

Biennial Monitoring Evaluation Report Boise NF

Fiscal Years 2020-2021





Boise NF

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Cover photo: Forest Service employees discussing forest health at Mores Summit during the 2022 field season. Photo by Brian Lawatch.

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Acronyms

ACS – Aquatic Conservation Strategy AOP – Aquatic Organism Passage ASQ – Allowable Sale Quantity **BAER** – Burned Area Emergency Response **BMP** – Best Management Practice **BURP** – Beneficial Use Reconnaissance Program **CFR** – Code of Federal Regulations CWD – Coarse Woody Debris **DD** – Detrimental Disturbance (soils) **EPA** – Environmental Protection Agency FACTS – Forest Service ACtivities Tracking System **FSM** – Forest Service Manual FY – Fiscal Year **GMHA** – General Habitat Management Area **GNA** – Good Neighbor Authority **GIS** – Geographic Information System **GPS** – Global Positioning System **GRAIP** – Geomorphic Road Analysis and **Inventory Package HM** – Head Months (grazing) IDEQ – Idaho Department of Environmental Quality **IDPR** – Idaho Department of Parks & Recreation **IDT** – Interdisciplinary Team IHMA – Important Habitat Management Area **INFRA** – Infrastructure Database **MIS** – Management Indicator Species ML – Maintenance Level MMBF – Millions of board feet (timber) MTBS - Monitoring Trends in Burn Severity **NAGPRA** – Native American Graves Protection and Repatriation Act NEPA – National Environmental Policy Act **NF** – National Forest NFS - National Forest System NRHP - National Register of Historic Places NRM – Natural Resource Manager

NVUM – National Visitor Use Monitoring PALS – Planning, Appeals and Litigation System **PHA** – Priority Heritage Assets PHMA – Priority Habitat Management Area **PIBO** – Pacfish/Infish Biological Opinion PSI – Photo Science Inc. **RCA** – Riparian Conservation Area **RD** – Ranger District **RO** – Regional Office **ROD** – Record of Decision **ROS** – Recreation Opportunity Spectrum TEPCS – Threatened, Endangered, Proposed, Candidate and Sensitive (species) **TIM** – Timber Information Manager TMDL – Total Maximum Daily Load **TSPQ** – Total Sale Program Quantity **TSRC** – Total Soil Resource Commitment USDA – U.S. Department of Agriculture USFS – U.S. Forest Service WBP – Whitebark Pine WCATT – Watershed Condition Assessment Tracking Tool WCF – Watershed Condition Framework WCI – Watershed Condition Indicator WCS – Wildlife Conservation Strategy WIT – Watershed Improvement Tracking

WUI – Wildland Urban Interface

Introduction

The 2012 Planning Rule, which is found in the Code of Federal Regulations (CFR) at 36 CFR 219, guides Forest Plan monitoring across the Forest Service. The Boise National Forest (Boise NF) conformance strategy focuses on addressing the purpose of the Forest Plan monitoring program as described in 36 CFR 219.12(a)(1), which includes the need for monitoring information that enables the responsible official to determine if a change in Plan components or other Plan content that guides management of resources on the Plan area may be needed.

The Boise NF Forest Plan was amended in 2010 to incorporate the Wildlife Conservation Strategy. The next Forest Plan revision is projected to occur in the next 10 years. The analysis of the management situation will be developed at that time.

This report presents monitoring information for fiscal years (FY) 2020-2021 and is organized in two main parts. The first part is a discussion of four determinations from which one may conclude whether a change to the plan, management activities, or the monitoring program, or a new assessment, may be warranted based on the new information. The second part presents findings for each monitoring question in the monitoring plan and the data source and monitoring result for each indicator for each monitoring question. The monitoring and associated indicators address each of the eight requirements which are noted at 36 CFR 219.12(a)(5).

- (i) The status of select watershed conditions.
- (ii) The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.
- (iii) The status of focal species to assess the ecological conditions required under §219.9.
- (iv) The status of a select set of the ecological conditions required under §219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.
- (v) The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.
- (vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.
- (vii) Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.
- (viii) The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C)).

Responses to some questions have been deferred until the Forest is able to collect necessary data and update changed conditions for some resources given the recent wildfires, or until such time the Forest has capacity or is scheduled to complete monitoring for specific programs and resource areas.

Objective

The Biennial Monitoring Report evaluates new information gathered through the Plan monitoring program and relevant information from the broader-scale strategy and makes this information available to the public. The monitoring evaluation report must indicate whether a change to the Plan,

management activities, the monitoring program or a new assessment may be warranted based on the new information. The Biennial Monitoring Report is also used to inform adaptive management of the Plan area. Any testing of assumptions, another rule-stated purpose of monitoring, would be addressed where relevant to one of the four determinations to be made.

The objective for this report is to help the Responsible Official understand the needs and/or opportunities for adaptive management, per 36 CFR 219.12(d)(2). The monitoring report is not a decision document representing final Agency action and is not subject to the objection provisions of Subpart B of 36 CFR 219 (see 36 CFR 219.12(d)(4)). During monitoring evaluation, resource specialists and program managers considered whether the following needs existed:

- Need for Changing the Forest Plan;
- Need for Changing Management Activities;
- Need for Changing the Monitoring Program; and/or
- Need for Conducting an Assessment to Determine Preliminary Need to Change the Plan

Changes to Monitoring Plan since Last Report

In 2020, The Boise National Forest made changes to the plan monitoring program in the Boise National Forest Land and Resource Management Plan. The changes modify the plan monitoring program by updating indicators used in answering monitoring questions. Changing specific indicators reflects updated evaluation tools used by forest employees to monitor plan implementation and will help better inform how specific management activities influence forest plan compliance. The forest provided public notification of the proposed changes and justifications, as well as a public comment opportunity. No comments were received. A copy of the notification can be found at

<u>https://www.fs.usda.gov/detail/boise/landmanagement/planning/?cid=stelprdb5394255</u>. No changes to the plan monitoring program were made during the 2020-2021 monitoring cycle.

Monitoring Evaluation

This section describes the details of how monitoring data were collected, reported, and evaluated for the Plan Monitoring Program to support the recommendations and/or findings. This section displays the summary of data results compiled for each monitoring item.

Each monitoring item includes 1) finding on the needs for change (as previously described); 2) the monitoring question and its indicator(s); and 3) data source, background information if needed and an evaluation of the monitoring results.

Physical & Biological Ecosystems

Terrestrial Ecosystems

Monitoring Question #1

Are live vegetation, snags, and coarse woody debris (CWD) at, or moving towards, desired conditions as described in Appendices A and E of the Forest Plan?

Findings

The Boise NF found no need for changing the Forest Plan, management activities, or the monitoring program.

Indicator #1

Mix of size classes, canopy cover class, and species composition and their spatial patterns by forested Potential Vegetation Group (PVG) and non- forested cover types.

This indicator was addressed in the FY18-FY19 report. It was noted that for future Forest Plan Monitoring, the Boise NF found it appropriate to answer this monitoring question either on a decadal basis, when improved datasets become available, or following large scale uncharacteristic disturbance events (e.g. wildfire) exceeding a cumulative 250,000 acres.

Indicator #2

Project acres meeting or contributing to the desired condition for snags, CWD and live vegetation.

Data Source

Natural Resource Manager (NRM), Forest Service Activities Tracking System (FACTS)

Results

Treatment acres can overlap, particularly over multiple years, e.g. tree thinning followed with prescribed fire. Multiple overlapping treatment activities are often required to develop functioning desired conditions for snags, CWD, and live vegetation.

