



United States Department of Agriculture

Biological Assessment for the Ashley National Forest Land and Resource Management Plan

**Daggett, Duchesne, Summit, Uintah, Utah, and Wasatch
Counties in Utah and Sweetwater County in Wyoming**

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Ashley National Forest

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Executive Summary

A revised land management plan is being proposed for the Ashley National Forest. The Ashley NF informally consulted with the Fish and Wildlife Service on June 2, 2022, to discuss those federally listed species that should be considered and evaluated in a biological assessment for this revised land management plan. As a result of this meeting, a list of species was developed and agreed upon, and they are reviewed in Table 1 below. Also as a result of this meeting, it was agreed that typical yellow-billed cuckoo habitat does not occur on the Ashley National Forest and as such would not be included in the list of species to be evaluated in this Biological Assessment. This biological assessment considers the potential effects of the proposed land management plan (preferred alternative) on these eight federally listed species for the Ashley National Forest (table 1).

We determined, the proposed action *may affect, but is not likely to adversely affect* Canada lynx, Mexican spotted owl, and Ute Ladies Tresses and would not *jeopardize continued existence* of wolverine. We determined there would be No Effect from the Proposed Action on the other four species.

Table 1. Determination for federally listed species and designated critical habitats addressed in this biological assessment

Species Common Name and Scientific Name	Federal Status	Critical Habitat within Action Area	Recovery Plan	Species Determination	Critical Habitat Determination
Canada lynx, <i>Lynx canadensis</i>	Threatened	No	yes	MA NLAA	NA
Wolverine, <i>Gulo gulo</i>	Proposed	No	no	Not likely to jeopardize continued existence of the species	NA
Mexican Spotted Owl, <i>Strix occidentalis lucida</i>	Threatened	No	yes	MA NLAA	NA
Colorado pikeminnow, <i>Ptychocheilus lucius</i>	Endangered	No	yes	No Effect	NA
Bonytail, <i>Gila elegans</i>	Endangered	No	yes	No Effect	NA
Razorback sucker, <i>Xyrauchen texanus</i>	Endangered	No	yes	No Effect	NA
Humpback chub, <i>Gila cypha</i>	Threatened	No	yes	No Effect	NA
Ute Ladies tresses, <i>Spiranthes divvialis</i>	Threatened	No	yes	MA NLAA	NA

Abbreviations in the Text

forest plan, the.....	Ashley National Forest Land Management Plan
Forest Service	United States Department of Agriculture Forest Service
GIS	geographic information system
MBF	thousand board feet
RMZ.....	riparian management zone
SCC	species of conservation concern

Plan Component Abbreviations

AIR = air quality	HUW = High Uintas Wilderness
ALPINE = non-forest vegetation: alpine	HVRA = protection of highly valued resources or assets
AKNRGA = Ashley Karst National Recreation and Geologic Area	IND = monitoring indicator
ASPEN = forest vegetation: aspen	IRA = inventoried roadless areas
ATRISK = at-risk plant species	LAND = land status and organization
BYWAY = national scenic byways	LANDSU = lands special uses
CARTER = Carter Military Road	MA = management area
CARBON = carbon storage and sequestration	MINL = energy and minerals
CLIM = adapting to climate change	MON = monitoring question
CONIF = forest vegetation: coniferous forests	NRTRAIL = National Recreation Trail
DA = designated area	OB = objective
DC = desired condition	PJ = forest vegetation: pinyon-juniper
FAC = facilities	RAREHAB = rare and unique habitats— calcareous fens and peatlands
FGNRA = Flaming Gorge National Recreation Area	RECDEV = developed recreation sites
FIRE = fire	RECDIS = dispersed recreation
FISH = fisheries and aquatic ecosystems	RECEV = recreation events
FW = forestwide	RECGP = noncommercial group use
GD = guideline	RECOG = outfitters and guides
GEOL = geologic resources and hazards	RECRES = recreation residences
GO = goal	RECSU = recreation special uses
GRAZ = livestock grazing	RECTEC = emerging recreation technologies
HIST = cultural and historic resources	RECWIL = preliminary administrative recommendation of wilderness

