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Sawtooth National Forest
Land and Resource Management Plan

Biennial Monitoring and Evaluation Report 2020-2021

Forest Service   **September 2022**   **Sawtooth National Forest**

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1. INTRODUCTION

The 2012 USDA Forest Service Planning Rule ensures that collaborative and science-based plans are developed to provide for ecosystem sustainability, species diversity and conservation, watershed protection, and benefits to public users and communities. The planning rule's three-part adaptive management framework consists of assessments; developing, amending, or revising a plan; and monitoring.

Monitoring provides 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 monitoring and evaluating forest plans is found under the 2012 Planning Rule at 36 CFR 219.12 and in the directives in Forest Service Handbook (FSH) 1909.12, Chapter 30.

The monitoring program for the Forest Plan must contain one or more monitoring questions and associated indicators addressing each of the following:

1. The status of select watershed conditions
2. The status of select ecological conditions, including key characteristics of terrestrial and aquatic ecosystems
3. The status of focal species to assess the ecological conditions required under §219.9
4. 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, conservation of proposed and candidate species, and maintenance of a viable population of each species of conservation concern
5. The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives
6. Measurable changes of the plan area related to climate change and other stressors which may be affecting the plan area
7. Progress toward meeting the desired conditions and objectives in the plan, including providing for multiple use opportunities
8. The effects of each management system to determine it does not substantially and permanently impair the productivity of the land

The Sawtooth National Forest has been operating under the 2003 Land and Resource Management Plan (Forest Plan), with several amendments. To comply with the 2012 Planning Rule, modifications to plan monitoring requirements were developed in 2016 to assess key ecological conditions and public benefits. The Sawtooth National Forest's monitoring and evaluation strategy was published in June 2016 and was incorporated into Chapter IV of the Forest Plan. It can be found at
https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1063069.pdf

This report generally represents monitoring information for 2020-2021, but covers more years, depending on availability of data for each indicator. The next report will be published in 2024 and will cover monitoring in fiscal years 2022 and 2023.

2. INFORMATION ON MONITORING QUESTIONS AND INDICATORS

In Chapter IV of the Forest Plan, tables IV-1 through IV-4 identify the questions and indicators that will be monitored to determine the success of the Forest Plan management strategy in progressing toward desired conditions. Information pertaining to some of the indicators requires multiple years of collection before any meaningful evaluation of an element and its related question can be made. Therefore, not all monitoring questions and their related indicators will be addressed in this report.

2.1 Physical and Biological Ecosystem

2.1.1 TERRESTRIAL ECOSYSTEMS AND VEGETATION

Monitoring Question: *Are planned treatments being implemented within WCS high priority (active restoration) watersheds to meet desired outcomes?*

Indicator: *Proportion of acres treated in WCS high priority (active restoration) watersheds compared to total acres treated on the Forest annually.*

Table 1. Proportion of Acres Treated in WCS High Priority Watersheds

Activity Category	Total Treatment Acres on the Sawtooth NF	Treatment Acres within WCS High Priority Watersheds	% Treated within WCS High Priority Watersheds
Fuels Treatment	6,955	471	7%
Precommercial Thin	609	112	18%
Prescribed Burn	183	122	66%
Revegetation Treatment	5,651	0	0%
Timber Sale	394	0	0%
Total	**13,792**	**705**	**5%**

2.1.2 WILDLIFE SPECIES OF CONSERVATION CONCERN

Monitoring Question: *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 (GHMA) to meet desired outcomes?*

Indicator: *Number of acres restored in PHMA, IHMA, and GHMA habitat.*

Table 2 displays the number of acres treated in Sage-Grouse GHMA, IHMA, and PHMA habitat in 2020 and 2021. These restoration and conservation activities helped improve Sage-Grouse habitat and move the Forest to meeting desired outcomes for the species.

Table 2. Number of Acres Restored in GHMA, IHMA, and PHMA Habitat.

Habitat Type	Activity Category	Acres
GHMA	Fuels Treatment	106.373704
GHMA	Revegetation Treatment	1386.125419
IHMA	Fuels Treatment	3450.137634
IHMA	Revegetation Treatment	2830.903057
PHMA	Fuels Treatment	6.456049
PHMA	Precommercial Thin	10.204688
		Total: 7,790.23

Monitoring Question: Are the distribution, abundance, and habitat quality of terrestrial focal species being maintained?

Indicator: Population trend data for select terrestrial focal species in potential habitat.

Three terrestrial wildlife species (Sage-Grouse, pileated woodpecker, and Northern goshawk) have been selected as focal species for the Forest. A focal species is an indicator of ecological conditions for diversity of plant and animal communities. The focal species were chosen because they are considered sensitive to changing ecological conditions and occur in habitats where the Forest anticipates implementing the greatest proportion of projects. Therefore, they represent habitats where potential risks to fish and wildlife habitat sustainability and species persistence are likely to be highest.

Sage-Grouse

Consistent with broad scale regional concerns, the most significant risk to Sage-Grouse on the Forest is habitat modification or loss from wildfires, invasive annual grasses and plant species, and juniper encroachment. Table 2 shows that 7,790.23 acres were restored in GHMA, IHMA, and PHMA habitat in 2020-2021. Those numbers are down compared to the 2016-2017 Biennial Monitoring Report which reported 47,800 acres restored. Sage-Grouse habitat restoration was a Regional and Forest priority in both 2016 and 2017, and the Forest received above-base funding both years to complete priority restoration projects. The majority of Sage-Grouse habitat lies within the Minidoka RD and therefore, most of the restoration actions on the Forest occurred here. Restoration actions included removal of juniper, shrub planting, riparian fence maintenance, fence marking and removal, installing bird ramps in water troughs, and noxious weed treatments.

Pileated woodpecker

Systematic point count surveys for pileated woodpecker have been conducted annually since 2004. Transects, each with ten survey points, were established throughout the northern end of the Forest in both potential and existing suitable pileated woodpecker habitat. Pileated woodpecker monitoring results allow the Forest to infer if it is moving towards its desired conditions in the vegetation groups most important for pileated woodpeckers. From 2004-2021, the average percent occupied transects for the Sawtooth NRA is 29.5% and Ketchum RD is 20%. Table 3 displays the 2020-2021 survey numbers for pileated woodpeckers. The average percent occupied transects for the Sawtooth NRA in

2020-2021 are 41.7%, showing an increase compared to the 2004-2021 average. The average percent occupied transects for the Ketchum RD in 2020-2021 are 22.1%, also showing an increase compared to the 2004-2021 average.

