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U.S. DEPARTMENT OF AGRICULTURE

Region One Helena-Lewis and Clark National Forest

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Horsefly Vegetation Project

Supplemental Environmental Assessment (SEA)

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Introduction

The Forest Service has prepared this Supplemental Environmental Assessment (SEA) in compliance with the National Environmental Policy Act and other relevant Federal and State laws and regulations. This SEA analyzes the potential effects of implementing the Horsefly Vegetation Management Project, within the Little Belt Mountains on the Belt Creek-White Sulphur Springs Ranger District (Figure 1, Vicinity Map). These actions are proposed to be implemented on National Forest System Lands within Meagher County, MT.

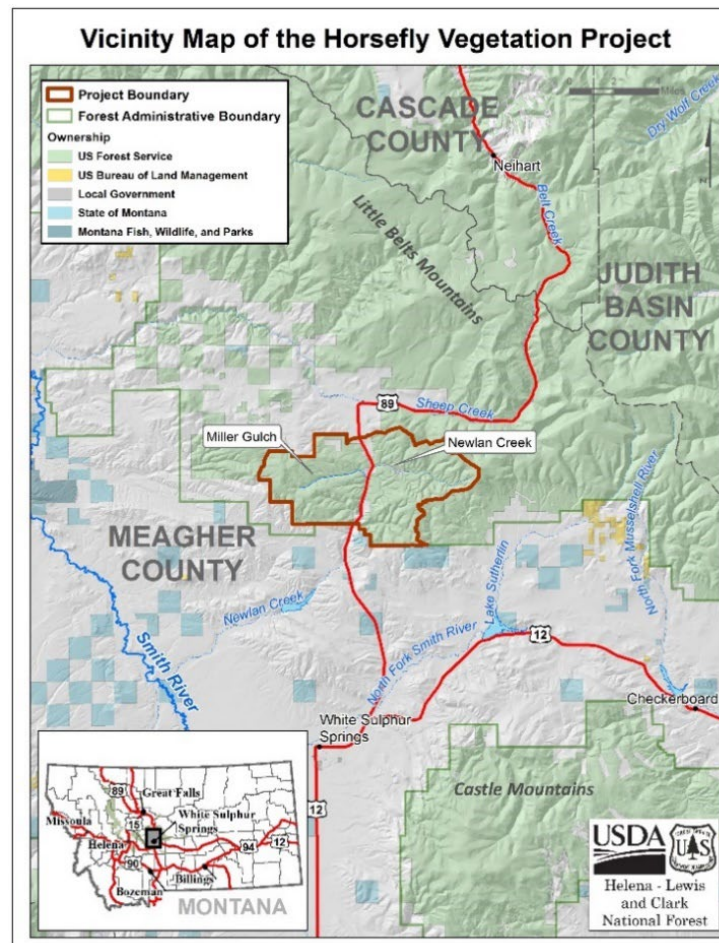
We prepared an environmental assessment (EA) in 2020 to determine whether to prepare an environmental impact statement or a finding of no significant impact (FONSI). The full EA referenced in this supplemental environmental analysis is contained in the project record and publicly available on the Helena-Lewis and Clark National Forest project website at <https://www.fs.usda.gov/project/hlcnf/?project=53578>

A Decision Notice and FONSI was prepared and released in August 2020. We have prepared this Supplemental Environmental Assessment (SEA) to address additional information and update the goshawk section of the 2020 EA. The issues are disclosed and resource impacts for goshawk are found under Environmental Impacts section below.

Proposed Project Location

The project area is located within the Little Belt Mountains of Central Montana on the Belt Creek-White Sulphur Springs Ranger District north of the City of White Sulphur Springs on both sides of US Highway 89 (Kings Hill Scenic Byway). Meagher County, Montana (Figure 1, Vicinity Map)

Figure 1. Vicinity map



Changes between the Environmental Assessment and the Supplemental Environmental Assessment

The Supplemental Environmental Assessment contains only updates and edits associated with the Goshawk section of the EA. The purpose and need for actions, resource impacts not related to Goshawk and findings remain the same as outlined in the May 2020 Environmental Assessment. The following activities authorized in the August 2020 Decision have been completed through a combination of public works funding, forest funding, purchaser contracts or silviculture/reforestation contracting.

Tree planting (conifer seedlings)- 43 acres accomplished within Unit 314. Approved reforestation contract.

Newlan Creek culvert replacement- on National Forest System Road 830 accomplished, Engineering (public works contract).

Thornquist Road (FSR 6473)- watershed resource mitigation and associated road maintenance accomplished, Engineering (public works contract).

Road Obliteration on 11 miles of unauthorized roads.

Road reconditioning and reconstruction on system road-Approved for and completed under purchaser contract.

Need for the Proposal

The purpose and need for action remain the same as outline on page(s) 4-6 in the 2020 Environmental Assessment. The project is focused around the following three primary purposes.

- Improve forest health and landscape resiliency
- Reduce wildfire hazards
- Provide wood products to local and regional economies

Proposed Action and Alternatives

Except for the limited treatments that have already been accomplished as noted above, the proposed action and no-action alternatives remain unchanged. The full descriptions can be found starting on page 7 (Chapter 2) of the 2020 Environmental Assessment.

Environmental Impacts

Issues and Resource Impacts

Goshawk

Background

The 1986 Lewis and Clark Forest Plan (Forest Plan) required that populations of goshawks, a management indicator species, be monitored and evaluated to determine if management activities under the plan – specifically vegetation management - have affected the ability of goshawks to establish nests (i.e. active nests) (U.S. Department of Agriculture 1986), (p. 2-37). To that end, population levels would be evaluated by monitoring all active nesting territories (Ibid, page 5-11). Should there be a 10% decrease or more in active nest territories further evaluation was required under the plan.

The conclusions in the “Goshawk Effects Analysis, Horsefly Vegetation Project, Final Analysis” (original goshawk analysis, AR 0042093-94), completed April 18, 2020, for the Horsefly Vegetation Project Decision (AR 0003755 August 31, 2020) were based on the 2019 “C-8 Old Growth Habitat for Goshawk” monitoring report (2019 monitoring report, AR 0042288) that summarized goshawk active nest monitoring between 2007 and 2016. The original goshawk analysis concluded that adequate goshawk habitat would continue to be available at the project level and that adequate goshawk habitat would be maintained at the Forest level (G15c_2; p. 18, AR 0042093-94). However, additional goshawk monitoring data collected between 2017 and 2019, prior to the Horsefly Decision was not included in the analysis.

This supplemental analysis evaluates the existing condition for goshawks and their habitat based on all available monitoring data, including data collected between 2017 and 2020, and evaluates the Horsefly project's effects to goshawks and their habitat at the project level and in the Forest-wide context.

All reference to the forest plan refers to the Lewis and Clark National Forest Plan (1986) and all references to "forest-wide" refers to the land area within the proclaimed Lewis and Clark National Forest boundary (prior to administrative consolidation of the Helena National Forest and the Lewis and Clark National Forest) covered by the 1986 plan.

Existing Conditions

The northern goshawk is the only large diurnal raptor that is adapted to interior forest environments. Common elements of goshawk habitat are large blocks of older forest, tight groups of large nesting trees, abundant prey (squirrels, hares, grouse, larger songbirds), and mid-level flight space that facilitates their search, capture and transport of prey. In most of the Rocky Mountain region optimal goshawk habitat is provided by old-growth Douglas-fir and ponderosa pine forest – and for that reason the goshawk was chosen as a management indicator species for old growth habitat when the Lewis and Clark Forest Plan was issued in 1986. Since then, copious amounts of field research, and survey work, have shown that goshawks are much more versatile in their use of habitats than originally thought; thus the goshawk is no longer considered a particularly useful old-growth indicator (Reynolds et al. 1992, Braun et al. 1996, Clough 2000, McGrath et al. 2003).

Population Status

According to the "Conservation Assessment of Northern Goshawk, Black-backed Woodpecker, Flammulated Owl, and Pileated Woodpecker in the Northern Region (Samson 2005):

- Goshawk habitat in Region¹ is abundant and well distributed where it occurs naturally, and more forest, and therefore nesting habitat, exists on today's landscape than what occurred historically.
- There have been substantial increases in connectivity for forested habitat since Euro-American settlement.
- The level of timber harvest in R1 is minor. According to the report "Acres Harvested by Cutting Method" (project record) there were on average 17,304 acres of timber harvest each year in Region One between 2016-2020 which is 0.07 percent of the 22,000,000² acres of forested land across all National Forests in Region One.
- The suppression of natural ecological processes such as fire has increased and continues to increase the amount of forested habitat.
- Not a single known nest site in R1 is isolated from other known nests by more than the goshawks' estimated dispersal distance.

¹ R1 refers to Region One (Northern Region) of the USDA Forest Service comprising nine National Forests (Beaverhead-Deerlodge, Bitterroot, Custer-Gallatin, Flathead, Helena-Lewis and Clark, Idaho Panhandle, Kootenai, Lolo, and Nez Perce-Clearwater) and four National Grasslands (Dakota Prairie) totally 25 million acres.

² Forested acres are from Samson (Samson 2005).

- The northern goshawk is secure in terms of persistence: [Accipiter atricapillus | NatureServe Explorer](#).
- Below (and not above) a threshold of 20 to 30% of historical habitat amounts, the effects of fragmentation (i.e. patch size and isolation) are suggested to have a negative impact on species persistence. No indication exists that forested ecosystems in R1 have reached the 20 to 30% threshold.
- Forested systems in R1 are more extensive and are less fragmented than in historical (~1800 A.D.) times from an increase in conifer encroachment into grasslands (Gallant et al. 2003, Hessburg and Agee 2003, Hessburg et al. 2005a, Hessburg et al. 2005b).
- The effects of habitat fragmentation on birds are less in the western United States compared to the Midwestern and eastern United States because western landscapes were naturally more fragmented in historical times.
- Given the natural distribution of the species and its habitat as mapped and according to the scientific literature (Samson 2006), a comparison of available habitat on each Forest indicates that available habitat exceeds habitat estimates required to maintain viable populations.

Between 2007 and 2020 the forest monitored a total of 716 territories out of 844 total territories³. Except for 2009, all known territories were monitored through 2016. Between 2017 and 2020 the number of territories monitored compared to known territories dropped each subsequent year. This was primarily due to the widespread tree mortality associated with the mountain pine beetle epidemic that created hazardous survey conditions. These hazardous conditions are noted in the 2017 “Jefferson Division Goshawk Territory Hazard Risk Assessment” (AR 0042265-70). Hazardous survey conditions continued in subsequent years (e.g. continued widespread tree mortality creating unsafe survey conditions), which limited forest service personnel’s ability to safely monitor some territories. Hazardous conditions following widespread forest mortality include a tangle of downed timber and unstable, dead standing trees⁴.

A total of 273 active nests were monitored between 2007 and 2020. Of these, the reproductive outcome is unknown at 21 of the nests because subsequent surveys did not result in any detections of birds. This could be due to surveys being conducted after birds moved out of the general area of the nest or visual observation of birds not achieved. (Table 1). The surveys were intended to determine the number of active nesting territories Forest wide relative to the available habitat.

³ See the 2007 “C-8 Old Growth Habitat for Goshawk” report at AR 0042288, and Appendix A, the 2024 “Goshawk Evaluation Report for Monitoring Component C-8 Old Growth Habitat for Goshawks, Lewis and Clark Forest Plan, May 23, 2024”.

⁴ For more information on the mountain pine beetle epidemic and its consequences see [Forests | Free Full-Text | Disturbance Agents and Their Associated Effects on the Health of Interior Douglas-Fir Forests in the Central Rocky Mountains \(mdpi.com\)](#)

Table 1. Forest-wide Number of territories monitored and occupied, number and percent of active nests associated with the occupied territories, and annual percent change of occupied territories with active nests (from the May 23, 2024, Goshawk Evaluation Report, attached as Appendix A

Year	Territories Monitored	Territories Occupied	Number of Active Nests	Percent Occupied Territories with Active Nests	Annual Percent Change Occupied Territories with Active Nests
2007	35	25	17	68%	-
2008	38	18	7	39%	-29%
2009	47	30	25	83%	+44%
2010	50	30	28	93%	+10%
2011	50	18	17	94%	+1%
2012	56	23	20	87%	-7%
2013	56	22	21	95%	+8%
2014	61	32	28	88%	-7%
2015	68	38	34	89%	+1%
2016	74	46	38	83%	-6%
2017	67	17	15	88%	+5%
2018	44	12	8	67%	-21%
2019	39	8	7	88%	+21%
2020	31	9	9	100%	+12%

Table 1 also shows the annual change in the percentage of monitored occupied territories with active nests detected. The annual percentage change serves as the basis for determining whether further evaluation is needed where the change is greater than or equal to 10%. As Table 1 shows, variation exists across all years between the number of territories monitored and those that were occupied by goshawks. The annual percent of occupied territories with active nests increased in most years. Declines were generally less than 10%, except in 2008 and 2018 when the annual percent of occupied territories with active nests declined by 29% and 21% respectively. However, in both instances the percent of occupied territories with active nests recovered the following year: 44% in 2009 and 21% in 2019.

There are several factors that affect goshawk territory and nest occupancy. Goshawks demonstrate temporal variation in breeding within and among territories and annually (Reynolds et al. 2005, Reynolds et al. 2017). Precipitation and weather can affect forest productivity creating fluctuations in the habitat of goshawk prey species (Reynolds et al. 2017, Bangerter et al. 2021). When prey numbers are low, goshawk productivity declines and predation on goshawk nestlings may increase since female goshawks spend more time away from the nest searching for prey (Squires and Kennedy 2006, Wiens et al. 2006, Reynolds et al. 2017). This temporal variation in breeding can lead to changes in goshawk detectability year to year (Reynolds et al. 2017). See the “Appendix A” for the complete 2007 – 2020 monitoring evaluation.

The Horsefly project analysis and decision was completed under the 1986 Lewis and Clark National Forest Plan. Since that Decision, a new Forest Plan has been completed that no longer includes the requirement to monitor active nesting goshawk territories (Helena-Lewis and Clark Land Management Plan 2021). However, goshawks were monitored in the project area in 2024 as part of the Horsefly Decision design features to maintain nest stands within active goshawk territories and to seasonally restrict project activities within post fledging areas of active nests

(see Appendix B in the Horsefly Decision, Appendix B, AR 0004952). The seven known territories in the project area were surveyed. The Newlan Creek territory was occupied although the nest was not located, and the Upper Spring Creek territory had at least 2 nestlings that fledged. There were no detections at the other 5 known territories. See Appendix B in this document for the 2024 survey results.

Habitat Status in the Project Area and Forest-wide

There are approximately 13,735 acres of nesting habitat mapped within the Horsefly project area⁵ and 494,428 acres of nesting habitat Forest wide⁶. Samson (Samson 2006), in his paper “Habitat Estimates for Maintaining Viable Populations of the Northern Goshawk, Black-backed Woodpecker, Flammulated Owl, Pileated Woodpecker, American Marten, and Fisher”, estimated that 485,314 acres of goshawk habitat should be maintained on the Lewis and Clark Forest in order to maintain populations regionally. The project treats approximately 5,000 acres of the mapped habitat in the project area.

Overall, Goshawks are considered globally secure according to NatureServe (citation). In Montana, they are considered vulnerable “because of limited and/or declining numbers, range and/or habitat, even though it may be abundant in some areas” (citation). Some researchers hypothesize that goshawks may be declining (Crocker-Bedford 1990, Andersen et al. 2003, Squires and Kennedy 2006) while others conclude that there is uncertainty as to the status of goshawk populations (Hoffman and Smith 2003). Current sampling techniques may be inadequate to detect changes in goshawk populations (Kennedy 1997, Andersen et al. 2003) due to their secretive nature that make them difficult to survey (Squires and Kennedy 2006).

Environmental Consequences

Table 2 lists the issues and measures analyzed in the original goshawk analysis April 18, 2020, (AR 0042078), and in the “Horsefly Vegetation Project Environmental Assessment” (Horsefly EA) (AR 0003795-96). This synopsis only addresses the effects of the proposed project. See the original goshawk analysis and the Horsefly EA for the No Action Alternative discussion.

