United States Department of Agriculture

Sawtooth National Forest
Land and Resource Management Plan

Biennial Monitoring and Evaluation Report 2022-2023

Forest Service September 2024 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 2022-2023, but covers more years, depending on availability of data for each indicator. The next report will be published in 2026 and will cover monitoring in fiscal years 2024 and 2025.

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

Total Treatment Acres on the Sawtooth NF	Treatment Acres within WCS High Priority Watersheds	% Treated within WCS High Priority Watersheds
8,567	227	3%

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	0
GHMA	Revegetation Treatment	0
IHMA	Fuels Treatment	4,825
IHMA	Revegetation Treatment	1,620

PHMA	Fuels Treatment	0
PHMA	Precommercial Thin	0
		Total: 6,445 acres

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 juniper encroachment. Table 2 shows that 6,445 acres were restored in IHMA habitat in 2022-2023. Sage-Grouse habitat restoration has been a Forest priority since 2016, and large-scale conifer removal and invasive plant treatments continue on the Forest. The majority of Sage-Grouse habitat lies within the Minidoka RD and all restoration actions on the Forest occurred here in 2022 and 2023. Restoration actions included removal of juniper, shrub planting, and aerial cheatgrass spraying. Other management activities such as riparian fence maintenance, installing bird ramps in water troughs, and noxious weed treatments occur on all districts annually and likely provide some minor habitat benefits to Sage-Grouse but these management actions are not addressing the root declines of Sage-Grouse and their habitats. Totals in Table 2 reflect management activities that are specifically designed to benefit sagebrush habitat and Sage-Grouse. Sage-Grouse populations experience approximately 10-year cycles. Our last population low point was around 2019-2020 (and 2010-2011 before that), In Idaho, we are seeing a decline between those low points. Currently we are on the upswing of the cycle, with increasing counts from 2019 to 2024. We should start cycling down again in the next several years. Shoshone Basin appears to be increasing since the early 2010s. Idaho Department of Fish and Game (IDFG) added a couple of large leks in the mid-2010 to the Sage-Grouse Planning Area (SGPA) that might partially explain this, however, Shoshone Basin represents some of the highest quality intact habitat in the state and has not experienced any large wildfires like many other SGPAs, which likely contributed to the positive trend.

The 2020 Badger Fire burned 90,100 acres of which a large portion was in mapped Sage-Grouse habitat. The Badger Fire burned adjacent and into areas where the 2012 Cave Canyon Fire (88,950 acres) burned. These two fires impacted Sage-Grouse habitat by removing sagebrush which is necessary for all seasons of a Sage-Grouse life cycle. There are 27 identified Sage-Grouse leks sites within the Cave Canyon and Badger Fire perimeters. Many of these leks declined in attendance after the Cave Canyon Fire, likely as a result of loss of nesting habitat (Sawtooth NF GIS Data, 2021). The Badger Fire represented a further loss of sagebrush across the landscape and long-term persistence of Sage-Grouse on the east side of the South

Hills is now in jeopardy. In areas where burned areas did not convert to an annual grass monoculture, site recovery to sagebrush levels (greater than 15% shrub cover) necessary to support Sage-Grouse will take 25+ years. In sites that have converted to annual grasslands, the habitat loss experienced from wildfire will be permanent without active management intervention. While habitat restoration has increased since 2016 on the Forest, there is more Sage-Grouse habitat being burned in wildfire or degraded from other activities than is being improved or restored on a decadal basis. From a long-term perspective, the distribution, abundance, and habitat quality of Sage-Grouse habitat is not being maintained on the south end of the Forest (Minidoka RD) due to continued large-scale wildfires. It is likely that the distribution, abundance, and habitat quality of Sage-Grouse habitat is being maintained on the north end of the Forest. Overall, the trend of Sage-Grouse across the South and North Magic Valley management areas appears to be increasing at this time after a down trend while Shoshone Basin has a stable and upward trend.

Table 3. North Magic Valley SGPA Lek Count Index

Year	Leks Surveyed	Total Active Leks	Total Males (Active Leks)	Males/Active Lek
2023	195	106	1823	17.19811321
2022	228	104	1811	17.41346154
2021	215	99	1274	12.86868687
2020	248	115	1350	11.73913043
2019	240	123	1473	11.97560976
2018	247	140	2171	15.50714286
2017	217	115	1988	17.28695652
2016	210	119	2395	20.12605042
2015	205	104	2081	20.00961538
2014	184	98	1727	17.62244898
2013	188	104	1626	15.63461538
2012	181	104	1727	16.60576923
2011	134	71	1534	21.6056338
2010	145	72	1207	16.76388889
2009	122	56	960	17.14285714

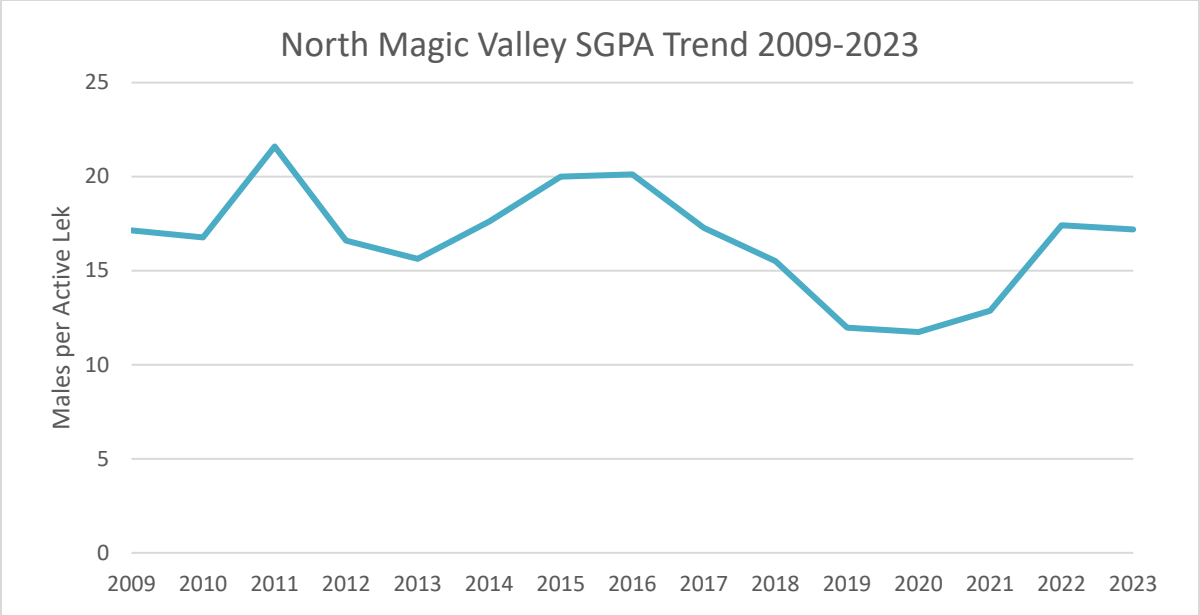

Figure 1. North Magic Valley SGPA Trend 2009-2023

Table 4. Shoshone Basin SGPA lek Trend Index

Year	Leks Surveyed	Total Active Leks	Total Males (Active Leks)	Males/Active Lek
2023	45	31	671	21.64516129
2022	50	27	444	16.44444444
2021	47	22	344	15.63636364
2020	45	18	291	16.16666667
2019	60	29	454	15.65517241
2018	60	35	516	14.74285714
2017	43	26	412	15.84615385
2016	56	30	448	14.93333333
2015	39	22	344	15.63636364
2014	41	21	334	15.9047619
2013	31	20	269	13.45
2012	60	36	414	11.5
2011	46	25	256	10.24
2010	34	22	268	12.18181818
2009	38	19	216	11.36842105

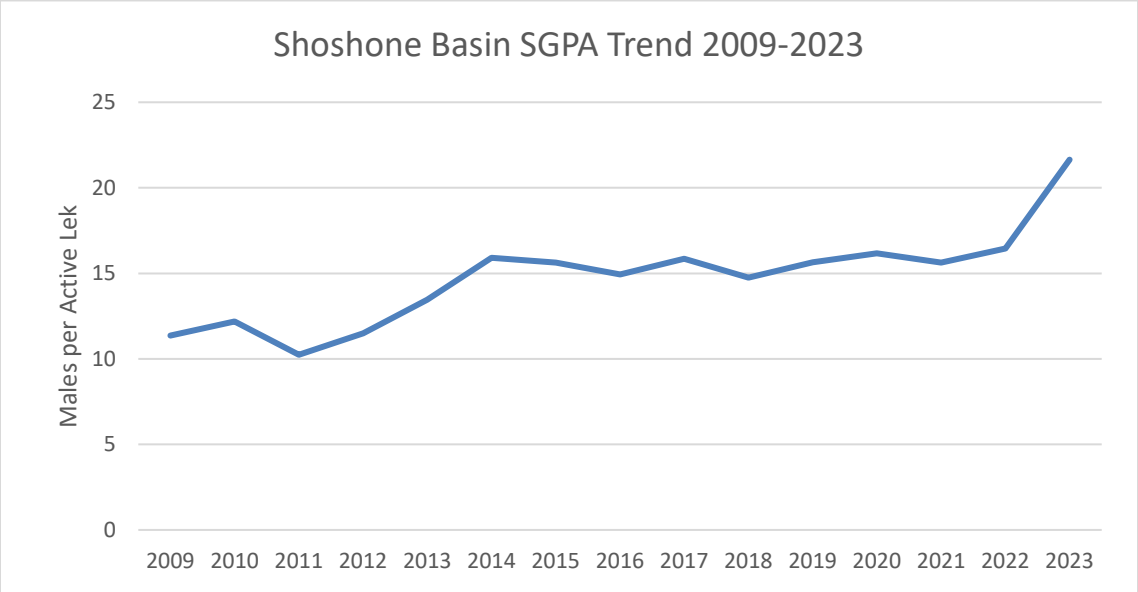

Figure 2. Shoshone Basin SGPA Trend 2009-2023

Table 5. South Magic Valley SGPA Lek Trend Index

Year	Leks Surveyed	Total Active Leks	Total Males (Active Leks)	Males/Active Lek
2023	62	37	465	12.56756757
2022	85	40	409	10.225
2021	78	41	364	8.87804878
2020	92	46	339	7.369565217
2019	81	37	331	8.945945946
2018	88	52	478	9.192307692
2017	73	45	616	13.68888889
2016	66	44	704	16
2015	76	56	778	13.89285714
2014	88	52	663	12.75
2013	56	38	484	12.73684211
2012	55	31	445	14.35483871
2011	64	39	556	14.25641026
2010	44	30	377	12.56666667
2009	49	28	381	13.60714286