Table 3. 2020 and 2021 Numbers for Pileated Woodpecker

District	Year	Points monitored/ Transects	Observations	% Occupied Transects	Sawtooth detections/km
Sawtooth NRA	2020	180/18	10	44.4	0.179
	2021	180/18	10	38.9	0.179
Ketchum RD	2020	90/9	3	33.1	0.100
	2021	90/9	1	11.1	0.033

Northern Goshawk

Northern goshawk have been a Region 4 Sensitive Species the since the mid-1990's and the Forest has been monitoring known nesting territories and potential nesting habitat for this species since this designation, although data inconsistencies are common with older data sets. Northern goshawk monitoring results allow the Forest to infer if it is moving towards its desired conditions in the vegetation groups most important for northern goshawks. Below are monitoring results for the Minidoka RD, Ketchum RD, and Sawtooth NRA.

Table 4. Minidoka RD Goshawk Survey Results

Year	# Historical Territories	Total # Breeding	Total # Success	Fledgling/Breeding Attempt	Fledglings/Successful Attempt
2020	53	15	11	1.53	2.09
2021	54	10	8	2.10	2.63

Table 5. Sawtooth NRA and Ketchum RD Goshawk Survey Results

District	Year	Territories Inventoried	Territories Occupied	New Territories Identified	Fledglings Produced	Productivity	
						Fledglings/ occupied territory	Fledglings/ inventoried territory
Sawtooth NRA	2020	24	14 (58%)	2	14	1	0.58
	2021	24	16 (67%)	0	25	1.56	1.04
Ketchum RD	2020	5	2 (40%)	0	2	1	0.4
	2021	5	1 (20%)	0	2	2	0.4

Monitoring Question: *Are the distribution, abundance, and habitat quality of threatened, endangered, proposed, and candidate (TEPC) terrestrial species being maintained and/or restored?*

Indicator: *Population trend data for select TEPC species in potential habitat*

Whitebark pine

Whitebark pine is a long-lived, 5-needle subalpine conifer widespread in the mountains of western North America. It is considered a foundation species in high elevation ecosystems because it sustains biodiversity, promotes post-fire forest regeneration, nurtures community development, structure, and maintenance, and modulates watershed stability and hydrology (Tomback 2007, Tomback et al. 2016, Keane et al. 2017, Degrassi 2019). It also functions as a keystone species because it increases community biodiversity and provides food and habitat for numerous wildlife species (Tomback et al. 2001, Schwandt 2006, Tomback et al. 2016). In addition to these critical ecosystem services, whitebark pine has important aesthetic and recreational values in mountain landscapes and a history of cultural use by Native Americans (Tomback et al. 2011).

Whitebark pine populations are in decline throughout nearly all of the species' range due to the combined effects of the non-native pathogen white pine blister rust (*Cronartium ribicola*; WPBR), largescale mountain pine beetle (*Dendroctonus ponderosae*; MPB) outbreaks, catastrophic fire, and advancing forest succession linked to many years of fire suppression (Kendall and Arno 1990, Keane and Arno 1993, Keane 2011, Perkins et al. 2016). Whitebark pine also faces the growing threat of climate change warming (Loehman et al. 2011, Chang et al. 2014, Hansen et al. 2016, Keane et al. 2017, U.S. Fish and Wildlife Service 2020). These threats may interact to compound or accelerate their impact.

Due to the documented decline of whitebark pine across its range, vulnerability to widespread and ongoing threats, and the scope and immanency of these threats, whitebark pine was added to the U.S. Fish and Wildlife Service (USFWS) Candidate list for possible listing under the Endangered Species Act in July 2011(U.S. Fish and Wildlife Service 2011). In December 2020, the USFWS published its proposed rule to list whitebark pine as a threatened species (U.S. Fish and Wildlife Service 2020). A final listing rule is still pending. In Canada, whitebark pine was added to the list of legally protected species under Schedule 1 of the Species at Risk Act in June 2012 (Government of Canada 2012). The U.S. Forest Service Region 4 and Sawtooth National Forest include whitebark pine on their sensitive plant species list.

The Sawtooth National Forest began monitoring the occurrence of WPBR in whitebark in 2005. In 2020, a total of 21 WPBR monitoring plots were either resurveyed or newly established. Monitoring is based on a widely used standardized set of sampling protocols that include the collection of stand structure, health status, mortality, successional trajectory, and mountain pine beetle activity information.

Monitoring in 2021 sampled a total of 1160 overstory (>4.5 ft. tall) whitebark pine in 21 plots. Density of live overstory whitebark pine varied between plots, ranging from 18 – 608 trees/acre, with a mean of 261. Overall, 88% of live whitebark pine sampled in 2021 were <10 dbh, with 56% being <5 dbh. Tree health assessments in 2021 found 66% of overstory whitebark pine healthy, 13% sick, and 21% dead. Mountain pine beetle has been the main cause of whitebark pine mortality, responsible for 83% of dead whitebark pine. With the exception of 1 tree, all mountain pine beetle mortality occurred before 2015. Active or inactive blister rust cankers were detected on 73 whitebark pine in 12 plots in 2021. The intra-plot infection rate ranged from 0 - 26% in 2021. Overall, monitoring detected active or inactive blister rust cankers on 8% of live overstory whitebark pine sampled in 2021. Blister rust killed 1 whitebark pine. Analysis based on 15 plots with previous monitoring data (either 2013 or 2015) found a significant increase in the number of overstory whitebark pine infected with blister rust in 2021 compared to 2013/2015. Blister rust has not been detected on any understory size whitebark pine since inception of the monitoring program.

Understory size whitebark pine occurred in all plots, with densities ranging from 33 - 483 trees/acre,

and a mean of 143. Analysis based on 15 plots with previous monitoring data (either 2013 or 2015) found no significant difference for the abundance of understory whitebark in 2021 compared to 2013/2015. Understory size subalpine fir was present and the most prevalent associated conifer species in all plots. Plot density for understory subalpine fir ranged from 36 - >1300 trees/acre in 2021. Understory subalpine fir density in 2021 was more than double whitebark pine density in 14 of the 21 plots. Analysis based on 14 plots with previous monitoring data (either 2013 or 2015) found a significant increase in understory subalpine fir abundance in 2021 compared to 2013/2015. Overall, subalpine fir accounted for 76% of all seedlings recorded in 2021, compared to 21% for whitebark pine and 3% for all other conifer species.

Other whitebark pine monitoring conducted in previous yeas includes regeneration of whitebark pine in two wildfire events and seedling survival in whitebark pine planting areas.

Recent Management Actions

In 2020, 150 surplus whitebark pine seedlings in their fourth growing year were acquired from Coeur d'Alene Nursery's genetic research program. The seedlings were planted in the Bald Mountain Stewardship project area. Survival after two years in all areas is 32%.

Thinning of subalpine fir, Douglas fir and lodgepole pine from a 10 acre stand of whitebark pine was accomplished through volunteer efforts.

Current Habitat Conditions and Management Concerns

It is now evident that many whitebark pine forests in western North America are declining because of complex interactions across multiple disturbance factors due to the non-native fungal disease WPBR, recent frequent outbreaks of the native MPB, and the exclusion of wildland fire resulting in greater surface and canopy fuel loadings and successional replacement with more shade tolerant conifers. Climate change, however, has the potential to exacerbate WPBR and MPB outbreaks, increase wildfires above historical levels, and reduce suitable habitat.