Table 2. Resource condition indicators and measures for assessing effects to goshawk

Issue	Indicator or Measure
Goshawk nesting habitat	Acres of nesting habitat affected by project -from Eastside Goshawk Nest Analysis Model (Northern Region Geospatial Group Technical Guide TG-14-3 v.1 2014.
Goshawk post-fledging area (PFA) habitat	Acres of post-fledging area habitat affected by project- from Northern Region Overview Key Findings and Project Considerations (Brewer et al. 2009.
Goshawk prey	Change in composition of prey habitat (<i>Qualitative</i>) and comparison to Reynolds et al. (1992) recommendations- from public scoping comments.

Vegetation harvest treatments overlap with 5,138 acres of nesting habitat which is 1 percent of goshawk habitat Forest wide. Seven goshawk home ranges are known to be present in the project area. The proposed action would result in the retention of ample nesting habitat for the

⁵ See the “Goshawk Effects Analysis, Horsefly Vegetation Project, Final Analysis”, April 18, 2020, for information on habitat mapping methodologies at AR 0042077-78.

⁶ Data are derived from the R1 Summary Database, 2019 data set, which are the most recent data available. Data are in project record.

7 known home ranges in the project area. Goshawks exhibit high nest site fidelity even in situations when the nest site has been modified (Reynolds 1983, Woodbridge and Detrich 1994, Patla 1997). The implication of this behavior is that fidelity to nest areas may override response to reduced suitability and result in a lag effect before goshawks re-locate to more suitable habitat which in turn could affect reproductive success. While evidence exists to support a diversity of seral stages in the post-fledging area, retaining the integrity of the post-fledging area in the short term could be beneficial for those goshawks that have been nesting in the project area over the last few years.

None of the 7 nest stands would be affected by the project because the project is designed to retain nest stands for all seven known territories; there are no activities proposed in these stands. However, treatments in the post-fledging areas would result in more open canopies and reduced basal areas. Goshawks are also known to use alternate nest locations. Therefore, if the action alternative modifies post-fledging areas to the point that goshawks no longer find them suitable, we expect goshawks to use alternate nest locations in their home ranges.

Samson (Samson 2005) summarized recent studies on the effects of vegetation treatments on northern goshawks. His review concluded that recent studies show that timber harvest has no effect on goshawk breeding area occupancy, nest success, or productivity 1 to 2 years after treatment (Moser and Garton 2004 as cited in Samson 2005, p. 36); and no difference in the productivity of northern goshawks occurs in logged versus unlogged areas (Penteriani and Faivre 2001). As discussed, there would be more than enough nesting and post-fledging area habitat available to sustain all 7 goshawk territories after project implementation. If goshawks moved to alternate areas of their home ranges, the best available science indicates that these effects would not change overall goshawk productivity. The Horsefly project would affect 1 percent of goshawk habitat Forest-wide. Effects are not considered significant due to the small percent of habitat affected and the retention of at least 240 acres of nesting habitat for each home range in the project area.

The Proposed Action (Alternative 2) is designed to promote greater vegetation diversity than if no action were to occur. Hargis and others (Hargis et al. 1994) concluded that “emphasis should be placed on creating or maintaining vegetation diversity” and “that timber harvests be designed to create a juxtaposition of seral stages” within each goshawk home range in order to optimize prey availability. The proposed action would increase vegetation diversity by creating a variety of structural stages with varying canopy cover. This requires reducing the amount of dense mature forest, and as a result, the amount of optimal goshawk habitat. Goshawk habitat would not be eliminated in the project area, but some components would be less suitable once it is more open forest.

The project may create more favorable conditions for goshawk prey. Goshawks occur in forests that evolved under a diversity of fire regimes including mixed-severity and stand-replacing events. Reynolds et al. 1992, and Graham et al. 1999 both suggest that the use of controlled fire and thinning may improve habitat for goshawks by creating favorable conditions for goshawks and their prey. Common effects of prescribed fire in the project area include promoting diameter growth in overstory trees, creating open understories, and maintaining down woody debris favorable for goshawk prey species.

The desired condition for goshawks includes (1) 240 acres nesting habitat per 5,000-acre territory; (2) heterogeneous foraging habitat including mature forest as well as a mix of other forest and non-forest components; and (3) approximately 420 acres post-fledging habitat that includes some mid to late-seral forests with structural diversity in the understory.

Implementation of the proposed action would result in the retention of the requisite amounts of nesting, post-fledging area, and foraging area habitats.

The proposed action is designed to promote stand sustainability through time which in turn could result in the retention of more nesting habitat over time in the project area. All territories within the Horsefly Project area have been affected by western spruce budworm; if left untreated these forested stands may no longer meet minimum needs for nesting and post-fledging area habitat.

Cumulative Effects

The cumulative effects discussed in the original goshawk analysis (AR 0042091-92) reflect activities through spring 2020. Activities since that time with the potential for cumulative effects include the “Forest-wide Prescribed Fire Project” (Prescribed Fire Project). The purpose of the Prescribed Fire Project is to reduce the risk of uncharacteristically severe wildfire and influence how wildfire and other disturbances shape the landscape and impact local communities. This would be accomplished through a condition-based management approach that allows responsiveness to dynamic vegetation conditions through application of the right treatment at the right time.

The Prescribed Fire Project would authorize prescribed burning, hand treatments and mechanical treatments of vegetation across the Forest in areas needing restoration or maintenance outside of designated wilderness or research natural areas. Project activities would include thinning of small diameter trees under 12 inches diameter at breast height, fuel re-arrangement, fire line construction, and prescribed burning. The amount of land treated annually would depend on a variety of factors, including weather conditions, air quality, design features, and resources available to accomplish management goals. The maximum number of acres to be treated annually across the entire Little Belt Mountains (within which the Horsefly project is located) is 3,500 to 4,500.

Implementation of the Prescribed Fire Project could occur within the Horsefly project boundary if conditions develop over time that meet the criteria for treatment under the Prescribed Fire Project. These conditions include areas with undesirably high fire risk, areas where management could help move landscape conditions towards Forest Plan desired conditions, or areas that could support persistence of old forests on the landscape, among others (see [Forestwide Prescribed Fire Project Draft EA.pdf](#), page 5, contained on the forest project webpage at <https://www.fs.usda.gov/project/hlcnf/?project=63783> for additional considerations). It is unlikely that these conditions would develop in the Horsefly project area in the next 15-20 years since the entire project area was evaluated for treatment needs and opportunities with the subsequent proposed action and decision reflecting those needs, and constraints. Barring unforeseen changes in the Horsefly project area, no activity under the Forest-wide Prescribed Fire decision is likely in the next 15 years. However, if conditions develop over time within the project boundary, including within the Horsefly project treatment units, that warrant additional treatments to reduce the severity of wildfire and to influence how wildfire and other disturbances shape the landscape then they could proceed under the Prescribed Fire Project decision. Future treatments would be aligned with Forest Plan components through application of the implementation checklist and design features in the EA (Appendices B and C at above link).

Cumulatively, should the Prescribed Fire Project be applied within the Horsefly project boundary, it is anticipated that treatments would result in the development of larger trees over time in

treatment areas as the remaining trees are able to take advantage of increased sunlight and nutrients. This is especially important for northern goshawks that need larger trees for nesting. The following design feature is included in the Prescribed Fire Project that would protect nesting goshawks:

If raptor nests (other than flammulated owls) are located prior to or during implementation, a wildlife biologist will be consulted. If an active nest is found in the project vicinity, a work restriction period will be imposed the timing of which will be species-specific but could occur between April through August. A no treatment buffer surrounding the nest stand may also be applied depending on the nest site and surrounding area. Buffer size, timing restrictions, mitigation measures and treatment restrictions will be made on a case-by-case basis taking into consideration site-specific raptor needs.

The section “Cumulative Effects of the Proposed Action, Alternative 2” in the original goshawk analysis [AR 42091-092] concluded that most of the stands that have been harvested in the past 70 years do not yet provide goshawk nesting habitat. However, these areas currently provide foraging habitat. Fuels activities that occurred in the past mainly focused on reducing surface fuels. Many of these areas that were treated prior to the 1980s have returned to their ‘pre-treatment’ conditions especially in favorable growing conditions that accelerate understory development. Fuels activities that have occurred since the 1980s have also reduced surface fuels and created more open conditions that favor shrub and grassland development that have contributed to structural characteristics that currently provide foraging habitat.

Ongoing activities (i.e. road use and management, firewood cutting, cattle grazing, private land development and vegetation management) could have some effect to goshawk habitat but these activities “are not impactful enough to cause concern for goshawk in the project area when considered in concert with the project activities” [AR 42091].

The Prescribed Fire Project would not add appreciably to cumulative effects since the project is designed to achieve conditions conducive to goshawk nesting habitat by promoting large tree structure and foraging habitat by creating vegetative conditions (e.g. increased herbaceous and shrubby vegetation, ecotones) important to goshawk prey species.

The cumulative effects are not expected to lead to NEPA significance for the following reasons:

- As noted in the original goshawk analysis [AR 42093] requisite amounts of nesting, post-fledgling, and foraging habitat would be retained.
- Past and ongoing projects have not decreased the requisite amounts of habitat.
- The Prescribed Fire project is not expected to appreciably reduce nesting habitat since one of its goals is to promote large tree structure. The design criteria noted above would protect nesting goshawks and their young. And the Prescribed Fire Project would retain a broad range of habitat conditions for goshawk foraging habitat

Goshawks occur in forests that evolved under a diversity of fire regimes including mixed-severity and stand-replacing events. Reynolds and others (Reynolds et al. 1992) and Graham and others (Graham et al. 1999) have suggested that the use of controlled fire and thinning may improve habitat for goshawks by creating favorable conditions for goshawks and their prey by promoting diameter growth in overstory trees, creating open understories, and maintaining down woody debris favorable for goshawk prey species.

Conclusions

Goshawks are sensitive to human disturbance around nest sites, often aggressively defending their nest and the surrounding PFA, where their newly fledged young are raised. Activities around known nests will be restricted between April 15 and August 15 to protect the goshawk adults and young from disturbance (see Horsefly EA, Appendix B, AR 0004952).

The Horsefly Vegetation project complies with all 1986 Lewis and Clark National Forest Plan goshawk requirements. While there would be some limited effects to goshawk habitat from implementing the proposed action, there would still be sufficient goshawk habitat during and after the project is implemented to support the seven territories within the boundary of the project area. The project may improve prey habitat for goshawk. The project will not result in broad scale changes to goshawk or the amount of suitable habitat in the project area or at the Forest level. Moreover, variations in nesting activity, as experienced between 2016-2020 and analyzed in Appendix A are the result of myriad factors and cannot be solely attributed to management under the 1986 Forest Plan. Variations in active nesting habitats are attributable to temporal variation in breeding in response to weather and structural changes in forested stands and the effects of those variables on goshawk detectability. Our monitoring and evaluation have also demonstrated that active nesting territories increased in years following a 10% or more decrease, indicating that the 2018 decrease in active nesting territories is not representative of a general downward trend or the result of forest management under the 1986 Forest plan but rather reflects normal reproductive and nesting variation.

Agencies or Persons Consulted

The Forest Service consulted with individuals, Federal, State, tribal, and local agencies during the development of 2020 Environmental Assessment and is releasing this Supplemental Environmental Assessment to these same interested parties and stakeholders to garner comments and address additional issues or concerns related to the updated goshawk analysis.

In accordance with 40 CFR 1501.2a, the Responsible Official selected a team of resource specialist to utilize a systematic, interdisciplinary approach for planning and analyzing the Horsefly Vegetation Project a subset of this original team outlined in the 2020 Environmental Assessment was consulted and contributed to this Supplemental Environmental Assessment.

The Forest Service provided information on this project directly to approximately 200 individuals and organizations, including State and local government agencies, local residence, and other interested parties. Tribal government to government consultation was completed in the form of a letter from the Responsible Official to tribal leads of the Blackfeet Nation, Chippewa Cree Tribe of Rocky Boy's, Confederated Salish and Kootenai Tribes, Crow Tribe, Eastern Shoshone Tribe, Fort Belknap Indian Community (Assiniboine & Gros Ventre), Fort Peck Assiniboine & Sioux Tribes, Little Shell Tribe of Chippewa Indians of Montana, Nez Perce Tribe, Northern Arapahoe Tribe, Northern Cheyenne Tribe, and the Shoshone-Bannock Tribes. Comments from the 2018 formal scoping comment period were received from four local citizens in addition to the following businesses, organizations, and State and local government:

- Alliance for the Wild Rockies

- Secrest Fire Solutions
- Meagher County Commissioners
- Montana Department of Natural Resources and Conservation
- Myrstol Post Company
- Native Ecosystems Council
- RY Timber Inc. (*no longer in business*)

Regulatory Consultation

The project is compliant with the applicable cultural resource laws, regulations and policy. Consultation with the Montana State Historic Preservation Officer (SHPO) and with various Native American Tribes is documented in the project record. There have been no changes to Heritage resources from those disclosed in the 2020 Environmental Assessment.

For species being managed under the Endangered Species Act, a Biological Assessment was completed. U.S. Fish and Wildlife Service consultation documentation on compliance, is contained in the project record.

References

- Andersen, D. E., S. DeStefano, M. I. Goldstein, K. Titus, C. Crocker-Bedford, J. J. Keane, R. G. Anthony, and R. N. Rosenfield. 2003. Technical review of the status of the northern goshawks in the western United States. Report FS - 020039.
- Bangerter, A.B., E.R. Heiser, J.D. Carlisle, and R.A. Miller. 2021. Local weather explains annual variation in northern goshawk reproduction in the northern Great Basin, USA. *Journal of Raptor Research* 55(4), 471-484.
- Braun, C. E., J. H. Enderson, Y. B. Linhart, C. D. Marti, and M. R. Fuller. 1996. Northern goshawk and forest management in the southwestern United States. Report Technical Review 96-2.
- Clough, L. T. 2000. Nesting habitat selection and productivity of northern goshawks in west-central Montana. Master's thesis, University of Montana, Missoula, MT.
- Crocker-Bedford, D. C. 1990. Goshawk reproduction and forest management. *Wildlife Society Bulletin* 18:262-269.
- Gallant, A. L., A. J. Hansen, J. S. Councilman, D. K. Monte, and D. W. Bertz. 2003. Vegetation dynamics under fire exclusion and logging in a Rocky Mountain watershed, 1856-1996. *Ecological Applications* 13:385-403.
- Graham, R. T., R. L. Rodriguez, K. M. Paulin, R. L. Player, A. P. Heap, and R. Williams. 1999. The northern goshawk in Utah: Habitat assessment and management recommendations. Gen. Tech. Rep. RMRS-GTR-22, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Ogden, UT.
- Hargis, C. D., C. McCarthy, and R. D. Perloff. 1994. Home ranges and habitats of northern goshawks in eastern California. *Studies in Avian Biology* 16:66-74.
- Hessburg, P. F., and J. K. Agee. 2003. An environmental narrative of inland northwest United States forests, 1800–2000. *Forest Ecology and Management* 178:23-59.
- Hessburg, P. F., J. K. Agee, and J. F. Franklin. 2005a. Dry forests and wildland fires of the inland northwest USA : Contrasting the landscape ecology of the pre-settlement and modern eras. *Forest Ecology and Management* 211:117-139.
- Hessburg, P. F., E. E. Kuhlmann, and T. W. Swetnam. 2005b. Examining the recent climate through the lens of ecology: Inferences from temporal pattern analysis. *Ecological Applications* 15:440-457.
- Hoffman, S. W., and J. P. Smith. 2003. Population trends of migratory raptors in western North America, 1977-2001. *Condor* 105:397-419.
- Kennedy, P. L. 1997. The northern goshawk (*accipiter gentilis atricapillus*): Is there evidence of a population decline? *Journal of Raptor Research* 31:95-106.
- McGrath, M. T., S. DeStefano, R. A. Riggs, L. L. Irwin, and G. J. Roloff. 2003. Spatially explicit influences on northern goshawk nesting habitat in the interior Pacific northwest. *Wildlife Monographs* 154:1-63.
- Patla, S. M. 1997. Nesting ecology and habitat of the northern goshawk in undisturbed and timber harvest areas on the Targhee National Forest, Greater Yellowstone ecosystem. Master's thesis, Idaho State University.