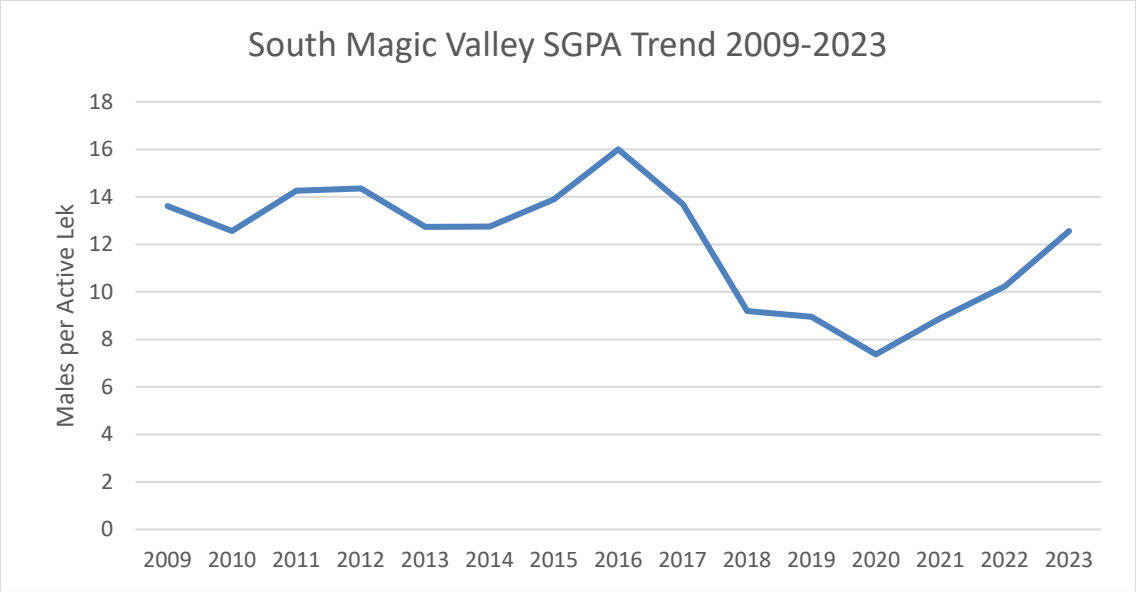

Figure 3. South Magic Valley SGPA Trend 2009-2023

Table 6. Sage-grouse Habitat Restoration Actions in 2022 and 2023

Project	Habitat Type	HMA	Treatment Type	Year	Accomplishment
Black Pine Mine Voluntary Mitigation	Breeding/Nesting	IHMA	Planting/restoration of key nesting and forage species	2022	20,000 seedlings planted on BLM to offset impacts on Forest.
Badger Fire Shrub Planting	Breeding/Nesting	IHMA	Planting/restoration of key nesting and forage species	2022	70,000 shrub seedlings. Estimated 700 acres.
Goose Creek conifer removal Project	Summer/Fall/Brood Rearing	IHMA	Conifer removal//reducing fire risk	2022	1,825 acres
Badger/Cave Canyon Aerial Cheatgrass Spraying	Breeding/Nesting	IHMA	Annual grass reduction/reducing fire risk	2022	3,000 acres
Badger Fire Shrub Planting	Breeding/Nesting	IHMA	Planting/restoration of key nesting and forage species	2023	72,000 shrub seedlings Estimated 720 acres.
**Goose Creek conifer removal Project	Summer/Fall/Brood Rearing	IHMA	Conifer removal//reducing fire risk	2023	0 5000 acres planned
**Badger/Cave Canyon Aerial Cheatgrass Spraying	Breeding/Nesting	IHMA	Annual grass reduction/reducing fire risk	2023	0 5700 acres planned

** Restoration actions for these projects were delayed due to key personnel being unavailable, poor weather conditions and contracting issues. These actions will be completed in FY24.

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 2004-2023, the average percent occupied transects for the Sawtooth NRA is 31.5% and Ketchum RD is 19%. Table 7 displays the 2022-2023 survey numbers for pileated woodpeckers. The average percent occupied transects for the Sawtooth NRA in 2022-2023 are 49.45%, showing an increase compared to the 2004-2021 average. The average percent occupied transects for the Ketchum RD in 2022-2023 are 11.1%, showing a decrease compared to the 2004-2021 average. However, due to a very limited sample size in 2023, it should not be assumed that there is a decreasing trendline on the Ketchum RD. Overall, Pileated woodpeckers appear to be relatively stable within the north end of the Forest and the distribution, abundance, and habitat quality is being maintained.

Table 7. 2022 and 2023 Numbers for Pileated Woodpecker

District	Year	Points monitored/ Transects	Observations	% Occupied Transects	Sawtooth detections/km
Sawtooth NRA	2022	180/18	8	38.9	0.143
	2023	100/10	7	60	0.23
Ketchum RD	2022	90/9	2	22.2	0.077
	2023	20/2	0	0	0

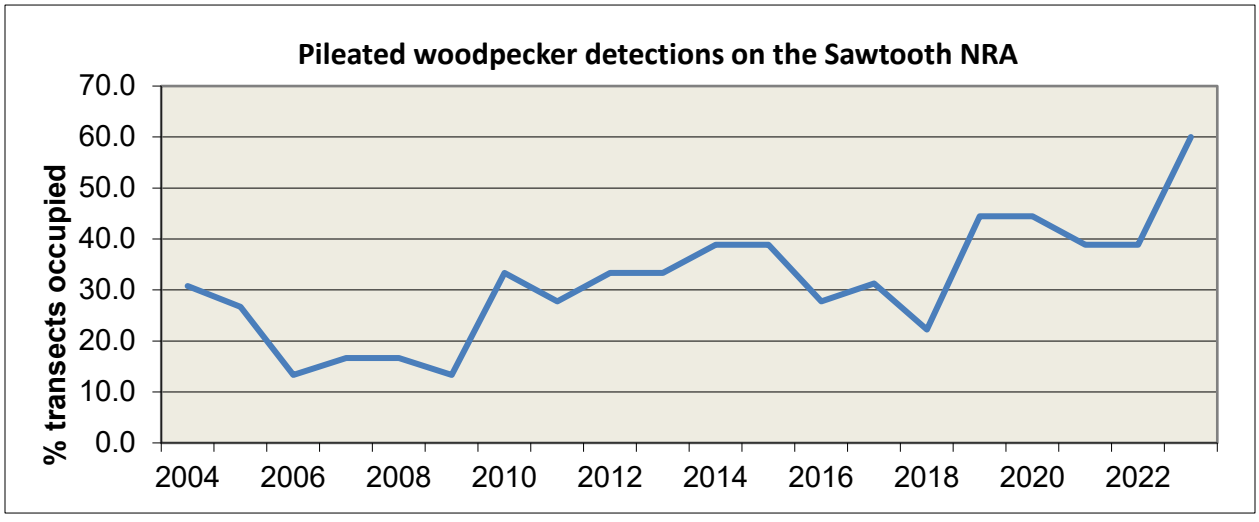

Figure 4. Pileated woodpecker detections from 2004-2022 on Sawtooth NRA

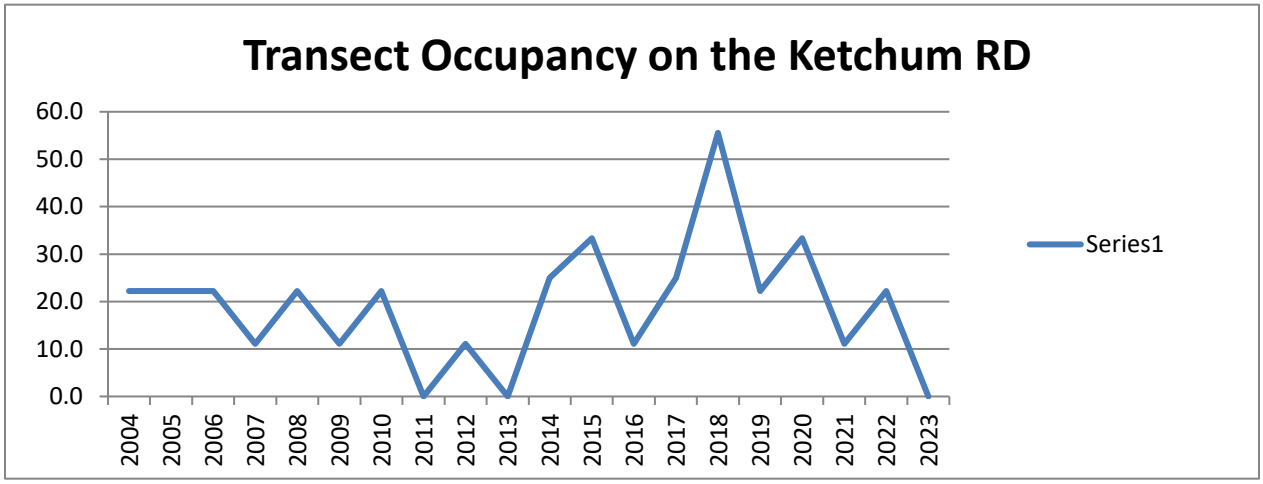

Figure 5. Pileated woodpecker detections from 2004-2023 on Ketchum RD

** Due to weather conditions and logistical challenges, only two transects were monitored in 2023 on KRD. Data is not consistent with other years.

Northern Goshawk

Northern goshawk have been a Region 4 Sensitive Species since the early-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 the species. Below are monitoring results for the Minidoka RD, Ketchum RD, Fairfield RD, and Sawtooth NRA.

Table 8. Minidoka RD Goshawk Survey Results

Year	# Historical Territories	Total # Breeding	Total # Success	Fledgling/Breeding Attempt	Fledglings/Successful Attempt
2022	56	17	9	1.18	2.22
2023	51	8	6	1.25	1.67

Table 9. 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	2022	24	10(42%)	0	13	1.3	0.54
	2023	24	10 (42%)	0	17	1.70	0.70
Ketchum RD	2022	5	1 (20%)	0	1	1	0.20
	2023	5	0(0%)	0	0	0	0
Fairfield RD	2022	10	0	0	0	0	0
	2023	5	0	0	0	0	0

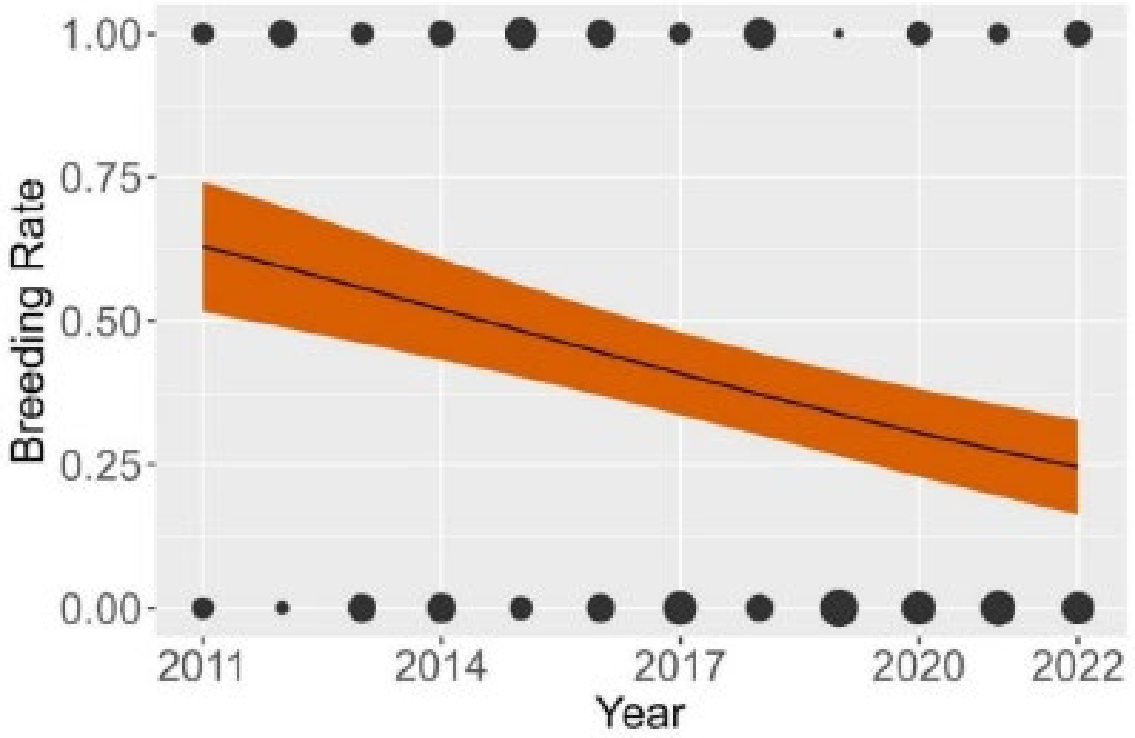

Figure 6. Modeled American Goshawk breeding rate within the Minidoka RD, shown with 95% confidence intervals (orange). The size of the black dots represents the number of territories at each value. The measured decline is significant.