From 2020 through 2021, **36,044 acres** of treatment activities contributing to the desired condition for snags, CWD, and live vegetation were reported as **completed**. Completed acres are reported when work is finished on the ground, or for reforestation, when stands are certified as successfully stocked (typically within 5 years of planting).

Within this same timeframe, **41,546 acres** of treatment activities contributing to the desired condition for snags, CWD and live vegetation were reported as **accomplished**. Accomplished acres are reported when contracts are awarded, but before work has been completed on the ground. If work is not done with a service contract, agreement, or timber sale (e.g. using workforce for Rx burning), then it is reported as accomplished and completed in the same year. For reforestation, acres are reported as accomplished when the contract is awarded/trees are planted (occurs in same year), not when stands are reported as successfully stocked (certified-planted) – this helps avoid duplication in reporting.

Commercial and noncommercial thinning, prescribed burning, fuels mitigation, invasive species management, riparian exclosure fences, pollinator habitat improvement, reforestation and related treatments are types of activities included that contribute, in different temporal scales, to recruiting and sustaining snags and CWD on the landscape. Surveys, signage, public information, and other activities that do not directly contribute to improving snag, CWD and live desired conditions were excluded.

Wildfire designated as having a resource benefit can help with snag and CWD recruitment, but these numbers were distinguished from the planned activities mentioned above. From 2020 through 2021, the Boise National Forest reported 20,267 acres of Natural Ignition wildfire, 0 acres of wildfire designated as a benefit to fuels.

During the period of fiscal years 2020-2021, seven environmental analysis (NEPA decisions) were completed that authorized treatments that will contribute to improving snag, CWD, and live vegetation conditions: South Fork Boise River Bark Beetle Mitigation (Mountain Home), Lost Horse (Cascade), Lowman Wildland Urban Interface Project (Lowman), Lower Feather Maintenance Burn (Mountain

Home), Sinker Creek-Boise Ridge Forest Health Project (Idaho City), Fawn Tussock (Cascade), Sage Hen Integrated Restoration Project (Emmett). The Sage Hen project is currently going through litigation negotiation and will likely be revised.

Monitoring Question #2

Are restoration and conservation actions being implemented within Sage Grouse Priority Habitat Management Area (PHMA), Important Habitat Management Area (IHMA), and General Habitat Management Area (GMHA) to meet desired outcomes?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Monitoring Question #3

Are Forest management actions maintaining and/or restoring the distribution, abundance, and habitat quality of Threatened, Endangered, Proposed, Candidate and Sensitive (TEPCS) terrestrial species, or the occupied habitat of TEPCS and Watch plant species?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Monitoring Question #4

Are Forest management actions affecting the distribution, abundance, and habitat quality of focal species and Species of Conservation Concern?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Monitoring Question #5

Have habitat restoration and conservation actions been prioritized in watersheds identified in the Forest Plan Wildlife Conservation Strategy (WCS) as priority watersheds?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Monitoring Question #6

Are special forest product gathering activities resulting in resource depletion (e.g., overharvest of fungi, bear grass, berries)?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Monitoring Question #7

Has winter recreation affected source environments in priority watersheds identified in the Forest Plan Source Environment Restoration Strategy?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Fire

Monitoring Question #8

In Wildlife Conservation Strategy (WCS) priority watersheds, is wildland fire and or managementignited fire moving landscapes towards desired conditions for resiliency and fire condition class?

Findings

The Boise NF defers addressing this monitoring question. The previous monitoring report, which answered this monitoring question, stated this question is appropriate to answer on a five-year monitoring cycle.

Monitoring Question #9

Are high wildfire risk areas being identified within the Wildland Urban Interface (WUI) and are those acres being subsequently treated to reduce that risk?

Findings

The Boise NF found no need for changing the Forest Plan, management activities or the Forest Plan monitoring program.

Indicator

Acres of high wildfire risk within the Wildland Urban Interface (WUI) treated in a manner that reduces risk

Data Source

Natural Resource Manager (NRM) Forest Service Activities Tracking System (FACTS) Database

Results

Wildfire risk areas within the Wildland Urban Interface (WUI) were identified on the Boise NF and are being treated with hazardous fuels reduction treatments, such as prescribed burning, non-commercial thinning, yarding, mechanical piling, and hand piling. The Boise NF implemented planned WUI treatments for the following acres by fiscal year:

- Fiscal Year 2020: 10,700 acres
- Fiscal Year 2021: 1,099 acres

Aquatic Ecosystems

Monitoring Question #10

Do implemented activities maintain or restore water quality to fully support beneficial uses?

Findings

No changes needed with respect to the Forest Plan or Forest Plan monitoring program.

For future Forest Plan Monitoring Reports, the Boise NF will be reporting results on a *4-year cycle* beginning in 2022. This is because multiple indicators were identified that could be used, there is variability in data collection timing and a need to synthesize data by indicator. For this year's report, the forest is reporting only on two of the indicators, those with up-to-date data.

Indicator #1

Applicable National Core Best Management Practice

Data Source

BMP Monitoring Database

Results

Eight BMP monitoring activities designed under the Forest Service National BMP Monitoring program were completed in FY22. These activities are documented in the National BMP Monitoring database. Implementation scores range from "No BMPs" to "Fully" and effectiveness scores range from "Not" to "Effective".

Site	Evaluation Type	Date	Implementation	Effectiveness	Composite
Bannock 1, Unit 10	Both implementation and effectiveness	07/19/2022	Marginal	Effective	Good
Bannock 1, Unit 10a	Both implementation and effectiveness	07/19/2022	Marginal	Effective	Good
Bannock 1, Unit 1	Both implementation and effectiveness	07/19/2022	Marginal	Effective	Good
Cottonwood Tussock, Unit 5	Both implementation and effectiveness	08/02/2022	Marginal	Effective	Good
Cottonwood Tussock, Unit 8	Both implementation and effectiveness	08/02/2022	Marginal	Effective	Good
Willow South GNA, Unit 2	Both implementation and effectiveness	08/03/2022	Mostly	Effective	Excellent
Willow South GNA, Unit 4	Both implementation and effectiveness	08/03/2022	Mostly	Effective	Excellent
Tripod Tussock, Unit 12	Both implementation and effectiveness	08/02/2022	Mostly	Effective	Good

Table 1: Best Management Practices (BMP) Monitoring for the Forest Plan (FY20-21)

Indicator #2

Applicable Forest Plan Pathways and Watershed Condition Indicators (WCIs)

Data Source

Analysis supporting NEPA decision documents for fiscal years 2020 and 2021.

Results

See "Results" for Monitoring Question #12, Background and Indicator #1.

Indicator #3

Idaho Division of Environmental Quality (IDEQ) Beneficial Use Reconnaissance Program (BURP) data

Data Source

IDEQ 2014 Integrated Report

Results

IDEQ routinely monitors Idaho's waters using the BURP and other data and methods described in the Water Body Assessment Guidance. Every 2 years, IDEQ is required by the Federal Clean Water Act to conduct a comprehensive analysis of Idaho's water bodies to determine whether they meet state water quality standards and support beneficial uses or if additional pollution controls are needed. This analysis is summarized in an "Integrated Water Quality Monitoring and Assessment Report" (Integrated Report), which is submitted to the U.S. Environmental Protection Agency (EPA) for approval. The Integrated Report must be approved by the EPA before it can be used by a state to guide its management decisions.