Increases in WPBR occurrences in whitebark stands over the past decade and the decrease of whitebark pine regeneration in high elevation forests is of management concern.

Whitebark pine is an important ecological component of the Sawtooth National Forest, and the Forest's Land and Resource Management Plan directs the maintenance and restoration of whitebark pine communities within the Sawtooth National Forest.

Canada Lynx

After the listing of Canada lynx in 2000 as threatened under the ESA, the Canada Lynx Conservation Assessment and Strategy (LCAS) was developed, which provides direction for management of lynx habitat on federal lands (Ruediger et al. 2000). The Forest Service agreed to follow this direction (U.S. Forest Service and U.S. Fish and Wildlife Service 2000) and the LCAS has been incorporated into the revised Sawtooth National Forest Land and Resource Management Plan (FLRMP). The standards in the FLRMP provide the basis for analysis of effects of projects on Canada lynx during consultations (U.S. Forest Service 2003). Lynx Analysis Units and predicted foraging and denning habitat within each Lynx Analysis Units have been developed as directed by the LCAS. In 2013, a revised LCAS was published which defined core and secondary areas for lynx. The Sawtooth Forest was classified as secondary which is defined as those areas with historical records of lynx presence with no record of reproduction; or areas with historical records and no recent surveys to document the presence of

lynx and/or reproduction. If future surveys document presence and reproduction in a secondary area, the area could be considered for elevation to core. Secondary areas may contribute to lynx persistence by providing habitat to support lynx during dispersal movements or other periods, allowing animals to then return to "core areas." The 2013 LCAS also updated the conservation measures recommended to be implemented in lynx habitat for core and secondary areas. However, Sawtooth FLRMP standards and guidelines still apply to management actions on the Sawtooth National Forest. The Sawtooth Forest does not have a known population of Canada lynx but as stated above LAUS and habitat have been identified.

During 2020-21, vegetation management and wildfires degraded lynx habitat in many LAUs. Reducing forested vegetation (thinning, overstory removal, some types of burning) in lynx habitat degrades foraging habitat in the short to long term (FP defines short-term 3-15 years and long-term greater than 15 years) and denning habitat in the long-term. Five LAUs (Stanley-Park LAU, Fisher-Taylor LAU, Upper Salmon-Beaver LAU, Upper North Fork Boise-Johnson LAU, and Upper Middle Fork Boise-Queens LAU) on the Sawtooth NRA have 30% or more habitat not meeting suitable condition which is the threshold in TEST15: Unless a broad-scale assessment has been completed that substantiates different historical levels of unsuitable habitat, limit disturbance within each LAU as follows: If more than 30 percent of lynx habitat within a LAU is currently in unsuitable condition, no additional habitat may be changed to unsuitable habitat as a result of vegetative management projects).

Wolverine

Direction in the Forest Plan for wolverine is to avoid impacts to denning wolverines and to monitor impacts from winter recreation.

WIST03: Mitigate management actions within known nesting or denning sites of sensitive species if those actions would disrupt the reproductive success of those sites during the nesting or denning period. Mitigation measures shall be determined during project planning.

WIGU17: Relationships between winter recreation activities and wolverine use of the landscape should be evaluated periodically, especially in high-elevation areas characteristic of wolverine denning habitat. Where practicable, monitoring should be done in cooperation with State and Federal Wildlife Management agencies.

We have been monitoring wolverine presence on the North End of the Sawtooth since 2007 through hair traps, camera traps, and live traps (associated with a study). In 2020 and 2021 three sites were monitored in the Sawtooth National Recreation Area by hair and camera trap (Table 6). There is some cause for concern in the Boulder Mountains (Cherry Creek) because from 2012 to 2018 wolverines were detected every year and none have been detected since 2018.

Table 6. Wolverine Monitoring Results in 2020 and 2021.

Location	Year	DNA Result	Camera Result
Cherry Creek	2020	Not detected	Not detected
	2021	Not detected	Not detected
Fourth of July Creek	2020	Not detected	Detected
	2021	Not detected	Detected
Iron Creek	2021	Not detected	Not detected
Mays Creek	2020	Not detected	Detected

Winter recreation use has not been monitored by the Sawtooth Forest. However, in 2020 the Idaho Department of Fish and Game conducted flights (fixed wing) to estimate the footprint and intensity of

backcountry winter recreation following methods developed in *Heinemeyer, K., O'Keefe, J. J., and D. Evans Mack. 2019b. Use of aerial surveys to monitor backcountry winter recreation and predict associated wolverine habitat use. Report to Idaho Department of Fish and Game. Round River Conservation Studies. 20p.* The results of this monitoring were provided to the Sawtooth Forest in a report: *Regan, Tempe. 2020. 2020 Backcountry Winter Recreation Surveys Salmon-Challis National Forest and the Sawtooth National Recreation Area. Idaho Dep. of Fish and Game. 29p.*

2.1.3 FIRE

Monitoring Question: *In WCS high priority (active and passive restoration) watersheds, is wildland fire and/or management ignited fire moving landscapes towards desired conditions for resiliency and fire condition class?*

Indicator: *Wildland fire and or management ignited fire acres burned in WCS high priority (active and passive restoration) watersheds contributing to desired conditions.*

In 2020, there were 2,520 acres that contributed to wildland fire and management ignited fires in priority watersheds that contributed to desired conditions for resiliency and fire condition classes. Out of these 2,520 acres, 2,367 acres were in the Wildland Urban Interface and 153 acres were outside of the WUI. One wildfire was included into this assessment. The Phillips Creek Fire 2020 (Lightning Caused) accounted for 2,121 acres. Underburning accounted for 127 acres and pile burning accounted for the remaining 272 acres. In 2021, there were zero contributions to wildland fire or managed ignited fire that contributed to desired conditions for resiliency and fire condition classes.

Monitoring Question: *Are high wildfire risk areas being identified within the wildland urban interface (WUI) and are those acres being subsequently treated to reduce that risk?*

Indicator: *Acres of high wildfire risk within WUI treated in a manner that reduces risk*

High wildfire risk areas were identified within the WUI and 27,353 acres were treated to reduce that risk (Table 7). That is a 57% increase from the 2018-19 treatment total of 17,325 acres.