- Penteriani, V., and B. Faivre. 2001. Effects of harvesting timber stands on goshawk nesting in two European areas. *Biological Conservation* 101:211-216.
- Reynolds, R. T. 1983. Management of western coniferous forest habitat for nesting accipiter hawks. Report General Technical Report RM-102.
- Reynolds, R. T., R. T. Graham, and D. A. Boyce. 2005. Habitat conservation of the northern goshawk in the southwestern United States: Response to Greenwald et al. 2005. Pages 28 *in*.
- Reynolds, R. T., R. T. Graham, and H. M. Reiser. 1992. Management recommendations for the northern goshawk in the southwestern United States. Gen. Tech. Rep. RM-217, U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.
- Reynolds, R. T., J. S. Lambert, C. H. Flather, G. C. White, B. J. Bird, L. S. Baggett, C. Lambert, and S. Bayard De Volo. 2017. Long-term demography of the northern goshawk in a variable environment. *Wildlife Monographs* 197:1-40.
- Samson, F. 2006. Habitat estimates for maintaining viable populations of the northern goshawk, black-backed woodpecker, flammulated owl, pileated woodpecker, American marten, and fisher.
- Samson, F. B. 2005. A conservation assessment of the northern goshawk, black-backed woodpecker, flammulated owl, and pileated woodpecker in the northern region. Report Unpublished report on file.
- Squires, J. R., and P. L. Kennedy. 2006. Northern goshawk ecology: An assessment of current knowledge and information needs for conservation and management. *Studies in Avian Biology* 31:8-62.
- U.S. Department of Agriculture, Forest Service, Lewis and Clark National Forest. 1986. Lewis and Clark National Forest plan. Great Falls, MT.
- Wiens, J. D., B. R. Noon, and R. T. Reynolds. 2006. Post-fledging survival of northern goshawks: the importance of prey abundance, weather, and dispersal. *Ecological Applications* 16:406-418.
- Woodbridge, B., and P. J. Detrich. 1994. Territory occupancy and habitat patch size of Northern Goshawks in the southern Cascades of California. *Studies in Avian Biology* 16:83-87.

Appendix A

Goshawk Evaluation Report for Monitoring Component C-8 Old Growth Habitat for Goshawks Lewis and Clark Forest Plan May 23, 2024

Introduction

This report is an evaluation of the variation in goshawk nest success from 2007 through 2020 for the Lewis and Clark National Forest Land and Resource Management Plan (Forest Plan) monitoring element “C-8 Old Growth Habitat for Goshawk” (U.S. Department of Agriculture 1986). The Helena-Lewis and Clark National Forest completed a monitoring report in 2020 that described the results of monitoring active goshawk territories on the Forest, as required under the 1986 Lewis and Clark Forest Plan. The 1986 plan monitoring element required additional evaluation should there be a 10% decrease or more in active nest territories. The Forest’s 2019 monitoring report included data between 2007 and 2016. Here, we evaluate all data between 2007 and 2020 and evaluate variations in active nest territories.

Methods

The “Northern Goshawk Inventory and Monitoring Technical Guide” (Woodbridge and Hargis 2006) was used to inform survey methodology. See the 2019 “Forest Plan Item C8 Goshawk” monitoring report for complete information on methodology. The variability measure is the annual change in the percent of occupied territories that have active nests. The additional data not included in the original report are summarized in Appendix B.

Evaluation

Table 1 shows the number of territories monitored and occupied, the number of active nests located, and the percent of occupied territories with active nests. The number of territories monitored reflects a subset of territories on the Lewis and Clark National Forest, as not all habitat has been surveyed and not all territories discovered.

A total of 716 territories were monitored between 2007 and 2020, 85% of all known territories (Table 2). With the exception of 2009, all known territories were monitored through 2016. Between 2017 and 2020 the number of territories monitored compared to known territories dropped each subsequent year. This was primarily due to the widespread tree mortality associated with the mountain pine beetle epidemic that created hazardous survey conditions. These hazardous conditions are noted in the 2017 “Jefferson Division Goshawk Territory Hazard Risk Assessment”. These hazardous survey conditions continued in subsequent years.

The territories monitored were occupied 46% of the time and active 83% of the time when occupied. A total of 273 active nests were monitored between 2007 and 2020. Of these, the reproductive outcome is unknown at 21 of the nests because subsequent surveys did not result in any detections of birds. This could be due to surveys being conducted after birds moved out of the general area of the nest or visual observation of birds not achieved.

Table 1 also shows the annual change in the percentage of monitored occupied territories with active nests. The annual percentage change serves as the basis for determining whether further evaluation is needed where the change is greater than or equal to 10%. As Table 1 shows, variation exists across all years between the number of territories monitored and those that were occupied by goshawks. The annual percent of occupied territories with active nests increased in most years. Declines were generally less than 10%, except in 2008 and 2018 when the annual percent of occupied territories with active nests declined by 29% and 21% respectively. However, in both instances the percent of occupied territories with active nests recovered the following year: 44% in 2009 and 21% in 2019.

Table 3. Number of territories monitored and occupied, number and percent of active nests associated with the occupied territories, and annual percent change of occupied territories with active nests

Year	Territories Monitored	Territories Occupied	Number of Active Nests	Percent Occupied Territories with Active Nests	Annual Percent Change Occupied Territories with Active Nests
2007	35	25	17	68%	-
2008	38	18	7	39%	-29%
2009	47	30	25	83%	+44%
2010	50	30	28	93%	+10%
2011	50	18	17	94%	+1%
2012	56	23	20	87%	-7%
2013	56	22	21	95%	+8%
2014	61	32	28	88%	-7%
2015	68	38	34	89%	+1%
2016	74	46	38	83%	-6%
2017	67	17	15	88%	+5%
2018	44	12	8	67%	-21%
2019	39	8	7	88%	+21%
2020	31	9	9	100%	+12%

There are several factors that affect goshawk territory and nest occupancy. Goshawks demonstrate temporal variation in breeding within and among territories and annually (Reynolds et al. 2005, Reynolds et al. 2017). Precipitation and weather can affect forest productivity creating fluctuations in the habitat of goshawk prey species (Reynolds et al. 2017). When prey numbers are low, goshawk productivity declines and predation on goshawk nestlings may increase since female goshawks spend more time away from the nest searching for prey (Squires and Kennedy 2006, Wiens et al. 2006, Reynolds et al. 2017). This temporal variation in breeding can lead to changes in goshawk detectability year to year (Reynolds et al. 2017, Pierson et al. 2022).

Additionally, the mountain pine beetle epidemic that started around 2008 and peaked around 2011 created younger forests with smaller trees. Younger forests are structurally more conducive

to goshawk predators and competitors (e.g. red-tailed hawks, great horned owls) (Klaver et al. 2012). Specifically, the reduction in forest cover caused by beetle mortality may have resulted in an increased risk of goshawk nestling, fledgling and adult mortality due to predation and exposure to inclement weather. The loss of forest cover would also reduce the abundance of prey leading to fewer goshawk reproduction attempts, smaller egg clutches, and reduced vigor of goshawk young and adults.

The purpose of the evaluation is to determine if management activities – specifically vegetation management - have affected the ability of goshawks to establish nests (i.e. active nests). As noted in the 2019 monitoring report the only territory with vegetation treatments that could potentially affect the nesting and post-fledgling habitat was Blacktail Hills North. The Blacktail Hills North territory was first discovered in 2005. Commercial thinning on 43 acres was completed in July 2007. During 2007 and 2008 surveys could not confirm if the Black Hills North territory was occupied. Since 2009, the territory has been active through 2016 producing a total of 19 fledglings, more than any other known territory. Reasons for the prolific success of the territory are not known; however, it does appear that the vegetation management did not negatively impact goshawk use of the area. Surveys between 2017 and 2019 did not result in any detections; surveys were not completed in 2020.

Conclusion

In summary, all known goshawk territories were monitored between 2007 and 2016 with the exception of 2009 when 47 territories were monitored out of 48 known territories. In 2017, 67 territories were monitored out of 74 known territories; 44 territories out of 76 known territories were monitored in 2018; 39 territories out of 78 known territories were monitored in 2019; and 31 territories out of 78 known territories were monitored in 2020. The decrease in the monitoring effort reflected the hazardous survey conditions associated with widespread tree mortality associated with the mountain pine beetle epidemic.

Overall Goshawks are considered to be globally secure according to NatureServe. In Montana, they are considered vulnerable “because of limited and/or declining numbers, range and/or habitat, even though it may be abundant in some areas”. Some researchers hypothesize that goshawks may be declining (Crocker-Bedford 1990, Andersen et al. 2005, Squires and Kennedy 2006) while others conclude that there is uncertainty as to the status of goshawk populations (Hoffman and Smith 2003). Current sampling techniques may be inadequate to detect changes in goshawk populations (Kennedy 1997, Andersen et al. 2005) due to their secretive nature that make them difficult to survey (Squires and Kennedy 2006).

Variation in goshawk productivity, and by extension the annual percent of territories with active nests, is well-documented in the scientific literature. Variations in active nesting habitats are attributable to temporal variation in breeding in response to weather and structural changes in forested stands and the effects of those variables on goshawk detectability. Evaluation of the data show that the variability experienced on the Forest is within the range of variation in goshawk nesting occupancy and success experienced under natural conditions, as documented in the literature. The variation is within acceptable limits particularly in light of the increase in active nests the years after the decline. From the research and studies discussed above, it is evident that it is not unusual for active goshawk nesting to vary substantially due to weather, natural variability of occupancy and nesting, predation, and prey competition.

References

- Andersen, D. E., S. DeStefano, M. I. Goldstein, K. Titus, C. Crocker-Bedford, J. J. Keane, R. G. Anthony, and R. N. Rosenfield. 2005. Technical review of the status of the northern goshawks in the western United States. *J. Raptor Res.* 39(3):192-209.
- Crocker-Bedford, D. C. 1990. Goshawk reproduction and forest management. *Wildlife Society Bulletin* 18:262-269.
- Hoffman, S. W., and J. P. Smith. 2003. Population trends of migratory raptors in western North America, 1977-2001. *Condor* 105:397-419.
- Kennedy, P. L. 1997. The northern goshawk (*accipiter gentilis atricapillus*): Is there evidence of a population decline? *Journal of Raptor Research* 31:95-106.
- Klaver, R.W., D. Backlund, P.E. Bartlet, M.G. Erickson, C.J. Knowles, P.R. Knowles, and M.C. Wimberly. 2012. Spatial Analysis of Northern Goshawk Territories in the Black Hills, South Dakota. *The Condor* 114(3):532-543.
- Reynolds, R. T., J. S. Lambert, C. H. Flather, G. C. White, B. J. Bird, L. S. Baggett, C. Lambert, and S. Bayard De Volo. 2017. Long-term demography of the northern goshawk in a variable environment. *Wildlife Monographs* 197:1-40.
- Reynolds, R. T., J. D. Wiens, S. M. Joy, and S. R. Salafsky. 2005. Sampling considerations for demographic and habitat studies of northern goshawks. *Journal of Raptor Research* 39:274-385.
- Squires, J. R., and P. L. Kennedy. 2006. Northern goshawk ecology: An assessment of current knowledge and information needs for conservation and management. *Studies in Avian Biology* 31:8-62.
- U.S. Department of Agriculture, Forest Service, Lewis and Clark National Forest. 1986. Lewis and Clark National Forest plan. Great Falls, MT.
- Wiens, J. D., R. T. Reynolds, and N. B. R. 2006. Juvenile movement and natal dispersal of northern goshawks in Arizona. *Condor* 108:253-269.
- Woodbridge, B., and C. D. Hargis. 2006. Northern goshawk inventory and monitoring technical guide. Gen. Tech. Rep. WO-GTR-71, U.S. Department of Agriculture, Forest Service, Washington, DC.

Goshawk Survey Summary 2007 - 2020

Table 4. Number of known territories monitored, active (eggs laid) nests, nests with known reproduction, successful nests, failed nests, and fledglings observed during the 10-year monitoring period. SE = standard error of the mean

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Number of known territories	35	38	48	50	52	56	56	61	68	74	74	76	78	78	844
Territories monitored	35	38	47	50	50	56	56	61	68	74	67	44	39	31	716
Territories Occupied	25	18	30	30	18	23	22	32	38	46	17	12	8	9	328
% of territories occupied	71%	47%	64%	60%	36%	41%	39%	52%	56%	62%	25%	27%	21%	29%	46%
Number of active nests	17	7	25	28	17	20	21	28	34	37	15	8	7	9	273
% occupied territories with active nests	68%	39%	83%	93%	94%	87%	95%	88%	89%	80%	88%	67%	88%	100%	83%
Number of nests with known reproduction	11	7	24	25	15	17	17	28	35	34	15	8	7	9	252
Number of successful nests	11	3	21	23	12	17	16	25	31	37	Unk	Unk	Unk	Unk	196*
Number of failed nests	0	4	3	2	3	0	1	3	4	7	Unk	Unk	Unk	Unk	27*
Number of fledglings ¹	14	4	34	34	19	25	34	46	61	54	Unk	Unk	Unk	Unk	325*
Number of fledglings/known reproduction nest	1.27	0.57	1.42	1.36	1.27	1.47	1.41	1.64	1.74	1.59	Unk	Unk	Unk	Unk	1.37*
Standard Deviation	0.47	0.79	0.88	0.70	0.80	0.62	0.71	0.91	1.04	1.05	Unk	Unk	Unk	Unk	SE = 0.10*
Fledglings/ successful nest	1.27	1.33	1.62	1.48	1.58	1.47	1.50	1.84	1.97	2.0	Unk	Unk	Unk	Unk	1.61*
Standard Deviation	0.47	0.58	0.74	0.59	0.51	0.62	0.63	0.75	0.87	0.73	Unk	Unk	Unk	Unk	SE = 0.08*

*Numbers unchanged from 2019 report due to unknown status between 2017-2020.

¹Fledglings detected is the minimum number produced by a territory. It is easy to miss fledglings because: survey visits may not be timed appropriately to detect the fledglings (too late in the year); single fledglings are difficult to detect as they often remain silent; multiple fledglings are easier to detect because they are vocal with each other, however we may still miss individuals

Appendix B

Annual Goshawk Territory Survey Data 2017-2020

Table 5. 2017 Goshawk Territory Survey Summary (***Bold Italic*** font indicates territories within project areas)

District	Zone	Territory	Survey Date	Status*	Nestlings	Fledglings
3	3/7	<i>Crawford Creek</i>	<i>06/27/17</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
3	3/7	Blanding Gulch	N/A	Not Surveyed Due To Hazardous Snag Conditions	N/A	N/A
3	3/7	<i>Bear Coulee</i>	<i>08/01/17</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
3	3/7	<i>Dryfork</i>	<i>06/27/17</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
3	3/7	<i>Harley Creek</i>	<i>06/27/17</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
3	3/7	Monarch Mountain	06/19/17	Surveyed With No Detection	0	0
3	3/7	Lower Logging Creek	06/19/17	Surveyed With No Detection	0	0
7	3/7	<i>Cascade Creek</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>N/A</i>	<i>N/A</i>
7	3/7	Grasshopper	07/10/17	Surveyed With No Detection	0	0
7	3/7	<i>Charcoal Gulch (formerly Lake Creek)</i>	<i>06/29/17</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Cabin Creek</i>	<i>07/07/17</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Daniels Creek</i>	<i>07/06/17</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	Eagle Creek	08/02/17	Surveyed With No Detection	0	0
7	3/7	<i>Copper Creek</i>	<i>06/07/17</i>	<i>Breeding; 2 Nestlings; Unknown # Fledged</i>	<i>2</i>	<i>Unknown</i>
7	3/7	<i>Lake Creek (formerly Mass Geis)</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>N/A</i>	<i>N/A</i>

District	Zone	Territory	Survey Date	Status*	Nestlings	Fledglings
7	3/7	Allen Gulch	N/A	Not Surveyed Due To Hazardous Snag Conditions	N/A	N/A
7	3/7	Newlan Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	N/A	N/A
7	3/7	North Fork Smith	07/13/17	Surveyed With No Detection	0	0
7	3/7	Indian Creek	07/07/17	Surveyed With No Detection	0	0
7	3/7	Jumping Creek	07/10/17	Surveyed With No Detection	0	0
7	3/7	Mass Creek	07/11/17	Surveyed With No Detection	0	0
7	3/7	Sawmill Creek	07/11/17	Breeding; 1 Nestling; Unknown # Fledged	1	Unknown
7	3/7	Decker	06/20/17	Surveyed With No Detection	0	0
7	3/7	Sage Spring	06/07/17	Breeding; 2 Nestlings; Unknown # Fledged	2	Unknown
7	3/7	Three Cabins Creek	06/12/17	Surveyed With No Detection	0	0
7	3/7	South Fork Willow Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	N/A	N/A
7	3/7	Upper Moose Creek	07/06/17	Surveyed With No Detection	0	0
7	3/7	Little Moose Creek East	06/05/17	Breeding; 1 Nestling; Unknown # Fledged	1	Unknown
7	3/7	Little Moose Creek West	07/05/17	Surveyed With No Detection	0	0
7	3/7	Richardson Creek	07/31/17	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
4	4/6	Blacktail Hills North	06/26/17	Surveyed With No Detection	0	0
4	4/6	Blacktail Hills South	06/26/17	Surveyed With No Detection	0	0