There are several potential reasons contributing to the lower breeding rates in the Minidoka RD. Factors likely include a combination of harvest impacts, decreased canopy cover (disease, climate, fire, firewood collection, post and pole harvest), and other disturbance (grazing, ATVs, recreational shooting). For example, harvest practices in the past five years have greatly lowered the quality of Pinedell (Cassia Division), Pine Canyon (Sublett Division), South Heglar (Sublett Division), Flat Canyon (Sublett Division), and possibly Hartley (Sublett Division). The Hartley stand still appears suitable, but the birds have moved to a smaller stand to the south after the thinning occurred. In most of these harvested stands (Hartley is the exception), the remaining canopy cover was taken well below the minimum recommended threshold for continued goshawk occupancy. The Badger Fire (2020) impacted the prime nest stands of Harrington Peak, Bostetter, and Humphrey with high intensity burning, making them unsuitable in the long term, while significantly degrading Flatiron Peak. Road maintenance in 2022 destroyed a few nest trees and may have caused the nest failure this year in Thoroughbred Springs. Flatiron Peak (Cassia Division) was a quality stand (occupied and successful in 2011, 2012, and 2014) but was hit heavily by beetle kill and then firewood harvest and has not been occupied since. The cumulative impact of all of these trends suggests a potentially permanent decrease in breeding population size.

The lower breeding rates and higher nest failure rates within the Cassia Division in 2022 were likely caused by the high amount of April precipitation. Bangerter et al. 2021 provides evidence that high precipitation causes lower “observed” breeding rates. We say “observed” as we believe it causes early-season nest failures which we then observe as lack of breeding by the time surveys occur. In evaluating the 2022 precipitation, models suggest that the impact was much higher in the Cassia Division which is consistent with field observations. The concern is if

these weather patterns occur much more often as a result of climate change (observed in 2019 and now 2022).

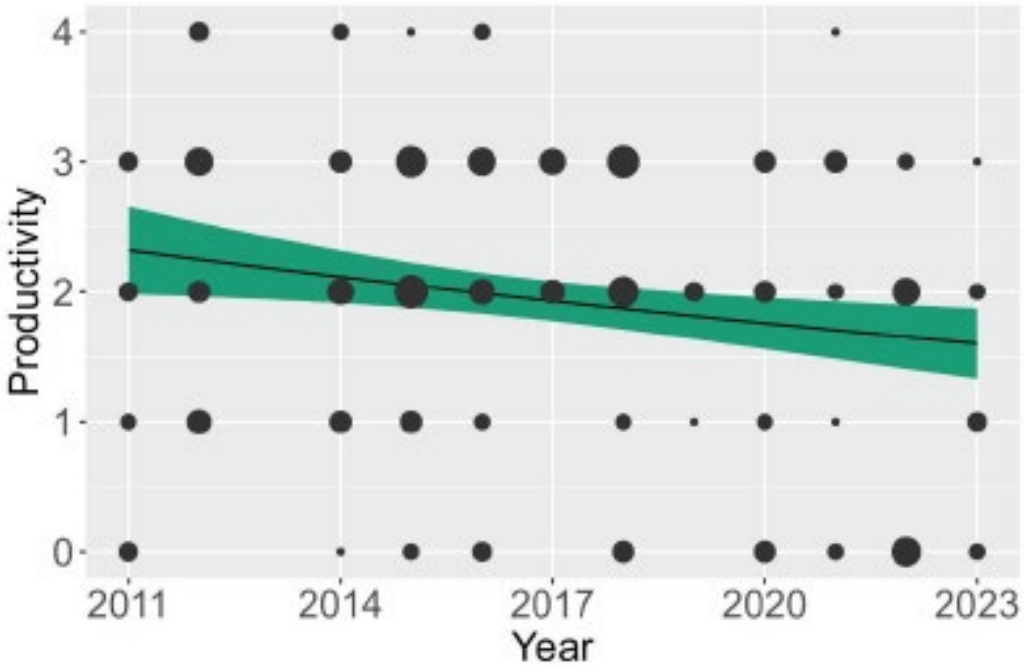

Figure 7. Modeled American Goshawk productivity (# of nestlings) within the Minidoka RD, shown with 95% confidence intervals (green). The size of the black dots represents the number of territories at each value. The measured decline in productivity is significant.

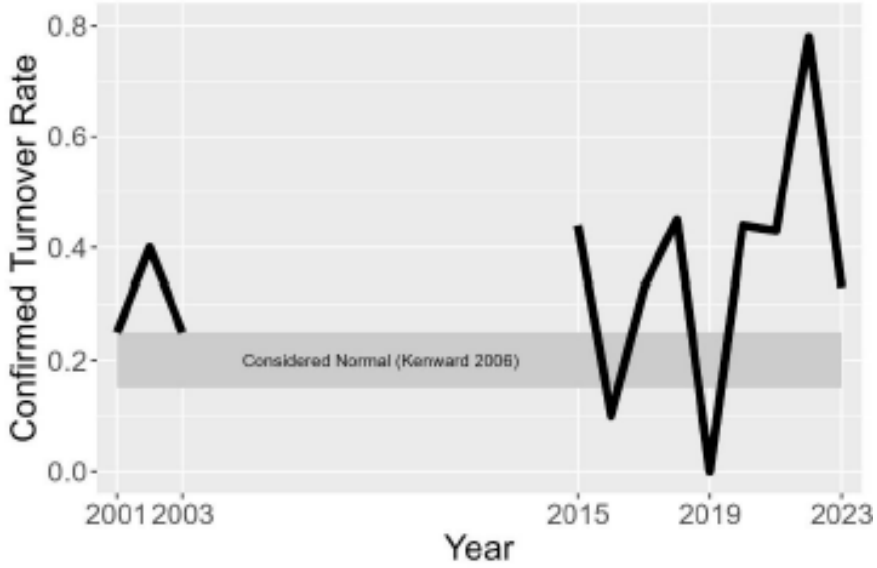

Figure 8. Annual measured confirmed turnover rate of breeding females within the Minidoka RD. This is the third consecutive year of very high turnover

In previous year's monitoring the trend line of the whole study area was displayed. For 2023, the breeding trend per division was broken out as that may be more helpful for management decisions. The general trends in all divisions are negative but are only/most significant in the Albion and Sublett Divisions (Figure 9 below). It is possible that grazing practices may have led to the lower breeding rates in the Albion Mountains. In previous years field crews have discovered the Stinson nest (Albion) and the Flat Creek nest (Albion) had failed just days after cattle grazing was opened in those territories, potentially due to disturbance right at the nest trees. When crews discovered the failed nests, there were still a large number of cows surrounding the nest tree. Grazing practices in this area have not followed the prescribed Annual Operating Instructions schedule in recent years. This has been brought to the range managers attention and should be addressed in the future. Continued monitoring should be able to determine if grazing disturbance is a contributing factor not. We suspect the decreased breeding in the Sublett Mountains to be the result of logging practices. The Flat Canyon nest (Sublett Division) stand has been significantly thinned beyond recommended thresholds for nest occupancy by goshawk. Similarly, the Hartley Canyon goshawks have moved from the historical nest stand that had been thinned, although the historical stand still has suitable canopy cover. With the Kossman nest (Sublett Division) stand set to be logged, this territory could also become unusable in the short term until canopy cover increases through time.

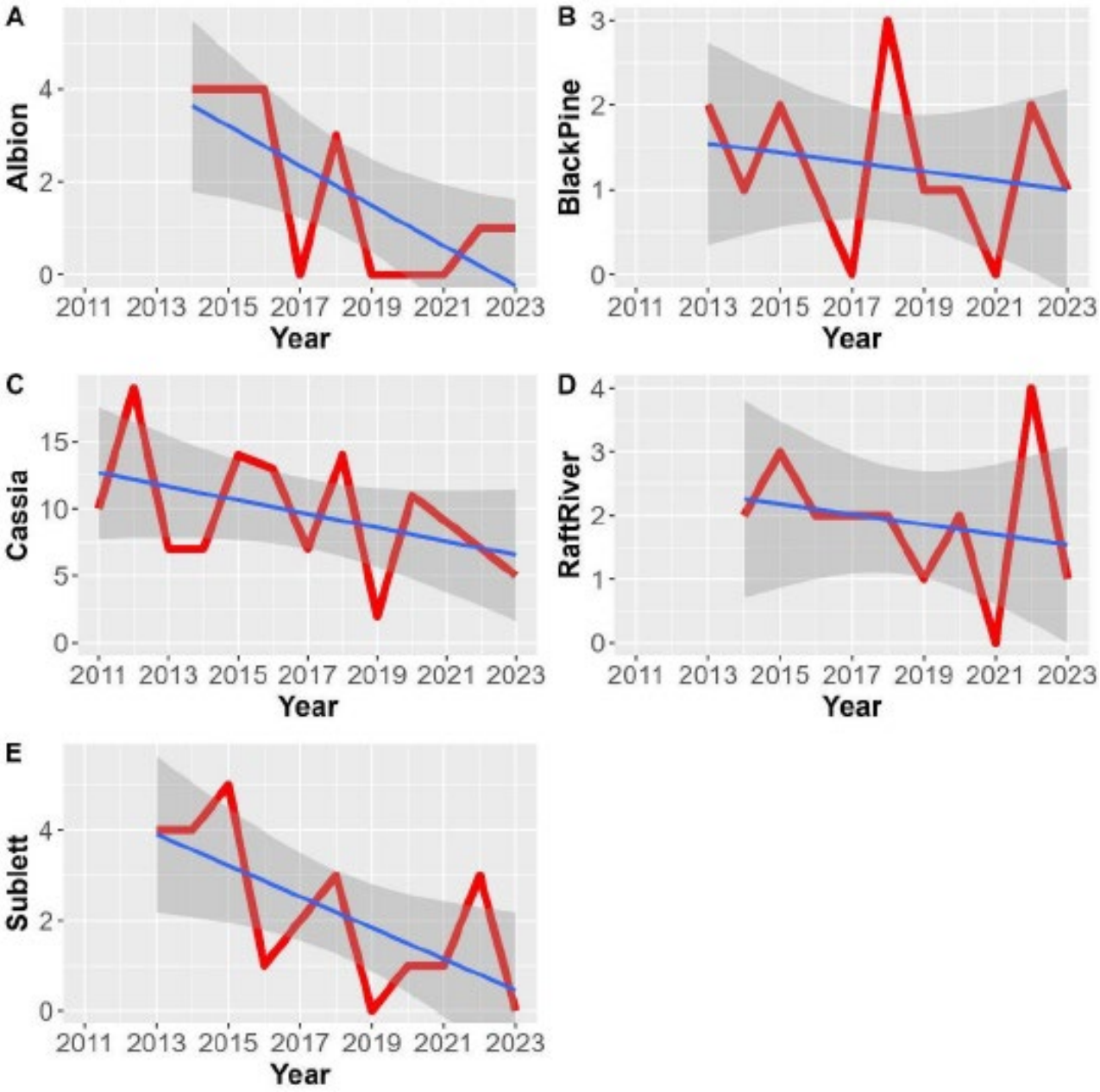

Figure 9. Documented breeding attempts (successes and failures) per year per division shown with simple linear trend lines and 95% confidence intervals across the Minidoka RD. Note the y-axis is not consistent among graphs.

