replacing fire or certain vegetation management projects can create unsuitable conditions. Vegetation management projects that can result in unsuitable habitat include clearcuts and seed tree harvest, and sometimes shelterwood cuts and commercial thinning depending on the resulting stand composition and structure (LCAS in USDA 2007, NRLMD ROD attachment 1 page 12).

b) Unit of Measure: Expressed as a percentage of all lynx habitat in the LAU, acres of lynx habitat in an early stand initiation stage that does not currently provide winter snowshoe hare habitat as a result of all natural events or management activities. Expressed as a percentage of all lynx habitat in the LAU and determined over a ten year period, acres of lynx habitat in an early stand initiation stage that does not currently provide winter snowshoe hare habitat as a result of timber management projects.

c) Standards/Steps for Data Collection: The Forest has delineated and mapped lynx analysis units (LAUs) and lynx habitat within each of those LAUs. The Forest has been keeping track of these habitat components for several years, although the terminology has changed; unsuitable lynx habitat = stands in the early stand initiation structural stage that do not provide winter snowshoe hare habitat.

In order to track the changes in unsuitable habitat updates to the fire history GIS layer and FACTS must be kept as current as possible.

d) Data Storage: GIS layers of the lynx analysis units are retained in the forest GIS library. Timber stand activity information (including prescribed fire) is retained in FACTS and fires (unplanned ignitions) in the fire history GIS layer. FSVeg Spatial contains stand data used to

query for lynx habitat. The output from the analysis is stored in the GIS library: T:\FS\Reference\GIS\r01_ipnf\Layerfile_ArcGIS10/Fish_and_Wildlife.

e) Spatial Unit: Lynx Analysis Unit (LAU).

f) Frequency of Measurement: Biennially.

g) Precision/Reliability: Class A.

h) Analysis Methods: Using the most recent lynx habitat layer for the Forest, update it using FACTS and fire history layer to determine the amount of habitat that is in an early stand initiation stage that does not currently provide winter snowshoe hare habitat. The lynx habitat layer should also be updated to account for those stands that have reached an age since the last update that they now are tall enough to provide winter snowshoe hare habitat. Calculate the percentage of the lynx habitat within each LAU that is in an early stand initiation stage that does not currently provide winter snowshoe hare habitat (VEG S1). This includes all land ownerships within the LAU.

Additionally, determine how much habitat is currently in an early stand initiation stage that does not currently provide winter snowshoe hare habitat due to timber management projects in the last 10 years on NFS lands (VEG S2) within each LAU.

This analysis can be conducted at the SO as long as all the data is current in FACTS and the fire history layer.

i) Who (Cooperators): Forest and district wildlife biologists, GIS specialists, and FACTs coordinators, regional office, and the US Fish and Wildlife Service.

j) Cost: The analysis can be done at the SO if FACTS and the fire history layer are up to date. To run the analysis and compile the information:

- GS-9 GIS specialist at the SO @ $300/day for 3 days = $900.
- GS-9 FACTS coordinator @ $300/day for 2 days = $600.
- GS-12 Forest biologist @ $400/day for 2 days = $800.

To review the information:

- GS-9 district wildlife biologist @ $300/day for 2 days = $600 for 4 units (districts) = $2,400 total.
- Total costs = $4,700.

k) References:

USDA Forest Service. (2007). Northern Rockies Lynx Management Direction Record of Decision. National Forests in Montana, and parts of Idaho, Wyoming, and Utah. 51 pp. plus attachments.

USDI Fish and Wildlife Service. (2007). Biological Opinion on the effects of the Northern Rocky Mountains Lynx Amendment on the Distinct Population Segment of Canada Lynx in the contiguous United States. U.S. Fish and Wildlife Service, Montana Field Office. Helena, MT. 96 pp. plus appendices.

5) Performance Indicator Component 2: Snow compacting activities in lynx habitat.

a) Description: The NRLMD had a monitoring requirement to map the location and intensity of snow compacting activities, and designated and groomed routes that occurred inside LAUs during the period of 1998 to 2000. This mapping effort was to be completed within one year of the amendment decision (March 2007) and formed the baseline to determine changes that occur in snow compacting activities and designated and groomed routes. The changes in activities and routes are to be monitored every five years after the NRLMD decision.

Definitions (USDA 2007, NRLMD ROD):

Area of Consistent Snow Compaction – An area of consistent snow compaction is an area of land or water that during winter is generally covered with snow and gets enough human use that individual tracks are indistinguishable. In such places, compacted snow is evident most of the time, except immediately after (within 48 hours) snowfall. These can be areas or linear routes, and are generally found in or near snowmobile or cross-country ski routes, in adjacent openings, parks and meadows, near ski huts or plowed roads, or in winter parking areas. Areas of consistent snow compaction will be determined based on the acreage or miles used during the period 1998-2000 (NRLMD ROD attachment 1, page 10).

Designated Over-Snow Routes – Designated over-snow routes are routes managed under permit or agreement or by the agency, where use is encouraged, either by on the ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps), or in electronic media produced or approved by the agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition. The determination of baseline snow compaction will be based on the miles of designated over-snow routes authorized, promoted or encouraged during the period 1998-2000 (NRLMD ROD attachment 1, page 10).

Designated Route – A designated route is a road or trail that has been identified as open for specified travel use (NRLMD ROD attachment 1, page 10).

b) Unit of Measure: Miles, acres, location and intensity of snow compacting activities, and designated and groomed routes, when compared to the baseline map.

c) Standards/Steps for Data Collection: Every 5 years the amount (miles, acres), location, and intensity of snow compacting activities and designated and groomed routes will be determined and mapped. The forest wildlife biologist, with help from the recreation program manager, district wildlife biologists and district recreation specialists will update the baseline map with all snow compacting activities and designated and groomed routes.

d) Data Storage: The map of snow compacting activities and designated and groomed routes will be retained in the forest library (T:\FS\Reference\GIS\r01_ipnf\Layerfile_ArcGIS10\Fish_and_Wildlife), to be updated at least every 5 years.

e) Spatial Unit: Forest.

f) Frequency of Measurement: At least every 5 years.

g) Precision/Reliability: Class A.

h) Analysis Methods: The forest wildlife biologist and/or recreation manager will determine and map snow compacting activities. Designated and groomed routes will be mapped by the forest recreation manager and/or district personnel. Miles and/or acres of snow compaction activities and designated and groomed routes will be mapped and compared to the baseline map. A determination of intensity will be made when monitoring is being conducted.

i) Who (Cooperators): Forest and district wildlife biologists and recreation specialists. The Forest will seek to involve other cooperators such as the US Fish and Wildlife Service and Idaho Department of Fish and Game as well as other agencies or individuals involved in monitoring other species on the Forest.

j) Cost: This indicator includes the cost of updating the forestwide baseline map of the location and intensity of snow compacting activities and designated and groomed routes, and determining changes in the location and intensity of these activities at least every 5 years. The cost to update the map, and determine changes in activities (this cost may be incidental to efforts currently ongoing by the recreation manager):

Supervisor's office:

- GS-12 forest wildlife biologist @$400 per day for 3 days = $1,200.
- GS-12 recreation program manager @$400 per day for 5 days = $2,000.
- GS-9 GIS specialist to update map @$300 per day for 5 days = $1,500.

Districts:

- GS-9 wildlife biologist @$300 per day for 3 days = $900 for 4 units = $3,600.
- GS-9 recreation specialist @$300 per day for 5 days = $1,500 for 4 units = $6,000.
- Total cost $14,300 every 5 years.

The cost to monitor the location and intensity: Some of these activities will be conducted on weekends when a higher level of activities takes place. This may require some overtime to conduct these activities.

k) References:

USDA Forest Service. (2007). Northern Rockies Lynx Management Direction Record of Decision. National Forests in Montana, and parts of Idaho, Wyoming, and Utah. 51 pp. plus attachments.

USDI Fish and Wildlife Service. (2007). Biological Opinion on the effects of the Northern Rocky Mountains Lynx Amendment on the Distinct Population Segment of Canada Lynx in the contiguous United States. U.S. Fish and Wildlife Service, Montana Field Office. Helena, MT. 96 pp. plus appendices.

6) Responsibility: Forest Wildlife Biologist.

7) Authority: Required by the NRLMD and revised Forest Plan.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Biennial (except component 2, snow compacting, which is every 5 years).

10) How Evaluated: The results from the monitoring calculations for the amount of lynx habitat in an early stand initiation stage that does not currently provide winter snowshoe hare habitat for each LAU would be converted to a percentage of the total lynx habitat in each LAU. This percentage would then be compared against the 30 percent threshold in VEG S1 from the NRLMD. The percentage of lynx habitat in this condition as a result of regeneration harvest in the last decade would be compared against the 15 percent threshold in VEG S2 of the NRLMD. If a LAU exceeds those thresholds for either VEG S1 or VEG S2 then the direction in those two standards would limit management within those LAUs.

Every five years the updated map showing changes in the location and intensity of snow compacting activities would be developed and compared to the baseline conditions that occurred in the LAUs during 1998-2000. The baseline conditions were documented as part of the Required Monitoring from the NRLMD (page 9 in Attachment 1 of the NRLMD ROD).

Document the status of these indicators and the extent to which forest management is contributing to the conservation of lynx relative to VEG S1 and VEG S2 from the NRLMD and the extent of snow compacting activities on the Forest.

Use the following table to document the percentage of lynx habitat by LAU in an early stand initiation stage that does not currently provide winter snowshoe hare habitat as per VEG S1 and VEG S2. For VEG S1, the percentage of lynx habitat currently in an early stand initiation structural stage that doesn't provide winter snowshoe hare habitat is displayed (all land ownerships). For VEG S2, the percentage of lynx habitat regenerated due to timber management in the last decade is displayed (NFS lands only)

Table 19. Percentages in 20XX pertaining to VEG S1 and VEG S2 from the Northern Rockies Lynx Management Direction (NRLMD)

LAU	VEG S1 – %	VEG S2 - %

11) Author: Jeremy Anderson.

MON-FLS-01-03

1) Monitoring Question (MON-FLS-01): (Bull Trout) To what extent is forest management contributing to the conservation of federally listed species and moving toward habitat objectives?

2) Forest Plan References:

- **FW-DC-AQH-01**
- **FW-DC-AQH-02**
- **FW-DC-AQH-03**
- **FW-DC-AQH-05**
- **GOAL-AQS-01**
- **FW-DC-AQS-01**
- **FW-DC-AQS-04**
- **FW-AWS-05**
- **FW-OBJ-AQS-01**
- **FW-GDL-AQS-01**

3) Performance Indicator(s):

- **MON-FLS-01-03:** Bull Trout populations trends based on redd counts in known spawning reaches. (There is no INFISH requirement to evaluate bull trout population trends, as indicated in chapter 5 of the Forest Plan. Effectiveness of implementing INFISH is conducted by the PACFISH/INFISH Biological Opinion Effectiveness Monitoring team (PIBO EM), USFS Fish and Aquatic Ecology Unit, Logan, UT.)

4) Forest Plan Rationale and Explanation: The Forest Plan provides an emphasis in native species management and in particular threatened, endangered, and sensitive species. Bull trout, a federally listed species, are a focus of some conservation and restoration efforts being put forward under the new Forest Plan direction.

5) Performance Indicator 1: Bull Trout populations trends based on redd counts in known spawning reaches (see monitoring requirements for INFISH in appendix B).

a) Description: Redd counts are a surrogate for estimating populations and long-term trend data at specific reaches has been monitored by interagency personnel, providing a good baseline reference for population trends.

b) Unit of Measure: Number of redds in selected spawning reaches, identified by the Idaho Fish and Game Department.

c) Standards/Steps for Data Collection: Data is collected in accordance with Idaho Fish and Game protocols and are assisted by Forest Service and US Fish and Wildlife Service personnel as available.

d) Data Storage: Data is maintained by the Idaho Fish and Game Department.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: Annually.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: Trend analyses are conducted by the Idaho Department of Fish and Game and reported annually in Panhandle Region fishery annual reports, available at: https://collaboration.idfg.idaho.gov/FisheriesTechnicalReports. For Forest Plan reporting purposes, provide graphs of trend and synopsis of results for the following drainage basins (i.e., Core Areas), Priest Lake, Pend Oreille Lake, Kootenai River, Coeur d'Alene Lake, and North Fork Clearwater River.

i) Who (Cooperators): Idaho Fish and Game Department and U.S. Fish and Wildlife Service.

j) Cost: Estimated using an average cost to government of a GS-12 employee ($405) for one day to review Fish and Game and report out. Three days each of a GS-09 (cost to government = $280/day) and GS-11(cost to government = $343/day) on both the North and South Zones (6 days total for each GS), to assist Fish and Game in data collection for a total of ~$4,000/year.

k) References:
State of Idaho, Fish and Game, and Panhandle Fisheries reports.

6) Responsibility: Forest watershed and fisheries program manager.

7) Authority: There are no legal requirements for the Forest Service to report this information, although it is in the interest of multiple agencies to track improvements to bull trout populations relative to the Endangered Species Act.

8) Monitoring Priority: Priority B - required by Forest Plan, but not required by law.

9) Frequency of Evaluation Report: Biannually.