District	Zone	Territory	Survey Date	Status*	Nestlings	Fledglings
4	4/6	Arrow Creek	06/22/17	Confirmed Occupancy	0	0
4	4/6	Belden Flat	06/20/17	Confirmed Occupancy	0	0
4	4/6	Yogo Creek	06/19/17	Surveyed With No Detection	0	0
4	4/6	Indian Hill	06/15/17	Surveyed With No Detection	0	0
4	4/6	Ettien Ridge	Not Surveyed Because	Has Been Unoccupied For 10 Consecutive Years	n/a	n/a
4	4/6	Skunk Gulch	06/19/17	Surveyed With No Detection	0	0
4	4/6	Dry Pole	07/31/17	Surveyed With No Detection	0	0
4	4/6	Dry Gulch	06/12/17	Surveyed With No Detection	0	0
4	4/6	Tollgate	07/31/17	Surveyed With No Detection	0	0
4	4/6	Middle Fork Judith	06/22/17	Surveyed With No Detection	0	0
6	4/6	Elephant Rock	07/31/17	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
6	4/6	Pasture Gulch	06/14/17	Surveyed With No Detection	0	0
6	4/6	Townsend Gulch	06/28/17	Breeding; At Least 2 Nestlings; Failed Nest	At Least 2	0
6	4/6	Niel Creek	06/20/17	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
6	4/6	Whitetail	06/27/17 & 06/29/17	Surveyed With No Detection	0	0
6	4/6	Mill Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	N/A	N/A
6	4/6	Sawmill Canyon	07/20/17	Breeding; At Least 2 Nestlings; Fledged 2	At Least 2	2
6	4/6	Hopely Creek	06/19/17	Surveyed With No Detection	0	0

District	Zone	Territory	Survey Date	Status*	Nestlings	Fledglings
6	4/6	Upper Ashbridge	07/18/17	Surveyed With No Detection	0	0
6	4/6	Willow Creek North	07/18/17	Surveyed With No Detection	0	0
6	4/6	Willow Creek South	07/19/17	Surveyed With No Detection	0	0
6	4/6	Minerva Creek	07/19/17	Surveyed With No Detection	0	0
6	4/6	South Bench	07/18/17	Surveyed With No Detection	0	0
6	4/6	West Fork Flagstaff	06/14/17	Breeding; At Least 1 Nestling, Unknown # Fledged	At Least 1	Unknown
6	4/6	Checkerboard North	08/15/17	Surveyed With No Detection	0	0
6	4/6	North Fork Whetstone	08/31/17	Surveyed With No Detection	0	0
6	4/6	West Fork Cooper Creek	08/02/17	Breeding; At Least 2 Nestlings; Fledged 2	At Least 2	2
6	4/6	Reynolds Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	N/A	N/A
6	4/6	Warm Springs Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	N/A	N/A
1	1	Ford Creek North	06/27/17	Surveyed With No Detection	0	0
1	1	Ford Creek South	06/29/17	Presence	0	0
1	1	Double Falls	06/27/17	Surveyed With No Detection	0	0
1	1	Fairmule	06/28/17	Surveyed With No Detection	0	0
1	1	Mule Creek	06/26/17	Surveyed With No Detection	0	0
1	1	Lower Blacktail	07/10/17 & 07/13/17	Breeding; At Least 1 Nestling; Failed Nest	At Least 1	0
1	1	Upper Blacktail	07/11/17	Presence	0	0
1	1	Beaver Basin	07/05/17 & 07/06/17	Surveyed With No Detection	0	0
1	1	Elko	08/02/17	Surveyed With No Detection	0	0

District	Zone	Territory	Survey Date	Status*	Nestlings	Fledglings
1	1	Muddy Creek	08/01/17	Breeding; At Least 2 Nestlings; Fledged 2	At Least 2	2
1	1	Green Gulch	07/07/17	Surveyed With No Detection	0	0
1	1	Two Medicine	7/19/2017 & 07/26/17	Presence	0	0
1	1	Box Creek	08/16/17	Surveyed With No Detection	0	0
1	1	Badger Junction	08/16/17	Surveyed With No Detection	0	0
1	1	Lonesome Ridge	08/02/17	Surveyed With No Detection	0	0
1	1	Mortimer	07/13/17 & 08/10/17	Breeding; At Least 1 Nestling; Failed Nest	At Least 1	0
1	1	Bailey Basin	07/06/17	Surveyed With No Detection	0	0
1	1	Arsenic Creek	07/12/17	Surveyed With No Detection	0	0
1	1	Burned Creek	06/28/17	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown

*For definitions of "status" results see pages 3-19 through 3-23 in the Northern Goshawk Inventory and Monitoring Guide (Woodbridge and Hargis 2006).

Table 6. 2018 Goshawk Territory Survey Summary (***Bold Italic*** font indicates territories within project areas)

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
3	3/7	<i>Crawford Creek</i>	<i>06/08/18 Through 06/18/18</i>	<i>Confirmed Occupancy</i>	0	0
3	3/7	Blanding Gulch	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
3	3/7	<i>Bear Coulee</i>	<i>06/07/18</i>	<i>Surveyed With No Detection</i>	0	0
3	3/7	<i>Dryfork</i>	<i>07/02/18</i>	<i>Surveyed With No Detection</i>	0	0
3	3/7	<i>Harley Creek</i>	<i>07/02/18</i>	<i>Surveyed With No Detection</i>	0	0
3	3/7	Monarch Mountain	06/27/18	Surveyed With No Detection	0	0
3	3/7	Lower Logging Creek	06/07/18	Surveyed With No Detection	0	0
7	3/7	<i>Cascade Creek</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	Grasshopper Creek	07/02/18	Surveyed With No Detection	0	0
7	3/7	<i>Charcoal Gulch (formerly Lake Creek)</i>	<i>06/28/18</i>	<i>Surveyed With No Detection</i>	0	0
7	3/7	<i>Cabin Creek</i>	<i>07/02/18</i>	<i>Surveyed With No Detection</i>	0	0
7	3/7	<i>Daniels Creek</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	Eagle Creek	N/A	Not Surveyed	Unknown	Unknown
7	3/7	<i>Copper Creek</i>	<i>06/14/18</i>	<i>Surveyed With No Detection</i>	0	0
7	3/7	<i>Lake Creek (formerly MassGeis)</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	<i>Allen Gulch</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	<i>Newlan Creek</i>	<i>07/16/18</i>	<i>Surveyed With No Detection</i>	0	0

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
7	3/7	North Fork Smith	N/A	Not Surveyed	Unknown	Unknown
7	3/7	Indian Creek	07/02/18	Surveyed With No Detection	0	0
7	3/7	Jumping Creek	06/25/18	Surveyed With No Detection	0	0
7	3/7	Mass Creek	07/05/18	Surveyed With No Detection	0	0
7	3/7	Sawmill Creek	07/05/18	Surveyed With No Detection	0	0
7	3/7	Decker	07/16/18	Surveyed With No Detection	0	0
7	3/7	Sage Spring	06/28/18	Confirmed Occupancy	0	0
7	3/7	Three Cabins Creek	06/26/18	Surveyed With No Detection	0	0
7	3/7	South Fork Willow Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
7	3/7	Upper Moose Creek	07/17/18	Surveyed With No Detection	0	0
7	3/7	Little Moose Creek East	06/26/18	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
7	3/7	Little Moose Creek West	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
7	3/7	Richardson Creek	07/02/18	Surveyed With No Detection	0	0
7	3/7	New Territory: Upper Spring Creek	6/21/18 through 08/13/18	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
7	3/7	New Territory: Little Sheep Creek	06/21/18 through 08/13/18	Breeding; At Least 2 Nestlings, Fledged At Least 2	At Least 2	At Least 2
4	4/6	Blacktail Hills North	06/12/18	Surveyed With No Detection	0	0
4	4/6	Blacktail Hills South	06/12/18	Surveyed With No Detection	0	0
4	4/6	Arrow Creek	06/06/18	Surveyed With No Detection	0	0
4	4/6	Belden Flat	06/21/18	Surveyed With No Detection	0	0
4	4/6	Yogo Creek	N/A	Not Surveyed	Unknown	Unknown

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
4	4/6	Indian Hill	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Ettien Ridge	Not Surveyed Because	Has Been Unoccupied For At Least 10 Consecutive Years	n/a	n/a
4	4/6	Skunk Gulch	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Dry Pole	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Dry Gulch	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Tollgate	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Middle Fork Judith	N/A	Not Surveyed	Unknown	Unknown
6	4/6	Elephant Rock	07/03/18	Breeding; 2 Nestlings; Unknown # Fledged	2	Unknown
6	4/6	Pasture Gulch	06/28/18	Surveyed With No Detection	0	0
6	4/6	Townsend Gulch	06/28/18	Surveyed With No Detection	0	0
6	4/6	Niel Creek	08/15/18	Confirmed Occupancy	Unknown	Unknown
6	4/6	Whitetail	07/03/18	Surveyed With No Detection	0	0
6	4/6	Mill Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
6	4/6	Sawmill Canyon	N/A	Not Surveyed	Unknown	Unknown
6	4/6	Hopely Creek	N/A	Not Surveyed	Unknown	Unknown
6	4/6	Upper Ashbridge	07/10/18	Breeding; 2 Nestlings; Unknown # Fledged	2	Unknown
6	4/6	Willow Creek North	07/10/18	Surveyed With No Detection	0	0
6	4/6	Willow Creek South	07/10/18	Surveyed With No Detection	0	0
6	4/6	Minerva Creek	07/10/18	Confirmed Occupancy	0	0
6	4/6	South Bench	07/10/18	Surveyed With No Detection	0	0

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
6	4/6	West Fork Flagstaff	06/25/18	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
6	4/6	Checkerboard North	07/16/18	Breeding; At Least 1 Nestling, Fledged At Least 1	At Least 1	At Least 1
6	4/6	North Fork Whetstone	07/05/18	Surveyed With No Detection	0	0
6	4/6	West Fork Cooper Creek	07/05/18	Surveyed With No Detection	0	0
6	4/6	Reynolds Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
6	4/6	Warm Springs Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
1	1	Ford Creek North	08/01/18	Surveyed With No Detection	0	0
1	1	Ford Creek South	08/01/18	Surveyed With No Detection	0	0
1	1	Double Falls	08/02/18	Surveyed With No Detection	0	0
1	1	Fairmule	08/01/18	Surveyed With No Detection	0	0
1	1	Mule Creek	07/25/18	Breeding; At Least 1 Nestling; Fledged At Least 1	At Least 1	At Least 1
1	1	Lower Blacktail	N/A	Not Surveyed	Unknown	Unknown
1	1	Upper Blacktail	N/A	Not Surveyed	Unknown	Unknown
1	1	Beaver Basin	N/A	Not Surveyed	Unknown	Unknown
1	1	Elko	N/A	Not Surveyed	Unknown	Unknown
1	1	Muddy Creek	N/A	Not Surveyed	Unknown	Unknown
1	1	Green Gulch	N/A	Not Surveyed	Unknown	Unknown
1	1	Two Medicine	N/A	Not Surveyed	Unknown	Unknown

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
1	1	Box Creek	N/A	Not Surveyed	Unknown	Unknown
1	1	Badger Junction	N/A	Not Surveyed	Unknown	Unknown
1	1	Lonesome Ridge	N/A	Not Surveyed	Unknown	Unknown
1	1	Mortimer	N/A	Not Surveyed	Unknown	Unknown
1	1	Bailey Basin	N/A	Not Surveyed	Unknown	Unknown
1	1	Arsenic Creek	N/A	Not Surveyed	Unknown	Unknown
1	1	Burned Creek	N/A	Not Surveyed	Unknown	Unknown

*For definitions of "status" results see pages 3-19 through 3-23 in the Northern Goshawk Inventory and Monitoring Guide (Woodbridge and Hargis 2006).

Table 7. 2019 Goshawk Territory Survey Summary (***Bold Italic*** font indicates territories within project areas)

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
3	3/7	<i>Crawford Creek</i>	<i>N/A</i>	<i>Not Surveyed</i>	<i>Unknown</i>	<i>Unknown</i>
3	3/7	Blanding Gulch	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
3	3/7	<i>Bear Coulee</i>	<i>N/A</i>	<i>Not Surveyed</i>	<i>Unknown</i>	<i>Unknown</i>
3	3/7	<i>Dryfork</i>	<i>06/11/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
3	3/7	<i>Harley Creek</i>	<i>N/A</i>	<i>Not Surveyed</i>	<i>Unknown</i>	<i>Unknown</i>
3	3/7	Monarch Mountain	N/A	Not Surveyed	Unknown	Unknown
3	3/7	Lower Logging Creek	08/28/19	Surveyed With No Detection	0	0
7	3/7	<i>Cascade Creek</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	Grasshopper Creek	07/18/19	Surveyed With No Detection	0	0
7	3/7	<i>Charcoal Gulch (formerly Lake Creek)</i>	<i>07/17/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Cabin Creek</i>	<i>07/25/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Daniels Creek</i>	<i>05/29/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	Eagle Creek	N/A	Not Surveyed	Unknown	Unknown
7	3/7	<i>Copper Creek</i>	<i>06/28/19</i>	<i>Breeding; At Least 2 Nestlings, Unknown # Fledged</i>	<i>At Least 2</i>	<i>Unknown</i>
7	3/7	<i>Lake Creek (formerly MassGeis)</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	<i>Allen Gulch</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	<i>Newlan Creek</i>	<i>06/17/19</i>	<i>Breeding; 2 Nestlings; Unknown # Fledged</i>	<i>2</i>	<i>Unknown</i>

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
7	3/7	North Fork Smith	N/A	Not Surveyed	Unknown	Unknown
7	3/7	<i>Indian Creek</i>	<i>07/17/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Jumping Creek</i>	<i>07/10/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Mass Creek</i>	<i>08/07/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Sawmill Creek</i>	<i>08/08/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Decker</i>	<i>07/23/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Sage Spring</i>	<i>06/24/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Three Cabins Creek</i>	<i>06/06/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>South Fork Willow Creek</i>	N/A	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	<i>Upper Moose Creek</i>	<i>07/10/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Little Moose Creek East</i>	<i>07/19/19</i>	<i>Breeding; At Least 2 Nestlings; Fledged 2</i>	<i>At Least 2</i>	<i>2</i>
7	3/7	<i>Little Moose Creek West</i>	<i>05/20/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Richardson Creek</i>	<i>07/18/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Upper Spring Creek</i>	<i>06/06/19 through 07/09/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Little Sheep Creek</i>	<i>06/06/19 through 07/02/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>New Territory: Abbott Gulch</i>	<i>07/02/19</i>	<i>Breeding; 2 Nestlings; Unknown # Fledged</i>	<i>2</i>	<i>Unknown</i>
7	3/7	<i>New Territory: Snaggy Gulch</i>	<i>06/06/19 through 06/28/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
4	4/6	<i>Blacktail Hills North</i>	<i>06/10/19</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
4	4/6	Blacktail Hills South	06/10/19	Surveyed With No Detection	0	0
4	4/6	Arrow Creek	08/28/19	Surveyed With No Detection	0	0
4	4/6	Belden Flat	05/23/19	Surveyed With No Detection	0	0
4	4/6	Yogo Creek	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Indian Hill	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Ettien Ridge	Not Surveyed Because	Has Been Unoccupied For At Least 10 Consecutive Years	n/a	n/a
4	4/6	Skunk Gulch	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Dry Pole	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Dry Gulch	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Tollgate	N/A	Not Surveyed	Unknown	Unknown
4	4/6	Middle Fork Judith	N/A	Not Surveyed	Unknown	Unknown
6	4/6	Elephant Rock	07/22/19	Surveyed With No Detection	0	0
6	4/6	Pasture Gulch	07/16/19	Surveyed With No Detection	0	0
6	4/6	Townsend Gulch	08/01/19	Breeding; At Least 2 Nestlings; Fledged 2	At Least 2	Fledged 2
6	4/6	Niel Creek	N/A	Not Surveyed	Unknown	Unknown
6	4/6	Whitetail	08/06/19	Surveyed With No Detection	0	0
6	4/6	Mill Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
6	4/6	Sawmill Canyon	N/A	Not Surveyed	Unknown	Unknown
6	4/6	Hopely Creek	N/A	Not Surveyed	Unknown	Unknown
6	4/6	Upper Ashbridge	05/21/19	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
6	4/6	Willow Creek North	06/12/19	Surveyed With No Detection	0	0
6	4/6	Willow Creek South	06/12/19	Surveyed With No Detection	0	0
6	4/6	Minerva Creek	06/12/19	Surveyed With No Detection	0	0
6	4/6	South Bench	05/21/19	Surveyed With No Detection	0	0
6	4/6	West Fork Flagstaff	06/13/19	Breeding; 2 Nestlings; Unknown # Fledged	2	Unknown
6	4/6	Checkerboard North	08/08/19	Breeding; At Least 1 Nestling, Fledged At Least 1	At Least 1	At Least 1
6	4/6	North Fork Whetstone	08/07/19	Surveyed With No Detection	0	0
6	4/6	West Fork Cooper Creek	07/16/19	Confirmed Occupancy	0	0
6	4/6	Reynolds Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
6	4/6	Warm Springs Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
1	1	Ford Creek North	N/A	Not Surveyed	Unknown	Unknown
1	1	Ford Creek South	N/A	Not Surveyed	Unknown	Unknown
1	1	Double Falls	N/A	Not Surveyed	Unknown	Unknown
1	1	Fairmule	N/A	Not Surveyed	Unknown	Unknown
1	1	Mule Creek	N/A	Not Surveyed	Unknown	Unknown
1	1	Lower Blacktail	N/A	Not Surveyed	Unknown	Unknown
1	1	Upper Blacktail	N/A	Not Surveyed	Unknown	Unknown
1	1	Beaver Basin	N/A	Not Surveyed	Unknown	Unknown
1	1	Elko	N/A	Not Surveyed	Unknown	Unknown