Demography

Since 2014, Intermountain Bird Observatory has banded or re-sighted (previously banded) 60 adult breeding birds. Of these 60 birds, there are known ages for 16 and minimum ages for the remainder. Our parentage analysis has enabled us to increase the minimum age of seven birds. The minimum age distribution fits the expected pattern of most wild populations with few 1-year-old breeding birds, many young birds (2 – 3 years old), and fewer older birds (>6 years old; Fig. 10).

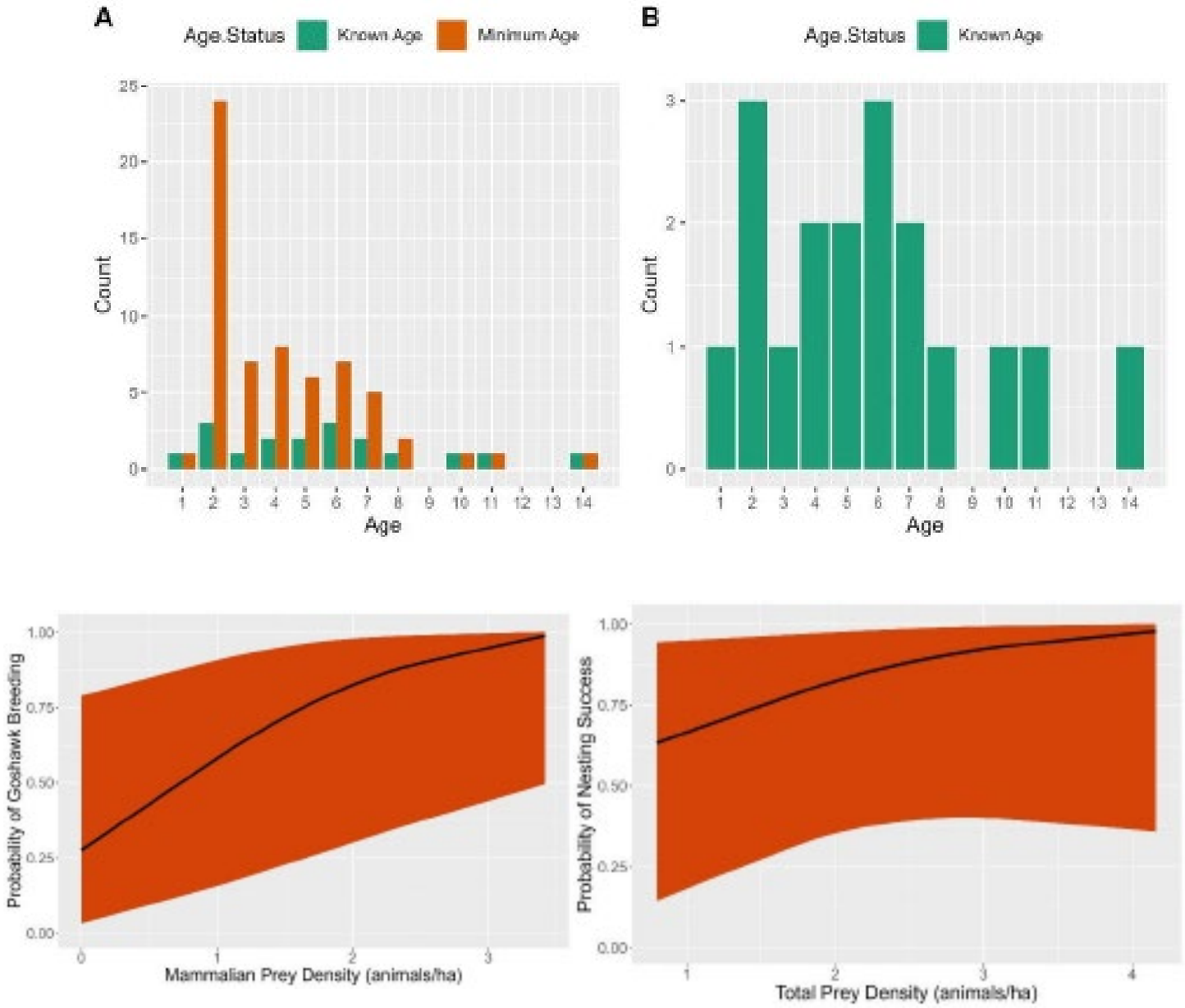

Figure 10. Predicted effects of prey density on breeding rate and nesting success within the Cassia Division of the Minidoka RD (2011, 2012, 2021, 2022, 2023).

In evaluating all five years of prey density combined, mammalian prey density was the most important predictor of breeding rate, with higher breeding rates in territories with more mammalian prey. In evaluating nest success, total prey density was the the highest predictor, once again the relationship was positive. Prey density's impact on productivity was evaluated but was unable to measure a relationship. Management actions that could promote prey abundance, such as travel management, promoting habitat diversity, and the retention of snags should be considered. Lastly, estimated prey abundance within the Badger Fire burned areas were compared against the abundance in non-burned territories. We found that mammalian abundance has increased since the fire, whereas avian prey abundance has steadily decreased.

North End of Forest- Fairfield RD, Ketchum RD, and Sawtooth NRA

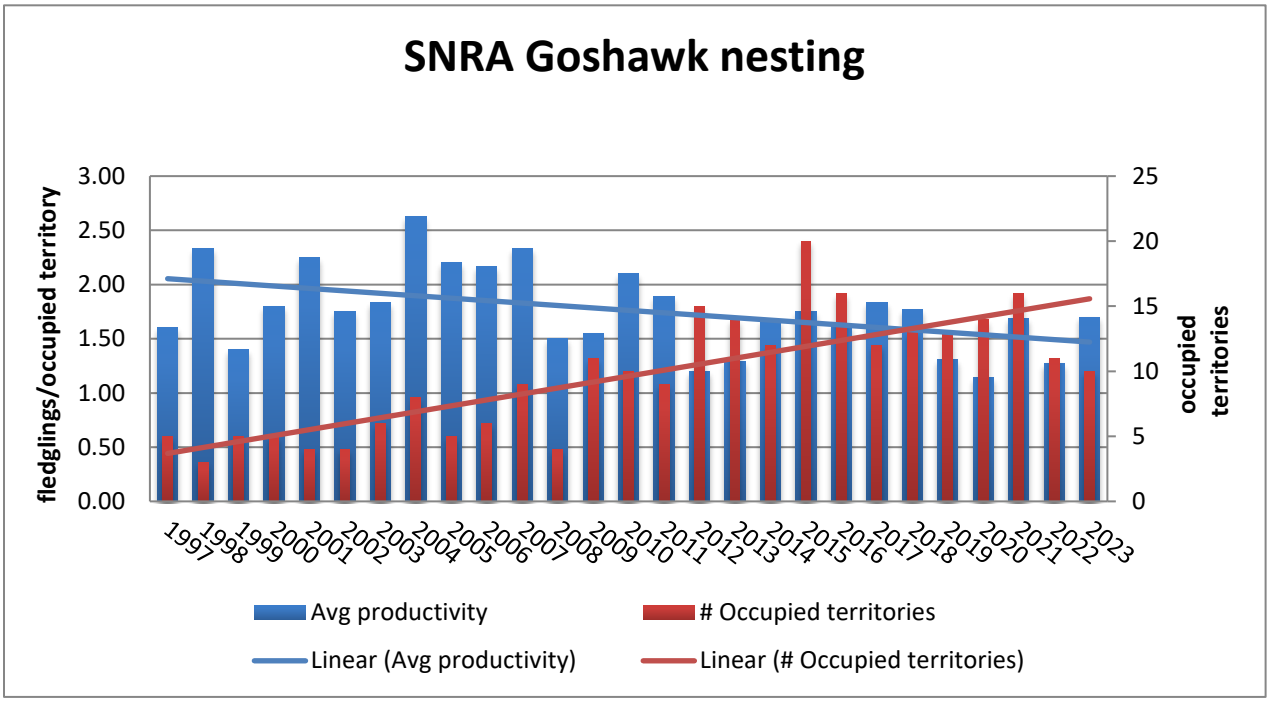

Figure 11. Sawtooth NRA goshawk nesting 1997-2023

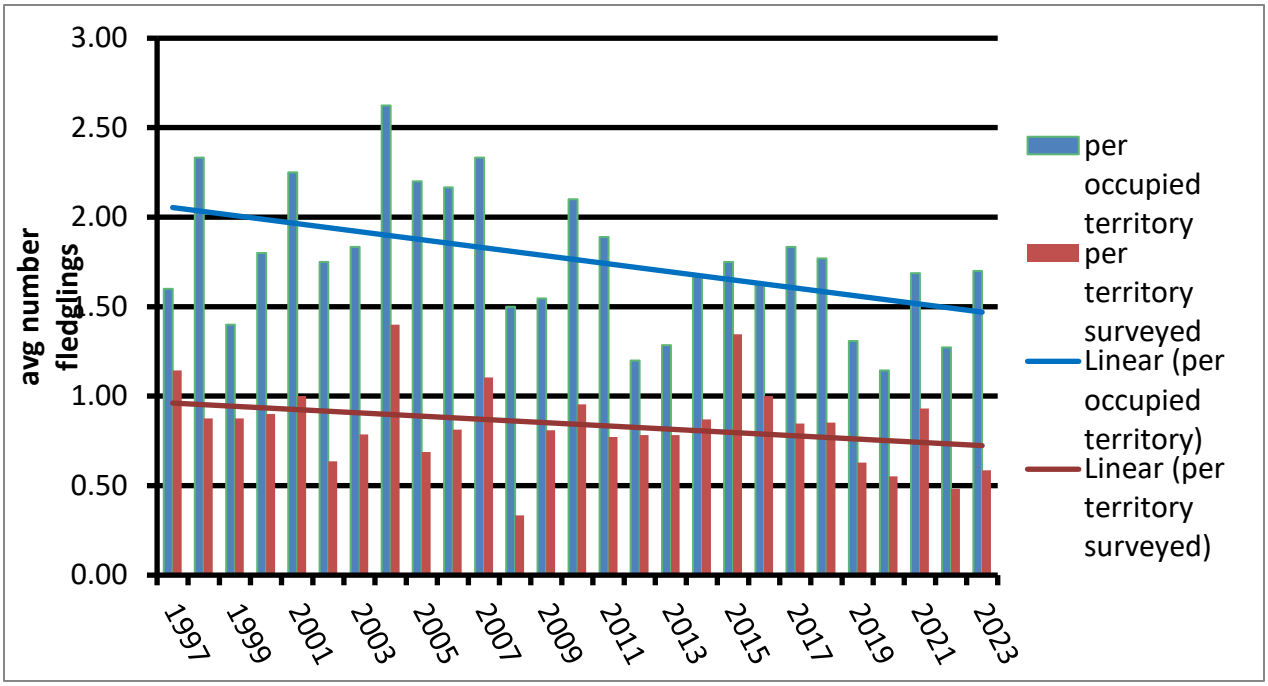

Figure 12. Average number of fledging per occupied territory and per territory survey on Sawtooth NRA

Summary and Discussion of Northern Goshawk Monitoring

Monitoring indicates a declining population, territory occupancy, and productivity on the Minidoka RD. On the north end of the Forest, there were no identified active territories on the Fairfield RD and only one on the Ketchum RD. The Sawtooth NRA has a more robust population of goshawk however a number of territories have been impacted in recent years from vegetation management projects and wildfires and a declining trend is observed on the Sawtooth NRA as well. A number of management activities may be and likely are negatively impacting goshawk populations however confounding variables such as weather and prey availability could make determining the rate of decline difficult to ascertain with certainty at this time. Preliminary data from 2024 indicates that goshawk productivity did considerably better than in 2022 and 2023 however on the Sawtooth NRA at least 7 territories were impacted by wildfire, which is expected to result in declines or territory abandonment in most cases. Assessments have not been completed as the areas are still within the active fire perimeter at the time of this report.