10) How Evaluated: Trends are reported biannually by Idaho Fish and Game and should be summarized in text and graphical format, using information from Idaho Fish and Game biennial Panhandle Fisheries reports.

11) Author: Dan Scaife.

Resource: Focal Species

MON-FOC-01-01

1) Monitoring Question (MON-FOC-01): Are habitat trends for the landbird assemblage and macroinvertebrate assemblage consistent with the objectives?

2) Forest Plan References:

- **FW-OBJ-WL-03**
- **FW-DC-VEG-01**
- **FW-DC-VEG-02**
- **FW-DC-VEG-03**
- **FW-DC-VEG-04**
- **FW-DC-VEG-05**
- **FW-DC-VEG-07**
- **FW-DC-VEG-11**
- **FW-OBJ-VEG-01**
- **FW-STD-VEG-01**
- **FW-GDL-VEG-01**
- **FW-GDL-VEG-04**
- **FW-GDL-VEG-05**
- **FW-GDL-VEG-06**
- **FW-DC-FIRE-03**

3) Performance Indicator(s):

- **MON-FOC-01-01:** Landbird assemblage (insectivores): a) number of acres where planned ignitions were used to maintain/improve habitat; b) percentage of natural unplanned ignitions managed for the maintenance or restoration or fire adapted ecosystems.

4) Forest Plan Rationale and Explanation: The landbird assemblage was chosen as a Focal Species for movement towards the desired conditions for vegetation. FW-OBJ-WL-03 set an objective for the management of planned ignitions on 1,000 to 5,000 acres, annually, to provide habitat for olive-sided flycatchers, hairy woodpeckers, chipping sparrows, and Hammond's and dusky flycatchers (Also see FW-OBJ-FIRE-02, which provides additional habitat for these species).

5) Performance Indicator 1: (Landbird assemblage (insectivores)) a) number of acres where planned ignitions were used to maintain/improve habitat; b) percentage of natural, unplanned ignitions managed for the maintenance or restoration or fire adapted ecosystems.

a) Description: This indicator tracks the acres of planned ignitions that maintained or improved habitat for the landbirds (insectivores). The amount of unplanned ignitions that may maintain or improve habitat for landbirds is tracked under MON-FIRE-02.

b) Unit of Measure: (Acres) The percentage of natural, unplanned ignitions managed for maintenance or restoration of fire adapted ecosystems is measured according to MON-FIRE-02.

c) Standards/Steps for Data Collection: District biologists report to the Forest wildlife biologist the number of acres, annually, where planned ignitions were used to provide habitat for the landbird assemblage. The percentage of natural, unplanned ignitions managed for maintenance or restoration of fire adapted ecosystems is measured according to MON-FIRE-02.

d) Data Storage: Acres accomplished towards providing habitat for the landbird assemblage annually recorded in WFRP database and also tracked at the districts.

e) Spatial Unit: Forest.

f) Frequency of Measurement: Annual.

g) Precision/Reliability: Class A.

h) Analysis Methods: District wildlife biologists report to the forest wildlife biologists the acres where planned ignitions were used to maintain/improve habitat for the landbird assemblage, annually. See the indicator for MON-FIRE-02 for the analysis method for determining the percentage of natural, unplanned ignitions managed for maintenance or restoration of fire adapted ecosystems.

i) Who (Cooperators): Forest and district biologists, Fire/Fuels specialists.

j) Cost: The cost associated with compiling the report:

- GS-12 Forest wildlife biologist @ $400/day for 2 days = $800.
- GS-09 District wildlife biologist @ $300/day for 1 days for 4 units = $1,200.
- Total cost – $2,000.

k) References: None.

6) Responsibility: Forest wildlife biologist.

7) Authority: Revised Forest Plan.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: Document the acres of planned ignitions during the year that improved or maintained habitat for members of the landbird assemblage by moving towards the Desired Conditions for Vegetation and compare the results to FW-OBJ-WL-03 which sets an objective of 1,000-5,000 acres annually. Also summarize results from MON-FIRE-02 and describe the overall effect on habitat for landbird assemblage. Review habitat trends and describe movement towards, away from, or neutral to desired conditions. If movement is neutral or away from desired conditions, document why.

Use the following tables to document acres of planned ignitions and number of natural, unplanned ignitions that improved or maintained habitat for members of the landbird assemblage.

Table 20. Acres of Planned Ignitions and the Landbird Assemblage Members that Benefited

Fiscal Year	Acres Burned	Species Benefited

Table 21. Number of Natural, Unplanned Ignitions and the Landbird Assemblage Members that Benefited

Fiscal Year	Total Number of Natural, Unplanned Ignitions	Number of Natural, Unplanned Ignitions Managed for Maintenance/Restoration	% of Natural, Unplanned Ignitions Managed for Maintenance/Restoration	Species Benefited

11) Author: Jeremy Anderson.

MON-FOC-01-02

1) Monitoring Question (MON-FOC-01): Are habitat trends for the landbird assemblage and macroinvertebrate assemblage consistent with the objectives?

2) Forest Plan References:

- **FW-OBJ-AQH-02**

3) Performance Indicator(s):

- **MON-FOC-01-02:** Changes in the River Invertebrate Prediction and Classification System (Observed/Effect model) score.

4) Forest Plan Rationale and Explanation: The Forest Plan has a strong emphasis in improving water quality and enhancing in-stream and riparian habitats. Changes in macroinvertebrate populations within the taxa *Ephemeroptera*, *Plecoptera*, and *Tricoptera*, the most sensitive to most pollutants, will help evaluate deviations from current conditions. See chapter 3 of the FEIS (page 192) for more supporting information.

5) Performance Indicator 1: (Aquatic Invertebrates) Changes in River Invertebrate Prediction and Classification System (RIVPACS) score.

a) Description: Changes in the RIVPACS score relative to the baseline are expected to show positive or negative changes in water quality across the entire planning area.

b) Unit of Measure: RIVPACS score relative to the baseline condition evaluated for the Forest Plan (RIVPACS score = 0.89).

c) Standards/Steps for Data Collection: Data is collected by the National PACFISH/INFISH Biological Opinion PIBO Effectiveness Monitoring (PIBO EM) crew.

d) Data Storage: PIBO data can be downloaded by going to the internal Forest Service - Intermountain Region home page and selecting the 'PACFISH/INFISH Biological Opinion' link in the 'R4 Hotbox' on the right side of the page.

e) Spatial Unit: Forestwide.

f) Frequency of Measurement: Every 5 years.

g) Precision/Reliability (Class A): Widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good.

h) Analysis Methods: Analyze the most current PIBO EM database and determine an average value for "managed" sites on the IPNF.

i) Who (Cooperators): None.

j) Cost: Estimated using an average 1 day of a GS-12/3 employee, in order to compile information from PIBO EM database. Cost of approximately $400/5-year.

k) References:

Assessing the biological quality of fresh waters: RIVPACS and other techniques, edited by John F. Wright, David W. Sutcliffe and Mike T. Furse. Published by the Freshwater Biological Association, Ambleside, (June 2000).

Archer et al. (2009). PACFISH/INFISH biological opinion effectiveness monitoring program for streams and riparian areas: 2009 annual summary report.

6) Responsibility: Forest watershed and fisheries program manager.

7) Authority: PACFISH/INFISH Biological Opinion.

8) Monitoring Priority: Priority B - required by Forest Plan, but not required by law.

9) Frequency of Evaluation Report: Data is summarized every 5 years and reported at the frequency of every third Evaluation Report. Record the monitoring item as "not applicable," if the information has not been evaluated relative to the 5-year reporting interval.

10) How Evaluated: Based on information provided in tabular format provided below, evaluate any deviations from the baseline score. A RIVPACS score below 0.68 is considered to significantly deviate from reference conditions.

Table 22. Yearly RIVPACS Score and Amount of Deviation from Previous Reporting Peirod

Calendar Year	RIVPACS Score	Amount of Deviation from Previous Reporting Period (value +/-)
2014	0.89	NA

11) Author: Dan Scaife.

MON-FOC-Supplemental

1) Monitoring Question: This is not tied to any specific monitoring question. It relates to the landbird assemblage focal species.

2) Forest Plan References:

- **FW-DC-VEG-01**
- **FW-DC-VEG-02**
- **FW-DC-VEG-03**
- **FW-DC-VEG-04**
- **FW-DC-VEG-05**
- **FW-DC-VEG-07**
- **FW-DC-VEG-11**
- **FW-OBJ-VEG-01**
- **FW-STD-VEG-01**
- **FW-GDL-VEG-01**
- **FW-GDL-VEG-04**
- **FW-GDL-VEG-05**
- **FW-GDL-VEG-06**
- **FW-DC-FIRE-03**

3) Performance Indicator(s):

- Not tied to a specific indicator in chapter 5 of the revised Forest Plan

4) Forest Plan Rationale and Explanation: The Forest Plan provides direction to maintain or improve habitat for landbirds. This monitoring item would provide information on population trends, to determine if the Forest is making progress towards desired conditions for landbirds.

5) Performance Indicator: Not tied to a specific indicator in chapter 5 of the revised Forest Plan.

a) Description: This optional supplemental monitoring item would boost the sample size for the IPNF portion of the Regional Landbird Monitoring Program (IMBCR – Integrated Monitoring using Bird Conservation Regions). Additional transects would be sampled beyond the 10 transects already sampled by the Regional Landbird Monitoring Program. The populations of the landbird assemblage focal species, in addition to other landbirds, are currently sampled using the ongoing Regional Landbird Monitoring Program. Trends can be determined based on the ongoing monitoring already in place. The IPNF could optionally supplement the funding for the program to increase the sampling intensity for the Forest. This would allow a finer scale analysis.

b) Unit of Measure: Transects would result in a tally of individuals of each species which could then be used to estimate population or relative density.

c) Standards/Steps for Data Collection: Data would be collected as per the Regional Landbird Monitoring Program protocol. The work would be done by the crews involved in the program rather than IPNF employees.

d) Data Storage: Data would be retained by the Regional Landbird Monitoring Program with results and information available to the Forest.

e) Spatial Unit: Forest.

f) Frequency of Measurement: Annual.

g) Precision/Reliability: Class A.

h) Analysis Methods: Data would be analyzed by the Regional Landbird Monitoring Program to determine population estimate or relative density and trend. The results would be provided to the Forest.

i) Who (Cooperators): Forest, regional office, Regional Landbird Monitoring Program and associated cooperators.

j) Cost:

- Supplement up to 20 additional transects @ $1,000 per transect per year.
- Total cost – $20,000.

To survey transects, funds are given to RO/Regional Landbird Monitoring Program cooperators. Note, these 20 transects are in addition to the 10 transects that the RO/Regional Landbird Monitoring Program already pays for and surveys annually on the Forest.

k) References: None.

6) Responsibility: IPNF's responsibility to supply additional funding if the optional additional transects are surveyed, if funding is available. The regional office and the cooperators' in the Regional Landbird Monitoring Program responsibility to run the baseline transects, the additional transects the Forest pays for, analyze the data, and provide the results.

7) Authority: 1982 Planning Rule.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Available from the Regional Landbird Monitoring Program at the frequency agreed to in any current contract among the cooperators.

10) How Evaluated: Monitoring results and population trends calculated by the Regional Landbird Monitoring Program (IMBCR – Integrated Monitoring using Bird Conservation Regions) cooperators would be compared to the expected trends for the landbird assemblage. Trends would also be compared to the rest of the Region to gain insight into whether the trends are localized or wide-spread. Conclusions as to whether the trends are consistent with those predicted to occur by moving towards the Desired Conditions for Vegetation under the revised Forest Plan would be documented.

11) Author: Jeremy Anderson.

Resource: Wildlife

MON-WDL-01

1) Monitoring Question (MON-WDL-01): Have management activities met Plan objectives and maintained or improved habitat to achieve desired terrestrial habitat conditions?

2) Forest Plan References:

- **FW-OBJ-WL-01**
- **FW-DC-VEG-01**
- **FW-DC-VEG-02**
- **FW-DC-VEG-03**
- **FW-DC-VEG-04**
- **FW-DC-VEG-05**
- **FW-DC-VEG-07**
- **FW-DC-VEG-08**
- **FW-DC-VEG-11**
- **FW-OBJ-VEG-01**
- **FW-STD-VEG-01**
- **FW-GDL-VEG-01**
- **FW-GDL-VEG-03**
- **FW-GDL-VEG-04**
- **FW-GDL-VEG-05**
- **FW-GDL-VEG-06**
- **FW-DC-FIRE-03**

3) Performance Indicator(s):

- **MON-WDL-01-01:** Acres of terrestrial habitat restored or enhanced. Also see indicators MON-VEG-01-01 through MON-VEG-01-05 and MON-FIRE-02-01

4) Forest Plan Rationale and Explanation: FW-OBJ-WL-01 set an objective for the maintenance or restoration of wildlife habitat on 1,000 to 5,000 acres of NFS lands, annually, with an emphasis on restoration of habitats for threatened and endangered listed species and sensitive species. This indicator will measure attainment of this objective and movement towards desired conditions.