Table 7. Wildland Urban Interface Acres Treated in 2020 and 2021

WUI Treatment	Acres Treated in 2020	Acres Treated in 2021	Total Acres Treated
Wildfire	2,614	5,783	8,397
Rearrangement of Fuels	2,801	4,077	6,878
Thinning	2,464	3,534	5,998
Pile Burning	582	355	937
Piling	515	394	909
Low Intensity Under burn	554	0	554
Broadcast Burning	67	0	67
Pre-Commercial Thinning	304	141	445
Commercial Thinning	73	0	73
Patch Clearcut/Control	76	188	264

Understory Vegetation			
Overstory Removal	0	5	5
Tree Release and weed	12	25	37
Fuel Break	465	601	1,066
Salvage/Single Tree Cut	123	0	123
Re-vegetation treatments	25	22	47
Yarding	611	942	1,553
TOTAL	**11,286**	**16,067**	**27,353**

Figure 1. Treatment Percentages to Reduce the High Wildfire Risk in the WUI in 2020 and 2021.
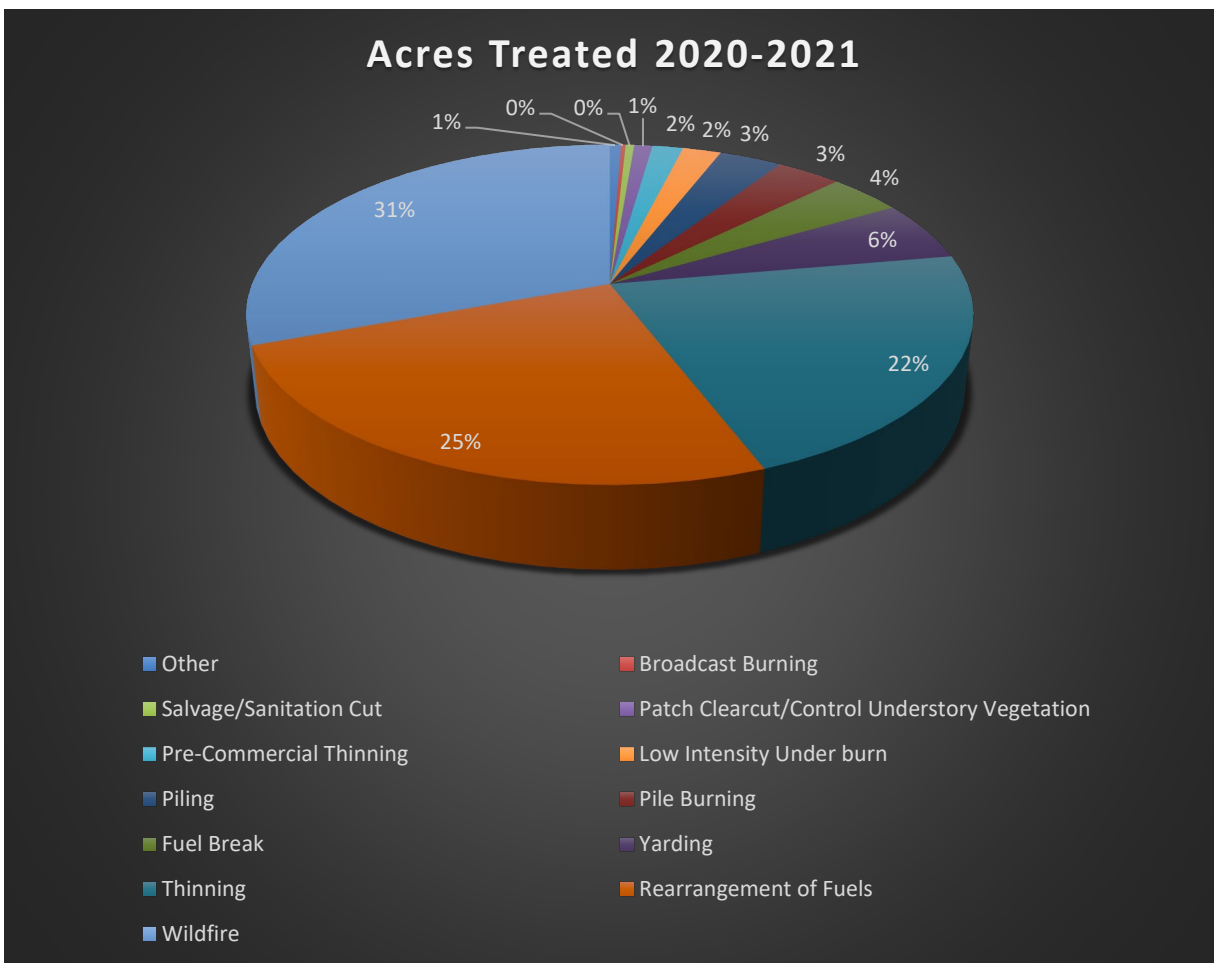
2.1.4 AQUATIC ECOSYSTEMS

Monitoring Question: *Are Forest management actions supporting approved recovery plans for TEPC aquatic species?*

Indicator: *Number of projects designed to support TEPC aquatic species recovery plan objectives.*

Yes, forest management actions are supporting approved recovery plans for TEPC aquatic species. In 2020-21, there were two projects approved that were designed to support TEPC aquatic species recovery plan objectives. The South Fork Boise River Road 227 Relocation project was signed in April 2020. The Pettit Lake Creek Weir project was signed in August 2020.

Monitoring Question: *Are watershed conditions improving which contribute to delisting of water quality limiting bodies?*

Indicator: *Proportion of stream miles fully supporting beneficial uses on the Forest.*

Table 8 displays results from the past two biennial Integrated Reports from Idaho DEQ. The 2020-21 report shows a slight decrease from the 2018-19 report for stream miles fully supporting beneficial uses on the Forest. Every two years, DEQ is required by the 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 Idaho's Integrated Report from data derived from Idaho 305(b) Streams/Lakes, and DEQ's ATTAINS (Water Quality Assessment Database).

Table 8. 305(b) Stream Miles from Idaho's Integrated Report

	Stream Type	Miles
2018-2019	Not Assessed	668.063771
	Fully Supporting	2857.485081
	Not Supporting	939.37746
	TOTAL	**4464.926312**
2020-2021	Not Assessed	665.458276
	Fully Supporting	2775.690552
	Not Supporting	1023.811803
	TOTAL	**4464.960631**

2.2 Productivity of the Land

Monitoring Question: *Is the Forest maintaining or restoring long-term soil productivity?*

Indicator #1: *Amount of activity area in non-detrimentally disturbed condition (annual review of selected projects)*

Indicator #2: *Amount of activity area Total Soil Resource Commitment (TSRC) (annual review of selected projects)*

Yes, by adhering to Forest Plan standards SWST02 and SWST03, the Forest is maintaining/restoring long-term soil productivity. For each individual project undertaken soil detrimental disturbance (DD) and TSRC are calculated to ensure compliance with the Forest Plan. The assumption is that if each project maintains compliance with SWST02 and SWST03 then the productivity of the soil is maintained.

There were 13 Decision Notices signed for projects in 2020 and 2021, seven for 2020 and six for 2021 (Table 9). A random sample of these completed projects were reviewed for compliance with Forest Plan standards on soil productivity (SWST02, SWST03). One project was selected from each District on the forest with two additional projects selected from the remaining 9 projects pooled together.