Continued robust monitoring of goshawk on the Forest is recommended as well as a more conservative approach to management within goshawk territories to minimize the potential trend decline until areas that were treated or harvested have time to recover to suitable goshawk habitat and forest managers have time to evaluate if the current downwards trend is more related to environmental conditions or habitat. It is possible that environmental conditions are playing an outsized role in the low productivity observed in 2022 and 2023 however there is a slightly higher rate of goshawk territory occupancy on the north end of the Forest (Sawtooth NRA) than the Minidoka RD. We cannot evaluate turnover on the north end of the Forest as there are no marked birds.

Integrated Monitoring in Bird Conservation Regions (IMBCR) monitoring

The Forest Service participates in IMBCR monitoring. A purpose of Forest Service monitoring is to provide information for projects and planning by tracking ecological conditions on National Forest System lands over time. Monitoring reports help determine whether a change to management or monitoring should be considered (219.5).

The purpose of the Intermountain Region Bird Monitoring Report is to accomplish required monitoring at the regional scale, but it also includes unit-scale information for each forest and grassland in the region. In accordance with the 2012 planning rule, this report provides succinct information on the status of bird species, including At-risk and Focal species. It assesses effectiveness of current forest management related to Executive Order 13186 (Migratory Bird Treaty Act) and provides scientific information for project analyses and forest plan revision.

Detailed below in Figure 13 and Table 10, for species with significant trends, the mean trend was 1.11. The species trend distribution was skewed >1.0. General ecological conditions for bird species on the Forest are favorable (Figure 13). Trends for all species with trend estimates are listed in Table 10. IMBCR data is presented here to give a better portrayal of landscape habitat conditions on the Forest. Overall, the total of active habitat and vegetation management actions on the Forest are minimal relative to the size of the Forest; large disturbance events, primarily wildfire, have an outsized role currently on habitat conditions. Other activities, such as recreational use, likely affected wildlife populations on the Forest more than vegetation manipulation due to the amount and distribution on the landscape.

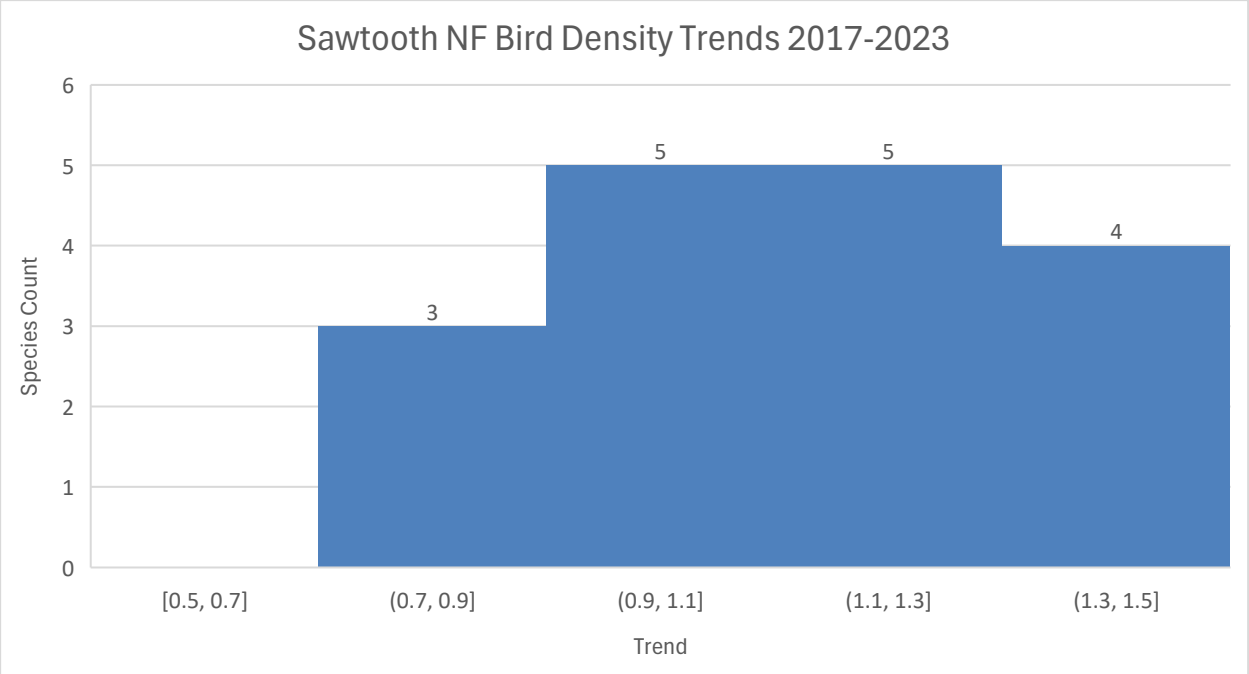

Figure 13. Bird Density Trends on the Sawtooth National Forest

Table 10. Median Density Trends for Sawtooth National Forest Birds 2017-2023. Trend=median density trend for the region; LCI90=lower credible interval; UCI90=upper credible interval; F=confidence in the direction of the reported trend, e.g., 0.83 suggests 83% confidence in the direction of an observed trend (but not its magnitude). A trend <1.0 indicates downward population trend, 1.0 indicates stable trend, and >1.0 indicates increasing trend. Superscript F=Focal Species and superscript SCC=Species of Conservation Concern.

Species	Trend	LCI90	UCI90	F
American Goldfinch	0.80	0.54	1.12	0.85
American Goshawk[F]	0.97	0.65	1.42	0.60
American Kestrel	0.89	0.65	1.17	0.77
American Robin	0.99	0.91	1.09	0.66
Ash-throated Flycatcher	1.24	0.92	1.80	0.87
American Three-toed Woodpecker	1.06	0.68	1.98	0.58
Bank Swallow	0.81	0.53	1.23	0.82
Black-billed Magpie	0.96	0.74	1.25	0.63
Black-backed Woodpecker	1.16	0.80	1.62	0.74
Black-capped Chickadee	1.12	0.83	1.50	0.70
Black-chinned Hummingbird	0.95	0.66	1.37	0.61
Bewick's Wren	1.03	0.69	1.59	0.55
Blue-gray Gnatcatcher	0.98	0.78	1.24	0.57
Brown-headed Cowbird	1.06	0.88	1.28	0.64
Black-headed Grosbeak	1.26	1.06	1.52	0.98
Brewer's Blackbird	1.06	0.76	1.52	0.60
Brown Creeper	0.97	0.81	1.16	0.68
Brewer's Sparrow	0.86	0.75	0.98	0.97
Broad-tailed Hummingbird	1.12	0.88	1.51	0.75
Black-throated Gray Warbler	0.98	0.71	1.35	0.55
Bullock's Oriole	0.88	0.64	1.15	0.78
Bushtit	1.17	0.80	1.61	0.73
Cassin's Finch	1.02	0.88	1.19	0.57
Calliope Hummingbird	1.05	0.71	1.59	0.56
Canada Jay	1.19	0.89	1.62	0.81
California Quail	1.00	0.60	1.64	0.52
Cassin's Vireo	1.37	0.82	2.50	0.83
Cedar Waxwing	1.02	0.74	1.47	0.52
Chipping Sparrow	1.01	0.92	1.10	0.52
Clark's Nutcracker	1.07	0.92	1.25	0.72
Cliff Swallow	0.98	0.62	1.60	0.55
Cooper's Hawk	1.00	0.80	1.29	0.54
Common Merganser	0.85	0.55	1.29	0.76
Common Nighthawk	0.99	0.81	1.20	0.56
Species	**Trend**	**LCI90**	**UCI90**	**F**
Common Poorwill	1.35	0.95	2.09	0.90
Common Raven	1.05	0.91	1.21	0.65
Common Yellowthroat	0.87	0.65	1.19	0.79

Dark-eyed Junco	0.90	0.82	0.99	0.98
Downy Woodpecker	1.17	0.83	1.70	0.76
Dusky Flycatcher	1.03	0.92	1.15	0.59
Dusky Grouse	0.93	0.62	1.27	0.70
Eurasian Collared-Dove	0.95	0.63	1.36	0.65
European Starling	1.02	0.65	1.67	0.52
Evening Grosbeak	1.35	0.94	2.14	0.91
Fox Sparrow	1.07	0.82	1.41	0.66
Golden-crowned Kinglet	0.90	0.63	1.26	0.72
Great Horned Owl	0.94	0.71	1.20	0.70
Gray Catbird	1.19	0.69	2.35	0.68
Gray Flycatcher	1.11	0.90	1.37	0.72
Grasshopper Sparrow	0.96	0.58	1.63	0.56
Green-tailed Towhee	0.97	0.85	1.14	0.65
Hammond's Flycatcher	0.97	0.79	1.20	0.62
Hairy Woodpecker	1.16	1.00	1.37	0.93
Hermit Thrush	0.93	0.83	1.06	0.85
House Finch	1.06	0.72	1.62	0.59
Horned Lark	0.92	0.58	1.53	0.60
House Wren	0.94	0.81	1.10	0.78
Juniper Titmouse	1.07	0.81	1.40	0.65
Killdeer	0.87	0.61	1.29	0.73
Lark Sparrow	1.07	0.87	1.32	0.68
Lazuli Bunting	0.95	0.75	1.19	0.66
Lesser Goldfinch	1.12	0.79	1.68	0.67
Lewis's Woodpecker	1.13	0.72	1.66	0.68
Lincoln's Sparrow	1.20	0.97	1.51	0.92
Loggerhead Shrike	1.11	0.87	1.59	0.73
Mallard	0.98	0.64	1.65	0.53
MacGillivray's Warbler	1.03	0.90	1.17	0.57
Mountain Bluebird	0.99	0.88	1.14	0.57
Mountain Chickadee	0.94	0.84	1.04	0.89
Mourning Dove	0.92	0.81	1.07	0.86
Nashville Warbler	0.88	0.60	1.19	0.77
Northern Flicker	0.95	0.84	1.09	0.76
Northern Harrier	0.99	0.73	1.28	0.56
Northern Rough-winged Swallow	0.92	0.69	1.25	0.69
Orange-crowned Warbler	0.95	0.79	1.16	0.72
Species	**Trend**	**LCI90**	**UCI90**	**F**
Olive-sided Flycatcher	1.22	1.00	1.49	0.94
Pacific Wren	0.76	0.41	1.26	0.80
Pine Grosbeak	0.85	0.63	1.21	0.77
Pinyon Jay	1.05	0.77	1.48	0.57