5) Performance Indicator 1: Acres of terrestrial habitat restored or enhanced. Also see results for MON-VEG-01-01 through MON-VEG-01-05, MON-VEG-02-02, MON-VEG-02-03, and MON-FIRE-02-02.

a) Description: Restoration or enhancement of terrestrial habitat is achieved by many different methods or treatments. Planned ignitions, commercial timber harvest, weed treatment, and precommercial thinning are some examples.

b) Unit of Measure: Acres where wildlife habitat was maintained or restored on NFS lands, annually.

c) Standards/Steps for Data Collection: District biologists report to the forest wildlife biologist the number of acres, annually, wildlife habitat was maintained or restored.

d) Data Storage: Acres accomplished towards maintained or restoring wildlife habitat annually recorded in WFRP database and also tracked at the districts.

e) Spatial Unit: Forest.

f) Frequency of Measurement: Annual.

g) Precision/Reliability: Class A.

h) Analysis Methods: District wildlife biologists report to the forest wildlife biologists the acres where wildlife habitat was restored or maintained.

i) Who (Cooperators): Forest and district biologists.

j) Cost: The cost associated with compiling the report:

- GS-12 Forest wildlife biologist @ $400/day for 2 days = $800.
- GS-09 District wildlife biologist @ $300/day for 1 days for 4 units = $1,200.
- Total cost – $2,000.

k) References: None.

6) Responsibility: Forest wildlife biologist.

7) Authority: Revised Forest Plan.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: Document the acres of habitat restored or maintained for each year and compare the results to FW-OBJ-WL-01 which sets an objective of 1,000-5,000 acres annually. Review habitat trends and describe movement towards, away from, or neutral to desired condition. If movement is neutral or away from desired conditions, document why.

Use the following tables to document acres of habitat restored or maintained.

Table 23. Acres of Habitat Restored or Maintained and the Species that Benefited

Fiscal Year	Acres Restored/Maintained	Species Benefited

11) Author: Jeremy Anderson.

MON-WDL-02

1) Monitoring Question (MON-WDL-02): Are habitat trends for elk consistent with the objectives?

2) Forest Plan References:

- **FW-OBJ-WL-02**
- **FW-GDL-WL-13**

3) Performance Indicator(s):

- **MON-WDL-02-01:** (Elk) Number of management units providing >30% security on NFS lands during the hunting season.

4) Forest Plan Rationale and Explanation: See the Performance Indicator Description.

5) Performance Indicator 1: (Elk) Number of management units providing >30% security on NFS lands during the hunting season.

a) Description: Elk are a commonly hunted species of public interest. FW-OBJ-WL-02 set an objective for improvement of elk security on the Forest.

Security Habitat (Elk): Generally timbered stands on NFS lands at least 250 acres in size greater than 0.5 mile away from open motorized routes during the hunting season. Security is calculated for individual planning subunits. Roads not open to the public for motorized use during the hunting season is not included in this calculation. The effects of non-motorized use and/or administrative motorized use of closed or temporary roads during the hunting season are not included in this calculation and would instead be analyzed separately at the project level.

Elk management units are pre-defined areas on the IPNF that are based on Idaho Department of Fish and Game (IDF&G) big game hunting subunit delineations. They are maintained as a layer in the Forest GIS library. High and medium priority elk management units were identified through coordination with IDF&G and a map of elk management units' priority is included in the Forest GIS library.

b) Unit of Measure: Number of elk management units with >30 percent security on NFS lands during the hunting season. Elk management units and their priority ranking are maintained as a layer in the Forest GIS library.

c) Standards/Steps for Data Collection: INFRA (for motorized routes) and FACTS (to determine non-timbered stands) would need to be kept current. Fire history GIS layer would also be used to assist in determining what stands are not currently timbered.

d) Data Storage: Motorized routes tracked in INFRA, vegetation management tracked in FACTS. The yearly security habitat analysis runs/GIS outputs would be kept in the Forest GIS library (T:\FS\Reference\GIS\r01_ipnf\Layerfile_ArcGIS10\Fish_and_Wildlife.

e) Spatial Unit: Planning subunits.

f) Frequency of Measurement: Annual.

g) Precision/Reliability: Class A.

h) Analysis Methods: Using the data from INFRA, FACTS, and other sources needed to determine motorized routes and timbered stands, calculate the percentage of areas meeting the definition of elk security within each planning subunit. Tally the number of planning subunits with >30 percent security and >50 percent security (high priority planning subunits).

Using GIS, buffer all motorized routes open during hunting season by 0.5 miles. Eliminate patches smaller than 250 acres in size and/or non-timbered (non-timbered = rock, water,

meadow, recent regen units or burns where the stands likely do not currently provide hiding cover such as stands in the seedling structural stage). Tally the acres of security habitat by planning subunit and calculate the percent of the subunit in secure habitat.

i) Who (Cooperators): Forest and district biologist, GIS specialists, travel planners, and FACTS coordinators.

j) Cost: The cost associated with running the analysis and compiling the report:

- GS-12 Forest wildlife biologist @ $400/day for 2 days = $800.
- GS-9 SO GIS specialist and/or FACTS coordinator @ $300/day for 3 days = $900.
- The cost associated with district review:
- GS-9 District wildlife biologist @ $300/day for 2 days= 600 for 4 units = $2,400.
- GS-7 District travel planner and/or FACTs coordinator @ $250/day for 1 days for 4 units = $1,000.
- Total cost – $5,100.

k) References: None.

6) Responsibility: Forest wildlife biologist.

7) Authority: Revised Forest Plan.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: The results of the monitoring calculations would be compared to the baseline elk security conditions shown in table 74 on pages 364-365 of the FEIS for the revised Forest Plan. Progress towards FW-OBJ-WL-02 would be documented. The objective states that over the life of the Plan, the Forest would increase by 3 the number of high or medium priority elk management units that provide at least 30 percent elk security.

Use the following tables to document and track changes in elk security by planning subunit.

Table 24. Status of the 33 Elk Management Units (EMU) located within and near the Idaho Panhandle NF boundary in regards to elk security and prioritization for improvement by the Idaho Department of Fish and Game

Elk Management Unit	IPNF Zone	IDF&G Priority Ranking	Baseline Fall % Security	20XX Fall % Security
3-1	CDA[a]	Low	20.6%	
3-2	CDA	Low	19.5%	
3-3	CDA	Low	12.4%	
4-2	CDA	Low	9.2%	
4-3	CDA	Low	11.9%	
4-4	CDA	Medium	16.0%	
4-5	CDA	Medium	25.6%	
4-6	CDA	Medium	25.9%	

Elk Management Unit	IPNF Zone	IDF&G Priority Ranking	Baseline Fall % Security	20XX Fall % Security
4-7	CDA	Medium	46.7%	
4-9	CDA	High	24.8%	
4-10	CDA	High	9.1%	
4-11	CDA	Medium	31.2%	
4-12	CDA	Medium	29.8%	
4-13	CDA	High	19.6%	
4-14	CDA	Medium	13.6%	
4A-1	Kaniksu	Medium	19.9%	
4A-2	Kaniksu	Medium	33.3%	
4A-3	Kaniksu	Medium	10.7%	
6-1	St. Joe	Low	0.0%	
6-2	St. Joe	High	17.7%	
6-3	St. Joe	High	21.6%	
6-5	St. Joe	High	12.9%	
6-8	St. Joe	Medium	9.4%	
6-9	St. Joe	Medium	5.0%	
7-1	St. Joe	High	22.9%	
7-2	St. Joe	Medium	23.7%	
7-3	St. Joe	High	26.1%	
7-4	St. Joe	Low	52.0%	
7-5	St. Joe	Medium	41.9%	
7-6	St. Joe	Low	5.8%	
9-1	St. Joe	Low	14.9%	
9-2	St. Joe	Low	60.9%	
9-3	St. Joe	Low	41.3%	

[a]Coeur d'Alene

Table 25. Number of High and Medium Priority Elk Management Units Meeting the 30% Threshold

Priority Level	Baseline Number of EMUs Meeting Threshold	Current Number of Subunits Meeting Threshold
High/Medium Emphasis (≥50% security)	4	

11) Author: Jeremy Anderson.

Resource: Access and Recreation

MON-AR-01

1) Monitoring Question (MON-AR-01): Have appropriate management actions been taken on recreation sites where opportunities have been identified, where use is at or near capacity, or where there are resource concerns?

2) Forest Plan References:

- **FW-DC-AR-01**
- **FW-OBJ-AR-01**
- **FW-OBJ-AR-02**
- **MA6-DC-AR-01**
- **MA7-DC-AR-01**
- **MA7-DC-AR-05**
- **GA-DC-AR-CDA-03**
- **GA-DC-AR-CDA-04**
- **GA-DC-AR-LK-03**
- **GA-DC-AR-LK-06**
- **GA-DC-AR-PO-01**
- **GA-DC-AR-PR-02**
- **GA-DC-AR-SJ-03**
- **GA-DC-AR-SJ-04**

3) Performance Indicator(s):

- **MON-AR-01-01:** Number and type of recreation sites;
- **MON-AR-01-02:** Number of Persons at One Time (PAOT - capacity);
- **MON-AR-01-03:** Amount of deferred maintenance for developed recreation sites;
- **MON-AR-01-04:** Number of recreation partnerships; and
- **MON-AR-01-05:** Changes in percent of Forest in each Recreation Opportunity Spectrum (ROS) setting.

4) Forest Plan Rationale and Explanation: Public law requires the Forest Service to manage national forests for outdoor recreation and to offer a range of recreational opportunities. The public expects to have recreation sites available and managed for their use. The agency is responsible for managing the sites within established standards and for balancing recreation uses with other resource needs. Monitoring is the tool used to determine if desired conditions at recreation sites are being met.

5) Performance Indicators 1, 2, 3, 4, & 5: Number and type of recreation sites. Number of Persons at One Time (PAOT - capacity). Amount of deferred maintenance for developed recreation sites. Number of recreation partnerships. Changes in percent of Forest in each Recreation Opportunity Spectrum (ROS) setting.

> **a) Description:** The Forest Plan desired conditions and objectives provide for a wide range of recreation opportunities while aligning operation and maintenance of the Forest's recreation infrastructure with available revenue. The number and type of recreation sites serve as a measure of the range of recreation opportunities and improvements available on the forest. Persons at One Time (PAOT) is a measure of the number of visitors that can be accommodated, and when compared with actual visitor use numbers, measures the ability of existing recreation sites to meet current use. The amount of maintenance that has been deferred over time at recreation sites measures the funding needed to bring the entire recreation infrastructure up to standards established by laws and regulations. Recreation partnerships help the forest leverage funds and provide opportunities that may not be

otherwise available. The percentage of forest in the various Recreation Opportunity Spectrum (ROS) categories shows how the mix of recreation opportunities changes over time.

b) Unit of Measure:

- **MON-AR-01-01:** Each;
- **MON-AR-01-02:** Each;
- **MON-AR-01-03:** Dollars;
- **MON-AR-01-04:** Each; and
- **MON-AR-01-05:** Percent.

c) Standards/Steps for Data Collection: National Quality Standards for Recreation Site Management define the corporate level of quality the Forest Service expects to provide the public at full service (Forest Plan) levels. These standards form the baseline for estimating the total cost of providing the quality opportunities visitors' desire.

- **MON-AR-01-01:** Number and type of recreation sites (developed and dispersed). Developed Sites - All Forest Service real property, including recreation sites (development scale 3-5), is inventoried every five years to verify existence. In addition, site condition surveys are performed at 5-year intervals to document the condition of facilities, and to estimate costs to complete deferred maintenance.
- Dispersed Sites - The Forest started inventorying and recording dispersed sites (development scale 0-2) in 2011, and anticipates substantially completing the effort in 2015. Additional sites will be added to the inventory as they are discovered and recorded.
- Individual recreation sites may be moved from dispersed to developed (and vice versa) as the result of management decisions.
- **MON-AR-01-02:** Number of Persons at One Time (PAOT). PAOT reflects the designed capacity of developed recreation sites and take into consideration national design criteria, user amenities, and resource impacts. For example, the national standard for an individual camping unit is five people at one time. Picnic tables are designed to accommodate five people, parking areas are designed for one or two vehicles, and one toilet is provided per 25 PAOT. Total capacity for a site reflects the amount of use that can be accommodated without resource impacts or user conflicts.
- **MON-AR-01-03:** Amount of deferred maintenance for developed recreation sites. Deferred maintenance refers to needed repairs that are deferred to a later time. Deferred maintenance costs grow as annual maintenance is deferred and as facilities reach their designed life and require major repairs. Deferred maintenance costs are estimated and recorded every five years during condition surveys. Costs are reduced when repairs are completed.
- **MON-AR-01-04:** Number of recreation partnerships. Data is collected by counting the number of signed forest partnership agreements for recreation and trail projects, and noting the types of services provided by the partner.
- **MON-AR-01-5:** Changes in percent of Forest in each ROS setting. National ROS Protocol for mapping and tabulating forestwide recreation opportunity spectrum settings for winter and summer is located http://www.fs.fed.us/eng/ros. Current ROS distribution is compared to desired distribution.

d) Data Storage: Data for MON-AR-01-01, -02 and -03 is maintained in the Natural Resource Management (NRM) database, Infra application. Data for MON-AR-01-04 can be found at http://basenet.fs.fed.us/. Data for MON-AR-01-05 is located at T:\FS\Reference\GIS\r01_ipnf\LayerFile_ArcGIS10\Recreation\ROS_Winter and T:\FS\Reference\GIS\r01_ipnf\LayerFile_ArcGIS10\Recreation\ROS_Summer.

e) Spatial Unit: The location of each recreation site is identified in NRM by GPS coordinates.

f) Frequency of Measurement: A facility condition survey is performed for each recreation site once every five years. Approximately 20 percent of sites are surveyed annually.

g) Precision/Reliability (Class A): Reliability, precision, and accuracy of condition surveys are very good.

h) Analysis Methods: Data will be analyzed during condition surveys, when project funding opportunities arise, and when overuse, underuse, or resource impacts occur.

i) Who (Cooperators): The Forest Recreation Program Manager provides overall direction and coordination of data collection and data analysis. The Forest Infra Coordinator manages the database. District Recreation Managers are responsible for data collection. Actual condition surveys may be performed by Forest Service personnel, contractors, or volunteers with appropriate skills.

j) Cost: Conducting condition surveys, analyzing data, populating databases and managing maintenance and improvement projects consume a significant portion of recreation, engineering, and database staff time annually. Appropriated funding for operation and maintenance of recreation facilities and trails pays for these efforts. The estimated cost of evaluating data for this monitoring item once every five years is shown on the following table:

Table 26. Estimated Cost for this Performance Indicator at 5-year Interval

Staff	Days	Cost per Day	Total
Recreation Program Manager	2	$450.00	$900.00
Infra Coordinator	2	$255.00	$510.00
GIS Specialist	2	$390.00	$780.00
Total			**$2,190.00**

k) References:

Recreation & Heritage Resources Integrated Business Systems website, http://fsweb.wo.fs.fed.us/rhwr/ibsc/index.shtml.