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
1	1	Muddy Creek	N/A	Not Surveyed	Unknown	Unknown
1	1	Green Gulch	N/A	Not Surveyed	Unknown	Unknown
1	1	Two Medicine	N/A	Not Surveyed	Unknown	Unknown
1	1	Box Creek	N/A	Not Surveyed	Unknown	Unknown
1	1	Badger Junction	N/A	Not Surveyed	Unknown	Unknown
1	1	Lonesome Ridge	N/A	Not Surveyed	Unknown	Unknown
1	1	Mortimer	N/A	Not Surveyed	Unknown	Unknown
1	1	Bailey Basin	N/A	Not Surveyed	Unknown	Unknown
1	1	Arsenic Creek	N/A	Not Surveyed	Unknown	Unknown
1	1	Burned Creek	N/A	Not Surveyed	Unknown	Unknown

*For definitions of "status" results see pages 3-19 through 3-23 in the Northern Goshawk Inventory and Monitoring Guide (Woodbridge and Hargis 2006).

Table 8. 2018 Goshawk Territory Survey Summary (***Bold Italic*** font indicates territories within project areas)

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
3	3/7	<i>Crawford Creek</i>	<i>06/30/20</i>	<i>Presence</i>	<i>0</i>	<i>0</i>
3	3/7	Blanding Gulch	06/30/20	Surveyed With No Detection	0	0
3	3/7	<i>Dryfork</i>	<i>07/10/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
3	3/7	<i>Harley Creek</i>	<i>06/30/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
3	3/7	Lower Logging Creek	05/27/20	Surveyed With No Detection	0	0
7	3/7	Grasshopper Creek	06/22/20	Surveyed With No Detection	0	0
7	3/7	<i>Charcoal Gulch (formerly Lake Creek)</i>	<i>06/25/20</i>	<i>Breeding; At Least 1 Nestling; Unknown # Fledged</i>	<i>At Least 1</i>	<i>Unknown</i>
7	3/7	<i>Cabin Creek</i>	<i>07/02/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Daniels Creek</i>	<i>06/25/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Copper Creek</i>	<i>06/05/20</i>	<i>Breeding; At Least 2 Nestlings, Unknown # Fledged</i>	<i>At Least 2</i>	<i>Unknown</i>
7	3/7	<i>Newlan Creek</i>	<i>06/09/20 & 06/19/20</i>	<i>Breeding; At Least 1 Nestling; Unknown # Fledged</i>	<i>At Least 1</i>	<i>Unknown</i>
7	3/7	<i>Indian Creek</i>	<i>06/23/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Jumping Creek</i>	<i>06/25/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Decker</i>	<i>06/23/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Sage Spring</i>	<i>06/10/20 & 06/24/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Three Cabins Creek</i>	<i>06/04/20 & 06/25/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>South Fork Willow Creek</i>	<i>N/A</i>	<i>Not Surveyed Due To Hazardous Snag Conditions</i>	<i>Unknown</i>	<i>Unknown</i>
7	3/7	<i>Upper Moose Creek</i>	<i>07/01/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>
7	3/7	<i>Little Moose Creek East</i>	<i>06/23/20</i>	<i>Breeding; At Least 1 Nestling; Unknown # Fledged</i>	<i>At Least 1</i>	<i>Unknown</i>
7	3/7	<i>Little Moose Creek West</i>	<i>06/23/20</i>	<i>Surveyed With No Detection</i>	<i>0</i>	<i>0</i>

District	Zone	Territory	Survey Date	Status	Nestlings	Fledglings
7	3/7	Richardson Creek	06/22/20	Surveyed With No Detection	0	0
7	3/7	Upper Spring Creek	06/19/20	Breeding; At Least 2 Nestlings, Unknown # Fledged	At Least 2	Unknown
7	3/7	Little Sheep Creek	06/19/20	Surveyed With No Detection	0	0
7	3/7	Abbott Gulch	06/04/20 & 06/23/20	Surveyed With No Detection	0	0
7	3/7	Snaggy Gulch	06/10/20 & 06/25/20	Surveyed With No Detection	0	0
6	4/6	Elephant Rock	07/01/20	Surveyed With No Detection	0	0
6	4/6	Pasture Gulch	07/01/20	Surveyed With No Detection	0	0
6	4/6	Townsend Gulch	06/15/20	Surveyed With No Detection	0	0
6	4/6	Niel Creek	07/15/20	Breeding; At Least 1 Nestling; Fledged At Least 1	At Least 1	At Least 1
6	4/6	Whitetail	07/01/20	Surveyed With No Detection	0	0
6	4/6	West Fork Flagstaff	06/09/20	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
6	4/6	Checkerboard North	06/15/20	Breeding; At Least 1 Nestling; Unknown # Fledged	At Least 1	Unknown
6	4/6	North Fork Whetstone	06/22/20	Surveyed With No Detection	0	0
6	4/6	West Fork Cooper Creek	06/22/20	Breeding; 2 Nestlings; Unknown # Fledged	2	Unknown
6	4/6	Reynolds Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown
6	4/6	Warm Springs Creek	N/A	Not Surveyed Due To Hazardous Snag Conditions	Unknown	Unknown

*For definitions of "status" results see pages 3-19 through 3-23 in the Northern Goshawk Inventory and Monitoring Guide (Woodbridge and Hargis 2006).

Appendix C

2024 Goshawk Nesting Territories Survey Results and Data

The seven known goshawk territories were surveyed in 2024. Table 9 shows the results of the surveys; the datasheets for each surveyed territory are also contained in the project record.

Table 9. Survey results for the seven known goshawk territories in the Horsefly project area

Territory	Survey Results
Newlan Creek	Confirmed occupancy
Charcoal Gulch	Surveyed with no detection
Snaggy Gulch	Surveyed with no detection
Sage Spring	Surveyed with no detection
Upper Spring Creek	Breeding; at least 2 nestlings that fledged
Little Sheep Creek	Surveyed with no detection
Abbot Gulch	Surveyed with no detection

Newlan Creek Nest Territory Survey Data

Newlan Goshawk: Confirmed Occupancy,
Creek Great Gray Owl: Breeding; At least 1 Nestling; Unknown
Fledged.

Page 1 of 1

GOSHAWK MONITORING PROTOCOL FIELD FORM

Raptor

Observer(s): Jacoby + Skinner

Date (mm/dd/yy) Start: 6/22/24 End: 6/24/24

Observer Phone #

Observer E-mail address

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____)

Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C 107

Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)If 'Yes', enter existing name(s): Newlan CreekVisit Data Territory Visit #: 1 Territory visit period (circle one): NESTLING FLEDGLINGSurvey method(s): Broadcast Acoustical Intensive Search Dawn AcousticalCall type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JB

DETECTION INFORMATION:

Goshawk presence confirmed? YES NODetection(s) marked on map YES NODetection(s) GPS'ed? YES NODetection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHERDetection Time: Feather: 4:53 PM Visual: 5 PMLocation: Datum: UTM Zone 12 NAD: 83Easting (X): 514791Northing (Y): 5174055Goshawk Adult
Defending Territory

From position marked on map or from the location GPSed:

Azimuth TO initial detection: 040° Azimuth of direction of departing goshawk: 040°Distance TO detection: 500 Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: 1 Sex: #M _____ #F _____ #Unk. 1; Apparent breeding pair? YES NO

Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____

Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWNWill a new territory be delineated as a result of this inventory? YES NO UNKNOWNIf nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NOFeather Info: If feather, was feather collected? YES NO Number of feathers found: 1Feather Location: Marked on map: ✓ or GPS Coordinates (X): _____ (Y): _____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

We Started our survey by parking directly uphill from the most recent active Goshawk nest. We made alarm calls every 3 minutes as we approached the nest. Prior to locating the 2023 nesting Site, we found and mapped a Great Grey owl feather (we thought it was a goshawk feather). We then looked for more signs, walking south toward the nest. We stopped to make another alarm call. After 2 calls, a goshawk flew in from approximately North, aggressively alarm called at us, and flew back towards the North. While recording the Sighting, we also spotted an uninhabited nest (from 2023). We explored for sign below the nest to ensure the nest was not used this year. Although no goshawks were present, we found pellets suggesting a Great grey owl may have used the nest recently. We attempted to locate an active nest by following the direction of the adult goshawk. We were unable to locate the active nest.

* follow gulch North for next survey*

The 2023 Goshawk Active Nest is a 2024 Great Grey owl active nest. Breeding; At least 1 Nestling; unknown # Fledged. V.M. (Pellets confirmed presence of Nestlings)
2024: at Least "Confirmed Occupancy for Goshawk".

GOSHAWK MONITORING PROTOCOL FIELD FORM

Observer(s): Skinner, Barbosa Date (mm/dd/yy) Start: 7/2/24 End: 7/2/24
 Observer Phone # _____ Observer E-mail address _____

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 07.

Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)

If 'Yes', enter existing name(s): Newlan Creek

Visit Data Territory Visit #: 2 Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION: Goshawk presence confirmed? YES NO
 Detection(s) marked on map YES NO Detection(s) GPS'ed? YES NO
 Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER
 Detection Time: _____
 Location: Datum: UTM Zone 12 NAD: 83
 Easting (X): _____ Northing (Y): _____
 From position marked on map or from the location GPSed:
 Azimuth TO initial detection: _____ Azimuth of direction of departing goshawk: _____
 Distance TO detection: _____ Distance units (circle one): METERS YARDS FEET
 Additional detections and locations on the back of this sheet, numbered in order of occurrence.
 Age Class: Adults: Total #: _____ Sex: #M _____ #F _____ #Unk. _____; Apparent breeding pair? YES NO
 Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____
 Unknown Age Class: # _____
 Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN
 Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN
 If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO
 Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____
 Feather Location: Marked on map: _____ or GPS Coordinates (X): _____ (Y): _____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

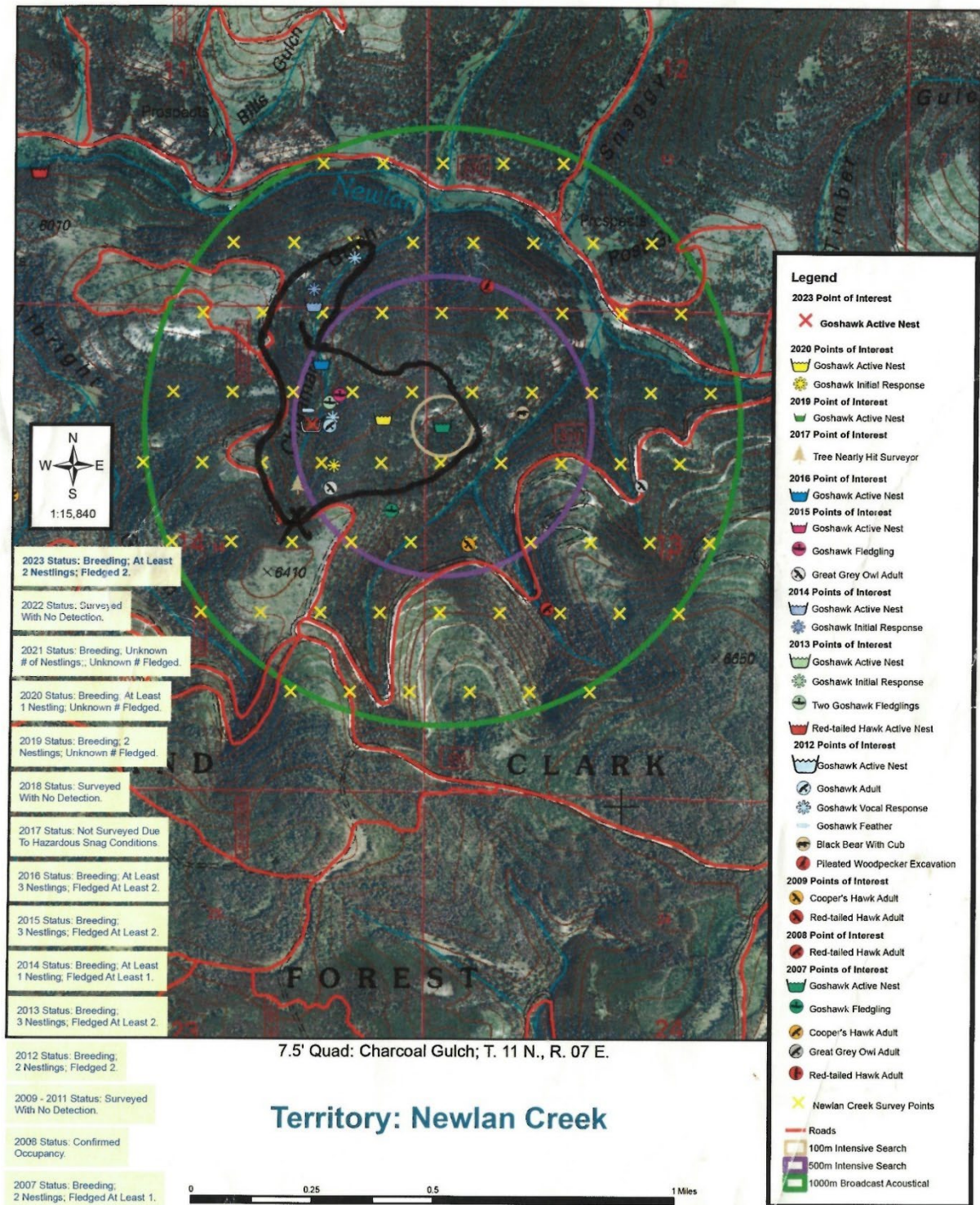
General Comments

This was our second visit to Newlan Creek this season. After seeing an adult goshawk North of the most recent nest site, we wanted to visit old nesting sites (2020, 2016, + 2014) to make sure these were not active this year (2024).

We headed North from the ~~most recent~~ goshawk sighting, towards the 2016 nest we were able to locate the nest, but it was very dilapidated and oddly very low in the tree, approximately 15 ft. We were unable to locate the 2014 nest. We then headed South East to the 2020 nest, which we found, but it appeared unused this season.

* Our caller was broken, so no calls could be made *

2023 Goshawk Territory Survey Report Map



Charcoal Gulch Nest Territory Survey Data

Charcoal
Gulch

Surveyed with No Detection

Page 1 of 2

~~GOSHAWK~~ MONITORING PROTOCOL FIELD FORM

Raptor

Observer(s): Faith Skinner Date (mm/dd/yy) Start: 7/3/24 End: 7/3/24
 Observer Phone # 515-525-8333 Observer E-mail address _____

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#F#D#): 01 / L&C / 03

Is there a known territory in this area? YES / NO / UNK. (Known from existing data sources prior to current year.)