The Report serves as a guide for developing and implementing water quality improvement plans (total maximum daily loads, or TMDLs) to protect water quality and achieve Federal and state water quality standards. This report provides an overall assessment to the Forest to gauge how well water quality and beneficial use are being maintained on water bodies within Forest boundaries. The <u>Integrated Report</u> can be accessed by clicking on link or by going to http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report.aspx.

Monitoring Question #11

Are management activities in riparian conservation areas (RCAs) designed to maintain or restore riparian functions and ecological processes?

Findings

The Boise NF found no need for changing management activities or the Forest Plan monitoring program.

Indicator

Design-based preservation of RCA function and process as captured in the project record in three planning elements 1) IDT determination of RCA delineation process and within-RCA activities, 2) Stand-scale silvicultural prescriptions specific to PVG objectives, and 3) Burn Plan for prescribed fire activities as related to number one (above).

Data Source

NEPA decision documents, specialist reports and biological evaluations/assessments from fiscal years 2020 and 2021.

Results

The Boise NF reviewed project lists with Decision Documents to determine which were implemented in Fiscal Years 2020 and 2021 and, of those implemented, which project activities occurred within RCAs. The review process assessed whether design features with actions in RCAs were successfully implemented and effective in avoiding or reducing impacts to RCA function and process. Activities identified to occur within known threatened/endangered occupied habitats that were reviewed for successful implementation include special uses, mineral exploration, vegetation management (timber sales – precommercial thinning), fuels (prescribed fire and thinning,; and watershed restoration (road decommissioning and culvert replacement for aquatic organism passage)

For projects in fiscal years 2020 and 2021, the Boise NF delineated RCA buffers per the Forest Plan and passed them through a Forest Plan consistency checklist to avoid or minimize impacts to riparian functions and ecological processes during project implementation. The Forest Plan consistency checklist integrates the Matrix of Pathways and Watershed Condition Indicators. Accordingly, vegetation management (prescribed fire, precommercial thinning and commercial timber sales) activities had limited ground disturbance in the outer margins of RCAs, and it is expected that these actions will result in improved riparian function and ecological process in the long-term. Watershed restoration activities

are specifically designed to restore riparian function and ecological process while all remaining special uses and mineral exploration projects were designed to maintain watershed condition indicators and riparian function and ecological processes.

Monitoring Question #12

Have habitat restoration and conservation been prioritized in watersheds identified in the Forest Plan Aquatic Conservation Strategy (ACS) priority watersheds?

Findings

The Boise NF found no need for changing the Forest Plan, management activities or the Forest Plan monitoring program.

Indicator #1

Within ACS priority watersheds: Applicable Forest Plan Pathways and WCIs.

Data Source

Watershed Improvement Tracking (WIT), National Environmental Policy Act (NEPA) decision documents for pertinent projects implemented in fiscal years 2020 and 2021, with crosswalk to Forest Plan ACS priority watersheds.

Results

Although the Aquatic Conservation Strategy (ACS) and (Watershed and Aquatic Recovery Strategy) WARS high priority subwatersheds are the highest priority for aquatic restoration, not all projects implemented, or dollars spent in fiscal years 2020 and 2021, occurred in ACS and WARS high priority subwatersheds.

Some projects are driven by other Forest Plan priorities or resource issues while other projects were implemented because the Forest Service must meet its multiple use obligations and respond to special use requests. Restoration projects may be driven by outside groups that have a specific interest in an issue or aquatic resource that falls outside of ACS priority subwatersheds. With these considerations, only one project was implemented during this reporting period addressed management area objectives in ACS priority subwatershed (*Table 2*).

Indicator #2

Within ACS priority watersheds: Certified accomplishments (core and integrated targets)

Data Source

Forest Service Watershed Improvement Tracking (WIT) database

Results

In fiscal years 2020 and 2021 the Boise NF implemented a total of 76 miles (2020 – 36.6 miles, 2021 – 39.4 miles) of streams restored or enhanced (*Table 2*) with one project implemented within an ACS priority watershed (1.9 miles). Most restoration work during the reporting period was comprised of planting projects.

Fiscal Year 2020 Projects			
Project	ACS Priority	Watershed Restoration Priority	Stream Miles Restored or Enhanced
Elk Creek Reforestation	No	Active Low	2.59
Beaver Creek AOP	No	Active Moderate	3.73
Edna Creek Trail Bridge	No	Active Moderate	0.93
Lamar Creek Trail Bridge	No	Active Moderate	2.52
Barber Bridge Planting	No	Active Moderate	0.13
Rock Creek Planting	No	Active Low	21.46
Silver Creek Bank Stabilization	No	Active High	0.18
Beaver Pond Fence	No	Active Low	0.67
Two-Bit Road Decommissioning	No	Active High	2.35
FS Road 474 Decommissioning	No	Active High	2.06
Total Stream Miles Restored or Enhanced	36.62		
Fiscal Year 2021 Projects			
Project	ACS Priority	Watershed Restoration Priority	Stream Miles Restored or Enhanced
Elk Creek Reforestation	No	Active Low	1.26
Beaver Creek Planting	No	Active Moderate	0.12
Grimes Creek Planting	No	Active Low	0.99
Forest Road 384 Stabilization	No	Active Moderate	0.37
Edna Creek (Lower) AOP	No	Active Moderate	0.71
Edna Creek (Upper) AOP	No	Active Moderate	0.57
South Fork Salmon River Planting	No	Active High	1.38
*Trail Face Road Decommissioning	Yes	Active High	1.92
Clear Creek Planting	No	Passive High	25.58
Forest Road 693 A, L, Q, D Decommissioning	No	Active High	6.48

Table 2. Projects by Fiscal Year with stream miles restored or enhanced

*Actions within ACS priority watersheds

Monitoring Question #13

Are Forest management actions affecting the distribution, abundance, and quality of habitat for TEPC aquatic species or focal species?

Findings

The Boise NF found no need for changing the Forest Plan or the Forest Plan monitoring program. For future Forest Plan Monitoring, the Boise NF found it appropriate to continue to answer this monitoring question on a *two-year* monitoring cycle.

Background

The Boise NF selected bull trout as an aquatic management indicator species because bull trout are sensitive to habitat changes, dependent upon habitat conditions that are important to many aquatic organisms, relatively well understood by Forest biologists, and widely distributed throughout the Forest. In addition, bull trout populations are not influenced by stocking by Idaho Department of Fish and Game.

Direction for management indicator species comes from 36 CFR 219.19. Specifically, 36 CFR 219.19(a)(1) states that species shall be selected because their population changes are believed to indicate the effects of management activities. 36 CFR 219.19(a)(6) states that, "Population trends of the management indicator species will be monitored and relationships to habitat changes determined". To address this direction, monitoring for management indicator species must establish the trend of the species in relation to habitat changes caused by management activities.

For aquatic species, trend is typically monitored using relative abundance estimates over time in a select set of streams. However, the challenge with abundance data is that it is often influenced by sampling error and natural inter-annual variation in abundance (Platts and Nelson 1988; Maxell 1999; Ham and Pearsons 2000; Dunham et al. 2001). Previous work on bull trout and other salmonids highlight several limitations to monitoring abundance for detecting trends, including: 1) low statistical power (Maxell 1999; Ham and Pearsons 2000); 2) errors in estimating abundance (Dunham et al. 2001; Peterson et al. 2004); 3) high natural variability in populations (Platts and Nelson 1988); 4) lack of a connection between abundance and habitat (Fausch et al. 1988); and 5) the high cost of estimating population abundance using rigorous methods, such as mark-recapture. Given these well-known limitations, an alternative trend monitoring approach was needed.