National ROS Inventory Mapping Protocol, 7/01/2003, http:www.fs.fed.us/eng/ros.

6) Responsibility: Forest recreation program manager.

7) Authority: The Multiple-Use Sustained-Yield Act of 1960 and the Federal Land Policy and Management Act of 1976 require that the National Forests be managed for outdoor recreation and

human occupancy and use while protecting other resources. Monitoring to determine compliance is required by the Forest Plan.

8) Monitoring Priority: Priority B – required by forest plan but not by law.

9) Frequency of Evaluation Report: Evaluate MON-AR-01 data once every five years.

10) How Evaluated: The Infra database will be queried at the end of each five-year survey cycle to address the question, "Have appropriate management actions been taken on recreation sites where opportunities have been identified?" The query will identify specific accomplishments over the previous five years, and will display if the forest recreation infrastructure is growing or shrinking, if recreation site capacity is rising or falling, and if the deferred maintenance backlog is increasing or decreasing. In addition, the corporate Volunteer and Partnership database will be queried to determine the level of contributions from user groups and other non-agency interested parties. Finally, a GIS query will yield the percentage of IPNF land in each ROS class.

Once data is generated, it will be compared to data from the previous five years to describe trends and to determine whether or not there is movement towards the forest plan desired condition.

Table 27. Recreation Opportunity and Infrastructure Statistics by Fiscal Year

Indicator	Fiscal Year			
Number of Recreation Sites (Each)				
Developed (Actual)				
Dispersed (Inventoried)				
Converted from Dispersed to Developed				
Converted from Developed to Dispersed				
Capacity of Developed Sites (PAOT)				
Deferred Maintenance Cost ($)				
Recreation Sites				
Recreation Buildings				
Recreation Water Systems				
Recreation Waste Water Systems				
Recreation Opportunity Spectrum (%)				
Primitive				
Semi-Primitive Non-motorized				
Semi-Primitive Motorized				
Roaded Natural				
Rural				
Urban				

11) Author: Susan Colyer.

MON-AR-02

1) Monitoring Question (MON-AR-02): Have management activities trended towards desired conditions for a minimum transportation system that provides recreation opportunities, allows for safe and efficient public and agency access, and is environmentally compatible?

2) Forest Plan References:

- **FW-DC-AR-03**
- **FW-DC-AR-04**
- **FW-DC-AR-05**
- **FW-DC-AR-07**
- **FW-OBJ-AR-03**
- **MA6-DC-AR-01**

3) Performance Indicator(s):

- **MON-AR-02-01:** Miles of road open year-long;
- **MON-AR-02-02:** Miles of road open seasonally;
- **MON-AR-02-03:** Miles of roads maintained by maintenance level;
- **MON-AR-02-04:** Miles of roads decommissioned; and
- **MON-AR-02-05:** Miles of roads put into intermittent storage.

4) Forest Plan Rationale and Explanation: As described in the Analysis of the Management Situation, access to NFS lands is one of the most controversial topics in forest management today. Increases in user demand, decreasing maintenance budgets, habitat protection measures and watershed restoration activities are all factors that influence the amount and condition of road access available for recreation and forest management. Tracking the above performance measures allows the public and the agency to see road access trends on the Forest.

- Indicators MON-AR-02-01 and MON-AR-02-02 indicate how much access is available in a given year;
- Indicator MON-AR-02-03 shows how much road maintenance is performed by the Forest and its cooperators annually. Maintenance is directly related to budgets. Roads that are properly maintained are safer, have fewer environmental effects and provide greater user comfort than those that are left to deteriorate; and
- Indicators MON-AR-02-04 and MON-AR-02-05 address 36 CFR 212.5 Subpart A directions that requires forests to identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of NFS lands while protecting natural resources. The Forest's ability to meet its mission relies on having a transportation system in place that provides the level of access needed and yet can be maintained with available budgets. As unneeded roads are identified, they may become candidates to convert to some other use (trails), or be decommissioned and removed from the transportation system. Treatments of roads placed in intermittent stored service are intended to reduce maintenance costs and risks to other resources. As roads are decommissioned or placed in intermittent stored service, the Forest moves toward a minimum transportation system, protect important resources, and reduce long-term maintenance needs.

5) Performance Indicators 1, 2, 3, 4, & 5: Miles of road open year-long. Miles of road open seasonally. Miles of roads maintained by maintenance level. Miles of roads decommissioned. Miles of roads put into intermittent storage.

a) Description: The Forest will compile the following road data annually: miles open year-long, miles open seasonally, miles of maintenance by operational maintenance level, miles of

decommissioning, and miles placed into intermittent storage. Visitor satisfaction, including satisfaction regarding access, is addressed in MON-AR-04.

b) Unit of Measure: Miles.

c) Standards/Steps for Data Collection: Road data is tracked in two data sets, tabular and spatial data. Road maintenance accomplishments are recorded yearly as required by national road accomplishment reporting requirements.

- Tabular data is managed by data stewards according to the Core Data Standards set forth for transportation in a geographic information system (GIS). The Forest Service National GIS Data Dictionary is located at http://fsweb.datamgt.fs.fed.us/.
- Spatial data is not necessary in order to report on this performance measure, but is useful for producing display products (maps) of the tabular data.

d) Data Storage: The Travel Routes module within the national Infra database is the repository for the tabular data about roads. This database has a number of standard data sets (called 'views') that can be accessed for compiling mileage measures.

- **MON-AR-02-01 and MON-AR-02-02:** Route designations (yearlong and seasonal) are tracked in the ATM module. The performance indicator reporting will use the view titled MVUM Road Allowed Use (II_MVUM_ROAD_ALLOW). On or before September 30th of each year a copy of the II_MVUM_ROAD_ALLOW file for the Forest will be placed in O:\NFS\IdahoPanhandle\Program\7100Engineering\7110EngineeringMgmt\ForestPlanMonitoring\#### (where the ### represents the fiscal year).
- **MON-AR-02-03:** Yearly road accomplishment report will be filed electronically in the Forest Service data center at O:\NFS\IdahoPanhandle\Program\7100Engineering\7110EngineeringMgmt\ForEng\Roads\Reports.
- **MON-AR-02-04 and MON-AR-02-05:** Decommissioning and intermittent stored service work is tracked in the linear events field called route_status. Additional data is recorded in the record of events fields including the event_subtype and event_date. The performance indicator reporting will use the view titled Road Record of Events (II_ROAD_ROE_V).

  On or before September 30th of each year a copy of the II_ROAD_ROE_V file for the Forest will be placed in: O:\NFS\IdahoPanhandle\Program\7100Engineering\7110EngineeringMgmt\ForestPlanMonitoring\#### (where the ### represents the fiscal year).

- Spatial data for IPNF roads is kept at the Forest Service national data center at: T:\FS\Reference\GIS\r01_ipnf\Data\IPNF_DATA.gdb.

e) Spatial Unit: The spatial unit consists of the roads within the IPNF boundary.

f) Frequency of Measurement: Annual.

g) Precision/Reliability:

- **MON-AR-02-01, 02, 04, and 05 are Class A:** Validity and reliability of this data is high;

- **MON-AR-02-03 is Class B:** Mostly qualitative methods from project records.

h) Analysis Methods:

- **MON-AR-02-01, 02, 04, and 05:** A standard query of the tabular data in II_MVUM_ROAD_ALLOW or II_ROAD_ROE_V will produce the results needed for these performance indicators.

  The query for road designation is:

  - Route_status = EX – Existing
  - Jurisdiction = FS – Forest Service
  - System = NFSR – National Forest System Road
  - Seasonal = Yearlong or Seasonal

  The query for road decommissioning or intermittent stored service:

  - Event = C – Construction
  - Event_subtype = DE – Decommissioned or ISS – Intermittent Stored Service
- **MON-AR-02-03:** Engineering project team leaders keep records of what maintenance activities are completed by operational road maintenance level. The average unit cost of maintenance accomplished is then compared to annual funding to determine if funding is adequate to attain the stated objective.

i) Who (Cooperators): Forest engineer, engineering team leaders, road managers, Infra coordinator.

j) Cost: Tracking road data, conducting annual maintenance, and reporting maintenance accomplishments are duties within the ongoing engineering program. Reviewing the data for forest monitoring is estimated as follows:

Table 28. Estimated Cost for this Performance Indicator

Staff	Days	Cost per Days	Total
Forest Engineering Staff	1	$398.00	$398.00
Engineering Project Team Leader	4	$336.00	$1,344.00
Transportation Planner	2	$255.00	$510.00
Total			**$2,252.00**

k) References:

Forest Service Handbook (FSH) 6609.15 Chapter 30: Geographic Information Systems (GIS) Core Data Structure Standards and Chapter 40: Geospatial Metadata Standards.

Forest Service Travel Routes Data Dictionary, ATM Data Dictionary, and Road Performance Measures Data Dictionary found on the Travel Routes Road User Board website at http://fsweb.r6.fs.fed.us/eng/travel_routes/user_board/.

6) Responsibility: Engineering staff.

7) Authority: The Multiple-Use Sustained-Yield Act of 1960 and the Federal Land Policy and Management Act of 1976 require that the National Forests be managed for outdoor recreation and human occupancy and use while protecting other resources.

Monitoring management effectiveness and progress toward achieving or maintaining the Forest Plan's desired conditions or objectives is required by 36 CFR 219.

National Forest road management direction is found at 36 CFR 212 and Forest Service Manual (FSM) 7703.

8) Monitoring Priority: B – required by the Forest Plan but not by law.

9) Frequency of Evaluation Report: These indicators will be reported annually and evaluated every 5 years.

10) How Evaluated: The question, "Have management activities trended toward desired conditions for a minimum transportation system?" will be evaluated by examining miles of road open year-long and miles of road open seasonally for a five-year period, and by determining if those miles are increasing or decreasing. A downward trend indicates the Forest's open road system is trending toward the forest plan desired condition.

Forest performance in maintaining access for recreation opportunities and providing a safe and efficient transportation system directly correlates to miles of road maintained. Increases over time in road maintenance miles generally indicate improving access, safety, and efficiency. The reverse is true if the number of road miles maintained decreases.

Decommissioning and temporarily storing roads enhance environmental compatibility of the overall road system by reducing environmental impacts over the long term.

Table 29. Transportation System Statistics by Fiscal Year

Indicator	Fiscal Year				
Miles of Road Open Year-long					
Miles of Road Open Seasonally					
Miles of Road Maintained					
Level 5					
Level 4					
Level 3					
Level 2					
Level 1					
Miles of Road Decommissioned					
Miles of Road Stored					

11) Author: Susan Colyer.

MON-AR-03

1) Monitoring Question (M0N-AR-03): To what extent are motorized and non-motorized winter and summer trail recreation opportunities available for a variety of users?

2) Forest Plan References:

- **FW-DC-AR-03**
- **FW-DC-AR-04**
- **FW-DC-AR-05**
- **MA5 -DC-AR-03**
- **MA6-DC-AR-01**
- **MA7-DC-AR-03**
- **GA-DC-AR-CDA-06**
- **GA-DC-AR-CDA-07**
- **GA-DC-AR-LK-04**
- **GA-DC-AR-LK-05**
- **GA-DC-AR-PO-02**
- **GA-DC-AR-PR-01**
- **GA-DC-AR-SJ-04**
- **GA-DC-AR-SJ-06**

3) Performance Indicator(s):

- **MON-AR-03-01:** Acres open to over-snow vehicle use;
- **MON-AR-03-02:** Miles of managed over-snow motor vehicle trails;
- **MON-AR-03-03:** Miles of managed cross-country ski trails;
- **MON-AR-03-04:** Miles of trails designated for motor vehicle use yearlong or seasonally; and
- **MON-AR-03-05:** Miles of trails maintained for varied managed uses (e.g., hiker, equestrian, mountain biking, OHV, motorcycle).