Pika	0.88	0.64	1.20	0.78
Pine Siskin	0.89	0.79	0.99	0.97
Plumbeous Vireo	0.88	0.66	1.16	0.78
Red-breasted Nuthatch	1.08	0.96	1.22	0.86
Ruby-crowned Kinglet	0.95	0.85	1.04	0.87
Red Crossbill	1.05	0.82	1.34	0.59
Red-eyed Vireo	1.09	0.60	2.02	0.58
Red-naped Sapsucker	1.03	0.82	1.28	0.56
Rock Wren	1.08	0.93	1.25	0.74
Red-tailed Hawk	1.05	0.89	1.22	0.63
Ruffed Grouse	1.07	0.82	1.40	0.62
Red-winged Blackbird	0.89	0.50	1.63	0.63
Sandhill Crane	1.16	0.78	1.78	0.71
Say's Phoebe	1.12	0.81	1.61	0.70
Sage Thrasher	0.98	0.73	1.31	0.56
Savannah Sparrow	0.94	0.57	1.60	0.61
Song Sparrow	0.97	0.77	1.25	0.58
Spruce Grouse	0.81	0.49	1.22	0.82
Spotted Sandpiper	0.95	0.68	1.40	0.59
Spotted Towhee	1.00	0.78	1.25	0.52
Sharp-shinned Hawk	1.01	0.70	1.49	0.50
Steller's Jay	1.31	0.94	1.84	0.89
Swainson's Hawk	0.95	0.69	1.36	0.62
Swainson's Thrush	1.00	0.84	1.21	0.52
Townsend's Solitaire	0.89	0.72	1.09	0.84
Townsend's Warbler	0.87	0.52	1.34	0.74
Tree Swallow	1.12	0.86	1.51	0.73
Turkey Vulture	0.97	0.78	1.20	0.61
Vesper Sparrow	0.99	0.80	1.21	0.57
Violet-green Swallow	0.92	0.71	1.19	0.71
Virginia Rail	0.94	0.62	1.47	0.65
Virginia's Warbler	1.33	0.91	1.99	0.89
Warbling Vireo	1.06	0.94	1.16	0.75
White-breasted Nuthatch	1.12	0.75	1.71	0.67
White-crowned Sparrow	1.07	0.91	1.26	0.69
Western Flycatcher	1.17	0.89	1.45	0.81
Western Kingbird	1.06	0.68	1.71	0.58
Species	**Trend**	**LCI90**	**UCI90**	**F**
Western Meadowlark	0.95	0.73	1.25	0.61
Western Tanager	1.07	0.97	1.19	0.84
Western Wood-Pewee	1.14	0.92	1.46	0.81
Willow Flycatcher	1.05	0.69	1.57	0.55
Williamson's Sapsucker	1.23	0.74	2.06	0.76

Wilson's Snipe	0.90	0.55	1.43	0.64
Wilson's Warbler	0.97	0.66	1.35	0.58
Woodhouse's Scrub-Jay	1.04	0.78	1.34	0.58
White-throated Swift	0.88	0.57	1.30	0.69
Yellow Warbler	0.91	0.76	1.08	0.82
Yellow-rumped Warbler	1.02	0.94	1.11	0.62

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

The listing of whitebark pine as a threatened species was effective on January 17, 2023. In summary, the Species Status Assessment Report for the Whitebark pine determined that the primary stressor affecting the conservation status of the whitebark pine is the white pine blister rust, a fungal disease caused by the nonnative pathogen *Cronartium ribicola*. Whitebark pine is also impacted by the native mountain pine beetle (*Dendroctonus ponderosae*). Altered fire regimes and the accelerating effect of climate change also represent a compounding negative effect on the species.

2022 – 2023 Monitoring

In 2023, a total of four Whitebark pine monitoring plots were resurveyed and one newly established. Monitoring is based on a widely used standardized set of sampling protocols that includes the collection of stand structure, health status, mortality, successional trajectory, and mountain pine beetle activity information. Overall results indicated Whitebark pine had a 50% increase in mountain pine beetle attacks and a 10% increase in white pine blister rust occurrences in the resurveyed plots.

In 2023, Intermountain Bird Observatory resurveyed 4-point count survey routes established in 2009 in four drainages and established repeatable point count survey routes in four new areas within proposed Whitebark pine treatment areas. The monitoring objective for these surveys is the use of the Clark's Nutcracker, and other Idaho Species of Greatest Conservation Need, in Whitebark pine thinning and control plots. Overall results of these surveys found more detections and detected more species on untreated area transects than on treated area transects. The long-term monitoring objective is trends in Clark's Nutcracker habitat use changes in Whitebark pine restoration areas.

In 2022 and 2023, Whitebark pine seedling survival monitoring was conducted in areas planted in 2017 - 2022. Planting areas are monitored for up to 5 years after planting for seedling survival. Seedling survival ranged from 45 – 80% in the planting areas.

2022 - 2023 Restoration Actions

In 2022, thinning of subalpine fir, Douglas fir and lodgepole pine from a 10 acre stand of whitebark pine was accomplished through contract services.

In 2022, five new "Plus Trees" were established in the Soldier Mountains on Fairfield RD. Plus Trees are

individual trees selected in the field based on physical indications that they are likely to have some disease resistance. Cones were collected using contract climbing services from the five selected Plus Trees and taken to Coeur d'Alene Forest Service Nursery to be tested in the Whitebark Pine Genetic Restoration Program for white pine blister rust resistance. We await the results which will take up to 7 years.

In 2022 (1,500) and 2023 (7,000), a total of 8,500 two-year-old whitebark pine seedlings were planted through contract services. The seedlings were grown at Lucky Peak Nursery from seed collected from a stand with 39.7% rust resistance based on Whitebark Pine Rust Resistant Seed Source Rankings Cycles 1-5. Seedlings were planted in the headwaters of Boundary Creek on the Sawtooth NRA in an area that was thinned in 2015.

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 Forest Plan. The standards in the Forest Plan provide the basis for analysis of effects of projects on Canada lynx during consultations (U.S. Forest Service 2003). Lynx Analysis Units (LAU) and predicted foraging and denning habitat within each LAU have been developed as directed by the LCAS. In 2013, a revised LCAS was published which defined core and secondary areas for lynx. The 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, Forest Plan standards and guidelines still apply to management actions on the Forest. The Forest does not have a known population of Canada lynx but as stated above LAUs and habitat have been identified.

During 2022-23, vegetation management and wildfires resulted in short term degradation to 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 (Forest Plan 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.

Though lynx sightings have occurred throughout much of Idaho, these observations should not be interpreted as reflective of lynx distribution or habitat suitability. IDFG has documented only 81 verifiable lynx detections, with most of these sightings occurring outside of high-quality habitat (Figure 14). These sightings are best attributed to transient or dispersing individuals. In Idaho, high-quality lynx habitat is limited, with most existing in small, isolated, and fragmented parcels (Figure 14) that can only support a small number of individuals, even if fully occupied (IDFG, 2023). The last known lynx occurrence on the Forest was in 1997, which was a track near Alturas Lake.

Lynx in Idaho pose a unique situation from a conservation perspective. Suitable lynx habitat is extremely

limited in the state. Persistence of lynx in these areas is primarily dependent on status of lynx in neighboring jurisdictions (British Columbia and Montana), where enough suitable habitat exists to support reproductively viable populations. As an example, if we consider 'high habitat probability' identified in Olson et al. (2021) in western Montana and northern Idaho, Idaho contains approximately 5% of habitat suitable for resident animals. This limited amount of habitat is insufficient to influence the overall lynx population (IDFG, 2023).

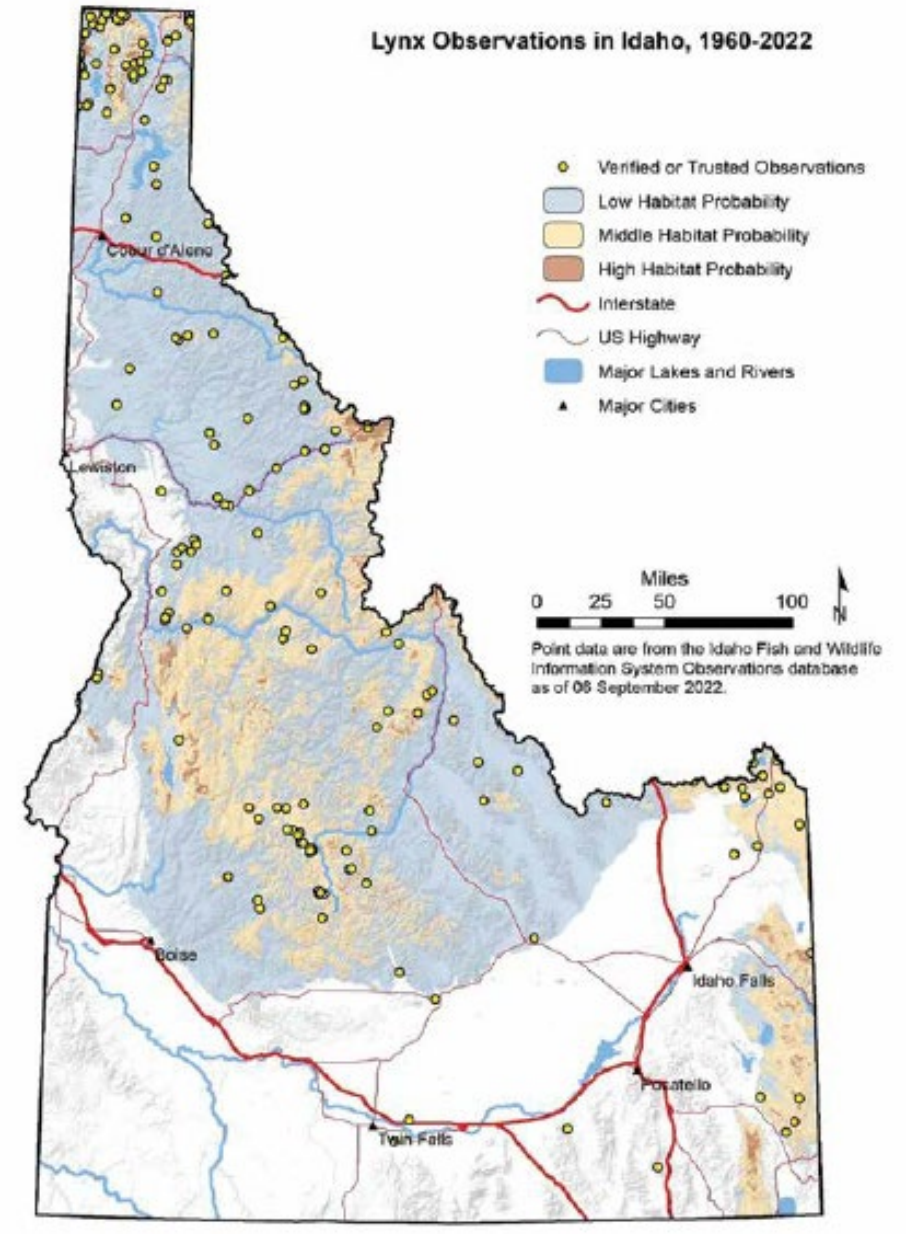

Figure 14. Categorical representation of Canada lynx habitat, Idaho (Olson et al. 2021). Low habitat probability indicates unlikely use, middle habitat probability indicates some level of use, potentially by single animals or animals more likely to be dispersing or moving among territories, and high habitat probability indicates higher probability of use, particularly by resident individuals. Yellow circles represent verified or trusted lynx observations between 1960 and 2022. (map courtesy of IDFG, 2023)

Wolverine

On November 30, 2023, USFWS published a final listing rule for a Distinct Population Segment (DPS) of wolverine in the contiguous United States. This listing rule went into effect on January 2, 2024. The USFWS determined wolverine is a threatened species due to the ongoing and increasing Impacts of climate change and associated habitat degradation and fragmentation (USDI Fish and Wildlife Service 2023). The final listing rule includes an interim "4(d) rule" authorized under section 4 of the Act, which allows the USFWS to tailor the protections and prohibitions pertinent to the specific conservation needs of a threatened species. The proposed 4(d) Rule would provide the following protections by prohibiting activities that would incentivize the killing of wolverines for commercial gains: an interim "4(d) rule" authorized under section 4 of the Act, allows the Service to tailor the protections and prohibitions pertinent to the specific conservation needs of a threatened species. The proposed 4(d) Rule would provide the following protections by prohibiting activities that would incentivize the killing of wolverines for commercial gain:

- prohibits importing or exporting; possession and other acts of unlawfully taken specimens, and
- prohibit delivering, receiving, carrying, transporting, or shipping in interstate or foreign commerce during commercial activity or selling or offering for sale in interstate or foreign commerce.