Table 9. Soil Disturbing Projects in 2020 and 2021

District	Year	Project Name
Minidoka	2020	Black Hills Habitat Restoration
		Raft River Range and Riparian*
	2021	Cave Canyon Fuelwood
		Black Pine Exploration Drilling Expansion
Ketchum	2020	Bald Mtn. Stewardship*
		Trail Creek Path Extension
	2021	Adams Gulch Adaptive Sport
Sawtooth NRA	2020	Pettit Lake Creek Weir
		Grandjean Veg Mgmt.*
	2021	Valley Creek PIT tag array
		Alturas Pettit Project
Fairfield	2020	South Fork Boise River Road Relocation
	2021	Faulkner Group 1*

* Selected for review

Table 10. Projects Reviewed for Detrimental Disturbance (DD) and Total Soil Resource Commitment (TSRC)

District	Project Name	DD	TSRC
Minidoka	Raft River Range and Riparian	1.4%	0.7%
Ketchum	Bald Mtn. Stewardship	3.7%	0%
Sawtooth NRA	Grandjean Veg Mgmt.	1.6%	0.2%
Fairfield	Faulkner Group 1	2.3%	1.2%

The four projects range from 1.4% to 3.7% for DD and from 0% to 1.2% for TSRC (Table 10). The review of these four projects reveal that projects on the Forest are maintaining soil productivity by keeping DD below 15% and not increasing TSRC beyond 5%.

2.3 Human Uses and Designations

2.3.1 FACILITIES

Monitoring Question: *Is the transportation system providing recreation opportunities, safe and efficient public and agency access, and are environmentally compatible?*

Indicator #1: *Miles of roads maintained by maintenance level*

Yes, the transportation system is providing recreation opportunities and safe, efficient public and agency access that is environmentally compatible.

National Forest System Roads can be broken down into various categories with the most common being maintenance level. Maintenance levels define the level of service provided by, and maintenance required for, a specific road consistent with road management objectives and maintenance criteria. Maintenance levels range from one to five and are defined in the Forest Service's Travel Routes Data Dictionary and Forest Service Handbook (FSH 7709.59, 62.32). Table 11 shows the miles of roads maintained by maintenance level.

Table 11. Roads Receiving Maintenance

Fiscal Year	Operation Maintenance Level	Miles Receiving Maintenance	System Miles	%
2020	5	0.369	22.463	1.6
	4	2.895	38.401	7.5
	3	208.817	298.14	70
	2	40.3	1,304.815	3.1
	1	8.451	215.112	3.9
	2020 Totals	**260.832**	**1,878.931**	**13.9**
2021	5	0.0	22.463	0.0
	4	11.559	39.101	29.6
	3	170.476	316.787	53.8
	2	155.97	1,349.234	11.6
	1	8.451	215.482	3.9
	2021 Totals	**346.456**	**1,943.067**	**17.8**

Indicator #2: *National Visitor Use Monitoring Results Percent Satisfaction Index for facilities, road conditions, trail conditions, and services provided*

National Visitor Use Monitoring (NVUM) satisfaction surveys were last conducted in 2020. For comparison, table 12 displays the results from the 2015 NVUM satisfaction surveys, and table 13 displays the 2020 NVUM satisfaction surveys. Notable downtrends include restroom cleanliness, condition of environment, and parking lot condition. Notable uptrends include road condition and value for fee paid. These surveys are completed every five years.

Table 12. 2015 Visitor Satisfaction Survey for Recreation Facilities and Services

Satisfaction Element	Percent Rating Satisfaction as:					Mean Ratings[1]	Mean Importance[2]	No. Obs[3]
	Very Dissatisfied	Somewhat Dissatisfied	Neither Satisfied or Dissatisfied	Somewhat Satisfied	Very Satisfied			

Satisfaction Element	Very Dissatisfied	Somewhat Dissatisfied	Neither Satisfied nor Dissatisfied	Somewhat Satisfied	Very Satisfied	Mean Rating[1]	Mean Importance[2]	No. Obs[3]
Restroom Cleanliness	0.0	1.2	4.1	14.3	80.4	4.7	4.7	200
Developed Facilities	0.8	1.6	5.3	11.0	81.4	4.7	4.7	231
Condition of Environment	0.0	1.1	5.6	12.7	80.6	4.7	4.8	315
Employee Helpfulness	2.1	0.0	1.8	7.2	88.9	4.8	4.7	169
Interpretive Displays	0.0	2.7	9.4	19.7	68.3	4.5	4.3	193
Parking Availability	.03	1.1	10.0	15.8	72.7	4.6	4.3	293
Parking Lot Condition	1.2	1.4	7.8	14.1	75.6	4.6	4.1	280
Rec. Info. Availability	1.3	2.7	11.1	15.3	69.6	4.5	4.4	261
Road Condition	1.9	5.7	10.7	25.4	56.3	4.3	4.5	194
Feeling of Safety	0.0	0.0	2.4	8.7	89.0	4.9	4.6	308
Scenery	0.6	0.0	2.2	3.8	93.4	4.9	4.8	316
Signage Adequacy	0.3	2.1	9.8	21.3	66.4	4.5	4.3	293
Trail Condition	0.0	1.2	4.0	18.0	76.7	4.7	4.7	250
Value of Fee Pay	4.3	7.9	8.4	18.2	61.3	4.2	4.7	179

[1]Mean Ratings Scale: 1 = Very Dissatisfied, 2 = Somewhat Dissatisfied, 3 = Neither Satisfied nor Dissatisfied, 4=Somewhat Satisfied, and 5 = Very Satisfied
[2]Mean Importance Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Moderately Important, 4 = Important, 5 = Very Important
[3]Number of Observations is the number of survey respondents who responded to this item.

Table 13. 2020 Visitor Satisfaction Survey for Recreation Facilities and Services

Satisfaction Element	Percent Rating Satisfaction as:					Mean Rating[1]	Mean Importance[2]	No. Obs[3]
	Very Dissatisfied	Somewhat Dissatisfied	Neither Satisfied nor Dissatisfied	Somewhat Satisfied	Very Satisfied			
Restroom Cleanliness	2.4	2.9	0.0	20.3	66.0	4.2	4.6	95
Developed Facilities	0.0	0.4	0.0	19.7	78.3	4.7	4.4	123
Condition of Environment	0.3	0.3	0.0	21.9	67.5	4.3	4.9	152
Employee Helpfulness	0.5	0.1	0.0	10.1	88.6	4.8	4.9	69
Interpretive Displays	0.0	4.9	0.0	38.1	50.7	4.2	4.1	76
Parking Availability	1.9	4.8	0.0	16.3	73.5	4.4	4.5	146
Parking Lot Condition	0.0	8.5	0.0	14.5	57.9	3.6	3.9	143
Rec. Info. Availability	0.4	5.2	0.0	21.1	65.7	4.2	4.5	124
Road Condition	0.2	0.4	0.0	23.7	74.5	4.7	4.5	128
Feeling of Safety	0.0	0.0	0.0	11.2	88.0	4.8	4.8	149
Scenery	0.0	0.0	0.0	20.6	72.2	4.4	4.6	152
Signage Adequacy	0.7	0.7	0.0	20.5	67.6	4.2	4.2	147
Trail Condition	0.0	1.2	0.0	25.4	70.3	4.6	4.6	91
Value for Fee Paid	0.0	7.1	0.0	25.8	64.5	4.4	4.6	25

[1]Mean Ratings Scale: 1 = Very Dissatisfied, 2 = Somewhat Dissatisfied, 3 = Neither Satisfied nor Dissatisfied, 4=Somewhat Satisfied, and 5 = Very Satisfied
[2]Mean Importance Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Moderately Important, 4 = Important, 5 = Very Important
[3]Number of Observations is the number of survey respondents who responded to this item.