4) Forest Plan Rationale and Explanation: As described in the Analysis of the Management Situation, increases in recreation demand, decreasing maintenance budgets, habitat protection measures, and watershed restoration activities are all factors influencing winter and summer trail opportunities. Monitoring these items allows the agency and public to see trends in IPNF trail management.

- Measures MON-AR-03-01, MON-AR-03-02, and MON-AR-03-03 address the level of opportunities for motorized and non-motorized winter recreation.
- Measure MON-AR-03-04 addresses the amount of trail designated for motor vehicle use.
- MON-AR-03-05 addresses the level of trail maintenance accomplished. The purpose of monitoring trail maintenance accomplishments is to determine if budgets for trail maintenance are adequate to maintain trails for their managed uses in order to meet recreation demand. As budgets and staffing change, the ability to efficiently allocate both financial and human resources needs to be periodically assessed. Upward reporting requirements are also served by completing this monitoring item. The Washington Office requires that the Forest annually submit our Trails Accomplishment Report in NRM which reports: miles of trail meeting standard, miles of trail maintained, and miles of trail improved.

5) Performance Indicator 1, 2, 3, 4, & 5: Acres open to over-snow vehicle use. Miles of managed over-snow motor vehicle trails. Miles of managed cross-country ski trails. Miles of trails designated for motor vehicle use yearlong or seasonally. Miles of trails maintained for varied managed uses (e.g., hiker, equestrian, mountain biking, OHV, motorcycle).

a) Description: To determine if desired conditions and objectives are being met, the IPNF will track acres open to over-snow vehicle use, miles of trail managed or designated for various uses, either yearlong or seasonally, and miles of trail maintained.

b) Unit of Measure: Acres/Miles.

c) Standards/Steps for Data Collection: Trail data is tracked in two data sets, spatial and tabular. Trail maintenance accomplishments are recorded yearly as required by national trail accomplishment reporting requirements.

- Spatial data is managed by data stewards according to the Core Data Standards set forth in the Forest Service National GIS Data Dictionary (http://fsweb.datamgt.fs.fed.us/).
- Tabular data is managed by data stewards according to national standards set forth in the Recreation Heritage and Resource Integrated Business site http://fsweb.wo.fs.fed.us/rhwr/ibsc/index.shtml, housed in the Forest Service Natural Resources Manager Web site's Infra database.

d) Data Storage: The Travel Trails module within the national NRM database is the repository for the tabular data about travel routes. This database has a number of standard data sets (called 'views') that can be accessed for compiling mileage measures.

- **MON-AR-03-01:** Spatial data for IPNF areas allowing over -snow vehicle use is kept at the Forest Service national data center at: T:\FS\Reference\GIS\r01_ipnf\LayerFile_ArcGIS10\Recreation.
- **MON-AR-03-02 and MON-AR-03-03:** Managed uses are tracked in the ATM module of the NRM Trails module. The performance indicator reporting will use the view titled ATM Managed and Designed Use by Forest (II_TRAIL_ATM_MNG_DSGN_RRFF_V). On or before Sept 30th of each year a copy of the II_TRAIL_ATM_MNG_DSGN_RRFF_V file for the Forest will be placed in O:\NFS\IdahoPanhandle\Program\2300Recreation\Monitoring\#### (where #### represents the fiscal year).
- **MON-AR-03-04:** Route designations (yearlong and seasonal) are tracked in the ATM module. The performance indicator reporting will use the view titled MVUM Trail Allowed Use (II_MVUM_TRAIL_ALLOW). On or before September 30th of each year a copy of the II_MVUM_TRAIL_ALLOW file for the Forest will be placed in O:\NFS\IdahoPanhandle\Program\2300Recreation\Monitoring\####.
- **MON-AR-03-05:** Yearly trail maintenance accomplishment reports are filed electronically in the NRM Trails Reports Trail Module titles Trail Annual Accomplishments.

e) Spatial Unit: Individual trails and over-snow vehicle-use areas within the IPNF boundary make up the spatial unit.

f) Frequency of Measurement: Monitor items yearly, with summary report every 5 years.

g) Precision/Reliability:

- MON-AR-03-01, 02, 03, and 04 are Class A: Validity and reliability of this data is high; and
- MON-AR-03-05 is Class B: Mostly qualitative data collection from program of work and partnership records.

h) Analysis Methods:

- **MON-AR-03-01:** A standard acreage calculation on the spatial data containing information where over-snow vehicle use is allowed will provide the data;

- **MON-AR-03-02 and MON-AR-03-03:** A standard query of the tabular data in II_TRAIL_ATM_MNG_DSGN_RRFF_V will produce the results needed for these performance indicators.

The query for trail managed uses is:

  - Route_status = EX – Existing;
  - Jurisdiction = FS – Forest Service; and
  - System = NFST – National Forest System Trail.

- **MON-AR-03-04:** A standard query of the tabular data in II_MVUM_TRAIL_ALLOW will produce the results needed for this performance indicator.

The query for trail managed uses is:

  - Route_status = EX – Existing;
  - Jurisdiction = FS – Forest Service;
  - System = NFSR – National Forest System Road; and
  - Seasonal = yearlong or seasonal.

- **MON-AR-03-05:** Yearly trail maintenance accomplishment reports are filed electronically in the NRM Trails Reports Trail Module titled Trail Annual Accomplishments.

i) Who (Cooperators): Forest and district recreation and database manager staff.

j) Cost: Tracking trail data, conducting annual maintenance, and reporting maintenance accomplishments are part of the ongoing recreation program. Analyzing the data for Forest monitoring is estimated as follows:

Table 30. Estimated Cost for this Performance Indicator

Staff	Days	Cost per Day	Total
Forest Recreation Program Manager	1	$450.00	$450.00
District Program Managers	1.5 (1/2-day for three districts/zones)	$320.00	$480.00
Forest INFRA Coordinator	2	$280.00	$560.00
Total			**$1,490.00**

k) References:
2300/2320 Fiscal Year 2013 Recreation, Heritage, and Volunteer Resources, and Wilderness & Wild and Scenic Rivers Information Management (annual direction by letter from Director of Recreation).

Forest Service Handbook (FSH) 6609.15 Chapter 30: Geographic Information Systems (GIS) Core Data Structure Standards and Chapter 40: Geospatial Metadata Standards.

Integrated Business Service Center (IBSC). National standards and guides http://fsweb.wo.fs.fed.us/rhwr/ibsc/index.shtml.

6) Responsibility: Forest recreation program manager.

7) Authority: The Multiple-Use Sustained-Yield Act of 1960 and the Federal Land Policy and Management Act of 1976 require that the National Forests be managed for outdoor recreation and human occupancy and use while protecting other resources.

Monitoring management effectiveness and progress toward achieving or maintaining the Forest Plan's desired conditions or objectives is required by 36 CFR 219.

National forest trail management, including designating motor vehicle and over-snow vehicle use, is found at 36 CFR 212 & 261, and Forest Service Manual (FSM) 7703 and 2350.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: These indicators will be reported annually and evaluated every 5 years.

10) How Evaluated: Opportunities for motorized and non-motorized winter and summer trail recreation opportunities directly correlate to the number of miles and/or acres open and maintained for such activities.

Winter motorized use opportunities will be quantified by tracking the acres and trail miles open and managed for over-snow vehicle use. Likewise, the availability of winter non-motorized recreation opportunities closely parallels the number of miles managed for cross-country ski trails. Trends over time will be evaluated to determine whether or not forest plan desired conditions are being met.

Summer opportunities for motorized and non-motorized trail use are, again, a function of the number of miles of trail available to users for these types of activities. Open miles for both motorized and non-motorized use will be tabulated annually, and trend information will be compiled over time to determine the extent of trail-related opportunities available for a variety of users.

Table 31. Open Acres and Trail Miles for Winter and Summer Motorized and Non-motorized Uses

Use	Unit	2015	2016	2017	2018	2019
Over-snow Vehicle	Acre					
Over-snow Vehicle	Mile					
Cross-country Ski Trail	Mile					
Motorized Trail – Open Yearlong	Mile					
Motorized Trail – Open Seasonally	Mile					
Non-motorized Trail	Mile					

11) Author: Susan Colyer.

MON-AR-04

1) Monitoring Question (MON-AR-04): What are the trends in visitation forestwide; and are visitors satisfied with the facilities, access, services, and perception of their safety?

2) Forest Plan References:

- **FW-DC-AR-01**
- **FW-DC-AR-04**
- **MA6-DC-AR-01**
- **MA7-DC-AR-01**
- **MA7-DC-AR-05**

3) Performance Indicator(s):

- **MON-AR-04-01:** Visitor use and trends in use forestwide; and
- **MON-AR-04-02:** Percent Satisfaction Index for developed facilities, access, services, and perception of safety.

4) Forest Plan Rationale and Explanation: Public law requires the Forest Service to manage National Forests for outdoor recreation and to offer a range of recreational opportunities. The public has stated they expect to have recreation sites available and managed for their use. It is the agency's responsibility to manage the sites within established standards and balance those uses with other resource needs. Monitoring is necessary to determine if the desired conditions at recreation sites are being met.

5) Performance Indicator 1 & 2: Visitor use and trends in use forestwide. Percent Satisfaction Index for developed facilities, access, services, and perception of safety.

a) Description: The Forest Plan desired conditions and objectives align operation and maintenance of the Forest's recreation infrastructure with available revenue, while continuing to provide a range of recreation opportunities.

Overall satisfaction for recreation opportunities will be measured through National Visitor Use Monitoring of total forest visitation, trends in forest visitation, and percent satisfaction index for developed facilities, access, services, and perception of safety. Conceptually, the Public Satisfaction Index (PSI) indicator shows the percent of all recreation customers who are satisfied with agency performance across the Forest.

b) Unit of Measure:

- **MON-AR-04-01:** Annual Visitation Estimate by forest total and visit type; day use developed sites, overnight use developed site, general forest area (dispersed use), and designated wilderness; and
- **MON-AR-04-02:** Percent satisfied index scores for aggregate categories; developed facilities, access, services, and feeling of safety.

c) Standards/Steps for Data Collection: The status and trend of visitor use numbers indicate the demand for recreation facilities. The satisfaction elements most readily controlled by managers were aggregated into four categories: developed facilities, access, services, and visitor safety. The site types sampled were aggregated into three groups: developed sites (includes both day use and overnight developed sites), dispersed areas, and designated Wilderness.

The Percent Satisfied Index (PSI) is the proportion of all ratings for the elements in the category where satisfaction was rated as of 4 or 5. The agency's national target for this

measure is 85 percent. It is usually difficult to consistently have a higher satisfaction score than 85 percent, given the tradeoffs between user groups and other factors.

Data collection is through national protocol located at http://fsweb.nris.fs.fed.us/products/NVUM_Inventory_Design/index.shtml.

d) Data Storage: Information is stored in the Natural Resource Manager database. NRM has project management and development responsibility for many Forest Service national applications, including FACTS, Infra, NRIS, and TIM.

Information on visitor use and customer satisfaction MON-AR-04-01 and 02 is at http://apps.fs.fed.us/nrm/nvum/results/.

e) Spatial Unit: Visitor use and satisfaction statistics are compiled at the forest level.

f) Frequency of Measurement: Visitor Use and Satisfaction (National Visitor Use Monitoring) are surveyed at five year intervals: 2009, 2014, and 2019.

g) Precision/Reliability, Class A: Formal visitor surveys are scheduled and performed using statistically valid methods with largely repeatable results. Reliability, precision, and accuracy are very good.

h) Analysis Methods: Analysis of data will be triggered by National Visitor Use Monitoring. Data is analyzed at the national level for consistency across the Forest Service. Forest managers use the data to inform decisions affecting recreation and access.

i) Who (Cooperators): The forest recreation program manager provides overall direction and coordination of data collection at the forest level, in compliance with national guidance. District recreation managers are responsible for ensuring data is collected. Actual visitor surveys may be performed by Forest Service personnel, contractors, or volunteers.

j) Cost: Conducting condition surveys, analyzing data, populating databases and managing improvement projects are all within the ongoing recreation program. The average cost of a visitor use survey-day is $380, and the Forest performs about 300 surveys during a monitoring year (2014).

Table 32. Estimated Cost for this Performance Indicator

Staff	Days	Cost per Day	Total
Forest Recreation Program Manager	1	$450.00	$450.00
District Program Managers	1.5 (1/2-day for three districts/zones)	$320.00	$480.00
Total			**$930.00**

k) References:
National Visitor Use Monitoring http://apps.fs.fed.us/nrm/nvum/results.

2300/2320 Fiscal Year 2013 Recreation, Heritage, and Wilderness & Wild and Scenic Rivers Information Management (annual direction by letter for Director of Recreation) http://fsweb.wo.fs.fed.us/rhwr/ibsc/tr-cost-mi.shtml.

Integrated Business Service Center (IBSC). National standards and guides http://fsweb.wo.fs.fed.us/rhwr/ibsc/tr-cost-mi.shtml and http://www.fs.fed.us/recreation/programs/nvum/.

National Visitor Use Monitor Program: http://fsweb.nris.fs.fed.us/products/NVUM_Inventory_Design/index.shtml and http://www.fs.fed.us/recreation/programs/nvum/.