RMABACK = backcountry recreation management areas	ST = standard
RMADDEST = destination recreation management areas	SUIT = suitability
RMAGENL = general recreation management area	SWETT = Swett Ranch
RMZ = riparian management zones	TIMB = timber
RNA = research natural areas	TRAIL = trails
ROAD = transportation infrastructure—roads	TRIBE = areas of tribal importance
ROS = recreation opportunity spectrum	UML = Ute Mountain Fire Lookout Tower
SAGE = non-forest vegetation: sagebrush	VEGF = forested vegetation
SCCGA = Sheep Creek Canyon Geologic Area	VEGNF = non-forest vegetation
SCENIC = scenic resources	VEGTER = terrestrial vegetation
SHRUB = non-forest vegetation: desert shrub	VISEDU = visitor education and interpretation
SOCEC = social and economic sustainability	WATER = watershed- and groundwater-dependent ecosystems
SOIL = soils	WILDL = wildlife
STATN = historic ranger stations	WSR = eligible and suitable wild and scenic river

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Introduction

This biological assessment has been prepared for the initiation of Endangered Species Act section 7(a)(2) consultation on the proposed revised land management plan (proposed land management plan) for the Ashley National Forest of the U.S. Department of Agriculture, Forest Service, Intermountain Region.

This biological assessment is an analysis of the potential effects to federally listed species from implementing the direction described in the proposed action (preferred alternative). The Ashley proposed land management plan was prepared and revised as required by the National Forest and Rangeland Renewable Resources Planning Act of 1974, and as amended by the National Forest Management Act of 1976, in compliance with the 2012 Planning Rule. Once finalized, the revised land management plan will replace the 1986 Ashley land management plan and its amendments.

The proposed land management plan provides forest-level direction (plan components) to meet the Forest Service's mission for program management activities. It is largely strategic in nature but does address the types of activities to be conducted on the Ashley National Forest. The proposed land management plan does not specifically authorize individual projects or activities. Site-specific actions will be subject to future and separate Endangered Species Act section 7(a)(2) consultations.

In this biological assessment, the Ashley is consulting on the land management plan's resource program administration, as well as "plan components" (desired conditions, objectives, guidelines, standards, designated areas, and management areas. Plan components constitute the decisions being made by adopting the land management plan. Desired conditions describe an aspirational vision, objectives are quantifiable intended outcomes, standards and guidelines are constraints on project design. Most of the actions being consulted on are from program management activities and objectives, while standards and guidelines tend to mitigate effects of the actions (hence, they result in reduced effects). Desired conditions can also help to reduce effects or contribute to recovery as projects implemented under the plan must move toward desired conditions.

Land management plans are broad planning documents that guide the long-term management of national forests. Unless it expressly states otherwise, a land management plan does not authorize any on-the-ground or site-specific action. Future site-specific management actions will be subject to individual, project-level National Environmental Policy Act and Endangered Species Act requirements. Each site-specific project or activity implemented under the revised land management plan that may affect a listed species will undergo a separate environmental analysis and Endangered Species Act section 7(a)(2) consultation.

While site-specific management actions must be consistent with the governing forest plan pursuant to the National Forest Management Act, many of these actions are already otherwise authorized under existing Federal statutes and regulations. For example, the General Mining Law of 1872 generally makes public lands available for mineral exploration. Likewise, the Organic Act and regulations codified at 36 CFR 222 allow for grazing on national forests. Land

management plans provide guidance for and constraints on these actions on individual forests. Since these actions are otherwise allowed, the primary effect of the forest plan on listed species is often to constrain existing statutory and regulatory discretion in favor of recovery and protection of those species and habitat.

The Ashley land management plan meets the definition of a ‘framework programmatic document’ under 50 CFR 402.14. The land management plan provides a strategic framework for future actions on the national forest but does not authorize those actions. Under this programmatic plan, future actions with significant environmental impacts would be analyzed in future National Environmental Policy Act processes prior to authorization of on-the-ground activities. As outlined in this biological assessment, the land management plan does not prescribe the timing or exact location for specific land management activities in the future. Because of the programmatic nature of the land management plan, determination of the likelihood or extent of potential future incidental take would be highly speculative and difficult or impossible to determine for potential future actions. Therefore, we request that the USDI Fish and Wildlife Service use the revised regulation and consult on the land management plan as a framework programmatic action (50 CFR 402.12).