The alternate approach to abundance monitoring for bull trout is monitoring the spatial patterns of occurrence (distribution) through time. Monitoring distributions can be particularly appropriate for bull trout because bull trout have very specific habitat requirements. Specifically, bull trout distribution is limited to cold water (Dunham et al. 2003), and suitably cold habitats are often patchily distributed throughout river networks (Poole et al. 2001). Dunham and Rieman (1999) found that bull trout populations in the Boise River basin are linked closely to available habitat "patches" or networks of cold water. A patch is defined for bull trout as the contiguous stream areas believed suitable for spawning and rearing (Rieman and McIntyre, 1995). Rieman and McIntyre (1995) analyzed bull trout in the Boise River and found occurrence to be positively related to habitat size (stream width) and patch (stream catchment) area, as well as patch isolation and indices of watershed disruption. Patch size (area) was the single most important factor determining bull trout occurrence.

The Boise NF used criteria similar to those used by the Rocky Mountain Research Station in the Boise and Payette subbasins. Patches initially were defined based on major physical gradients (patch size as it related to stream size and elevation). Patches were identified as the catchments above 1600 meters and delineated from U.S. Geological Survey 10 m Digital Elevation Models (DEM). The 1600 m elevation was used because Rieman and McIntyre (1995) observed juvenile bull trout (<150 mm) in streams at or

above this elevation in the Boise basin. Small (< 150 mm) bull trout were found at elevations as low as 1,520 m, but the frequency of occurrence increased sharply at about 1,600 m (Rieman and McIntyre 1995; Dunham and Rieman 1999).

Subwatersheds that were above 1600 m, but less than 500 hectares, were also not included because they rarely supported perennial streams large enough to support bull trout. Watson and Hillman (1997) found bull trout only in streams greater than two meters in width, even with free access to many smaller habitats within occupied patches. Studies in western Montana (Rich 1996) and southwest Idaho (Rieman and McIntyre 1995; Dunham and Rieman 1999) show bull trout are less likely to occur in streams less than two meters in width. The Boise NF used the assumption that patches less than 500 hectares would have streams with a wetted width smaller than two meters.

Once bull trout patches were identified, they were classified into four categories to further focus sampling efforts over the life of the Forest Plan. These categories included: (Strata 1 - Occupied) patches known to support a bull trout population (i.e., spawning and or early rearing has been documented by the occurrence of bull trout less than 150 millimeters) as indicated by past surveys (last seven years); (Strata 2 - Suitable) patches that have been surveyed and baseline conditions likely will support a bull trout population, but bull trout have not been detected or patches where bull trout have been surveyed, baseline conditions (i.e. stream temperature, too steep of gradient, etc.) likely will not support a bull trout population, and bull trout have not been detected (i.e. we assume these patches are unsuitable and unoccupied); and (Strata 4 - Unknown) patches that have not been surveyed.

Observations used to define patch boundaries were based on the more restricted movements of small (less than 150 millimeter) bull trout. Although some bull trout may exhibit seasonal movements from natal habitats to wintering or foraging areas (e.g. larger rivers, lakes, or reservoirs), fidelity to the natal environments is likely during spawning and initial rearing. Because spawning salmonids home to natal streams and even reaches (Quinn 1993), occupied patches separated by thermally unsuitable habitat are likely to represent populations with some reproductive isolation.

Indicator

Watershed Condition Indicators tracked for selected aquatic focal species:

- Presence/absence data;
- Acres/miles of occupied habitat;
- Number of strongholds; and
- Number of isolated populations.

Data Sources

Annual Management Indicator Species monitoring, Aquatic Survey Database and Environmental DNA

Results

The Boise NF found it appropriate to continue to answer this monitoring question on a *two-year* monitoring cycle. There are 179 bull trout patches across the Boise National Forest. Some subbasins have as many as 45 bull trout patches and not all patches would be able to be monitored in a single year. It is approximately seven years for one monitoring cycle, however each year additional patches are sampled within each subbasin.

The Boise NF started bull trout patch trend monitoring in 2003 and completed initial surveys for all strata 4 patches by 2009. Therefore, bull trout trend monitoring will make comparisons of Strata 1 bull trout

patches between this reporting period (ending with fiscal year 2021) and 2009 (the first year the Boise NF obtained baseline conditions for all 179 bull trout patches) as well as the last reporting period (2019).

Monitoring bull trout patches across the Boise NF since 2009 suggest occupied bull trout patches have increased, 57 Strata 1 patches in 2009 compared to 59 strata 1 patches in 2021. Below is a summary and trend of each subbasin (Hydrologic Unit Code, HUC-8) (Table 3).

Boise River Basin

North and Middle Forks Boise subbasin (HUC-17050111): There are 45 bull trout patches within the North and Middle Forks Boise subbasin of which there were 13 strata 1 patches in 2009 and 16 strata 1 patches in 2021. There is an improving trend of bull trout patch occupancy since 2009 and an improving trend since the last reporting period (2019) in the North and Middle Forks Boise subbasin.

Boise-Mores subbasin (HUC-17050112): There are 14 bull trout patches within the Boise-Mores subbasin of which there was one strata 1 patch in 2009 and two strata 1 patches in 2021. There is an improving trend of bull trout patch occupancy since 2009 and an improving trend since the last reporting period (2019) in the Boise-Mores subbasin.

South Fork Boise subbasin (HUC-17050113): There are 27 bull trout patches within the South Fork Boise subbasin of which there were four strata 1 patches in 2009 and three strata 1 patches in 2021. There is a declining trend of bull trout patch occupancy since 2009 and no trend or the amount of bull trout patches has remained the same since the last reporting period (2019) in the South Fork Boise subbasin.

Payette River Basin

South Fork Payette subbasin (HUC-17050120): There are 36 bull trout patches within the South Fork Payette subbasin of which there were 13 strata 1 patches in 2009 and 11 strata 1 patches in 2021. There is a declining trend of bull trout patch occupancy since 2009 and no trend or the amount of bull trout patches has remained the same since the last reporting period (2019) in the South Fork Payette subbasin. Bull trout have been documented within the Tenmile Patch during the 2022 field season. However, this will be reported in the next monitoring report cycle.

Middle Fork Payette subbasin (HUC-17050121): There are 12 bull trout patches within the Middle Fork Payette subbasin of which there were three strata 1 patches in 2009 and three strata 1 patches in 2021. There is no trend, the number of bull trout patch occupancy since 2009 remained the same and no trend or the amount of bull trout patches has remained the same since the last reporting period (2019) in the Middle Fork Payette subbasin.

Payette subbasin (HUC-17050122): There are five bull trout patches within the Payette subbasin of which there were four strata 1 patches in 2009 and two strata 1 patches in 2021. There is a declining trend of bull trout patch occupancy since 2009 and no trend or the amount of bull trout patches has remained the same since the last reporting period (2019) in the Payette subbasin.