6) Responsibility: Forest recreation program manager.

7) Authority: The Multiple-Use Sustained-Yield Act of 1960 and the Federal Land Policy and Management Act of 1976 require that the National Forests are managed for outdoor recreation and human occupancy and use while protecting other resources. Monitoring to determine compliance is required by the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: NRM reports are compiled and available the year following National Visitor Use Monitoring surveys.

10) How Evaluated: The National Visitor Use Report for the IPNF will be published in 2015 once the results of approximately 300 visitor survey days performed in 2014 are compiled. The reports display annual visitation estimates by forest total and visit type; day use developed sites, overnight use developed sites, general forest area (dispersed use), and designated wilderness. The reports also provide percent satisfied index scores for aggregate categories; developed facilities, access, services, and feeling of safety. Results in this report can be compared to those in the 2005, 2010, and future reports, to show trends in both visitor use and visitor satisfaction to determine whether or not there is movement towards the forest plan desired condition.

11) Author: Susan Colyer.

Resource: Wilderness

MON-WLDN-01

1) Monitoring Question (MON-WLDN-01): Have management activities met Plan objectives and trended towards management area desired conditions for designated wilderness?

2) Forest Plan References:

- **MA1a-DC-AR-01**
- **MA1a-DC-AR-04**

3) Performance Indicator(s):

- **MON-WLDN-01-01:** Designated wilderness managed to minimum stewardship level based on ten elements from national protocol on measuring. Elements are listed at http://wilderness.net/NWPS/documents/FS/10YWSC%20Elements.pdf

4) Forest Plan Rationale and Explanation: Designated wilderness and wilderness study areas: To determine the effectiveness of the Forest Plan desired condition to preserve wilderness characteristics.

5) Performance Indicator 1: Designated wilderness managed to minimum stewardship level based on ten elements from national protocol on measuring.

a) Description: The Chief's Ten-Year Wilderness Strategy requires all designated wildernesses to be managed to standard by 2015. The elements are evaluated annually to determine progress toward reaching that goal. The base line for change was the rating for the ten elements in 2005. When a composite rating of 60 is reached, the wilderness is considered to be managed to standard.

Wilderness Study Area, MA1c, will be monitored to ensure that the existing wilderness character and potential for inclusion in the National Wilderness Preservation System is maintained (R1Supplement FSM 2329, 4 Monitoring). Wilderness characteristics include natural integrity, apparent naturalness, opportunities for primitive recreation experiences, and opportunities for solitude. Recent efforts to standardize wilderness character monitoring (Landres et al. 2008, Schlenker and Filardi 2012) have provided an improved structure and template for building wilderness character monitoring assessments.

b) Unit of Measure: The unit of measure is the individual land unit or spatial unit described in (e) below.

c) Standards/Steps for Data Collection: Designated Wilderness: The ten elements were established by an agency team for use on all designated wilderness areas managed by the Forest Service. Forests are required to evaluate and report annually through the INFRA database. Evaluations are done by the forest wilderness manager and data steward with input from district wilderness managers. Data is obtained from cursory field visits by the Forest Service and public.

WSA: The Region 1 interpretation of minimum protocol for wilderness character monitoring will be utilized to complete wilderness character monitoring for Grandmother Mountain WSA. The Forest will develop a "baseline" of wilderness conditions at a snapshot in time,

establish what constitutes “significant change” thresholds, and assign weights for each measure that reflect local and regional importance.

d) Data Storage: Designated Wilderness: Data is stored in the NRM-WILD database, http://basenet.fs.fed.us/.

Wilderness Study Area data storage area is to be determined.

e) Spatial Unit: For designated wilderness the spatial unit is the portion of the designated Salmo-Priest Wilderness on the IPNF. The IPNF shares management of this wilderness with the Colville National Forest. The Salmo-Priest Wilderness totals 41,335 acres, of which 9,900 acres (based on GIS acreage) are on the IPNF in the state of Washington.

For Wilderness Study Area the spatial unit is the Grandmother Mountain WSA (6,900 acres) located on the St. Joe Ranger District.

f) Frequency of Measurement: Current national protocol calls for the elements to be measured, evaluated, and reported annually for designated wilderness. After the Wilderness Character Monitoring Report is prepared utilizing the Region 1 interpretation of minimum protocol, WSA monitoring will be reported every five years.

g) Precision/Reliability: Class B: Data will primarily come from public comments, visitor surveys (NVUM), comment cards such as those at trailheads, wilderness ranger contacts, field crew observations, and education programs.

h) Analysis Methods: The ten elements will be evaluated annually for the portion of the Salmo-Priest Wilderness on the IPNF to determine changes in standards rating and to provide recommendations for mitigation or improvement. National protocol can be found at the Lead Wilderness Data Steward Home Page http://fsweb.wo.fs.fed.us/rhwr/wilderness/lwds/index_lwds.html.

i) Who (Cooperators): Forest and district recreation and wilderness managers, wilderness rangers, recreation and wilderness data stewards, and volunteers.

j) Cost: Evaluation and recording of the ten standard elements for designated wilderness is routine and required. Each monitoring report will cost $450. Total annual cost is $900.

k) References:
FSM 2300 – Recreation, wilderness, and Related Resource Management Chapter 2320 – Wilderness Management.

Wilderness data http://fsweb.wo.fs.fed.us/rhwr/wilderness/lwds/index_lwds.html.

NRM http://basenet.fs.fed.us/.

National Visitor Use Monitoring http://apps.fs.fed.us/nrm/nvum/results/.

www.wilderness.net.

6) Responsibility: Forest recreation program manager.

7) Authority: Congress designated the Salmo-Priest Wilderness in 1984. Forest Service Manual 2322.03, 2c requires monitoring to determine whether prescriptions, standards, and guidelines are met.

8) Monitoring Priority: Designated wilderness - Priority A.

9) Frequency of Evaluation Report: Every five years.

10) How Evaluated: Ten elements of wilderness character are assessed annually for the Salmo-Priest Wilderness by the Colville National Forest wilderness manager. The composite rating is then calculated to determine if the wilderness meets “managed to standard” requirements. At five-year intervals, the IPNF will review annual ratings of individual elements, as well composite ratings, to evaluate trends in management of the designated wilderness. Trend information will be used to determine if the wilderness is being managed for the desired conditions.

A similar assessment will be performed for the Grandmother Mountain WSA at five-year intervals. Wilderness character will be rated and evaluated over time to ensure that it does not diminish from what existed in 1992 when the Forest Service acquired the area, and to ensure that the area is preserved for potential inclusion in the National Wilderness Preservation System.

11) Author: Susan Colyer.

Resource: Cultural Resources

MON-CR-01

1) Monitoring Question (MON-CR-01): To what extent is the Forest meeting Forest Plan objectives and trending towards desired condition to identify, evaluate, and nominate Cultural Resources for listing on the National Register of Historic Places (NRHP)?

2) Forest Plan References:

- **FW-DC-CR-01**
- **FW-OBJ-CR-01**
- **FW-OBJ-CR-02**

3) Performance Indicator(s):

- **MON-CR-01-01:** Number of properties identified
- **MON-CR-01-02:** Number of properties evaluated
- **MON-CR-01-03:** Number of properties nominated

4) Forest Plan Rationale and Explanation: The performance measure is directly related to the desired condition "Cultural resources are inventoried, evaluated for inclusion on the National Register of Historic Places, and managed according to their allocation category, including preservation, enhancement-public use, or scientific investigation." Individual measures were identified because each measurement is explicitly identified in law and regulation and has a separate and distinct measurement.

5) Performance Indicator 1: Number of properties identified.

a) Description: The Forest Plan objective FW-OBJ-CR-01 is to complete an inventory of 50 to 100 acres containing, or predicted to contain, highly valuable, threatened, or vulnerable cultural resources (non-project or section 110 acres).

The *National Historic Preservation Act of 1966, as Amended* (NHPA) contains two sections, 106 & 110, which defines how the Forest Service Heritage Program operates. Section 106 requires cultural resource inventories prior to project implementation. Section 110 requires cultural resource projects to occur for the benefit of the resource. The Forest Service, 2360 Heritage Manual contains the Heritage Program Measured to Standard requirements which outlines what is needed to meet the requirements of NHPA section 110.

Through these inventories additional cultural resource sites are identified and evaluated for listing on the NRHP.

b) Unit of Measure: Acres inventoried for cultural resources.

c) Standards/Steps for Data Collection: Cultural properties are identified through field survey/inventory and are entered into a national heritage data base in INFRA.

d) Data Storage: Cultural resource inventory information is documented in an Inventory Report and is stored in the Heritage INFRA Data Base as an Event. Cultural properties are

recorded on site forms and information about each site is entered and stored in the INFRA National Heritage Data Base as a Site.

e) Spatial Unit: Historic properties.

f) Frequency of Measurement: Annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Heritage INFRA can be queried to sort all new events and/or sites identified in any given year.

i) Who (Cooperators): Idaho Panhandle National Forests, Forest and Zone Archaeologists.

j) Cost: Forest Archaeologist (GS-12): 1 day ($370/day) = $370.

k) References:
National Historic Preservation Act of 1966, as Amended (NHPA).

Forest Service, 2360 Heritage Manual.

5) Performance Indicator 2: Number of properties evaluated.

a) Description: The Forest Plan objective FW-OBJ-CR-02 is to evaluate and consider for nomination 5 to 10 significant cultural resources to the National Register of Historic Places, over the life of the Plan.

All cultural resources undergo evaluation to determine if they are eligible for the NRHP. This evaluation is based on a set of four criteria:

Through these inventories additional cultural resource sites are identified and evaluated for listing on the NHPA.

Criteria A: That are associated with events that have made a significant contribution to the broad patterns of our history; or

Criteria B: That are associated with the lives of persons significant in our past; or

Criteria C: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

Criteria D: That have yielded or may be likely to yield, information important in prehistory or history.

A determination of eligible for the NRHP means that the cultural resource requires protection and is eligible for nomination to be listed on the NRHP. The nomination process requires nomination forms to be filed out. These forms are submitted to the State Historic Preservation Office (SHPO). SHPO then reviews all relative documents. If SHPO concurs with the nomination then they submit it to the Keeper of the National Register of Historic Places. The Keeper has the final say on what is added to the NRHP.

Listing a site on the NRHP means the site is of great significance to our Nation's history and prehistory, and should be protected to the best of our abilities. If either SHPO or the Keeper determined the cultural resource should not be listed then the cultural resource is no longer eligible for the NRHP or protected. Each cultural resource needs to be evaluated individually to determine if nomination is the best course of action.

b) Unit of Measure: Number of historic properties evaluated and considered for nomination.

c) Standards/Steps for Data Collection: Cultural resource sites are identified through field survey, recorded, reported, and are entered into a national heritage data base in INFRA. Further research may be required for a site to be evaluated and/or nominated for the NRHP.

d) Data Storage: Cultural resource inventory information is documented in an Inventory Report and is stored in the Heritage INFRA Data Base as an Event. Cultural properties are recorded on site forms and information about each site is entered and stored in the INFRA National Heritage Data Base as a Site.

e) Spatial Unit: Historic properties.

f) Frequency of Measurement: Annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Heritage INFRA can be queried to sort all new properties identified in any given year.

i) Who (Cooperators): Idaho Panhandle National Forests, Forest and Zone Archaeologists.

j) Cost: Forest Archaeologist (GS-12): 1 day ($370/day) = $370.

k) References:
National Register of Historic Places guidelines and forms.

National Register Bulletins.

5) Performance Indicator 3: Number of properties nominated.

a) Description: The Forest Plan objective for FW-OBJ-CR-03 is to, over the life of the Plan, develop five historic contexts, overviews, thematic studies, or cultural resources property preservation plans to help guide management and use of National Register eligible or listed properties, districts, traditional cultural properties, and cultural landscapes. Historic contexts, overviews, and/or thematic studies are research/reference papers/reports that assist in all aspects of the process (identification, evaluation, and nomination of historic properties). Cultural resources property preservation plans are written to help guide management and use of National Register eligible or listed properties. These plans provide the IPNF with a management tool that aids in the preservation of the sites. They also assist with restoration, expanding our knowledge of the site, and education and outreach.

Listing a site on the NRHP means the site is of great significance to our Nation's history and prehistory, and should be protected to the best of our abilities. If either SHPO or the Keeper determined the cultural resource should not be listed then the cultural resource is no longer

eligible for the NRHP or protected. Therefore, the decision pursue nomination is a serious one. Each cultural resource needs to be evaluated individually to determine if nomination is best course of action.

b) Unit of Measure:

- Number of historic properties evaluated and considered for nomination; and/or
- The number of reports or INFRA events that consists of one of the following: historic context, overview, thematic study, or cultural resources property preservation plan

c) Standards/Steps for Data Collection: Cultural resource sites are identified through field survey, recorded, reported, and are entered into a national heritage data base in INFRA. Further research may be required for a site to be evaluated and/or nominated for the NRHP.

d) Data Storage: Cultural resource inventory information is documented in an Inventory Report and is stored in the Heritage INFRA Data Base as an Event. Cultural properties are recorded on site forms and information about each site is entered and stored in the INFRA National Heritage Data Base as a Site. Historic contexts, overviews, thematic studies, or cultural resources property preservation plans are stored in the Heritage INFRA Data Base as an Event.

e) Spatial Unit: Historic properties.

f) Frequency of Measurement: Annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Heritage INFRA can be queried to sort for specific event types and site NRHP classification.

i) Who (Cooperators): Idaho Panhandle National Forests, Forest and Zone Archaeologists.

j) Cost: Forest Archaeologist (GS-12): 1 day ($370/day) = $370.

k) References: None

6) Responsibility: Forest Archaeologist.