Because land management plans do not prescribe the timing or exact location of specific land management activities, there is some uncertainty about the potential environmental consequences of implementing land management plan direction. This uncertainty extends to effects on federally listed species if applicable. Some of the objectives, however, prescribe an annual treatment rate that can be used to describe the timing and intensity of a particular activity or type of action. This biological assessment evaluates the potential effects of the land management plan’s programmatic direction that may result in site-specific land management activities. The determination of effects results from evaluating the expected outcome of implementing land management plan direction, amending a land management plan (for example, deleting/adding/changing standards and guidelines and other plan components) either for site-specific projects or programmatically (i.e., a permanent change for all future projects) should and will occur on an as-needed basis to adaptively keep the land management plan up to date. Such amendments would be considered outside of the scope of this consultation and would require their own site-specific Endangered Species Act section 7(a)(2) consultation to address the effects of the proposed actions.

A tiered approach to Endangered Species Act section 7(a)(2) consultation includes consultation at the land management plan programmatic level that may result in a biological opinion with no incidental take statement and reasonable and prudent measures. Additionally, each site-specific project or activity implemented under the revised land management plan that may affect a listed species or critical habitat will undergo a separate Endangered Species Act section 7(a)(2) consultation, which will be tiered to the programmatic-level land management plan biological opinion.

The objectives of this biological assessment are to comply with requirements of section 7(a)(2) of the Endangered Species Act for the Ashley’s proposed land management plan. This includes reviewing the current land management programs to identify ongoing activities and

programmatic direction that may affect federally listed, proposed, and candidate species, as well as designated or proposed critical habitats within the action area.

Only those species that use the national forest, have suitable habitat present, and/or could be impacted by off-forest management effects (for example, upstream/downstream effects) were fully analyzed.

Critical Habitat for Listed Species – There is no designated critical habitat on the Ashley National Forest for any of the listed species.

Consultation History – Informal consultation was initiated in October of 2021 through email correspondence between the Ashley NF and the USFWS – Ecological Services located in Salt Lake City, UT. This correspondence continued through winter and spring of 2022. On June 2, 2022, a virtual meeting was held with planning and resource staff from the Ashley NF, Regional Forest Service program leads, as well as the Field Supervisor and Deputy Field Supervisor and their staffs from USFWS. The purpose of this meeting was to agree on list of species to be analyzed in the BA and discuss the timeline for a Biological Opinion from USFWS.

Summary Description of the Preferred Alternative—Modified Alternative B

Alternative B is based on the Proposal to Revise the Land Management Plan that was published with the notice of intent in the *Federal Register* on September 10, 2019, with modifications in response to scoping comments, cooperating agency input, and internal Forest Service review. This alternative was developed to address the need for change and significant issues. Alternative B, including all plan content, is included as appendix E.

Features of alternative B in relationship to the significant issues identified above include:

Sustainable Recreation

Under alternative B, the focus of recreation management would be on providing infrastructure to support recreation, while taking into account other resource values. In addition, management would provide for a variety of developed and dispersed recreation and tourism opportunities to support a diverse set of users and local communities. Three recreation management areas would be established to support different recreation opportunities: destination recreation areas emphasizing developed recreation experiences in high-use areas, with motorized access and support facilities; backcountry recreation areas focused on dispersed recreation outside wilderness areas with limited infrastructure; and general recreation areas that allow for a range of recreational uses, including motorized and nonmotorized use, along with other forest uses (see appendix A, figure 2-1 for details).

Unlike alternative A, alternative B utilizes the Scenery Management System to determine the relative value, stability, resiliency, and importance of scenic values. The Scenery Management System also integrates an increased understanding of cultural landscapes and focuses on which desired scenic character attributes are to be maintained or enhanced. A range of SIOs are identified under alternative B, including very high, high, moderate, and low with an emphasis on a natural-appearing scenic character. The Scenery Management System recognizes natural

disturbance processes, such as fire, insects, and disease, as part of the natural landscape that is dynamic and important in maintaining healthy, sustainable, and scenic landscapes (see appendix A, figure 2-9 for details).

Designated Areas

Alternative B would add additional designated areas to protect special resources. This alternative would include management of two recommended wilderness areas (see appendix A, figure 2-21). All existing special areas and research natural areas would remain. In addition, existing suitable streams would continue to be managed for inclusion in the National Wild and Scenic Rivers System (appendix A, figure 2-24).