North Fork Payette subbasin (HUC-17050123): There is one bull trout patch within the North Fork Payette subbasin of which there were one strata 1 patch in 2009 and zero strata 1 patches in 2021. There is a declining trend of bull trout patch occupancy since 2009 and no trend or the amount of bull trout patches has remained the same since the last reporting period (2019) in the North Fork Payette River subbasin. Bull trout have been documented within the North Fork Gold Fork Patch during the 2022 field season. However, this will be reported in the next monitoring report cycle.

Salmon River Basin

Upper Middle Fork Salmon subbasin (HUC-17060205): There are 10 bull trout patches within the Upper Middle Fork Salmon subbasin of which there were eight strata 1 patches in 2009 and 10 strata 1 patches in 2021. There is an improving trend of bull trout patch occupancy since 2009 and an improving trend since the last reporting period (2019) in the Upper Middle Fork Salmon River subbasin.

South Fork Salmon subbasin (HUC-17060208): There are 24 bull trout patches within the South Fork Salmon subbasin of which there were 10 strata 1 patches in 2009 and 12 strata 1 patches in 2021. There is an improving trend of bull trout patch occupancy since 2009 and no trend or the amount of bull trout patches has remained the same since the last reporting period (2019) in the South Fork Salmon River subbasin.

Basin / Subbasin		2009 ¹		**L Cy	ast repoi vcle 2019	rting **		2021		Ті	rend
	Strata 1	Strata 2	Strata 3	Strata 1	Strata 2	Strata 3	Strata 1	Strata 2	Strata 3	Since 2009	Since last reporting cycle
					Boi	ise Basin					
Boise Mores	1	4	9	1	5	8	2	5	7	+	+
South Fork Boise	4	11	12	3	11	13	3	11	13	-	Ø
North Middle Fork Boise	13	18	14	12	18	15	16	13	16	+	+
					Paye	ette Basir	1			-	
Payette	4	0	1	2	2	1	2	2	1	-	ø
South Fork Payette	15	20	5	13	18	9	13	18	9	-	Ø
Middle Fork Payette	3	3	6	3	2	7	3	2	7	ø	Ø
North Fork Payette	1	0	0	0	1	0	0	1	0	-	Ø
Salmon Basin											
South Fork Salmon	10	5	9	10	5	9	12	3	9	+	+
Middle Fork Salmon	8	1	1	8	1	1	10	0	0	+	+

 Table 3. Bull trout patch trends summarized by subbasin.

¹Bull trout patch monitoring started in 2003, however 2009 was the first year all strata 4 patches (patches that have not been surveyed) had initial surveys conducted.

Ø = No Trend + = Positive Trend - = Negative Trend

Monitoring Question #14

Is water quality in priority watersheds being maintained or restored to fully support beneficial uses and native and desired non-native fish species and their habitats?

Findings

The Boise NF found no need for changing the Forest Plan, management activities or the Forest Plan monitoring program.

Indicator

Miles of stream habitat improved

Data Source

Idaho Department of Environmental Quality data

Results

Based on Idaho DEQ BURP monitoring across the Boise National Forest, water quality was maintained or improved in all subbasins and all BNF Aquatic Conservation Strategy Priority subwatersheds (*Table 4*). All surveyed waters were maintained or had an improving trend to fully support beneficial uses for native and desired non-native fish species and their habitats.

Table 4 Subbasins and ACS Priority subwatersheds with stream <u>not</u> supporting beneficialuses within BNF

Basin/Subbasin/ Subwatershed	2016 (miles of streams)	2018/2020 (miles of streams)	Water Quality Trend
Boise River Basin			
Boise Mores subbasin	387.8	387.8	Ø
ACS Priority Upper Mores Creek 6 th HU	36.1	36.1	Ø
Lower Boise subbasin	11.9	11.9	Ø
South Fork Boise subbasin	110.5	110.5	Ø
ACS Priority Elk Creek 6 th HU	0	0	ø
ACS Priority Bear Creek 6 th HU	0	0	Ø
North Middle Fork Boise subbasin	13.2	5.0	+
ACS Priority Roaring River 6 th HU	8.3	0	+
ACS Priority Upper Bear River 6th HU	0	0	Ø
ACS Priority Pikes Fork 6 th HU	0	0	Ø
Payette River Basin			
Payette subbasin	9.7	9.7	Ø
ACS Priority Squaw-Pole 6 th HU	0	0	Ø
ACS Priority Third Fork 6 th HU	0	0	Ø
South Fork Payette subbasin	121.5	121.5	Ø
ACS Priority Deadwood Reservoir 6 th HU	0	0	Ø
ACS Priority Upper Deadwood 6 th HU	0	0	Ø

Basin/Subbasin/ Subwatershed	2016 (miles of streams)	2018/2020 (miles of streams)	Water Quality Trend
ACS Priority Deer Creek 6 th HU	0	0	Ø
Middle Fork Payette subbasin	168.4	46.7	+
ACS Priority Upper MF Payette 6 th HU	27.6	0.0	+
ACS Priority Anderson Creek 6 th HU	0	0	ø
ACS Priority Bull Creek 6 th HU	0	0	ø
North Fork Payette	84.1	84.1	ø
ACS Priority NF Gold Fork Creek 6 th HU	0	0	Ø
Salmon River Basin			
South Fork Salmon subbasin	250.6	250.6	Ø
ACS Priority Upper Burntlog Creek 6 th HU	0	0	ø
ACS Priority Lower Burntlog 6 th HU	0	0	ø
ACS Wardenhoff-Bear 6 th HU	13.1	13.1	ø
Middle Fork Salmon subbasin	48.8	48.8	Ø
ACS Upper Bear Valley 6 th HU	28.9	28.9	Ø

Ø = No Trend

+ = Positive Trend

Productivity of the Land

Soils

Monitoring Question #15

Is the Forest maintaining or restoring soil quality?

Findings

The Boise NF found no need for changing the Forest Plan or the Forest Plan monitoring program.

For future Forest Plan Monitoring, the Boise NF found it appropriate to continue to answer this monitoring question on a *two-year* monitoring cycle.

Indicator #1

Amount of activity area in non-detrimentally disturbed condition

Indicator #2

Acres of Total Soil Resource Commitment (TSRC) added or restored

Indicator #3

Applicable National Core Best Management Practices. The Boise National Forest defers this question to the 2024 report.

Data Source (for Indicators 1and 2)

NEPA decision documents from fiscal years 2020 and 2021, implementation review of selected projects and Forest BMP monitoring.

Results (for Indicators 1 and 2)

Management activities can directly or indirectly influence soil quality, either temporarily or over short- or long-term timeframes. Proposed activities are first evaluated for consistency with applicable Forest Plan standards and guidelines and then monitored to ensure the physical, biological, and chemical components necessary for soil quality are maintained or, where needed, restored to move toward desired conditions. The types of monitoring conducted range from interdisciplinary team (IDT) review of implemented projects to resource-specific monitoring and assessment of soil impacts from selected activities.

Forest management activities that often raise concerns for soil quality are vegetation treatments, such as commercial timber harvest and associated implementation activities (e.g. road construction, reconstruction and/or decommissioning), prescribed fire, and livestock grazing allotments. While it is common for vegetation management activities to directly impact soil quality, most effects are limited to temporary or short-term timeframes while providing conditions to support desired vegetation growth and to minimize effects of naturally occurring wildland fires over the long term. In the case of livestock grazing, detrimental effects to soil quality seldom occur from authorized livestock grazing across the majority of the allotment. Localized detrimental impacts do occur where livestock concentrate (near water, shipping corrals, etc.); however, these disturbances generally do not exceed 15 percent as defined by Forest Plan Standard SWST02.