If 'Yes', enter existing name(s): Charcoal Gulch

Visit Data Territory Visit #: 1 Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION: Goshawk presence confirmed? YES NO
 Detection(s) marked on map YES NO Detection(s) GPS'ed? YES NO
 Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER
 Detection Time: _____

Location: Datum: UTM Zone 12 NAD: 83

Easting (X): _____ Northing (Y): _____

From position marked on map or from the location GPSed:

Azimuth TO initial detection: _____ Azimuth of direction of departing goshawk: _____

Distance TO detection: _____ Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: _____ Sex: #M _____ #F _____ #Unk. _____; Apparent breeding pair? YES NO
 Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____

Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN

Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN

If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____

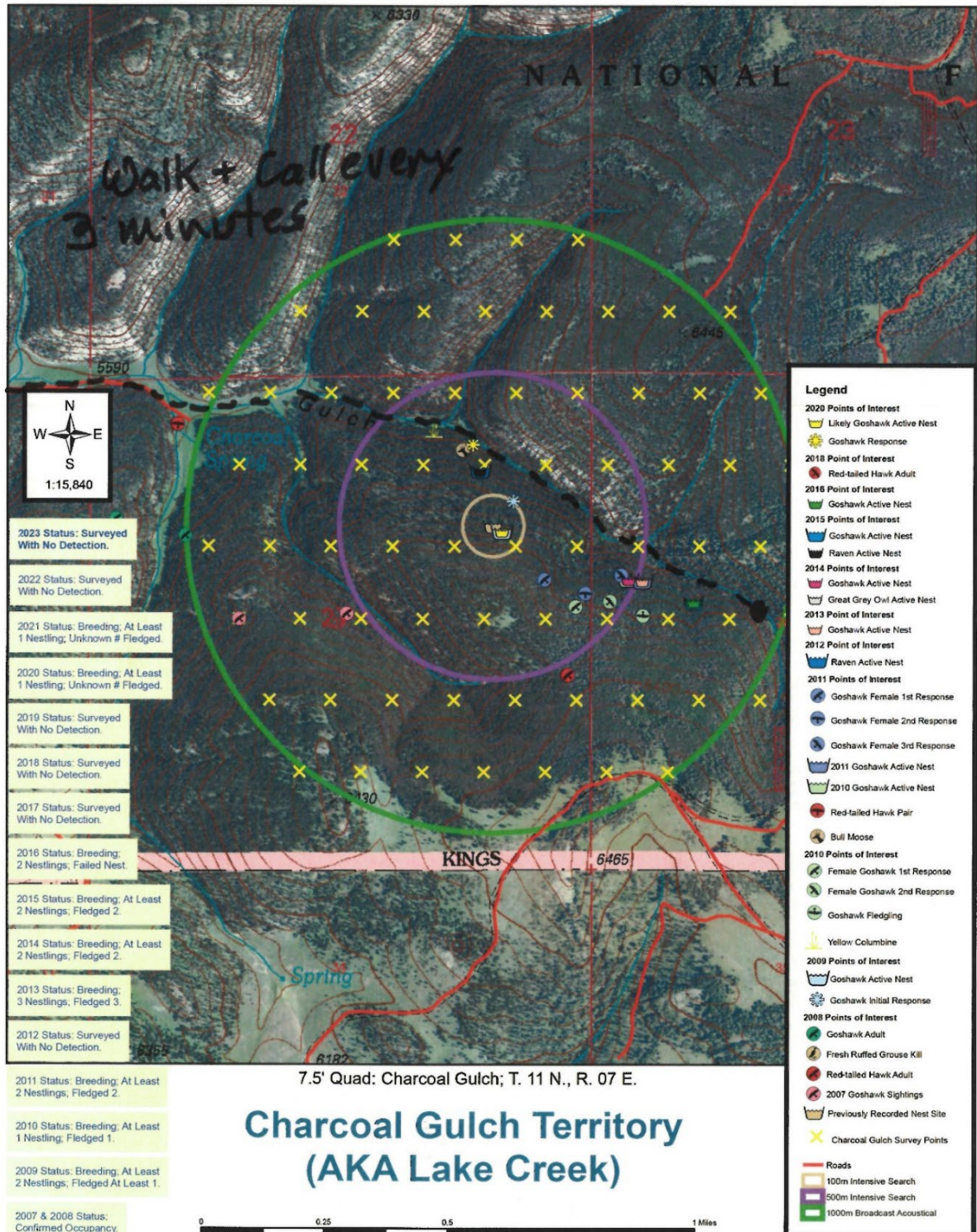
Feather Location: Marked on map: _____ or GPS Coordinates (X): _____ (Y): _____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

This was the 1st visit to charcoal Gulch. I went alone. It was ~~a~~ on and off rainstorms. The landowner warned of grizzly sightings and a breeding wolf pair on the property. I walked the road in, ~~but had~~ calling every 3 minutes. I was unable to walk into the gulch as Victor warned to not go in if there was any wind. There was substantial wind due to rain storms. No goshawks heard or seen at this site.

see me Before Survey 2023 Goshawk Territory Survey Report Map



Snaggy Gulch Nest Territory Survey Data

Snaggy
Gulch

Surveyed With No Detection

Page 1 of 2

GOSHAWK MONITORING PROTOCOL FIELD FORM

Raptor

Observer(s): Skinner, Barbosa Date (mm/dd/yy) Start: 7/2/24 End: 7/2/24
 Observer Phone # _____ Observer E-mail address _____

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 03.

Is there a known territory in this area? YES NO / UNK (Known from existing data sources prior to current year.)
 If 'Yes', enter existing name(s): Snaggy Gulch

Visit Data Territory Visit #: 1 Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION:

Goshawk presence confirmed? YES NO

Detection(s) marked on map YES NO Detection(s) GPS'ed? YES NO

Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER

Detection Time: _____

Location: Datum: UTM Zone 12 NAD: 83

Easting (X): _____ Northing (Y): _____

From position marked on map or from the location GPSed:

Azimuth TO initial detection: _____ Azimuth of direction of departing goshawk: _____

Distance TO detection: _____ Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: _____ Sex: #M _____ #F _____ #Unk. _____; Apparent breeding pair? YES NO

Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____

Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN

Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN

If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____

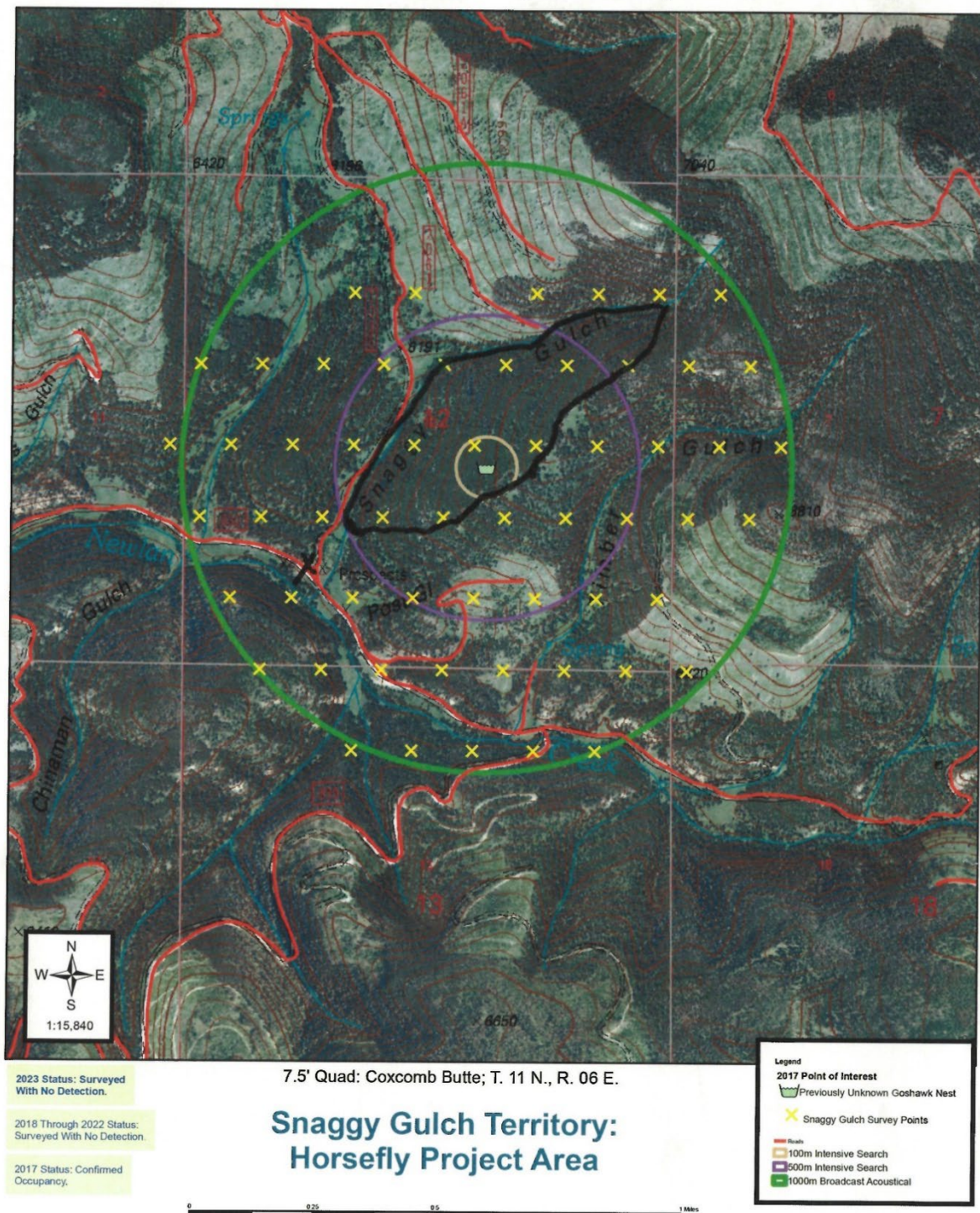
Feather Location: Marked on map: _____ or GPS Coordinates (X): _____ (Y): _____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

This was our first visit to Snaggy gulch this season. We started our survey at the south end and went up the 1036 road until we were just west of the 2017 nest site. We walked uphill (East) until we reached the approximate nest site. We were unable to locate any nest or remnants. Our caller was broken, making it more difficult to draw in any Goshawks.

2023 Goshawk Territory Survey Report Map



Sage Spring Nest Territory Survey Data

Sage Spring Surveyed With No Detection.

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GOSHAWK MONITORING PROTOCOL FIELD FORM

Raptor

Observer(s): ~~Devin Adler~~ Devin Adler, Caleb Menasco Date (mm/dd/yy) Start: 07/02/24 End: 07/02/24

Observer Phone # 703-859-5952

Observer E-mail address devin.adler@gmail.com

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____)

Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 07

Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)

If 'Yes', enter existing name(s): Sage Spring

Visit Data Territory Visit #: _____ Territory visit period (circle one): NESTLING FLEDGLINGSurvey method(s): Broadcast Acoustical Intensive Search Dawn AcousticalCall type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION:

Goshawk presence confirmed? YES NODetection(s) marked on map YES NODetection(s) GPS'ed? YES NODetection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER

Detection Time: 1700

Location: Datum: UTM Zone 12 NAD: 83

Easting (X): 504142 Northing (Y): 5175835

Likely Gray Jay
V.M.

From position marked on map or from the location GPSed:

Azimuth TO initial detection: 320° Azimuth of direction of departing goshawk: _____

Distance TO detection: _____ Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: _____ Sex: #M _____ #F _____ #Unk. _____; Apparent breeding pair? YES NO

Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____

Unknown Age Class: # 1

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWNWill a new territory be delineated as a result of this inventory? YES NO UNKNOWN

If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____

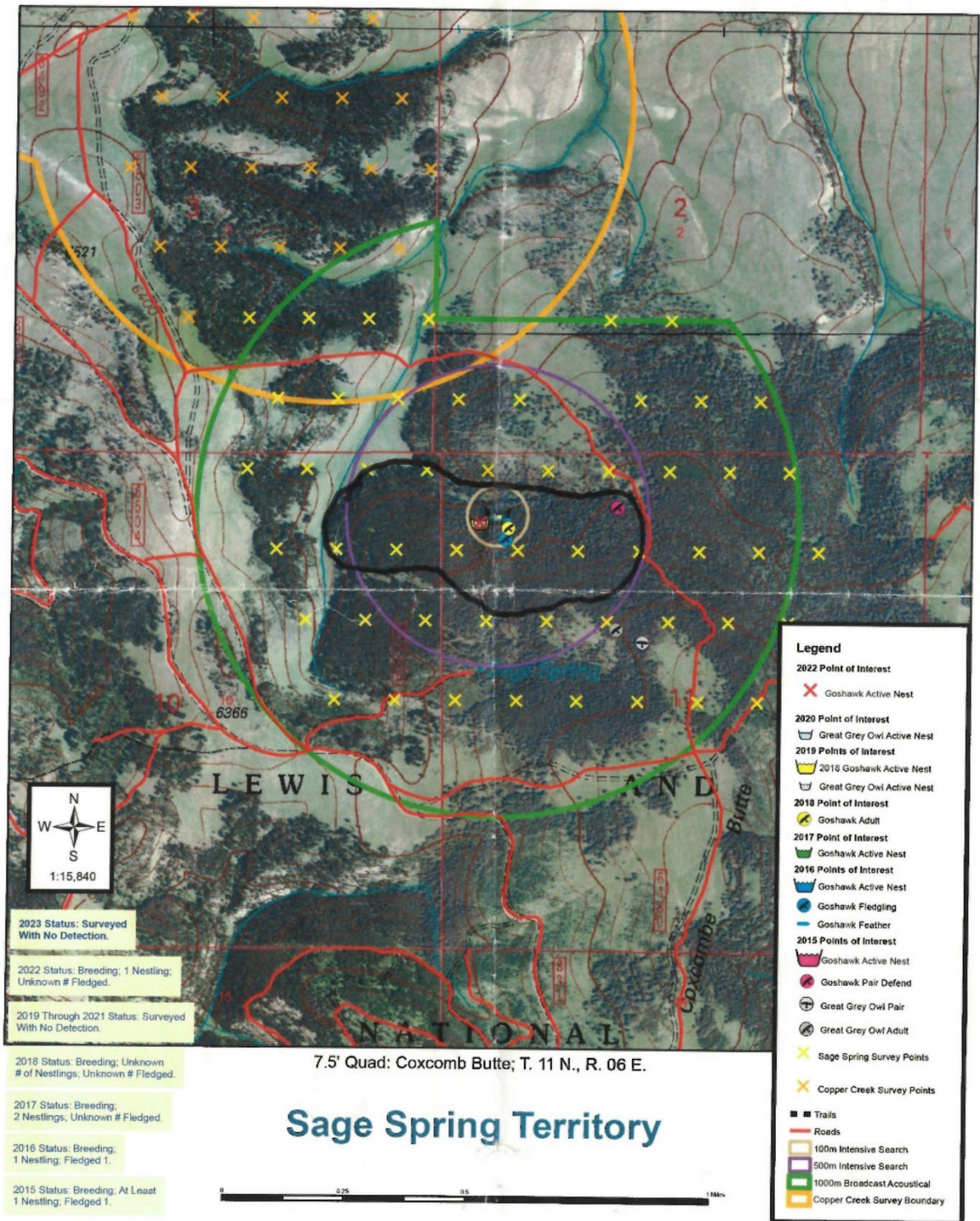
Feather Location: Marked on map: _____ or GPS Coordinates (X): _____ (Y): _____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

We performed an intensive search in the Sage Spring territory but were unable to confirm Goshawk presence confirmed. We heard Goshawk alarm calls on two occasions. On the first occasion the call came from the north of us. We encountered two Grey Jays at the source of the call but no Goshawks. The second aerial sighting was ^{about 50 meters} southeast of the first sighting, and also yielded no Goshawks.