Indicator #3: _Miles of trail maintained_

The accomplishment for miles of trail maintained can be defined as the miles of National Forest System trail on which at least one maintenance task is performed to standard during the fiscal year. "Standard" refers to the Trail National Quality Standards (FSH 2309.18, Section 15, exhibit 01). This measure includes annual/routine maintenance and deferred maintenance (trail and structures all serviceable and trails and structures in disrepair).

Table 14. Miles of Trail Maintained by District

District	2020	2021
Minidoka	0	0
Ketchum	280	287
Sawtooth NRA	4	381
Fairfield	229	334
Forest-wide	**513**	**1,002**

Monitoring Question: _Do potable water systems meet federal, state, and local requirements?_

Indicator: _Water quality monitoring results and condition surveys_

Substantially yes, the potable water systems on the forest meet federal, state, and local requirements. The forest has approximately 55 active potable water systems for administrative sites and campgrounds. In fiscal years 2020 and 2021, the forest had one instance where an Idaho Department of Environmental Quality health-based violation occurred. That violation was resolved. The water systems are on a five-year rotation for condition surveys. In 2020, zero systems were surveyed (0%). In 2021, eleven systems were surveyed (20%).

2.3.2 RECREATION SETTING

Monitoring Question: _Are recreation activity levels changing, and are shifts occurring between types of activities and locations of recreational use?_

Indicator: _Specific changes to the Recreation Opportunity Spectrum (ROS)_

Table 15 displays the ROS class acres for 2021. Two recreation management decisions were signed in 2018 and led to changes in ROS class acres. Those decisions included the Hemingway-Boulders and White Cloud Wilderness Management Plan and the Big Wood Travel Management decision. No changes have been made to ROS class acres since those decisions were signed. See Sawtooth Forest Plan Appendix F for more information on ROS class descriptions.

Table 15. 2021 ROS Class Acres

Winter		Summer	
ROS	**Acres**	**ROS**	**Acres**
Primitive	444,556	Primitive	448,875

Rural	2,177	Rural	8,594
Roaded Modified	488	Roaded Modified	505,177
Roaded Natural	83,110	Roaded Natural	317,107
Semi-Primitive	1,493,354	Semi-Primitive Motorized	679,486
Semi-Primitive Non-Motorized	166,138	Semi-Primitive Non-Motorized	230,585
Total	**2,189,823**	**Total**	**2,189,824**

Monitoring Question: *Are conflicts arising between recreational uses? Are conflicts being resolved?*

Indicator: *Number of plans or other mechanisms developed to resolve conflicts*

Although the FY 2020 Visitor Use Report shows that customer satisfaction is high, conflicts can occur between recreational uses on the Forest. To address conflicts between uses, the Forest provides the public with yearly updated Motor Vehicle Use Maps. The Forest also developed and signed the Big Wood Travel Management Plan in 2018 that designated routes open to motorized vehicles. The Big Wood Travel Management Plan is currently being implemented. The Sawtooth National Recreation Area is currently conducting NEPA analysis on a unit-wide Outfitter and Guide Management Plan. This plan is designed to provide consistent administration of outfitter and guide permits and reduce conflict with the general recreating public.

2.4 Economic, Cultural, and Social Environment

2.4.1 SOCIAL AND ECONOMIC

Monitoring Question: *Is the Forest meeting the expected outcomes as by-products of restoration?*

Indicator: *Levels of commercial and non- commercial timber products provided (Allowable Sale Quantity [ASQ] and Total Sale Program Quantity [TSPQ])*

In 2020 and 2021, the Forest offered and sold an average of 1,467.80 thousand board feet (MBF) sawlog volume per year that contributed to the ASQ. This represents about 27% of the yearly average of decadal ASQ target described in Forest Plan Objective TROB02. In the same timeframe, the Forest sold an average of 3,849.72 MBF non-sawlog wood product volume per year (generated from restoration vegetation management activities), which represents about 149% of the yearly average of decadal non-sawlog wood products target described in Forest Plan Objective TROB03. These combined averages equal 5,317.52 MBF volume per year and contribute to the TSPQ. This represents 66.5% of the yearly average of TSPQ decadal target described in Forest Plan Objective TROB03.

2020 Total Volume sold: 5,564.64 MBF
2020 Sawlog Volume sold: 1,927.46 MBF
2020 Non- Saw Volume sold: 3,637.18 MBF

2021 Total Volume sold: 5,070.39 MBF
2021 Sawlog Volume sold: 1,008.13 MBF
2021 Non- Saw Volume sold: 4,062.26 MBF

Objective TRBO02 - *On a decadal basis make available 54 million board feet of timber which will*

contribute to Allowable Sale Quantity (ASQ). (FLRMP page III – 44).

Accomplishment: Timber volume is reported in thousand board beef (MBF), therefore 54 million board feet is 54,000 MBF over 10 years (average 5,400 MBF per year).

Objective TRBO03 - *Utilize wood products (e.g., fuelwood, posts, poles, house logs, etc.) generated from vegetation treatment activities, on both suited and not suited timberlands, to produce an estimated 25.9 million board feet of volume on a decadal basis. This volume, when combined with ASQ, is the Total Sale Program Quantity (TSPQ). On a decadal basis, the TSPQ is estimated to be 80 million board feet*" (FLRMP page III - 44).

Accomplishment: Non-sawlog wood products such as fuelwood, post and poles, and house logs are also referred to as "convertible wood products" because they are sold in cords or by the piece which can be converted to MBF with standard conversion formulas.

Data Source: Timber Information Manager (TIM) which is used for documenting and managing timber sales, stewardship contracts and forest products permits. TIM provides for upward reporting of timber volume and value accomplishments (Timber Information Manager Support webpage: http://fsweb.nrm.fs.fed.us/support/docs.php?appname=tim)

Monitoring Question: *Are current forest management strategies providing for livestock grazing opportunities while maintaining ecological integrity?*

Indicator #1: *Number of grazing authorizations provided annually and over a 10-year period*

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.