7) Authority: Interim Directive No. 6509.11k-2006-14; Programmatic Agreement among the United States Department of Agriculture, Forest Service, Northern Region, the Advisory Council on Historic Preservation, and the Idaho State Historic Preservation Officer Regarding Cultural Resource Management on National Forests in the State of Idaho.

Programmatic Agreement among the United States Department of Agriculture, Forest Service, Northern Region (Montana), and the Montana State Historic Preservation Officer Regarding Cultural Resource Management on National Forests in the State of Montana.

IPNF does not currently have a programmatic agreement with Washington State Historic Preservation Officer (SHPO). Any proposed project within the state of Washington requires full consultation with the Washington SHPO.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Annually.

10) How Evaluated: Determine if the IPNF identification, evaluation for inclusion on the National Register of Historic Places, and management of cultural resources are trending towards the forest plan objective: inventory of 50-100 acres of non-project highly valuable cultural resources annually, and evaluate and consider for nomination of 5-10 significant cultural resource sites to the National Register of Historic Places over the life of the Plan. To evaluate movement towards the desired condition, include number of acres inventoried on an annual basis and those evaluated and considered for nomination over the life of the Plan. Describe the trend and whether there is movement towards, away from, or neutral to the forest plan desired condition and if there is a movement away, explain why.

11) Author: Nancy Kertis.

MON-CR-02

1) Monitoring Question (MON-CR-02): To what extent are historic properties interpreted and public education provided to move towards desired conditions?

2) Forest Plan References:

- **FW-DC-CR-02**
- **FW-OBJ-CR-02**
- **FW-OBJ-CR-03**
- **FW-OBJ-CR-04**

3) Performance Indicator(s):

- **MON-CR-02-01:** Number of newly interpreted or updated historic properties

4) Forest Plan Rationale and Explanation: The performance measure is directly related to the desired condition "Cultural resources are safeguarded from vandalism, looting, and environmental damage through monitoring, condition assessment, protection, and law enforcement measures. Interpretation and adaptive use of cultural resources provide public benefits and enhance understanding and appreciation of IPNF prehistory and history. Cultural resource studies provide relevant knowledge and perspectives to IPNF land management. Artifacts and records are stored in appropriate curation facilities and are available for academic research, interpretation, and public education."

5) Performance Indicator 1: Number of newly interpreted or updated historic properties.

> **a) Description:** The Forest Plan objective for FW-OBJ-CR-03 is, over the life of the Plan, to develop five historic contexts, overviews, thematic studies, or cultural resources property preservation plans to help guide management and use of National Register eligible or listed properties, districts, traditional cultural properties, and cultural landscapes. Historic contexts, overviews, and/or thematic studies are research/reference papers/reports that assist in all aspects of the process (identification, evaluation, and nomination of historic properties). Cultural resources property preservation plans are written to help guide management and use of National Register eligible or listed properties. These plans provide the IPNF with a management tool that aids in the preservation of the sites. They also assist with restoration, expanding our knowledge of the site, interpretation, education, and outreach. Often these

plans utilize partnerships and volunteers to achieve restoration, preservation, and protection of a site.

The Forest Plan objective FW-OBJ-CR-04 is the annual completion of one public outreach or interpretive project that enhances public understanding and awareness of cultural resources and/or history of the Plan area. Public outreach and interpretive projects can take multiple forms including (but not limited to): public talks/presentations, volunteer projects, informational signs and kiosks, displays, publications, and web sites.

b) Unit of Measure: Number of updated historic properties, public outreaches, or interpretive projects.

c) Standards/Steps for Data Collection: Cultural resource sites are identified through field survey, recorded, reported, and are entered into a national heritage data base in INFRA. Further research may be required for a site to be evaluated and/or nominated for the NRHP.

d) Data Storage: Cultural resource inventory information is documented in an Inventory Report and is stored in the Heritage INFRA Data Base as an Event. Cultural properties are recorded on site forms and information about each site is entered and stored in the INFRA National Heritage Data Base as a Site. Historic contexts, overviews, thematic studies, or cultural resources property preservation plans are stored in the Heritage INFRA Data Base as an Event.

e) Spatial Unit: Historic properties.

f) Frequency of Measurement: Annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: Heritage INFRA can be queried to sort for specific event types, new properties identified, and site NRHP classification.

i) Who (Cooperators): Idaho Panhandle National Forests, Forest and Zone Archaeologists.

j) Cost: Forest Archaeologist (GS-12): 1 day ($370/day) = $370.

k) References: None.

6) Responsibility: Forest Archaeologist.

7) Authority: Interim Directive No. 6509.11k-2006-14; Programmatic Agreement among the United States Department of Agriculture, Forest Service, Northern Region, the Advisory Council on Historic Preservation, and the Idaho State Historic Preservation Officer Regarding Cultural Resource Management on National Forests in the State of Idaho.

Programmatic Agreement among the United States Department of Agriculture, Forest Service, Northern Region (Montana), and the Montana State Historic Preservation Officer Regarding Cultural Resource Management on National Forests in the State of Montana.

IPNF does not currently have a programmatic agreement with Washington State Historic Preservation Officer (SHPO). Any proposed project within the state of Washington requires full consultation with the Washington SHPO.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Every 5 years.

10) How Evaluated: Evaluate the progress of developing five historic contexts, overviews, thematic studies, or cultural resources property preservation plans over the life of the Plan, and one public outreach or interpretive project annually. Describe the trend and whether there is movement towards, away from, or neutral to the forest plan desired condition, if movement is away, explain why.

11) Author: Nancy Kertis.

Resource: American Indian Rights and Interests

MON-AI-01

1) Monitoring Question (MON-AI-01): To what extent has the Forest progressed toward establishing Tribal agreements for the access and acquisition of forest products for traditional cultural uses?

2) Forest Plan References:

- **FW-DC-AI-02**
- **FW-OBJ-AI-01**

3) Performance Indicator(s):

- **MON-AI-01-01:** Number of forest product acquisition agreements finalized

4) Forest Plan Rationale and Explanation: The performance measure is directly related to the desired condition "The IPNF recognizes and maintains culturally significant species and the habitat necessary to support healthy, sustainable, and harvestable plant and animal populations to ensure that rights reserved by Tribes in treaties are protected or enhanced. The IPNF recognizes, ensures, and accommodates tribal access to the Forest for the exercise of reserved treaty rights and cultural uses." This measure will assure that the Forest fulfills its government-to-government responsibilities to Tribes as sovereign nations.

5) Performance Indicator 1: Number of forest product acquisition agreements finalized.

> **a) Description:** The performance measure is to establish one Forest agreement per Tribe for access and acquisition of forest products for traditional cultural uses by tribal members (FW-DC-AI-01, FW-OBJ-AI-01). The performance measure is directly related to the desired condition to develop a forest product agreement for traditional cultural use with each Tribe. The primary Treaty Tribes that the Forest has treaty responsibilities to are the Kootenai Tribe of Idaho, and the Coeur d′Alene Tribe. The Forest works directly with the following Tribes as interest presents itself: Confederated Tribes of the Colville Reservation, the Nez Perce Tribe, and the Spokane Tribe of Indians. This measure will assure that the Forest fulfills its government-to-government responsibilities to Tribes as sovereign nations. The federal government has trust responsibilities to Tribes under a government-to-government relationship to ensure that the Tribes' reserved rights are protected. These rights include the "right of taking fish at all usual and accustomed places, in common with citizens of the Territory, and of erecting temporary buildings for curing; together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land."
>
> **b) Unit of Measure:** Number of approved product acquisition agreements.
>
> **c) Standards/Steps for Data Collection:** Tribal forest product use agreements will be developed in consultation with each Tribe to assure that the protocol reflects each Tribe's needs for forest products, and each Tribe's definition of meaningful consultation is adhered to during consultation.

d) Data Storage: The completed tribal forest product use agreement(s) will be on file on the O drive at a site to be determined.

e) Spatial Unit: Tribe.

f) Frequency of Measurement: Yearly, during creation of agreements to maintain open lines of communication with Tribal Governments. After agreements have been developed they can go to every 5 years.

g) Precision/Reliability: Class A.

h) Analysis Methods: Tribal forest product agreements that have been completed and signed by the forest supervisor and the appropriate Tribal Chairman.

i) Who (Cooperators): Forest Supervisor & Tribal Chairs.

j) Cost: District Ranger (GS-13): ½ day ($370/day) = $185.00.

k) References: None.

6) Responsibility: District Ranger.

7) Authority: Forest Plan.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Every 5 years.

10) How Evaluated: Establish a collaborative evaluation process with the Tribe. Collaborative evaluation will take place during an annual meeting with the sole purpose of discussing the "health of the agreement process"; and defining problems and potential solutions to the problems. If movement is neutral or away from desired conditions, document why.

11) Author: Nancy Kertis.

MON-AI-02

1) Monitoring Question (MON-AI-02): How much has coordination between the IPNF and consulting Tribes increased?

2) Forest Plan References:

- **FW-DC-AI-01**
- **FW-OBJ-AI-02**

3) Performance Indicator(s):

- **MON-AI-02-01:** Number of cooperatively developed communication plans established

4) Forest Plan Rationale and Explanation: The performance measure is directly related to the objective of "over the life of the Plan." A cooperatively developed communication plan establishes coordination with each federally recognized Tribe with historical or treaty interests in IPNF lands. The fundamental relationship between the federal government and the individual

American Indian tribe is characterized as a government-to-government relationship. This measure will assure that the Forest fulfills its government-to-government responsibilities to Tribes as sovereign nations.

5) Performance Indicator 1: Number of cooperatively developed communication plans established.

a) Description: The performance measure is to develop one consultation communication plan per Tribe for ongoing consultation with each tribe (FW-DC-AI-01 and FW-OBJ-AI-02). The primary Treaty Tribes that the Forest has treaty responsibilities to are the Kootenai Tribe of Idaho, and the Coeur d′Alene Tribe. The Forest works directly with the following Tribes as interest presents itself: Confederated Tribes of the Colville Reservation, the Nez Perce Tribe, and the Spokane Tribe of Indians.

General guidance on tribal consultation directs us to increase and improve the involvement of tribes in the decision-making process in the areas where our decisions affect tribes and their treaty rights and interests. There is a trust responsibility that Tribes have rights to under their individual Treaties. The Forest is also required by law to consult with all federally-recognized tribes that had/have traditional uses within the Forest boundary. That consultation extends to the Kootenai Tribe of Idaho and Coeur d'Alene Tribe. The Forest works directly with the following Tribes as interest presents itself: Confederated Tribes of the Colville Reservation, the Nez Perce Tribe, and the Spokane Tribe of Indians .Most of the business between the Forest Service and Tribes is conducted at the local level between the individual tribe and each forest and/or district. Leadership for the Region's Tribal Relations program has been primarily vested in forest supervisors; each forest working as needed with respective tribal governments. A consultation protocol will outline a detailed process for consultation tailored to each tribe.

b) Unit of Measure: Number of cooperatively developed communication plans established.

c) Standards/Steps for Data Collection: Tribal communication plans will be developed to protect and enhance the resource values for which the area was identified.

d) Data Storage: The completed tribal communication plans will be on file on the O drive at a location to be determined.

e) Spatial Unit: The spatial unit is the Idaho Panhandle National Forests.

f) Frequency of Measurement: Annually, until completed.

g) Precision/Reliability: Class A.

h) Analysis Methods: Tribal communication plans completed and signed by the forest supervisor and the appropriate Tribal Chairman.

i) Who (Cooperators): Forest Supervisor & Tribal Chairs.

j) Cost: District Ranger (GS-13): ½ day ($370/day) = $185.00.

k) References: None.

6) Responsibility: District Ranger.

7) Authority: Forest Plan.

8) Monitoring Priority: Priority A.

9) Frequency of Evaluation Report: Every 5 years.

10) How Evaluated: Establish a collaborative evaluation process with the Tribe. Collaborative evaluation will take place during an annual meeting with the sole purpose of discussing the "health of the consultation/coordination process"; defining problems and potential solutions to the problems. If movement is neutral or away from desired conditions, document why.

11) Author: Nancy Kertis.

Resource: Timber

MON-TBR-01

1) Monitoring Question (MON-TBR-01): To what extent is the Forest meeting Forest Plan objectives and trending towards desired conditions to provide a mix of timber products in response to market demands?

2) Forest Plan References:

- **FW-DC-TBR-01**
- **FW-OBJ-TBR-01**

3) Performance Indicator(s):

- **MON-TBR-01-01:** MMBF offered and MMBF sold annually

4) Forest Plan Rationale and Explanation: The amount of timber offered and the amount sold has a direct correlation to the Timber desired condition and objective. This is also an important measure for determining jobs and income for Social/Economic MON-SOC-01-01.