2023 Goshawk Territory Survey Report Map



Upper Spring Creek Nest Territory Survey Data

Upper Spring Creek Breeding; at least 2 Nestlings; Fledged 2

Page 1 of 2

~~GOSHAWK~~ MONITORING PROTOCOL FIELD FORM

Raptor

Observer(s): Merasco, Barbosa, Adler Date (mm/dd/yy) Start: 06/25/2004 End: 06/25/2004
 Observer Phone # _____ Observer E-mail address _____

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 07

Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)

If 'Yes', enter existing name(s): upper spring creek

Visit Data Territory Visit #: 1 Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION:

Goshawk presence confirmed? YES NO

Detection(s) marked on map YES NO

Detection(s) GPS'ed? YES NO

Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER

Detection Time: 12:00 pm

Location: Datum: UTM Zone 12 NAD: 83

Easting (X): 505911 Northing (Y): 5172519

From position marked on map or from the location GPSed:

Azimuth TO initial detection: X Azimuth of direction of departing goshawk: 235 degrees

Distance TO detection: 10 Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: 2 Sex: #M 1 #F 1 #Unk. ____; Apparent breeding pair? YES NO

Young: # Nestlings ____ # Fledglings 2 Approximate Age: 30 days

Unknown Age Class: # ____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN

Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN

If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: ____

Feather Location: Marked on map: ____ or GPS Coordinates (X): ____ (Y): ____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

Began 10:20 in Southeastern region

- headed south towards 2021 active goshawk nest
- played alarm call every 3 minutes
- no sightings or sign
- continued south towards 2020 & 2022 active nest
- no sighting or sign
- headed east 200m, then north, calling every 3 minutes
- heard goshawk at 505497E 5172368N
- Followed call northeast
- spotted male and female and 2 fledglings at 505412E 5172511N
- Male & Female Flew in from 340° N and departed 220° Southwest
- 2 fledglings were spotted flying from tree to tree, stress calling between, before departing 115° Southeast
- area searched intensively, no nest found
- departed north to car

GOSHAWK MONITORING PROTOCOL FIELD FORM

Raptor

Observer(s): Merasco, Skinner, Barbosa, Adler Date (mm/dd/yy) Start: 06/27/24 End: 6/27/24
 Observer Phone # 269-569-6641 Observer E-mail address Caleb.merasco@gmail.com

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 07

Is there a known territory in this area? YES NO / UNK. (Known from existing data sources prior to current year.)

If 'Yes', enter existing name(s): Upper Spring Creek

Visit Data Territory Visit #: 2 Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION:

Goshawk presence confirmed? YES NO

Detection(s) marked on map YES NO Detection(s) GPS'ed? YES NO

Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER

Detection Time: 11:30 pm

Location: Datum: UTM Zone 12 NAD: 83

Easting (X): 517565 Northing (Y): 5205211

From position marked on map or from the location GPSed:

Azimuth TO initial detection: 265 Azimuth of direction of departing goshawk: X

Distance TO detection: 50 Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: 2 Sex: #M 2 #F 0 #Unk. 0; Apparent breeding pair? YES NO

Young: # Nestlings _____ # Fledglings 2 Approximate Age: 35 days

Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN

Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN

If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: 0

Feather Location: Marked on map: X or GPS Coordinates (X): X (Y): X

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

- Started heading Southeast towards previously known goshawk sightings
- played alarm call every 3 minutes
- heard fledgling alarm call from the ~~west~~ ^{west} (265°)
- investigated call, no sightings or sign
- headed south towards 2021 goshawk active nest, nothing found
- headed south towards 2022 active nest, found goshawk pellets, whitewash ~~and~~ and slightly dilapidated nest, expected to be the active nest
- returned north east to truck

GOSHAWK MONITORING TERRITORY AND NEST RECORD FORM

☐ NEW DISCOVERY or ☐ RE-VISIT

Observer(s) Skinner, Barbosa, Adler, Merasco Time: 12:30 Date 6/27/24

Job Title(s) Wildlife

Affiliation: ☒ FS ☐ BLM ☐ USFWS ☐ State Agency ☐ Other: _____

Contact Information: _____

Territory Status: Occupied Breeding Inactive Unknown

• NEST LOCATION

Nest #: _____

Nesting Territory (Site) Name (One name should be used for either a single nest or several nests located closely to each other.): Upper Spring Creek

R# / F# / D#: 1 / L&C / 1 State/County: MT / Meagher

UTM Coordinates: NAD 83 Zone 12 Northing (Y) 5172345 Easting (X) 505699

Legal Description: T. 11 N., R. 06 E./W., Sec. _____, _____ 1/4 Elevation (may be range): _____

7.5' USGS Quadrangle Name: Coxcomb Butte

Land Administrator/Owner: ☒ FS ☐ BLM ☐ STATE ☐ Private: _____

• BIRD OBSERVATIONS AND NEST USE

Goshawks Present? ☒ Yes ☐ No Nest in Use (or used this breeding season)?: ☒ Yes ☐ No ☐ Unk

This Nest: ☒ is fully intact/in good condition ☐ is dilapidated/falling apart ☐ was not located

Year Nest Built: 2020

Nest Orientation: 050° (NE)

Evidence of Nest Use: ☒ whitewash ☐ eggshell fragment(s) ☐ down ☐ feather(s) ☒ pellet(s)
(check one: ☒ current ☐ past) ☐ prey remains ☐ other: _____

Number Seen: ♂ Adult _____ ♀ Adult _____ Unk Adult(s) _____ Nestling(s) _____ Fledgling(s) _____ Eggs _____

Number Heard: ♂ Adult _____ ♀ Adult _____ Unk Adult(s) _____ Nestling(s) _____ Fledgling(s) 2

Behavior(s) Observed: ☐ incubating ☐ brooding ☐ feeding ☐ defensive ☒ other: fleeing

• GENERAL HABITAT DESCRIPTION (in close proximity to nest tree)

Overstory Trees Present: ☒ lodgepole pine ☐ limber pine ☐ ponderosa pine ☐ subalpine fir
☒ Douglas-fir ☐ Engelmann spruce ☐ quaking aspen ☐ cottonwood
☐ Other: _____

Age Class: Sapling Pole Mature

Overstory Canopy Closure(%): 30 Slope Aspect: 12 degrees

Slope (%): _____ Slope Position (on hillside): ☐ Upper 1/3 ☐ Middle 1/3 ☒ Lower 1/3 ☐ Bottom

Has Timber Cutting Occurred Previously (in the stand)?: ☐ Yes ☐ No Stumps: ☐ <10 in. ☐ >10 in.

Distance to Live Water (m): 15 Stream Name: _____ Within 330m: ☒ Y ☐ N

% Total Cover: _____ % Grass Cover: _____ % Forb Cover: _____ % Shrubs: _____ % Bare: _____

Distance to other known nests in territory: _____

• NEST TREE DESCRIPTION

Nest Tree Species: ☐ lodgepole pine ☐ quaking aspen ☐ Engelmann spruce ☒ Douglas-fir
☐ ponderosa pine ☐ cottonwood ☐ Other: _____

NT Alive?: ☒ Yes ☐ No The following are: ☐ estimates ☐ obtained w/measuring instruments

NT Diameter at DBH (4'6"): _____ in. Nest Height: 25 (nearest ft.)

NT Total Height: 60 (nearest ft.) Height to first live limb: _____ (nearest ft.)

Classification of the Tree Structure Supporting the Nest:

☐ candelabra top ☐ forked trunk ☒ branch whorl ☐ mistletoe limb or other "witches broom"
☐ Other: _____

Page 2 of 2

This portion for repeat monitoring within the same year.

Nest #: _____ Date Visited: 6/26/24 Time Visited: 12:00pm

Territory Status: Occupied Active Inactive Unknown

Eggs _____ # Young _____ # Fledglings 2 # Adults 2

Observer(s): _____

Comments (include description of any playback calls used, behavior of birds, appearance of nest, unsuccessful calling attempts, etc) Heard goshawk at 505997E 5172368N
after doing alarm calls every 3 min. Spotted male & female
& 2 fledglings at 505912E 5172511N. Male & female flew
in from 340° & departed Southwest (220°). Fledglings were
flying from tree to tree, departing 115° SE.

Nest #: _____ Date Visited: _____ Time Visited: _____

Territory Status: Occupied Active Inactive Unknown

Eggs _____ # Young _____ # Fledglings _____ # Adults _____

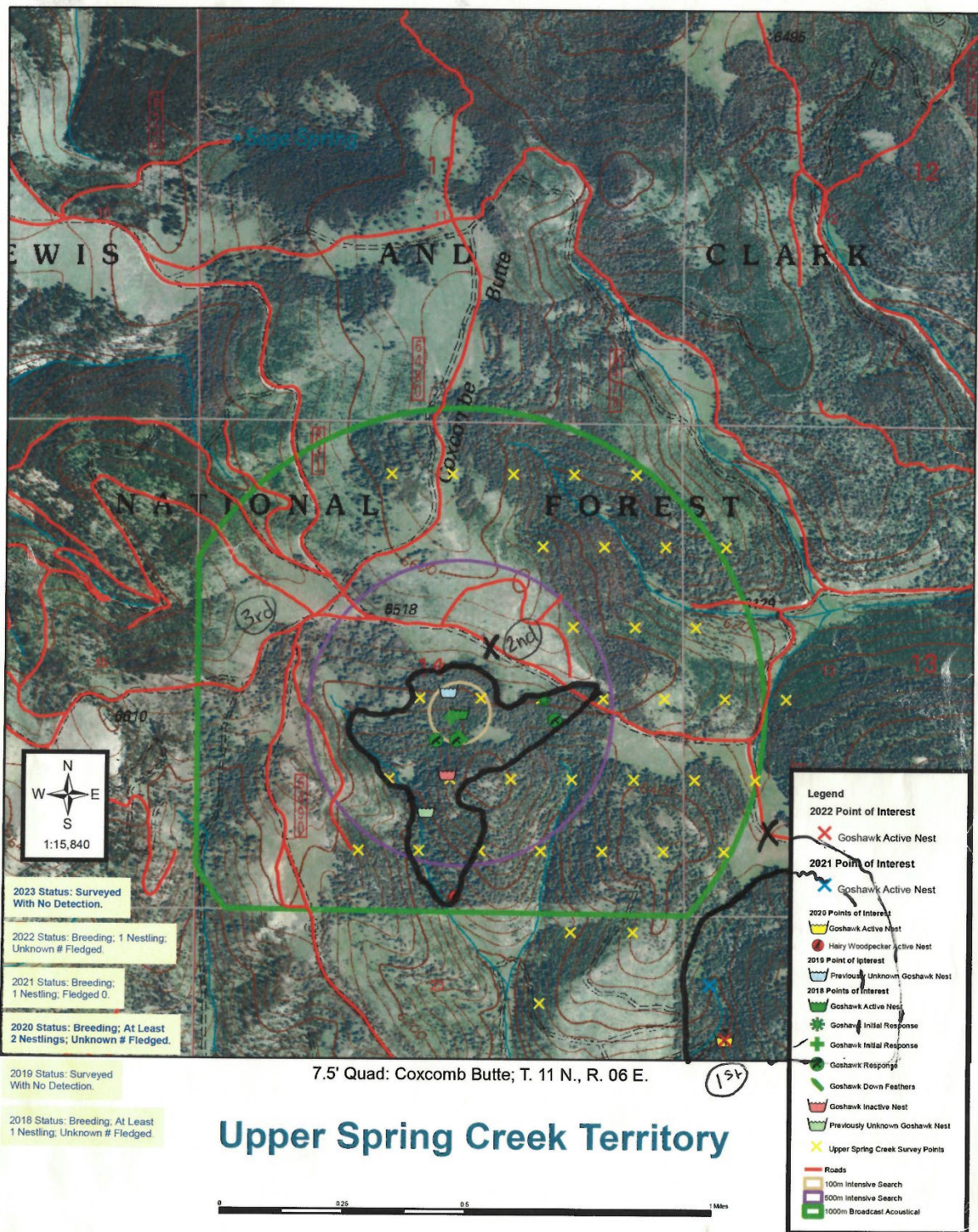
Observer(s): _____

Comments (include description of any playback calls used, behavior of birds, appearance of nest, unsuccessful calling attempts, etc) _____

How was territory discovered? _____

Notes: Headed SE towards previously known goshawk
sightings & played alarm call every 3 minutes.
Heard fledgling alarm call from the west
Then headed south towards 2021 goshawk active
nest, nothing was found.
- headed south towards 2022 active nest &
around the area is where the nest
was found. There were pellets & lots of
whitewash under the nest.
- returned north east to truck.

2023 Goshawk Territory Survey Report Map



Little Sheep Creek Nest Territory Survey Data

Little Sheep Goshawk: Surveyed. With No Detection.
 Creek Cooper's Hawk: Breeding; at least 1 Nestling; Fledged
 at least 1.

Page 1 of 2

GOSHAWK MONITORING PROTOCOL FIELD FORM

Aaptor

Observer(s): Devon Adler, Caleb MerascoDate (mm/dd/yy) Start: 07/01/2024 End: 07/01/24Observer Phone # 703-859-5952Observer E-mail address devinadler@gmail.comAgency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____)Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 07Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)If 'Yes', enter existing name(s): Little Sheep Creek

Visit Data Territory Visit #: _____

Territory visit period (circle one): NESTLING

FLEDGLINGSurvey method(s): Broadcast Acoustical Intensive Search Dawn AcousticalCall type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION:

Goshawk presence confirmed? YES NODetection(s) marked on map YES NODetection(s) GPS'ed? YES NO

Detection Type: (circle all that apply):

VISUALAURAL

ACTIVE NEST

FEATHER

Detection Time: 1200Location: Datum: UTM Zone 12 NAD: 83Easting (X): 506542 Northing (Y): 5175874

From position marked on map or from the location GPSed:

Azimuth TO initial detection: 330° Azimuth of direction of departing goshawk: 330°Distance TO detection: 10 Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: 1 Sex: #M 1 #F _____ #Unk. _____; Apparent breeding pair? YES NO

Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____

Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWNWill a new territory be delineated as a result of this inventory? YES NO UNKNOWN

If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____

Feather Location: Marked on map: n/a or GPS Coordinates (X): n/a (Y): n/a

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

We began our survey along the path that runs along the northern part of the territory, stopping every three minutes to broadcast Goshawk alarm calls. We heard a Great Grey call from north of the National Forest boundary, and encountered a male Goshawk circling the northeastern boundary of the territory. He disappeared from view, but we encountered him again fighting a crow ~~at the~~ further east. After losing sight of him again, we continued our survey through the southern territory. We encountered no Goshawks here, nor observed any signs of Goshawk activity. It's possible the male we encountered is nesting in the private lands north of the Federal lands we surveyed in. We encountered the male three times. On the first two he vocalized at us, on the third he vocalized at and fought the crow.

Nester Munch

The "Male Goshawk" turned out to be a very aggressive male Cooper's Hawk defending its fledglings. Both male and female eventually observed but were the size of Goshawks but vocalized like Cooper's hawks. The male Cooper's hawk's aggression was similar to that of a female goshawk's but both parents stayed higher in canopy like Cooper's Hawks. The male was mostly white with dark (black) wing tips; the terminal 4 inches. At least one fledgling present during both surveys. No active nest ever located. The adults and at least 1 fledgling had the shape of Cooper's Hawks. I have never seen a Cooper's with this coloring or a pair this large. Also, I have never seen a Cooper's male this aggressive. Very unusual pair.

National Goshawk Monitoring Protocol Field Form - Cover Sheet

(Revised 5/23/2006) Modified 5/31/2007, 5/20/2008, 5/22/2010

Cooper's Hawk: Breeding; at least 1 Nestling; Fledged at least 1.

GOSHAWK MONITORING PROTOCOL FIELD FORM

Observer(s): Barbosa, Skinner Date (mm/dd/yy) Start: 7/9/24 End: 7/9/24
 Observer Phone # _____ Observer E-mail address _____

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C /

Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)
 If 'Yes', enter existing name(s): Little Sheep Creek Territory

Visit Data Territory Visit #: _____ Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION: Goshawk presence confirmed? YES NO
 Detection(s) marked on map YES NO Detection(s) GPS'ed? YES NO
 Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER
 Detection Time: _____
 Location: Datum: UTM Zone 12 NAD: 83
 Easting (X): _____ Northing (Y): _____
 From position marked on map or from the location GPSed:
 Azimuth TO initial detection: _____ Azimuth of direction of departing goshawk: _____
 Distance TO detection: _____ Distance units (circle one): METERS YARDS FEET
 Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: _____ Sex: #M _____ #F _____ #Unk. _____; Apparent breeding pair? YES NO
 Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____
 Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN
 Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN
 If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____
 Feather Location: Marked on map: _____ or GPS Coordinates (X): _____ (Y): _____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

Observed Cooper's hawk
 feeding (Fledgling Present) but no nest found.