The fluctuation seen in the authorized HMs is usually due to annual variations in precipitation and temperature, resulting in drought conditions or excess forage availability. As well as non-use for resource protection following wildfires. Authorized HMs may fluctuate due to permittees requesting non-use for personal convenience due to livestock market variability.

Table 16. Total HMs Authorized for Livestock Grazing

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
198,111	184,482	192,389	186,615	177,272	194,205	178,686	180,376	169,307	181,247

2.4.2 TRIBAL INTERESTS AND RIGHTS

Monitoring Question: *Are Tribal interest and rights identified through consultation being addressed?*

Indicator: *Challenges identified in annual Tribal Summary Report submitted to WO Tribal Relations*

The Sawtooth National Forest continues consulting with the Shoshone-Bannock Tribes quarterly, or as needed. The Memorandum of Understanding outlining the formal consultation process with the Shoshone-Paiute Tribes expired in 2022. The Boise, Payette and Sawtooth

National Forests and the Shoshone-Paiute tribes are in conversations to renew the Memorandum of Understanding. The Sawtooth National Forest formally contacts the Shoshone-Paiute Tribes, Shoshone-Bannock, Northwest Band of Shoshone Nation and the Nez Perce Tribe for comments on all projects requiring NEPA. No challenges have been identified.

2.4.3 HISTORIC RESOURCES

Monitoring Question: *Are historic properties being managed to standard?*

Indicator #1: *Presence of a Heritage Management Plan (HMP)*

The Forest has an HMP that is nearly complete. The State Historic Preservation Office (SHPO) concurred on our Archaeological Site Predictive Model in FY20 and our Archeological Site Identification Strategy in FY21. The final piece of the HMP is a Native American Graves Protection and Repatriation Act (NAGPRA) protocol for the forest. This is completed in draft format and should be ready to go to SHPO by the end of FY22. The HMP is one piece of Heritage Program Managed to Standard.

Heritage Program Managed to Standard is the annual target for the Forest's Heritage program and is measured using a point system based on data collected from the Natural Resource Manager-Heritage system. There are 7 indicators or areas that can score a maximum of 10 point each. The Forest needs a minimum of 45 points to have a Heritage Program that is managed to Standard. The Forest scored 52 points in 2020 and 61 points in 2021.

Indicator #2: *Evaluation for eligibility for listing on the National Register of Historic Places*

The forest achieved maximum points for 2020 and 2021 for National Register of Historic Places evaluations.

Indicator #3: *Condition assessments on Priority Heritage Assets*

The forest nearly hit 100% of condition assessments on Priority Heritage Assets. The forest scored 7.87/10 in 2020 and 9.79/10 in 2021.

Indicator #4: *Opportunities for study and/or public use*

The forest received 100% for opportunities for study and public use for both 2020 and 2021.

3. DETERMINATIONS FROM THE BIENNIAL EVALUATION

Based on evaluations that were conducted, the following are the determinations for adaptive management, per 36 CFR 219.12(d)(2):

3.1 Need for Changing the Forest Plan

Monitoring has not indicated a need for changing the Sawtooth National Forest Plan.

3.2 Need for Changing Management Activities

The Forest needs to increase its pace and scale of timber harvest and restoration activities. The average sawlog volume offered in 2020-21 represents 27% of the yearly average of decadal ASQ target described in Forest Plan Objective TROB02.

National Visitor Use Monitoring satisfaction surveys collected in 2020 show downtrends across several elements when comparing to 2015 survey results. Most notable downtrends include restroom cleanliness, condition of the environment, and parking lot condition.

Whitebark pine forests in western North America are declining because of complex interactions across multiple disturbance factors due to the non-native fungal disease WPBR, recent frequent outbreaks of the native MPB, and the exclusion of wildland fire resulting in greater surface and canopy fuel loadings and successional replacement with more shade tolerant conifers. Climate change also has the potential to exacerbate WPBR and MPB outbreaks, increase wildfires above historical levels, and reduce suitable habitat.

Monitoring has indicated five LAUs (Stanley-Park LAU, Fisher-Taylor LAU, Upper Salmon-Beaver LAU, Upper North Fork Boise-Johnson LAU, and Upper Middle Fork Boise-Queens LAU) on the Sawtooth NRA have unsuitable lynx habitat that is at or above 30%. According to Forest Plan Standard TEST15, the Forest should limit disturbance in those units, and no additional habitat may be changed to unsuitable habitat as a result of vegetative management projects in those units unless a broad-scale assessment is completed that substantiates different historical levels of unsuitable habitat.

3.3 Need for Changing the Monitoring Program

Monitoring and preparation of the 2018-19 report indicated several administrative changes and corrections of clerical errors needed for the monitoring plan. The administrative changes were needed to add clarifying language and/or remove unnecessary or irrelevant language, to correct inconsistencies between questions and indicators, and to add questions and indicators that reflect current monitoring efforts. On August 5, 2022, the Forest made public notification that the Forest Supervisor was approving administrative changes to several monitoring questions and indicators in tables IV-1 and IV-2 in Chapter IV of the Forest Plan. These changes were conducted under the administrative change procedures of 36 CFR 219.13(c). These changes to the monitoring program were made outside of the process for plan revision or amendment, therefore, the Forest provided the public 30 days to comment on the administrative changes. No comments were received. On September 20, 2022, Chapter IV was updated to incorporate the administrative changes.

3.4 Need for Conducting an Assessment to Determine Preliminary Need to Change the Plan

Monitoring has not indicated a need for conducting an assessment to determine preliminary need to change the plan.

4. DATA SOURCES

Data sources for this report are national databases used by the Forest Service. Following is a brief description of each:

4.1 <u>Natural Resource Manager</u>

Natural Resource Manager (NRM) is a national Forest Service organization that is responsible for coordinating software development activities for four application groups whose data are accessible through the NRM platform or the Enterprise Data Center:

- Forest Service Activity Tracking System (FACTS)
- Infra
- Natural Resource Information System (NRIS)
- Timber Information Manager (TIM)

These applications often intersect in how they collect and share data and in how they develop software and use technology. NRM finds ways to manage and grow these applications efficiently and has already begun to standardize the processes used to develop an integrated program of work. NRM also will be looking for effective ways to use resources to reduce duplication of effort and to maximize technology investments.

4.1.1 FACTS

The Forest Service Activity Tracking System (FACTS) is an activity tracking system for all levels of the Forest Service. It supports timber sales in conjunction with TIM Contracts and Permits; tracks and monitors NEPA decisions; tracks KV trust fund plans at the timber sale level, reporting at the National level; and, it generates National, Regional, Forest, and/or District Reports.