Road decommissioning is an important component in restoring soil quality and watershed conditions. The Forest continually evaluates the road system to achieve Forest Plan desired conditions. Roads not likely needed for future use are decommissioned or converted to other uses through project-level NEPA decisions.

The following table highlights projects that were evaluated using different monitoring methods: IDT reviews, forest soil disturbance monitoring protocol (FSDMP) (Page-Dumroese et al. 2009), soil health assessments, or Burned Area Emergency Response (BAER) assessments.

Activity	Conclusions / Summary of Results
Forested Vegetation Treatments	Detrimental disturbance (DD) was found to be within the Forest Plan criteria of less than 15% for each activity area after completion project activities; Total Soil Resource Commitment (TSRC) was below 5% for defined activity areas, with some decreases attributed to road decommissioning. DD & TSRC objectives were achieved because of project design features, which included recontouring skid trails, rehabilitating landings, and decommissioning temporary roads. Projects included: Sagehen Integrated Restoration Project, Cottonwood and Tripod Projects, French Hazard, Boise Ridge-Sinker Creek Project.
Prescribed Fire	DD was found to be within the Forest Plan criteria of less than 15% for each activity area after completion project activities; TSRC is not an appropriate indicator. Projects include Williams Creek and Miller Creek.
Rangeland Management	DD was found to be within the Forest Plan criteria of less than 15% for each activity area after completion project activities; effective ground cover (EGC)

Table 5: Projects Evaluated for Soil Productivity Determinations

Activity	Conclusions / Summary of Results
	was representative of vegetation communities to protect soils; TSRC is not an appropriate indicator. Allotments evaluated include Ola C and Lester Creek.
Road Decommissioning	FY2020: 9.6 miles. FY2021: 12.75 miles. Projects include the 474 Road Decommissioning Project, Two Bit Road Decommissioning, Scriver Creek Integrated Restoration Project, and Trail Face Road Decommissioning.

Invasive Species

Monitoring Question #16

Are Forest invasive species management activities effectively controlling or eradicating targeted populations of noxious weeds and preventing new invader species from becoming established?

Findings

The Boise NF found no need for changing the Forest Plan, Management Activities, or the Forest Plan monitoring program.

Indicator #1

Acres treated of current infestations

Indicator #2

Acres treated of new infestations

Indicator #3

Acres treated of new invader species to the Forest

Figure 1. Dalmation toadflax (*Linaria dalmatica*), an Idaho Noxious weed known to occur on the Boise National Forest. This photo is taken before the plant is in flower.



Data Source for All Indicators

Natural Resource Manager (NRM), Forest Service ACtivities Tracking System (FACTS) and Threatened, Endangered and Sensitive Plants – Invasive Species (TESP-IS) Databases

The data used to respond to this question was generated from the NRM FACTS database and Boise NF Corporate GIS data sets. Annually, field personnel record site information and log in GPS points at each noxious weed treatment site. This data is entered into the official Forest Service database, NRM TESP-IS, with the spatial data being entered into Boise NF Corporate GIS data sets. This database tracks locations, acres treated, as well as target noxious weed species. The data for this report was drawn from these field level entries from NRM and Boise NF GIS data sets.

Results for All Indicators

When comparing acres of weed infestations treated from year to year, it is generally noted that if sites are retreated, the amount of herbicide used on the site becomes less over time for a given site – meaning the weed infestation is contained, controlled, and/or eradicated at that site. Retreatments occur at a site because the seed source that exists in the soil continues to germinate each year. Some sites do not require retreatment the following year but may require retreatments 2 or 3 years in the future. Acres of weed infestations treated each year will fluctuate due to environmental conditions that influence seed germination, wildfire disturbances, drought and other management activities or priorities.

Table 6. Infestation Treatment Acres

Year	Column 1: Acres treated of known infestations in management areas identified for eradication or control	Column 2: Acres treated of new invader species to the Forest	Column 3: Acres treated of new infestations
	This is the acreage sum from FACTS 'Acres of Invasive Treatments Accomplished' that were treated in 2020 and 2021	This is the acreage sum from FACTS and GIS for SUIDs* with new invader species identified in 2018 and 2019	This is the acreage sum from FACTS and GIS for treatment areas (SUIDs) that were newly created in 2020 and 2021
2020	3,961	0	376
2021	2,333	0	1,607

*SUID : Subunit ID is a unique identification code assigned to each individual treatment activity area in FACTS.

The acres identified above in *Column 1* are less than previous years mainly because in previous years the Forest was treating many sites that experienced wildfires. It is common for treated acres to increase following wildfire disturbances, then decline 4-5 years following wildfire once native vegetation reestablishes on the site. Less acres are also attributed due to the forest range personnel have been working to improve the accuracy of inventory polygons.

Human Uses & Designations

Facilities

Monitoring Question #17

Is the transportation system providing recreational opportunities and safe and efficient public and agency access, and are they environmentally compatible?

Findings

The Boise NF found no need for changing the Forest Plan, management activities, or the Forest Plan monitoring program.

Maintenance of the transportation system is complex because it is partially accomplished through cooperation with other agencies (e.g. county and highway districts), cost share cooperators (e.g. Idaho Department of Lands), and private landowners. In some cases, maintenance responsibilities are exchanged with other jurisdictions through maintenance agreements when such actions create efficiencies for both parties.

Figure 2. Excavation for the placement of an Aquatic Organism Passage (AOP) on National Forest System Road (NFSR) 384 Road, Idaho City Ranger District in 2020



The Forest's ability to maintain the road system depends on several factors, such as:

- Total miles of open roads
- Allocated funding for road maintenance
- Miles maintained through commercial activities, such as timber sale and stewardship contracts
- Allocated funding for road improvement projects to support other resources
- Road maintenance levels
- Resource protection levels
- Recreation traffic levels

Road maintenance budgets fluctuate year to year but have generally declined over the years. As timber sales have declined from the peak levels (from 1970s to 1990s), commercial user contributions to road maintenance have also declined.

A combination of significant population growth in the local area, as well as the COVID-19 pandemic, have caused a notable increase in recreational use of the National Forest. An indicator of the recreational use increase is data collected from traffic counters on the Boise National Forest. National Forest System Road (NFSR) 698 on the Emmett Ranger District, a popular road maintained for passenger cars accesses multiple developed recreation sites and dispersed recreation opportunities. From May 25 to September 21, 2018, approximately 42,000 vehicles traveled on NFSR 698. Between those same dates in 2020,

traffic increased by nearly 40% with a total of 59,000 vehicles using the road. The resulting increase in traffic volume has heightened the need for maintenance of forest roads, including seasonal blading and more long-term solutions such as resurfacing and replacement of aggregate materials.



Figure 3. Comparison of recreational use of the 698 Road between 2018-2020

A Forest Road Maintenance Plan is developed each year after meeting with district personnel across the Forest to determine priorities. Generally, roads subject to the Highway Safety Act (maintained for passenger car vehicles) are given a higher priority. Critical health and safety work items are also assigned a higher priority than critical resource protection work items. The maintenance plan is subject to change as field conditions are continually being monitored by forest staff.