The interim 4(d) rule also includes exceptions to the proposed ESA protections against "take" of the species in support of conservation actions and otherwise lawful activities that could take wolverine but at levels likely to have a minimal negative impact on the species' conservation. Please note that Section 7 consultation is still required for these types of activities. The exceptions include take due to:

- scientific research conducted on wolverines by a Federal or Tribal biologist in the course of their official duties,
- incidental take resulting from forest management activities for the purposes of reducing the risk or severity of wildfire,
- and incidental take resulting from legal trapping conducted consistent with State and Tribal trapping rules or guidelines that contain steps to minimize the potential for capture of wolverine.

In the interim, 4(d) Rule Forest vegetation and fire management activities are explicitly excepted for the purposes of reducing wildfire risk. The exception covers silviculture practices and forest-management activities that address fuels management, insect and disease impacts, vegetation management in existing utility rights-of-ways, and wildlife habitat management. This may include, but are not limited to, planting seedlings or sowing seeds, mechanical cuttings as a restoration tool in stands experiencing advancing succession, full or partial suppression of fires, allowing fires to burn, and survey and monitoring of forest health.

Because federal land management agencies' actions are not considered to be a threat to the species, **exceptions were also issued to allow for these agencies to conduct work which might otherwise be prohibited**. These exceptions allow for optimal, flexible, and adaptive forest management activities that can advance Wolverine conservation now and into the future. The **exceptions cover *silviculture practices and forest management activities that reduce high severity wildfire, insect and disease impacts, vegetation management in existing utility rights-of-ways, wildlife habitat management, and improve overall forest health***. These actions include but are not limited to cone collections, planting seedlings or sowing seeds, mechanical cuttings as a restoration tool in stands experiencing advancing succession, full or partial suppression of wildfire in Wolverine communities, allowing wildfires to burn, and surveying and monitoring of tree health status. Actions necessary to implement these actions (e.g., road construction or upgrades) are also included in the exceptions.

Direction in the Forest Plan for wolverine is to avoid impacts to denning wolverines and to monitor impacts from winter recreation. There are a number of Management Areas in the Forest Plan that have direction related to wolverine, i.e. Objective 064 page III-200 and Standard 0667 page III-201

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 Forest since 2007 through hair traps, camera traps, and live traps (associated with a study). In 2022 three sites were monitored on the Forest by hair and camera trap (Table 11) by IDFG and Forest Service personnel. There was no monitoring of wolverine by Forest Service staff in 2022 or 2023.

Table 11. Wolverine Monitoring Results in Winters of 2022 and 2023.

Location	Year	DNA Result	Camera Result
Upper Headwaters	2022	Not monitored	Not monitored
		Detected	Detected
Cherry Creek	2022	Not monitored	Not monitored
	2023	Not monitored	Not monitored
Fourth of July Creek	2022	Not monitored	Not monitored
	2023	Detected	Detected
Iron Creek	2022	Not monitored	Not monitored
Mays Creek	2023	Not monitored	Not monitored
Bear/Goat, IDFG station Fairfield RD	2022	Detected	Detected
Baker Creek, IDFG Station Ketchum RD	2022	Not Detected	Not Detected
Hyndman, IDFG Station Ketchum RD	2022	Detected	Detected

Winter recreation use was not specifically monitored by the Forest in 2022 and 2023 except anecdotally through Sun Valley Heli-ski and other sources. In 2020 and 2023, IDFG 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 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.*

In 2024, the Forest was funded to complete a winter recreation wolverine data collection and study effort as well an increasing monitoring of hair snares for distribution and monitoring purposes. Central Idaho is considered a stronghold and source population for wolverine. Recreation use has likely increased across the Forest over the past decade, but the last quantitative analysis related to distribution of recreational use within wolverine habitat was 2012- 2015. New data collection will be used to inform the Forest on recreation management and habitat needs for wolverine on the Forest.

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 2022-23, there were 29,885 acres of wildland fire burned and 203 acres of management ignited fire burned in WCS high priority (active and passive restoration) watersheds that contributed to desired conditions for resiliency and fire condition classes. This compares to 2020-21, when there were 2,520 acres that contributed to wildland fire and management ignited fires in WCS high priority watersheds 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*

In 2022-23, the Forest treated 9,413 acres within WUI to reduce wildfire risk (Table 12). That compares to treatment totals of 27,353 acres in 2020-21 and 17,325 acres in 2018-19.

Table 12. Wildland Urban Interface Acres Treated in 2022 and 2023

WUI Treatment	Acres Treated 2022	Acres Treated 2023	Total Acres Treated
Fuel Break	1103	0	1103
Tree Release and Weed	123	191.7	314.7
Precommercial Thin	128	210	338
Piling of Fuels, Hand or Machine	225	152	377
Patch Clearcut (EA/RH/FH)	121	0	121
Thinning for Hazardous Fuels Reduction	2094	0	2094
Rearrangement of Fuels	2285	0	2285
Yarding - Removal of Fuels by Carrying or Dragging	688	0	688
Wildfire - Natural Ignition	54	0	54
Planned Treatment Burned in Wildfire	287	0	287
Compacting/Crushing of Fuels	52	0	52
Single-tree Selection Cut (UA/RH/FH)	52	156	208
Commercial Thin	3	0	3
Burning of Piled Material	497.8	152	649.8
Fuel Inventory	110.8	0	110.8
Patch Clearcut (w/ leave trees) (EA/RH/FH)	0	28.2	28.2
Re-vegetation treatments - vegetation removal	0	650	650
Broadcast Burning - Covers a majority of the unit	0	49	49

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 2022-23, two projects designed to support TEPC aquatic species recovery plan objectives were completed. These projects were the Road 205 Crossing of Cabin Creek and the Bigwood Travel Management Plan. Planning for the Bassett Gulch Restoration project, South Fork Boise River Flood Mitigation and Restoration project, and Stanley Creek Culvert Replacement project began in 2023. These projects are anticipated to be completed in 2024-25 and included in the next Biennial Monitoring Report.

Monitoring Question: *Are the distribution and abundance of aquatic focal species being maintained?*

Indicator: *WCIs tracked for selected aquatic focal species: distribution (map), miles of occupied habitat, number of fish passage improvements, and miles of habitat expanded.*

Yellowstone cutthroat trout and bull trout were selected as aquatic focal species in the monitoring plan 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 during this planning period. Therefore, they represent habitats where potential risks to fish and wildlife habitat sustainability and species persistence are likely to be highest.

The distribution and occupied habitat for Yellowstone cutthroat trout and bull trout are displayed in Figure 15 and Figure 16. Yellowstone cutthroat trout only occur on the Minidoka RD and currently occupy 85.01 miles of habitat. Bull trout occur on the Fairfield RD and Sawtooth NRA and currently occupy 506.02 miles of habitat. In 2022-2023, the forest completed the Road 205 (Cabin Creek) culvert replacement which provided 2.2 miles of unencumbered access to Chinook salmon, steelhead, and bull trout. Trends for the distribution and abundance of these aquatic focal species cannot be made in this report due to lack of consistent monitoring data for the past several years. However, trends will be identified in the 2024-2024 monitoring report.