5) Performance Indicator 1: MMBF offered and MMBF sold annually.

a) Description: Amount of timber offered and the amount sold is tracked on the Forest using TIM.

b) Unit of Measure: MMBF.

c) Standards/Steps for Data Collection: Need to enter timber sale information in TIM. See TIM for data entry standards.

d) Data Storage: TIM.

e) Spatial Unit: Forest.

f) Frequency of Measurement: The information is entered into TIM as timber sales are developed.

g) Precision/Reliability: Class A.

h) Analysis Methods: None.

i) Who (Cooperators): Forest Service only − timber and resource specialists at the district to input data; resource specialists at S.O. to query and summarize data.

j) Cost: S.O. resource clerk (GS-7) 0.5 days = $113. Timber Program Manager (GS-12) 0.5 day = $200. Total = $313.

k) References: None.

6) Responsibility: Timber Program Manager.

7) Authority: Required by the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: Review the amount of timber offered and the amount sold each fiscal year. Determine if timber sold levels are trending towards the forest plan objective. Review trends to determine if amounts are within the Forest Plan Allowable Sale Quantity (ASQ). Describe the trend and provide rationale as to why actual sold levels may be more or less than the objective. If trends are higher than the ASQ, document why (e.g., salvage sale for a catastrophic event, etc.).

Table 33. Amount of Timber Offered and Sold by Fiscal Year

Fiscal Year	Timber Offered (MMBF)	Timber Sold (MMBF)	Forest Plan Objective Amount (FW-OBJ-TBR-01) (MMBF)	Forest Plan ASQ (MMBF)
2015			45	120

11) Author: Ellen Frament.

MON-TBR-02

1) Monitoring Question (MON-TBR-02): To what extent is the Forest meeting NFMA requirements and desired conditions on size of harvest openings?

2) Forest Plan References:

- **FW-DC-VEG-05**
- **FW-STD-TMBR-02 (Also 1982 Rule requirement [219.12(k)(5)(iii)])**

3) Performance Indicator(s):

- **MON-TBR-02-01:** Number of even-aged regeneration harvest units exceeding 40 acres in size and category for exceeding

4) Forest Plan Rationale and Explanation: Forest Plan direction includes a standard (FW-STD-TBR-02) that any proposed even-aged timber harvest openings that would exceed 40 acres must follow NFMA requirements regarding public notification and approval. This measure will track when this occurs, how much it's occurring, and why.

5) Performance Indicator 1: Number of even-aged regeneration harvest units exceeding 40 acres in size and category for exceeding.

a) Description: Even-aged regeneration harvest includes clear cuts, seed tree cuts, or shelterwood cuts. Size of harvest units is tracked in FACTS and FSVeg-Poly. This measure

does not include areas harvested because of catastrophes such as, but not limited to, fire, insect and disease attack, or windstorm (the 40 acre limit does not apply to these instances).

b) Unit of Measure: Acres and category (reason).

c) Standards/Steps for Data Collection: FACTS has standards for entering harvest units. Size and harvest type is tracked in FACTS. Districts will document harvest units greater than 40 acres. The document for Regional Forester approval to exceed 40 acre limit contains reasons. Districts will enter into spreadsheet the harvest units exceeding 40 acres and the reason. This spreadsheet will be filed on the O drive (at O/….need to determine) and reasons tracked by category.

d) Data Storage: FACTS, spreadsheet.

e) Spatial Unit: Harvest unit.

f) Frequency of Measurement: The information is entered into FACTS on an on-going basis.

g) Precision/Reliability: Class A.

h) Analysis Methods: None.

i) Who (Cooperators): Forest Service only − timber (S.O. and districts).

j) Cost: Forest NEPA Coordinator (GS-12) 1 day = $400.

k) References: None.

6) Responsibility: Forest NEPA Coordinator.

7) Authority: NFMA and Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: Provide a list of timber sales and units that exceed 40 acres and provide rationale for the size of harvest units. Describe how this is consistent with vegetation desired conditions. Document the trends in number of units exceeding 40 acres in size.

Table 34. Harvest Units Greater than 40 Acres by Fiscal Year

Fiscal Year	Timber Sale	Unit	Acres	Reason(s) Greater than 40 Acres
2015				

11) Author: Ellen Frament.

MON-TBR-03

1) Monitoring Question (MON-TBR-03): To what extent are regeneration units restocked to trend towards vegetation desired conditions?

2) Forest Plan References:

- **FW-DC-VEG-04**
- **FW-DC-VEG-11**
- **FW-DC-TBR-02**
- **FW-DC-TBR-03**
- **FW-STD-TBR-03 (1982 Rule requirement [219.12(k)(5)(i)]**

3) Performance Indicator(s):

- **MON-TBR-03-01:** Percent of acres with regeneration harvest that are adequately restocked within 5 years of harvest

4) Forest Plan Rationale and Explanation: Restocking within 5 years following regeneration harvest is a standard and desired condition in the Plan. On lands suitable for timber production, restocking within 5 years ensures sustainability of timber harvest. The silvicultural prescription for the stand sets the level of restocking required.

5) Performance Indicator 1: Percent of acres with regeneration harvest that are adequately restocked within 5 years of harvest.

a) Description: Regeneration harvest includes clear cuts, seed tree cuts, shelterwood cuts, or selection harvest (individual tree or group selection). Restocking of regeneration harvest units is tracked in FACTS.

b) Unit of Measure: Acres.

c) Standards/Steps for Data Collection: Follow FACTS protocol for inventorying and entering restocking of stands.

d) Data Storage: FACTS.

e) Spatial Unit: Regeneration harvest units.

f) Frequency of Measurement: The information is entered into FACTS as timber sales monitored for stocking requirements.

g) Precision/Reliability: Class A.

h) Analysis Methods: Compare restocking of stands after 5 years of harvest to the silvicultural prescription and determine if stocking has been met. Report acres that have been adequately restocked and acres not adequately restocked to generate a percentage.

i) Who (Cooperators): Forest Service only − timber and resource specialists at the district to input data; resource specialists at S.O. to query and summarize data.

j) Cost: FACTS coordinator (GS-9) query data base 5 days = $1,500. Forest Silviculturist (GS-12) 0.5 day = $200. Total = $1,700.

k) References: None.

6) Responsibility: Forest Silviculturist.

7) Authority: Required by the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Annual.

10) How Evaluated: Provide the number of acres with adequate restocking and the number of acres with inadequate restocking five years after regeneration harvest, based on the silvicultural prescription. For those acres not meeting restocking prescriptions, document why they are not met. Document the trends in acres with adequate and inadequate restocking.

Table 35. Acres with Adequate or Inadequate Stocking 5 Years Following Regeneration Harvest

Fiscal Year	Total Acres of Regeneration Harvest 5 Years Old	Acres with Adequate Restocking	Acres with Inadequate Restocking	Percent Acres with Inadequate Restocking
2015				

11) Author: Ellen Frament.

Resource: Minerals

MON-MIN-01

1) Monitoring Question (MON-MIN-01): Are reclamation activities improving ecological and human health conditions?

2) Forest Plan References:

- **FW-DC-MIN-01**
- **FW-OBJ-MIN-01**

3) Performance Indicator(s):

- **MON-MIN-01-01:** Number of reclaimed abandoned mine sites over a five-year period. Number reclaimed to reduce the risk to human health

4) Forest Plan Rationale and Explanation: Reclamation of abandoned mine sites is included as a forest plan desired condition and an objective. The Forest Plan puts emphasis on reclamation of abandoned mines to reduce risk to human health, but it also acknowledges the importance of reclamation to reduce risk for environmental degradation.

5) Performance Indicator 1: Number of reclaimed abandoned mine sites over a five-year period. Number reclaimed to reduce the risk to human health.

a) Description: The performance measure is the number of abandoned mine sites on the Forest that have been determined by the authorized official to have been reclaimed, and/or having provided closure devices to hazardous abandoned mine features, as outlined in the approved reclamation plan criteria for the site. Of the total reclaimed, those where reclamation has focused solely on the reduction of risk to human health will also be identified. The measure is accountable at the close of the fiscal year when an authorized officer has made such determination and it is recorded in the administrative record for that site.

b) Unit of Measure: Site, Feature.

c) Standards/Steps for Data Collection: Idaho Geological Survey Report for Site identification, Hazard Ranking matrix for Site recordation, and closure recommendation.

d) Data Storage: The determination that an abandoned mine site, and/or feature is meeting the objectives of the reclamation, are found in the administrative record for the site. The record is stored at the Supervisor's Office.

e) Spatial Unit: Abandoned mine site being reclaimed.

f) Frequency of Measurement: Annual.

g) Precision/Reliability: Class A.

h) Analysis Methods: The authorized official conducts a site review and the objectives of the site reclamation plan to determine whether it is in compliance with the objectives of the plan or if additional requirements are needed to reduce the risk to human health.

i) Who (Cooperators): Forest Geologist.

j) Cost: Collect and compile the required data would take one day. Forest Geologist (GS-12), one day: $369.00.

k) References:
Kauffman, J., Bennett, E., Erdman, T., Rember, W., Moye, F., & Carroll, E. (1999). Site Inspection Reports for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1): Idaho Panhandle National Forests. Prepared for the USDA Forest Service, Region 1 by the Idaho Geological Survey.

6) Responsibility: Forest Geologist.

7) Authority: The Forest Plan, Comprehensive Environmental Response Compensation and Liability Act (CERCLA), and the Clean Water Act.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Biennial.

10) How Evaluated: The monitoring question will be answered by evaluating the number of reclaimed Sites, and/or closed Site features, with respect to the total number of known hazardous features as documented in the 1999 Idaho Geological Survey report. An increase in the ratio of known closed or reclaimed sites with respect to known un-reclaimed Sites and/or open Site features will be considered movement towards the desired condition.

11) Author: Ellen Frament.

Resource: Social and Economic Systems

MON-SOC-01

1) Monitoring Question (MON-SOC-01): To what extent is forest management contributing towards desired conditions for a stable and functioning local economy?

2) Forest Plan References:

- **FW-DC-SES-02**

3) Performance Indicator(s):

- **MON-SOC-01-01:** Number of jobs and thousands of dollars in labor income from IPNF management and percent of total planning area jobs and income

4) Forest Plan Rationale and Explanation: Jobs and income from forest management is a good measure of contributions to the quality of lifestyles and stable communities in the local area and movement towards desired conditions.

5) Performance Indicator 1: Number of jobs and thousands of dollars in labor income from KNF management and percent of total planning area jobs and income.

a) Description: The amount of jobs and income generated in the planning area (IMPLAN zone of influence) from IPNF management activities. For the IPNF, the planning area includes Benewah, Bonner, Boundary, Kootenai, and Shoshone counties. The IMPLAN and FEAST models are used in calculating the jobs and income based on output levels for timber, recreation, grazing, and Forest Service employment and budget.

b) Unit of Measure: Number of jobs and thousands of dollars of labor income and percent of total jobs and labor income in the planning area (the five counties listed in the description above).

c) Standards/Steps for Data Collection: IMPLAN and FEAST will be used to determine jobs and income from forest outputs of timber harvest, recreation, grazing, and Forest Service employment and budget. The following are the sources for resource output levels used in calculating jobs and income:

- Timber – amount of cut from the Cut and Sold Report;
- Range – amount of authorized use from grazing permits;
- Payments to States – Report ASR18-01;
- Program Receipts – Report ASR-01;
- Recreation Use – most recent NVUM for the Forest;
- Visitor Segments and spending – “Spending Profiles of National Forest Visitors, NVUM Round 2 Update”, White and Stynes 2009; and
- FS Employment – from HRM Focus report - count by series, grade, and appointment type (Report HCTSERGR) for forest averaging pay periods 14 and 1 FS Salaries – from OPM web site.

d) Data Storage: Data collected from Step 9 are stored in the Resource_data excel spreadsheet and are then entered and stored in FEAST.

e) Spatial Unit: Output levels are for the Forest; resulting jobs and income are for the zone of influence, or the 5 counties mentioned above.

f) Frequency of Measurement: Resource data and employment is measured annually.

g) Precision/Reliability: Class A.

h) Analysis Methods: IMPLAN and FEAST.

i) Who (Cooperators): Forest Service.

j) Cost: 5 day Regional economist = $900. 1 day Forest Planner (GS-12) = $400. Total = $4,400.

k) References:
White, E.M. & Stynes, D.J. (2009, March). Spending profiles of national forest visitors, NVUM round 2 update. 68 p.

Alward, Gregory; Hokans, Rick; Marshall, Richard; Niccolucci, Michael; Redmond, Clair; Smith, Doug; and Winter, Susan. (2010). Economic Impact Technical Guide. 138 p.

6) Responsibility: Forest Planner.

7) Authority: Required by the Forest Plan.

8) Monitoring Priority: Priority B.

9) Frequency of Evaluation Report: Every 5 years.

10) How Evaluated: Calculate the jobs and income associated with IPNF management using a 3-year average of Forest activities and outputs (see above discussion). Determine the percent of total area jobs and income attributed to IPNF management. Describe the trend (comparing to FEIS and any prior 5-year reports), impacts to the zone of influence, and movement towards, away from, or neutral to FW-DC-SES-02. Provide rationale if movement is away from the desired condition.

11) Author: Ellen Frament.