Figure 4. Asphalt placement on NFSR 427 in 2020 (Project funded through Emergency Relief Federally Owned – ERFO program, which also decommissioned a segment of the damaged 474 road)



Indicator #1

Miles of roads maintained by maintenance level

Data Source

Forest Service Infrastructure (NRM-INFRA) Roads Database Road Maintenance Plan and Accomplishments

Results

Roads under the jurisdiction of the Boise NF are classified according to Operational Maintenance Levels (ML). Nationally, the Forest Service defines five Operational Maintenance Levels: 1, 2, 3, 4, and 5. ML 1 roads are closed to motor vehicle use. ML 2 roads are maintained for high-clearance vehicles. ML 3, 4 and 5 roads are maintained for passage by standard passenger cars during the normal season of use.

Table 7. Total Miles of Roads by Operational Maintenance Level (ML) under the Jurisdiction of the Boise NF

ML5	ML4	ML3	ML2	ML1
0	17	498	2,566	1,534

Query or snapshot of road system on 06/06/2022.

ML1 roads are closed to motorized traffic and in a state of storage. Road maintenance level 1 is defined in the FSH 7709.59, sec. 62.32 as: "These are roads that have been placed in storage between intermittent uses. The period of storage must exceed 1 year. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level".

Table 8. Accom	plishments b	v Road Maintenance	Level	(ML)	(in miles)
		y Roua mannenance			(111 11110-5	,

Fiscal Year (FY)	ML5	ML4	ML3	ML2	ML1
2020	0	9.7	239.6	140.6	0.8
2021	0	2.4	212.1	163	5.6

Indicator #2

Miles of road decommissioned

Data Source

Forest Service Watershed Improvement Tracking database

Background

The Forest Service continually evaluates the road system needed to achieve the desired conditions in the Forest's 2010 Land and Resource Management Plan: promote ecosystem health; address public safety and efficiency of operations in an environmentally sensitive manner within current and anticipated funding levels; and provide for a safe and cost-effective transportation system that provides access for the use and enjoyment of NFS lands. Roads not likely needed for future use are decommissioned or converted to other uses through project level NEPA decisions. Unauthorized and/or abandoned roads are also decommissioned (if warranted).

Results

For fiscal years 2020 and 2021, the Boise NF reported accomplished road decommissioning for:

- Fiscal Year 2020: 9.6 miles of non-system and system roads; and
- Fiscal Year 2021: 12.8 miles of non-system roads.

Indicator #3

Miles of trail maintained

Data Source

Forest Service Infrastructure (INFRA) Trails Database

Results

There are 2,009 miles of National Forest System trails on the Forest. In Fiscal Year 2020, 366 miles were maintained and 18% met agency standards. In 2021, 257 miles were maintained and 12% met agency standards. According to the Government Accountability Office, the Forest Service nationally is only able to maintain about 25% of National Forest System Trails to agency standard. In 2021, 344 miles of the trails maintained were maintained by partners and volunteers. In 2022, 334 miles of the trails maintained were maintained by partners and volunteers.

Indicator #4

National Visitor Use Monitoring Survey Percent Satisfaction Index for facilities, road conditions, trail conditions, and services provided

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Monitoring Question #18

Do potable water systems meet federal, State, and local requirements?

Findings

The Boise NF found no need for changing the Forest Plan, management activities, or the Forest Plan monitoring program.

Indicator

Water quality monitoring results and condition surveys

Data Source

Infrastructure (INFRA) Water Systems Database and Water Sampling Module

Results

All the water systems in operation during fiscal years 2020 and 2021 were sampled per all applicable requirements. Occasionally water systems are closed for extended periods due to active fire and fire restoration activities for public safety. Sanitary surveys are performed once every 5 years on every system.

For systems with initial positive coliform samples, the Boise NF addressed potential sanitary concerns and repeat coliform samples came back negative.

Fiscal Year	Systems Open	Total Coliform Samples	Positive Coliform Samples	Repeat Coliform Samples	Nitrite Samples	Nitrate Samples	Sanitary Surveys Conducted
2020	80	469	37	37	8	29	40
2021	80	259	22	22	0	31	15

Table J. Walel System Samples and Surveys by Liscal Teal	Table 9. Water Sv	vstem Samples	and Surveys b	v Fiscal Year
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Figure 5. Installing potable water storage tank in 2022 at Third Fork Project Camp, Emmett Ranger District, 2022



Recreation

Monitoring Question #19

Are recreation activity levels changing, and are shifts occurring between types of activities and locations of recreational use?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Economic, Cultural & Social Environment

Social & Economic

Monitoring Question #20

Is the Forest meeting the expected outcomes as by-products of restoration?

Findings

The Boise NF found no need for changing the Forest Plan, management activities or the Forest Plan monitoring program.

Indicator #1

Amount of commercial and non- commercial wood products provided Allowable Sale Quantity (ASQ) and Total Sale Program Quantity (TSPQ)

Data Source

Timber Information Manager (TIM) applications databases

Results

Results are found below in Table 10.

Table 10	. Amount of	Commercial/No	on-Commer	cial by Wo	ood Product	and Fiscal	Year
				···· · · · · · · · · · · · · · · · · ·			

Commercial/Non-Commercial Wood Product	Unit of Measure *	Fiscal Year 2020 Quantity	Fiscal Year 2021 Quantity
Sawtimber	MMBF	29.4	19.5
Commercial Fuelwood & Other Products	MMBF	2.1	0.3
Non-Commercial Fuelwood	MMBF	4.9	5.7

*MMBF = million board feet

In 2020, in response to COVID-19 the Boise NF provided a period of Free Personal Use Fuelwood across the Forest from May 15th thru July 1st under authorization provided by the Washington Office. This likely accounts for a drop in subsequent fuelwood sales in 2020. This Free Use is not accounted for in the numbers provided in the above table and lower than the proceeding two years or the year that followed in FY21.

Indicator #2

The number of a suite of contracting tools and agreements utilized to allow for implementation of restoration activities.

Data Source

Internal Forest Service Contracting records

Results

In fiscal years 2020 and 2021, the Boise NF employed traditional timber sale contracting, Good Neighbor Authority (GNA) agreements, and stewardship contracts to implement management activities that offer economic development and local community opportunities while maintaining and restoring the ecological integrity of the forests.

Table 11. Number of Implementation Tools Employed for Economic Development andEcological Restoration

Contract Type	Fiscal Year 2020 Quantity	Fiscal Year 2021 Quantity
Commercial Timber Sale	31	5
Good Neighbor Authority (GNA)	5	2
Stewardship	0	0

In fiscal year 2020 and 2021, the Boise NF offered zero (0) stewardship contracts, primarily due to a focus on salvage and hazard tree mitigation sales in response to the Douglas-fir tussock moth outbreak in 2018/2019. Currently, three (3) stewardship contracts are in development for offer by the Forest in FY22

and FY23. In 2020, a total of 31 Commercial Timber Sale contracts were awarded, of which 17 were small commercial fuelwood sales of decked material.

Indicator #3

Acres treated that contribute to achievement of desired restoration conditions

Data Source

Natural Resource Manager (NRM), Forest Service Activities Tracking System (FACTS) Database

Results

In Fiscal Years 2020 and 2021, the BNF reported **36,044 acres** of restoration related treatments as **completed**. Completed acres are reported when work is finished on the ground, or for reforestation, when stands are certified as successfully stocked (typically within 5 years of planting).

During this same period, the BNF reported **41,546 acres** of restoration related treatments as **accomplished**. Accomplished acres are reported when contracts are awarded, but before work has been completed on the ground. If work is not done with a service contract, agreement, or timber sale (e.g. using workforce for prescribed burning), then it is reported as accomplished and completed in the same year. For reforestation, acres are reported as accomplished when the contract is awarded/trees are planted (occurs in same year), not when stands are reported as successfully stocked (certified-planted) – this helps avoid duplication in reporting.