Sawtooth NF (Minidoka RD)
Yellowstone Cutthroat Occupied Habitat

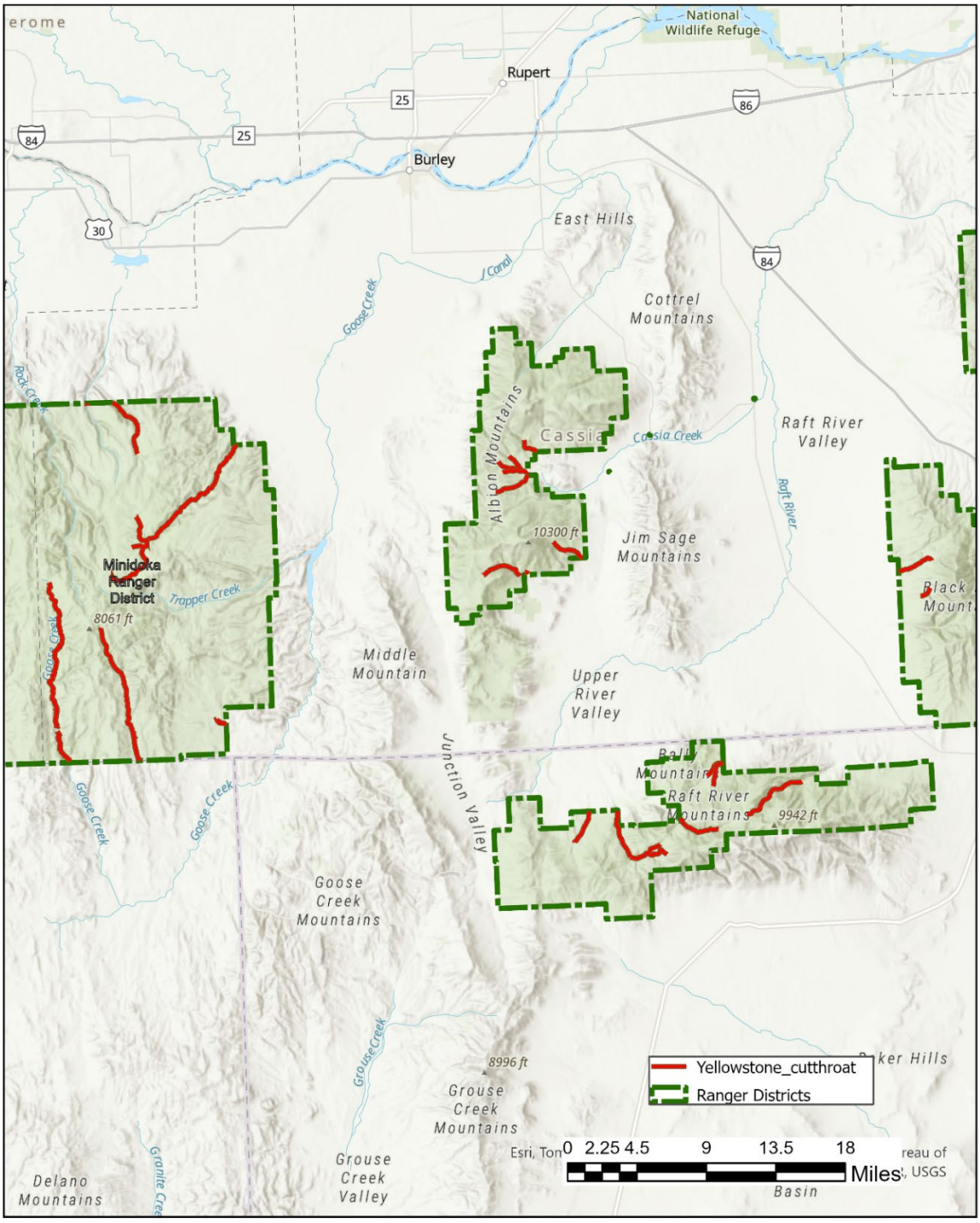

Figure 15. Yellowstone Cutthroat Occupied Habitat

Sawtooth NF-Bull Trout Occupied Habitat

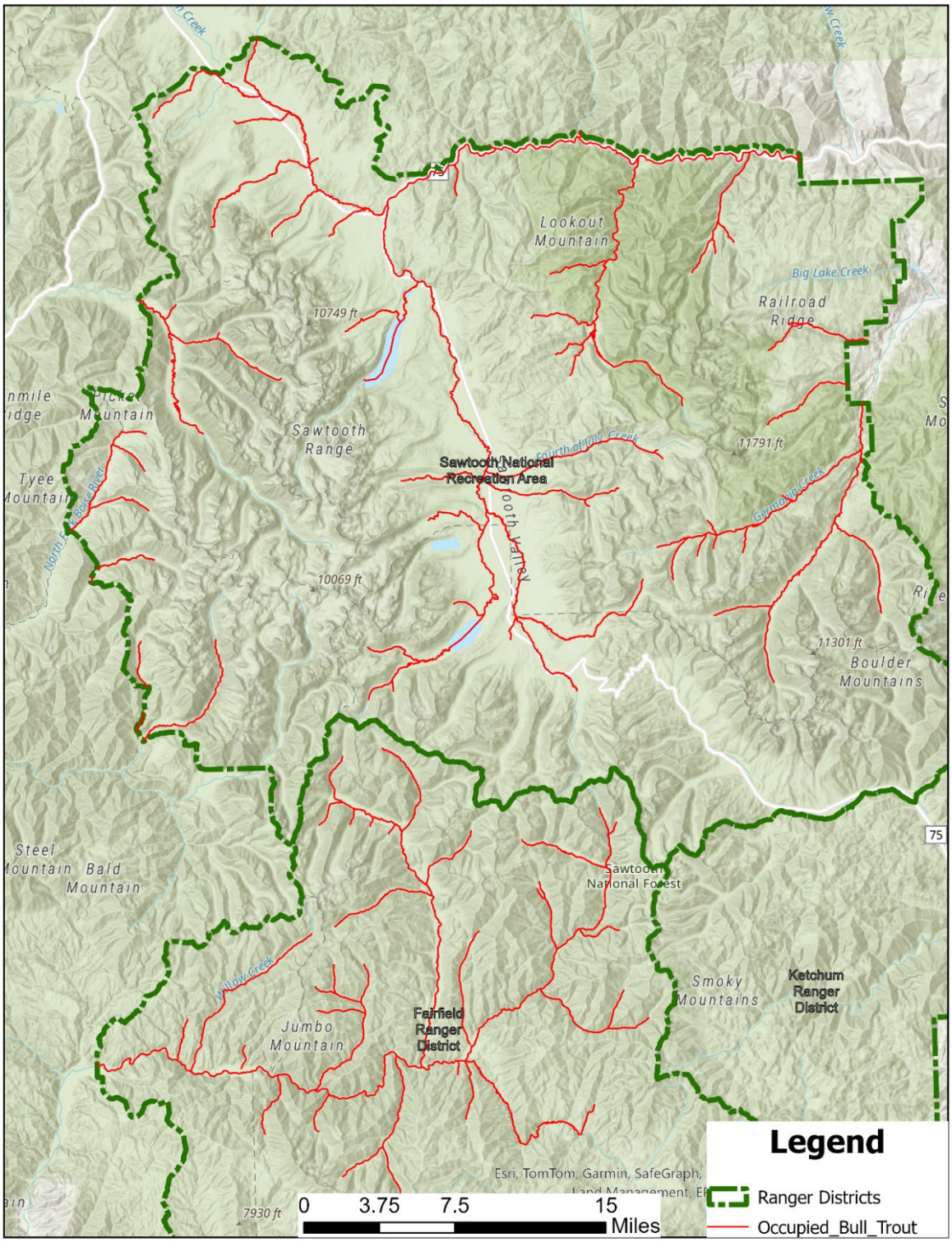

Figure 15. Bull Trout Occupied Habitat

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 13 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, Idaho 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). Idaho DEQ has not yet finalized their 2022-2023 Integrated Report so 305(b) stream miles for those years will be included in the Forest's next Biennial Monitoring Report.

Table 13. 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 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 ten projects approved for implementation in 2022 and 2023 (Table 14). A random sample of these projects were reviewed for compliance with Forest Plan standards on soil

productivity (SWST02, SWST03). One project was selected from each district on the Forest.

Table 14. Soil Disturbing Projects in 2022 and 2023

District	Year	Project Name
Minidoka	2022	Badger Fire Post Fire Management Programmatic
	2023	Tunnel Hill Guzzler Project*
		BYU Idaho Communications Site Modification
		Cassia Division Seasonal Closure Project
Ketchum	2023	KRD Recreation Facility Improvement Projects
		Warm Springs Lift Replacement Project*
Sawtooth NRA	2022	Salmon River Electric Cooperative Outpost
		Alturas-Pettit*
	2023	Redfish Recreation Complex Trails and Trailheads
Fairfield	2022	Hearn Vegetation Management Project*

* Selected for review

Table 15. Projects Reviewed for Detrimental Disturbance (DD) and Total Soil Resource Commitment (TSRC)

District	Project Name	DD	TSRC
Minidoka	Tunnel Hill Guzzler Project	0.4%	0.1%
Ketchum	Warm Springs Lift Replacement Project	1.2%	0%
Sawtooth NRA	Alturas-Pettit	2.8%	0.6%
Fairfield	Hearn Vegetation Management Project	1.9%	0.2%

The four projects range from 0.4% to 2.8% for DD and from 0% to 0.6% for TSRC (Table 15). The review of these four projects reveals 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

16 shows the miles of roads maintained by maintenance level.

Table 16. 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**
2022	5	7.963	22.463	35.4
	4	2.895	39.101	7.4
	3	203.15	316.787	64.1
	2	64.58	1349.234	4.8
	1	8.45	215.482	3.9
	2022 Totals	**287.038**	**1943.067**	**14.8**
2023	5	0.2	22.6	0.7
	4	12.2	31.8	38.2
	3	171.6	436.0	39.4
	2	48.5	1120.2	4.3
	1	0.0	206.2	0.0
	2023 Totals	**232.4**	**1816.7**	**12.8**

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 17 displays the results from the 2015 NVUM satisfaction surveys, and Table 18 displays the 2020 NVUM satisfaction surveys. Notable downtrends included 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 so the 2024-2025 monitoring report will include updated 2025 NVUM satisfaction surveys.

Table 17. 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			
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 18. 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 19. Miles of Trail Maintained by District

District	2020	2021	2022	2023
Minidoka	0	0	0	0
Ketchum	280	287	271	245
Sawtooth NRA	4	381	659	269
Fairfield	229	334	2	168
Forest-wide	**513**	**1,002**	**932**	**682**

Monitoring Question: *Do potable water systems meet federal, state, and local requirements?*

Indicator: *Water quality monitoring results and condition surveys*

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 2022 and 2023, the forest had zero instances where an Idaho Department of Environmental Quality health-based violation occurred. The water systems are on a five-year rotation for condition surveys. In 2022, one system was surveyed (2%). In 2023, seven systems were surveyed (13%).

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 20 displays the ROS class acres for 2024. 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 20. 2024 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. In 2023, the Sawtooth NRA completed 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 2022 and 2023, the Forest offered and sold an average of 1,010.38 thousand board feet (MBF) sawlog volume per year that contributed to the ASQ. This represents about 19% of the yearly average of decadal ASQ target described in Forest Plan Objective TROB02. In the same timeframe, the Forest sold an average of 4,609.1 MBF non-sawlog wood product volume per year (generated from restoration vegetation management activities), which represents about 178% of the yearly average of decadal non-sawlog wood products target described in Forest Plan Objective TROB03. These combined averages equal 5,619.48 MBF volume per year and contribute to the TSPQ. This represents 70.2% 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

2022 Total Volume sold: 5,622.14 MBF
2022 Sawlog Volume sold: 1,494.56 MBF
2022 Non- Saw Volume sold: 4,127.58 MBF

2023 Total Volume sold: 5,616.82 MBF

2023 Sawlog Volume sold: 526.2 MBF
2023 Non- Saw Volume sold: 5090.62 MBF

Objective TRBO02 - *On a decadal basis make available 54 million board feet of timber which will contribute to Allowable Sale Quantity (ASQ).* (Forest Plan 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*" (Forest Plan 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 authorized head months (HMs) was used to compare each year, instead of number of grazing authorizations, which usually remain 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 21. Total HMs Authorized for Livestock Grazing

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
192,389	186,615	177,272	194,205	178,686	180,376	169,307	181,247	164,737	173,605

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 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 and the Forest is trying to re-engage in formal consultation. The Forest plans to participate in the next Nez Perce Tribe annual "All-Forests" meeting, usually held in April. The 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 and will continue to consult where other tribal interests, treaty rights, trust responsibilities, and authorities apply. 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 80% complete. The State Historic Preservation Office 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 protocol for the Forest. 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 45 points in 2022 and 51 points in 2023.

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

The forest scored 10/10 in 2022 and 9.66/10 in 2023 for National Register of Historic Places evaluations.

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

The forest scored 9.79/10 in 2022 and 7.96/10 in 2023 for condition assessments on Priority Heritage Assets.

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

The forest scored 2/10 in 2022 and 10/10 in 2023 for opportunities for study and public use.

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

Monitoring has indicated a need for the Sawtooth National Forest to make the following changes to management activities:

- Increase treatments in WCS high priority (active restoration) watersheds
    - In 2022-2023, 3% of total planned treatment acres occurred in WCS high priority (active restoration) watersheds. This is down from 2020-21 when 5% of total planned treatment acres occurred in those watersheds. The Forest needs to increase planned treatments in these watersheds to better align with desired conditions.
- Increase Sage-Grouse habitat restoration
    - Restoration in PHMA and GHMA areas is progressing, but conifer encroachment and wildfire remain significant threats. While 6,445 acres were treated, wildfires are degrading habitat faster than it is currently being restored. Large-scale restoration needs to increase, particularly conifer removal and invasive species control, to outpace habitat loss. The Forest needs to increase restoration efforts in areas impacted by recent wildfires and take more measures to reduce the size and scale of wildfires in Sage-Grouse habitat.
- Protect remaining Northern goshawk habitat
    - Goshawk populations are declining, especially in the Minidoka RD and on the Sawtooth NRA, likely due in part to habitat degradation from wildfires, timber stand improvement activities (thinning and logging), and firewood collection. The Forest needs to limit vegetation treatments and logging activities in goshawk territories when these activities degrade habitat stand conditions to help stabilize remaining goshawk populations on the Forest.
- Limit vegetation management projects in five LAUs
    - 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.
- Commercial timber harvest remains below Forest Plan objectives
    - This report indicates that the Forest is producing about 19% of its decadal

Allowable Sale Quantity (ASQ) target for commercial sawlog timber and 178% of its target for non-sawlog products. This shows that while non-commercial timber production is exceeding objectives, commercial timber harvest remains significantly below target.

3.3 Need for Changing the Monitoring Program

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 Natural Resource Manager

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

4.1.4 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 GIS

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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