4.1.2 INFRA

Infra is a collection of Web-based data entry forms, reporting tools, and GIS tools that enable Forests to manage and report accurate information about their inventory of constructed features and land units as well as the permits sold to the general public and to partners. This information is used by Forest supervisors for the effective management of their Forests and also by visitors, partners, and Congress. Infra is a valuable tool for:

- Forest-level management
- Forest analysis, planning, and budgeting
- Implementing core data layers such as trails, roads, cultural properties, recreation, and range allotments
- Monitoring financial accountability; capitalization, depreciation and deferred maintenance
- Collecting partnerships information such as grants, agreements, and leases
- Collecting information to be made available to the public; data warehouse, Wilderness

use permits, e- government
- Administering Forest permits and billings, such as range and special uses

Infra also interfaces with several external systems to meet data sharing and financial reporting goals. Infra transmits daily feeds of permit billing and grant and agreement financial information to the Foundation Financial Information System. Infra also transmits real property information to the UDSA's Corporate Property Automated Information System.

4.1.3 NRIS

The Natural Resource Information System (NRIS) combines a series of standard corporate databases and computer applications designed to support field-level users. NRIS databases contain basic natural resource and socio-economic data in standard formats built to run within the Forest Service computing environment. Some of the products available in NRIS include:

- Air Quality Information (AIR)
- Aquatic Surveys (AqS)
- FSVeg (Common Stand Exam, includes a geospatial component)
- Inventory and Mapping (Geology, Soils, etc.)
- National Visitor Use Monitoring (NVUM)
- Rangeland Inventory and Monitoring
- Threatened, Endangered, Sensitive Plants, and Invasive Species (TESP/IS)
- Water Rights and Uses (WRU)
- Watershed Classification and Assessment Tracking Tool
- Watershed Improvement Tracking (WIT)
- Wildlife

4.1.3.1 Air Quality Information (AIR)

The AIR application helps air resource managers analyze the effects of air pollutants on natural, cultural, and social resources on lands managed by the Forest Service.

4.1.3.2 Aquatic Surveys (AqS)

Aquatic Surveys (AqS) supports ecological and physical stream variables for three hierarchical levels of the riverine system on NFS lands: valley segments, stream reaches and channel units. Data collected about aquatic fauna communities (fish, invertebrates, macroinvertebrates, amphibians, reptiles) in streams, lakes and spring environments are supported.

4.1.3.3 Field Sampled Vegetation (FSVeg)

Field Sampled Vegetation (FSVeg) stores data about trees, fuels, down woody material, surface cover, and understory vegetation. FSVeg supports the business of common stand exam, fuels data collection, permanent grid inventories, and other vegetation inventory collection processes.

4.1.3.4 Field Sampled Vegetation Spatial (FSVeg Spatial)

FSVeg Spatial manages spatial and tabular vegetation data in one place, at one time. It contains three types of data:

- The vegetation polygon feature class (required to use FSVeg Spatial),
- The vegetation point feature class, and
- Non-stand-exam vegetation data associated with the polygon feature class.

4.1.3.5 National Visitor Use Monitoring (NVUM)

National Visitor Use Monitoring (NVUM) software manages information gathered from on-site surveys of recreation visitors to lands managed by the Forest Service. For information about NVUM's statistical methodology, visit Recreation, Heritage & Wilderness Programs National Visitor Use Monitoring Program. Data collection is based on a stratified random sample methodology to develop sound estimates of visitor use, characteristics, satisfaction, and spending information for each national forest.

The NVUM Results software is now available to the public on the Internet. It delivers NVUM statistics at the national, regional and forest scales using 70 pre-defined reports and maps. Results from individual forests can be combined using the Results software to access multiple-forests, regional, and national estimates of the numbers and types of recreation visits. Reports are available for all years beginning with fiscal year 2005 (October 1, 2004 to September 31, 2005).

4.1.3.6 Rangeland Inventory and Monitoring

Rangeland Inventory and Monitoring supports national protocols for vegetation and ground cover sampling, general site characterization and detailed soil pedon descriptions. The application supports site characterization, interpretations and classifications; it also accommodates casual point observations with basic attributes.

National vegetation sampling protocols supported by the application include: Tree/Snag, Ocular Macroplot, Line Intercept, Cover Frequency, Nested Rooted Frequency, Robel Pole, Density, Paced Transect, Macroplot, Riparian Greenline–Winward, Riparian Cross Section–Winward, and Riparian Woody Regeneration–Winward. Rangeland Inventory and Monitoring is a spatial application intended for defined projects with formal protocol- or program-driven inventories.

4.1.3.7 Threatened, Endangered, and Sensitive Plants, and Invasive Species (TESP/IS)

TESP/IS support national data collection standards for combined TESP and invasive species surveys, TESP element- occurrences, and Invasive Species Inventories.

4.1.3.8 Water Rights and Uses (WRU)

Water Rights and Uses (WRU) tracks state and federally recognized water uses and related information regarding the water source, beneficial uses, quantity, and periods of water use. The application also tracks core information about water rights that may be associated to the water use and the legal and administrative actions that occur. Data collected during site visits to water use system components includes descriptions and dimensions of the water use system as well as site maps, reports and digital photographs. Integration with other Forest Service corporate applications including Automated Lands Project (ALP) and Infra are also supported to provide for a variety of integrated reports

4.1.3.9 Watershed Classification and Assessment Tracking Tool (WCATT)

NRM developed the Watershed Classification and Assessment Tracking Tool (WCATT) application in support of the Watershed Condition Framework (WCF) to provide a nationally consistent approach for classifying watershed condition. The tool supports the entering, editing and reporting of classification and assessment data for watersheds that contain Forest Service lands. WCATT provides a GIS approach to data input for tracking Watershed Classification by 12-digit hydrologic units by year. The Watershed, Fish, Wildlife, Air, and Rare Plants Directors area sponsor it.

4.1.3.10 WIT

Watershed Improvement Tracking (WIT) manages data, observations and planning details about sites that need to be (or have been) restored or improved with the intent of benefiting watershed and aquatic ecosystem health and function. The application is a watershed restoration activity tracker that addresses site conditions, administrative plans and actions, and outcomes. The primary users of WIT are biologists and hydrologists; however, the reporting products deliver raw or summarized information valuable for project leaders, program managers, and public relations staff.

4.1.3.11 Wildlife

Wildlife supports terrestrial animal observations and site inventories.

4.1.4 TIM

The Timber Information Manager (TIM) supports the business of managing Timber Sales, Salvage Sales, Stewardship Contracts, and Forest Products Permits on National Forest lands. While TIM is used to complete the resource job at the field-level, it simultaneously captures information for service-wide reporting needs. TIM is integrated with other national systems, such as FACTS and PALS for project data, National Cruise applications (for timber volume), FMMI for contacts and billing information, and ATSA for payments, interest, penalties, and contract bonding.

4.2 <u>GIS</u>

The Sawtooth National Forest Geographic Information System (GIS) consists of both corporate Forest Service data and Sawtooth National Forest specific data as managed by the Forest's GIS Specialist.

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