Having more accomplishment than completed acres indicates implementation increased by 13 percent during this reporting period, which should be reflected in the next monitoring report with a proportional increase in completed acres.

Monitoring Question #21

Are current allotment management strategies effective in meeting or moving toward desired vegetation, ground cover, and soil stability conditions for non-forested vegetation types?

Findings

The Boise NF found no need for changing the Forest Plan, Management Activities, or the Forest Plan monitoring program.

For future Forest Plan Monitoring, the Boise NF found it appropriate to continue to report the results for this monitoring question's Indicator #1 on a two-year monitoring cycle. For future Forest Plan Monitoring, the Boise NF found it appropriate to report the results for this monitoring question's Indicator #2 (long-term Allotment Trend monitoring) on a two-year monitoring cycle with results and findings reported in the monitoring report the year after the Boise NF receives the monitoring data.

Indicator #1

Number of grazing authorizations provided annually and over a 10-year period

Data Source

Forest Service Infrastructure (INFRA) database and a data response from each Ranger District

In order to identify the number of grazing authorizations provided annually and over a 10-year period, the Annual Grazing Statistical Forest/Grassland report was generated from INFRA. From the Statistical Report, the Total National Forest System (NFS) Authorized Head Months (HMs) was used to compare each year, instead of number of grazing authorizations, which usually remain fairly constant.

Results

The fluctuation seen in the Authorized HMs is usually due to annual variations in climate, resulting in drought conditions or excess forage availability, as well as wildfire followed by non-use for resource protection. Often Authorized HMs may fluctuate due to permittees requesting non-use for personal convenience due to livestock market variability.

The decline in HMs between 2013 and 2017 is due primarily to the catastrophic wildfires that have occurred across the Boise National Forest.

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total NFS Authorized HMs	74,970	65,370	68,053	70,729	57,746	59,625	65,119	58,173	65,262	69,906

Table 12. Total NFS Authorized HMs by Year

Indicator #2

Percentage of upland and riparian sites monitored that have a long-term trend at meeting or moving toward meeting desired future conditions

Data Source

Forest Service Infrastructure (INFRA) database and a data response from each Ranger District

Results

In 2020 and 2021 four MIM (Multiple Indicator Method) sites were examined. Two sites were established on the Ola C C&H Allotment in 2022 and showed a seral rating of PNC and Late. However, due to being the initial year, a trend could not be established. Two additional MIM sites were re-examined on the Lester Creek C&H Allotment, and both sites show a static trend.

While Ranger District staff monitor and collect livestock use data annually on grazing allotments, trend data is not generally collected every year. Trend is a long-term measurement that is monitored and compared over a long period of time. Allotment trend sites are usually monitored once in a 10-year period; however, it is not uncommon for measurements to be collected more often (3-5 years), or less often (15-20 years). Therefore, there may be Forest Plan reporting periods where no trend sites were monitored, or periods where several sites were monitored. The trend numbers generated for each Forest Plan reporting period are unique to that reporting period and cannot be compared over time. Trend monitoring may include nested frequency, Multiple Indicator Measurements (MIM), soil cover, photo points, etc.

Monitoring Question #22

What is the visitor satisfaction on National Forest System (NFS) lands?

Findings

The Boise NF defers addressing this monitoring question to the 2024 Forest Monitoring Report.

Tribal Interests & Rights

Monitoring Question #23

Are tribal interest and rights identified through consultation being addressed?

Findings

The Boise NF found no need for changing the Forest Plan, management activities or the Forest Plan monitoring program.

Indicator

Challenges to addressing tribal interests and rights identified are reviewed with tribal representatives through the agreed upon consultation forum to determine opportunities to improve consultation processes to better achieve desired outcomes.

Data Source

Tribal Consultation Protocols, Tribal Letters and Government-to-Government Meetings

Results

The Forest has consultation protocols with the three Tribes that have expressed interests and rights on the Boise NF: the Shoshone-Paiute, Shoshone-Bannock, and Nez Perce Tribes. Consultation was conducted according to these protocols.

Cultural Resources

Monitoring Question #24

Are cultural resources and historic properties being managed to standard?

Findings

The Boise NF found no need for changing the Forest Plan, management activities or the Forest Plan monitoring program.

Background

The purpose of the Heritage Program is to find, protect, and manage the most valuable cultural and historic properties under our care. FSM 2360 – Heritage Program Management, provides direction for achieving this through planning and collaboration with stakeholders, finding and protecting the most important resources, and providing opportunities for the public to learn about the prehistory and history evident on NFS lands. There are seven performance indicators used to monitor annual accomplishments for managing these properties, as described below.

Indicator #1

Presence of a Heritage Program Plan (A comprehensive plan that consists of a cultural resource overview, predictive model, monitoring plan, Native American Graves Protection and Repatriation Act (NAGPRA) protocol, looting and vandalism protocol, and emergency response protocol)

Data Source

Natural Resource Manager (NRM) Heritage Database

Results

The Boise NF maintains two of the seven elements of a comprehensive plan: the cultural resources overview and site predictive model.

Indicator #2

Inventory of National Forest System (NFS) Lands (Survey of NFS lands for cultural resources)

Data Source

NRM Heritage Database

Results

In 2020 and 2021, the Boise NF inventoried 2,495 and 1,348 acres, respectively, of National Forest System (NFS) lands on the Idaho City Ranger District. These inventories focused on documenting the cultural landscape created by historical placer and dredge mining in Boise Basin.

Indicator #3

National Register of Historic Places (NRHP) evaluations (Cultural resources [i.e. unevaluated sites] are evaluated for NRHP eligibility)

Data Source

NRM Heritage Database

Results

The Boise NF has documented over 2,000 sites since 1976. The majority have not been evaluated for their National Register of Historic Places (NRHP) eligibility, which is important for managing these sites. In 2020 and 2021, the Boise NF consulted with the Idaho State Historic Preservation Office (SHPO) on the NRHP eligibility of two unevaluated sites which were determined to be ineligible.

Indicator #4

Priority Heritage Assets (PHA) Condition Assessments (Historic properties of distinct public value are PHAs and have current condition assessments less than five years old)

Data Source

NRM Heritage Database

Results

A condition assessment was completed for Third Fork Guard Station in 2020.

Indicator #5

Cultural Resource Stewardship (Activities that physically protect historic properties)

Data Source

NRM Heritage Database

Results

In 2020, preservation maintenance was completed on Third Fork Guard Station.

Indicator #6

Opportunities for Study and/or Public Use (Conservation education and the scientific study and/or interpretation of historic properties)

Data Source

NRM Heritage Database

Results

In 2020, there were two public education and outreach activities prior to the COVID 19 pandemic shutting down these activities. One was to the Idaho Gold Prospector's Association. In 2021, despite COVID, there were numerous opportunities for virtual presentations about Boise NF historic preservation

work at professional conferences including the Northwest Anthropological Society and Society for East Asian Anthropology.

Indicator #7

Volunteer Hours (Volunteer participation on historic preservation projects)

Data Source

NRM Heritage Database

Results

In 2020 and 2021, volunteers contributed 1200 hours to the Historic Landmark RS site steward program. Volunteers also contributed another 192 hours to the Chinese Legacy project in 2021.

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