We began our survey heading north towards the 2018 Goshawk Active Nest Site. We did alarm calls approx. every 3 minutes. Soon after doing a call we saw what may be a cooper's hawk circulating north. We followed it & briefly saw ~~two~~ ^{one} cooper hawk at 506366 E, 5175805 N & heard what we thought was a fledgling at 506428 E, 5175817 N. We then followed the road heading east and came across the cooper hawk circulating the area again. We continued to follow in attempt to find a nest & lost sight of the cooper hawk for a while. We then saw what appeared to be a fledgling & a cooper hawk at 506599 E, 5175806 N & saw a total of 3 birds (2 adults, 1 fledgling) at 506610 E, 5175910 N. It is unclear of ~~what~~ the type of bird we saw but it behaved & sounded like a cooper's hawk.

Surveyor shot photo of a male Cooper's hawk that was mostly white with dark (Black) wing tips. (The terminal 4" of the wing tips.) The male was more aggressive than the female (similar defensive behavior to a female goshawk.) and provided most of the territory defense and stayed high in the canopy like a Cooper's hawk. Vocalization was that of a Cooper's Hawk.

National Goshawk Monitoring Protocol Field Form - Cover Sheet
 (Revised 5/23/2006) Modified 5/31/2007, 5/20/2008, 5/22/2010

I viewed both adults and a fledgling on 7/9/24. The adults were the size of goshawks but had behavior of Cooper's Hawks; also coopers vocalized.

GOSHAWK MONITORING PROTOCOL FIELD FORM

Observer(s): Devin Adler, Caleb Merasco Date (mm/dd/yy) Start: 07/02/24 End: 07/02/24
 Observer Phone # 703-859-5952 Observer E-mail address devin.m.adler@gmail.com

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 07

Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)
 If 'Yes', enter existing name(s): Little Sheep Creek

Visit Data Territory Visit #: _____ Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&IFB

DETECTION INFORMATION: Goshawk presence confirmed? YES NO Male Cooper's Hawk
 Detection(s) marked on map YES NO Detection(s) GPS'ed? YES NO
 Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER
 Detection Time: 1600
 Location: Datum: UTM Zone 12 NAD: 83
 Easting (X): 506658 Northing (Y): 5175916
 From position marked on map or from the location GPSed:
 Azimuth TO initial detection: 160° Azimuth of direction of departing goshawk: 160°
 Distance TO detection: 25 Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: 1 Sex: #M 1 #F _____ #Unk. _____; Apparent breeding pair? YES NO
 Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____
 Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN
 Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN
 If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____
 Feather Location: Marked on map: _____ or GPS Coordinates (X): _____ (Y): _____

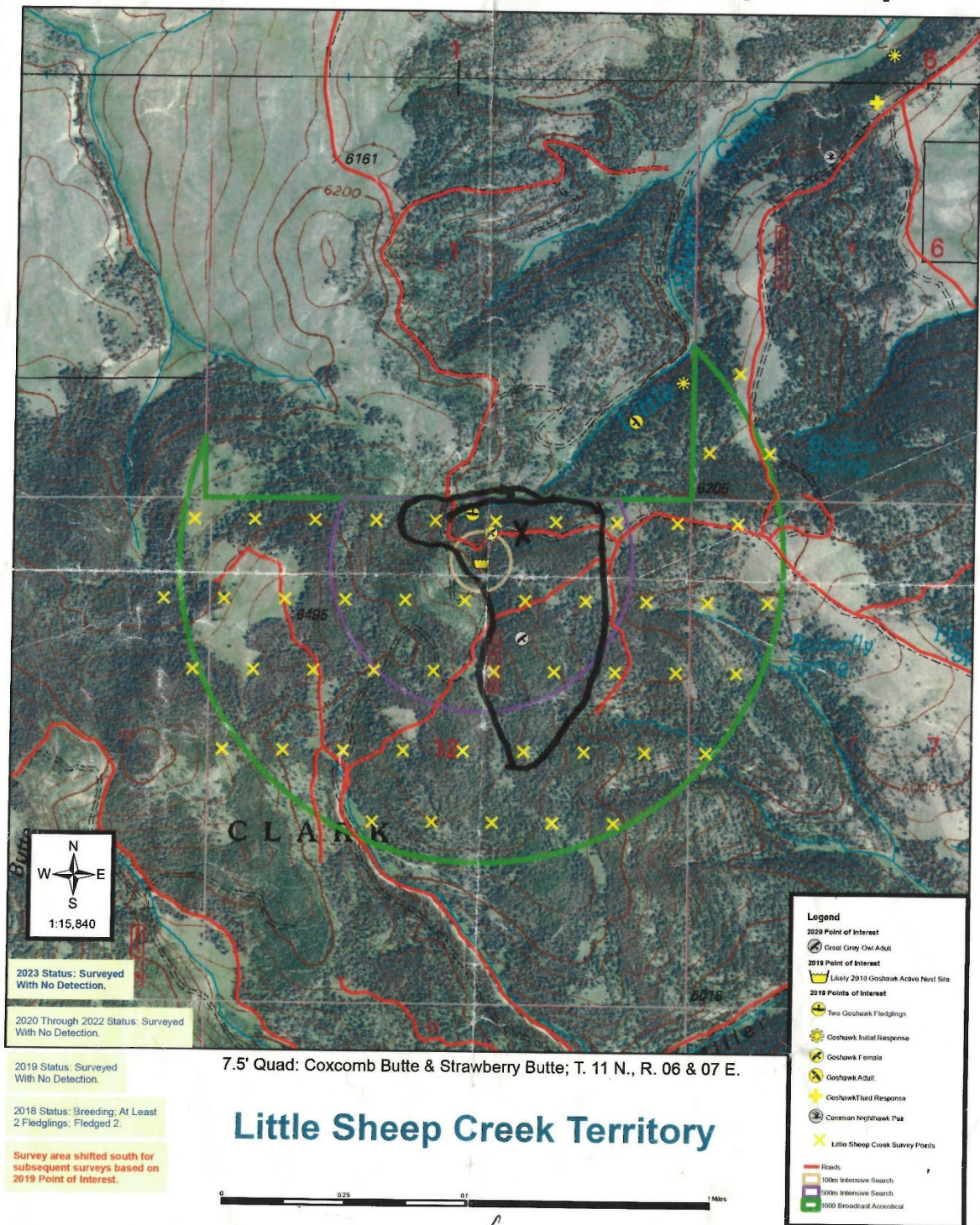
RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

We did an intensive search of the northern part of this territory as far as we could along the National Forest boundary. We heard a Goshawk^{alarm} call coming from the north on private land but didn't see a Goshawk. The second alarm call we heard came from a male perched to the south of us, still close to the private land border. After flying away we weren't able to find him again.

"Goshawk" was a male Cooper's Hawk
defending a fledgling. V.M.

2023 Goshawk Territory Survey Report Map



Abbott Gulch Nest Territory Survey Data

Abbott Great Grey Owl = Breeding; at least 1 Nestling; Unknown
 Gulch # Fledge.
 Goshawk = surveyed with no detection. Page 1 of 2

GOSHAWK MONITORING PROTOCOL FIELD FORM

Raptor

Observer(s): Barbosa, Melasco, Adler Date (mm/dd/yy) Start: 6/26/24 End: 6/26/24
 Observer Phone # _____ Observer E-mail address _____

Agency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).
 Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 7

Is there a known territory in this area? YES / NO / UNK (Known from existing data sources prior to current year.)

If 'Yes', enter existing name(s): Abbott Gulch

Visit Data Territory Visit #: 1 Territory visit period (circle one): NESTLING FLEDGLING
 Survey method(s): Broadcast Acoustical Intensive Search Dawn Acoustical
 Call type(s) used during visit (circle one): ALARM JUV. FOOD BEGGING A&JFB

DETECTION INFORMATION: Goshawk presence confirmed? YES NO
 Detection(s) marked on map YES NO Detection(s) GPS'ed? YES NO
 Detection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHER
 Detection Time: 2:50pm

Location: Datum: UTM Zone 12 NAD: 83

Easting (X): 508507 Northing (Y): 5172376

From position marked on map or from the location GPSed:

Azimuth TO initial detection: 330° Azimuth of direction of departing goshawk: _____

Distance TO detection: 35 Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: 1 Sex: #M _____ #F _____ #Unk. 1; Apparent breeding pair? YES NO
 Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____
 Unknown Age Class: # _____

Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWN
 Will a new territory be delineated as a result of this inventory? YES NO UNKNOWN

If nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NO

Feather Info: If feather, was feather collected? YES NO Number of feathers found: _____

Feather Location: Marked on map: _____ or GPS Coordinates (X): _____ (Y): _____

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

- We started at around 2:30pm & headed North to the last active nest (2019). Before getting to the nest we did alarm calls every 3 minutes. During our first few alarm calls we heard a goshawk at around 2:50pm.
- We were then on the lookout for the previous active nest but nothing was found.
- Then we headed east from the nest & then headed north hitting the survey points along the way.
- Then we headed west to the edge of the survey area & finally headed southeast to get back to the truck.

* We did alarm calls every 3 minutes but found/heard nothing after the initial goshawk hearing.

* We were also able to spot the previous long-eared owl nest & found possible down.

* No visual confirmation that the animal response was a goshawk; was likely a gray jay. *Wade May 7/3/24*

GOSHAWK MONITORING PROTOCOL FIELD FORM

Observer(s): Devin Adler, Devin Anderson, Faith, Helmer, T. Helmer ^{Merasco} Date (mm/dd/yy) Start: 06/27/24 End: 06/27/24Observer Phone # 703-859-5952 Observer E-mail address devinm.adler@gmail.comAgency Affiliation (circle one): USFS FWS NPS STATE (if State, then specify: _____).Other (if 'Other', then specify: _____) If USFS, then specify (R#/F#/D#): 01 / L&C / 07.Is there a known territory in this area? YES NO / UNK (Known from existing data sources prior to current year.)If 'Yes', enter existing name(s): Alfred DulchVisit Data Territory Visit #: _____ Territory visit period (circle one): NESTLING FLEDGLINGSurvey method(s): Broadcast Acoustical Intensive Search Dawn AcousticalCall type(s) used during visit (circle one) ALARM JUV. FOOD BEGGING A&JFB**DETECTION INFORMATION:**Goshawk presence confirmed? YES NODetection(s) marked on map YES NO Detection(s) GPS'ed? YES NODetection Type: (circle all that apply): VISUAL AURAL ACTIVE NEST FEATHERDetection Time: 1330Location: Datum: UTM Zone 12 NAD: 83Easting (X): 508492 Northing (Y): 5172428

From position marked on map or from the location GPSed:

Azimuth TO initial detection: 200° Azimuth of direction of departing goshawk: n/a

Distance TO detection: _____ Distance units (circle one): METERS YARDS FEET

Additional detections and locations on the back of this sheet, numbered in order of occurrence.

Age Class: Adults: Total #: 1 Sex: #M _____ #F _____ #Unk. 1; Apparent breeding pair? YES NO

Young: # Nestlings _____ # Fledglings _____ Approximate Age: _____

Unknown Age Class: # 1Nest Info: Active Nest Found? YES NO If yes, is this nest? PRIMARY ALTERNATE UNKNOWNWill a new territory be delineated as a result of this inventory? YES NO UNKNOWNIf nest, is nest (circle one): NEW KNOWN Was nest monitoring form completed? YES NOFeather Info: If feather, was feather collected? YES NO Number of feathers found: 0Feather Location: Marked on map: n/a or GPS Coordinates (X): n/a (Y): n/a

RECORD ALL SURVEY RESULTS ON THE NGMP FIELD FORM DATA SHEET. ATTACH ALL FIELD FORM DATA SHEETS TO THE ASSOCIATED PSU FIELD FORM COVER SHEET. DELINEATE AREAS SURVEYED ON ATTACHED MAP. SHOW ALL GOSHAWK DETECTION LOCATIONS WITH DATE ON MAP.

General Comments

We did a follow-up survey in this territory after hearing goshawk alarm calls the previous day. We heard a response call when broadcasting near the site of last years nest. At the 2023 nest we found evidence that it was being occupied by Great Grey owls, including pellet, whitewash, and owl feathers in the nest and around the tree. We then headed east to the 2019 Goshawk nest but found no evidence of a nest in the area, active or otherwise. We then headed northeast, intermittently broadcasting goshawk alarm calls to try and get a response, but heard no calls after the initial sighting. We then returned to the truck.

Initial Aural Sighting: 12 588492E 5172418N

Great Grey Occupied Nest: 12 588493E 5172461N

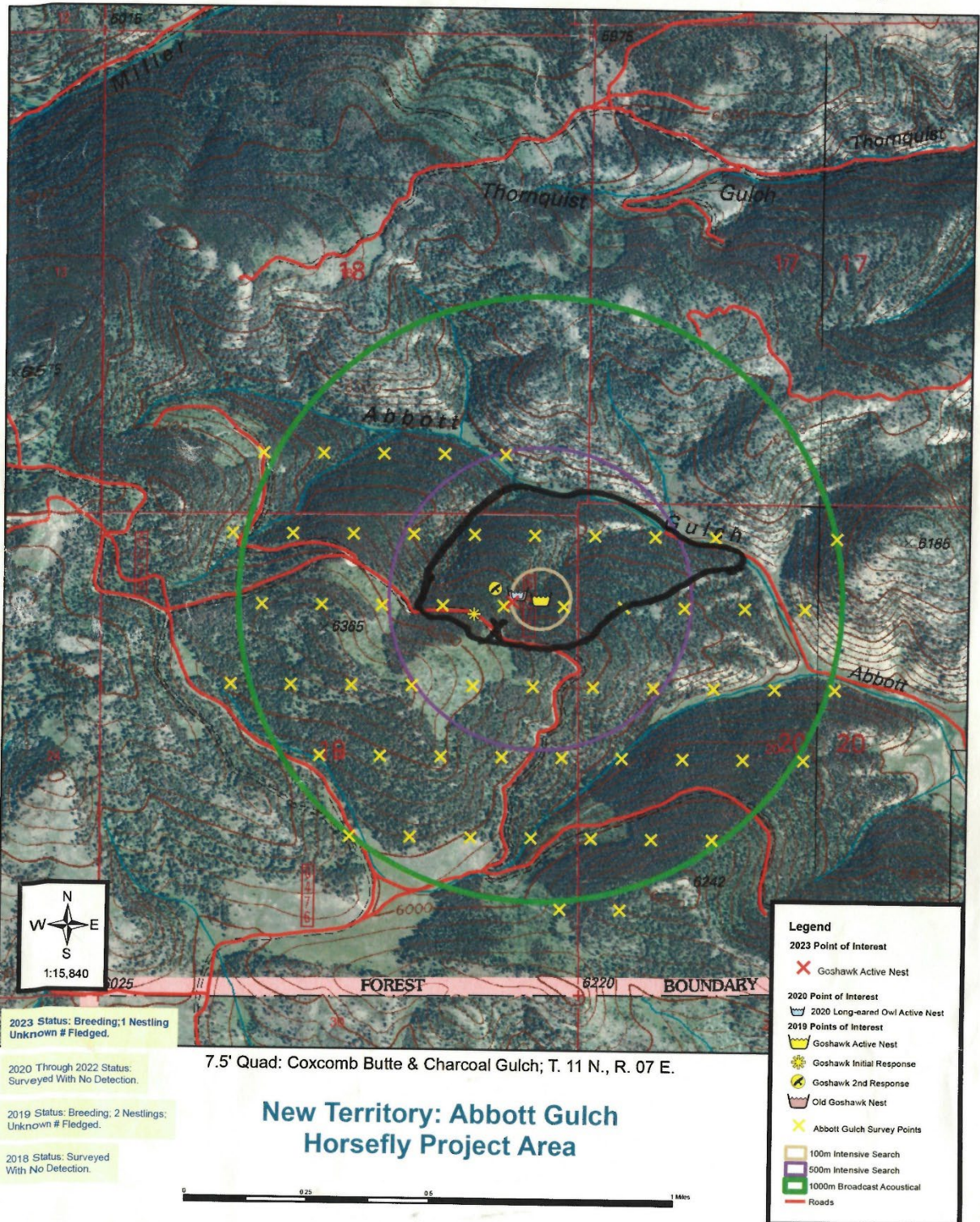
2024 Great Grey Owl Active Nest

No visual confirmation that the aural response was a goshawk; could easily have been a gray jay. Consequently, status designation is "Surveyed With No Detection". Was likely a gray jay.

Steve McG

7/3/24

2023 Goshawk Territory Survey Report Map



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