Fire and Fuels Management

Under alternative B, fire management strives to balance the natural role of fire while minimizing the negative impacts on watershed health, wildlife habitat, highly valued resources and assets (HVRAs), and air quality. Based on the historical disturbance regimes, wildland fire and other vegetation treatments would be used to improve or maintain desired vegetation conditions during the life of the plan. Use of natural ignitions for resource objectives would be encouraged, where conditions permit, on at least 10 percent of the ignitions over 10 years. Specific management is proposed for HVRAs to protect these values and to provide flexibility to manage changing resources over the life of the plan.

Vegetation Management, Timber Harvest, and Sustainable Ecosystems

Alternative B would promote vegetation management for resource objectives. Treatments (such as timber harvest, planned ignitions, thinning, and planting) would be permitted and estimated on 1,500 acres of the Ashley National Forest annually (1,200 acres in the second decade). In this alternative, acres would be identified as suitable or not suitable for timber production based on compatibility with the desired conditions and objectives, as well as legal and technical reasons. Additional areas would be identified as suitable for harvest outside timber production areas. In these areas, treatments to meet other resource objectives may contribute to total harvest.

Under alternative B, forage for livestock grazing would have specific utilization levels included in management (50 percent) as well as 4-inch stubble height guidelines to provide criteria to help meet desired conditions for terrestrial vegetation.

Management under alternative B would also support the maintenance and improvement of resilient ecosystems and watersheds to support wildlife diversity; it would provide ecological conditions to maintain a viable population of each SCC within the plan area and common and abundant species. A complementary ecosystem and species-specific approach (known as a coarse-filter/fine-filter approach) would be used to contribute to the diversity of plant and animal communities and the long-term persistence of native species. The coarse-filter plan components are designed to maintain or restore ecological conditions for ecosystem integrity and biological diversity on the Ashley National Forest. Fine-filter plan components are designed to provide for additional, specific habitat needs for native animal species when those needs are not met through the coarse-filter plan components.

Specifically for bighorn sheep, management has been included to limit authorization of new permitted domestic sheep or goat allotments unless separation from domestic sheep and goats can be demonstrated, or research indicates that the potential for pathogen transfer would be limited. In addition, alternative B includes plan direction for sheep or goat grazing permits to be voluntarily waived without preference, including potential allotment closures, timing adjustments, conversion to cattle and horse allotments, utilization as a cattle and horse forage reserve, or other options that provide separation or pathogen transfer mitigation. See appendix E for details.

Social and Economic Contributions

Under alternative B, the forest plan emphasizes a sustainable level of goods and services, such as wilderness, fish and wildlife, recreation opportunities and access, timber, energy resources, livestock forage, and infrastructure, as determined by resource-specific desired conditions. These goods and services would help support local and regional populations. The goal would be the support of ecosystem services associated with forest products, as well as those that contribute to the quality of life and sense of place for both present and future generations, including the support of aquatic and terrestrial ecosystems, clean air and water, aesthetic values, cultural heritage values, and recreation opportunities.

Description of the Action Area

The Ashley National Forest encompasses about 1.4 million acres in northeastern Utah and southwestern Wyoming, see Figure 1 below. The national forest is located in three major areas: the northern and southern slopes of the Uinta Mountains, the Wyoming Basin, and the Tavaputs Plateau. Elevations range from 5,500 feet on the Green River below Little Hole near Dutch John, to 13,528 feet at the summit of Kings Peak (the highest point in Utah). About 70 percent of the Ashley National Forest falls within the Uinta Mountains. The Uintas are the largest east-west-trending mountain range in the lower 48 states. Together with the Tavaputs Plateau, the Uinta Mountains provide a unique ecological transition zone, connecting the northern and southern Rocky Mountains. Nationally designated areas include the High Uintas Wilderness, Ashley Karst National Recreation and Geologic Area, and the Flaming Gorge National Recreation Area.

The Ashley National Forest falls predominantly within four counties on the northern border of Utah and southern border of Wyoming: Daggett, Duchesne, and Uintah Counties in Utah, and Sweetwater County in Wyoming. Small portions of the Ashley National Forest also lie within Utah, Wasatch, and Summit Counties in Utah. Portions of the forest are within the original Uintah and Ouray Ute Indian Reservation, and the forest shares many miles of common boundary with the Ute Indian Tribe. In addition, Uinta County, Wyoming, is in close proximity to the Ashley National Forest (see figure 1-1). These communities and counties are connected in one way or another to the various ecosystem and economic benefits the Ashley National Forest provides.

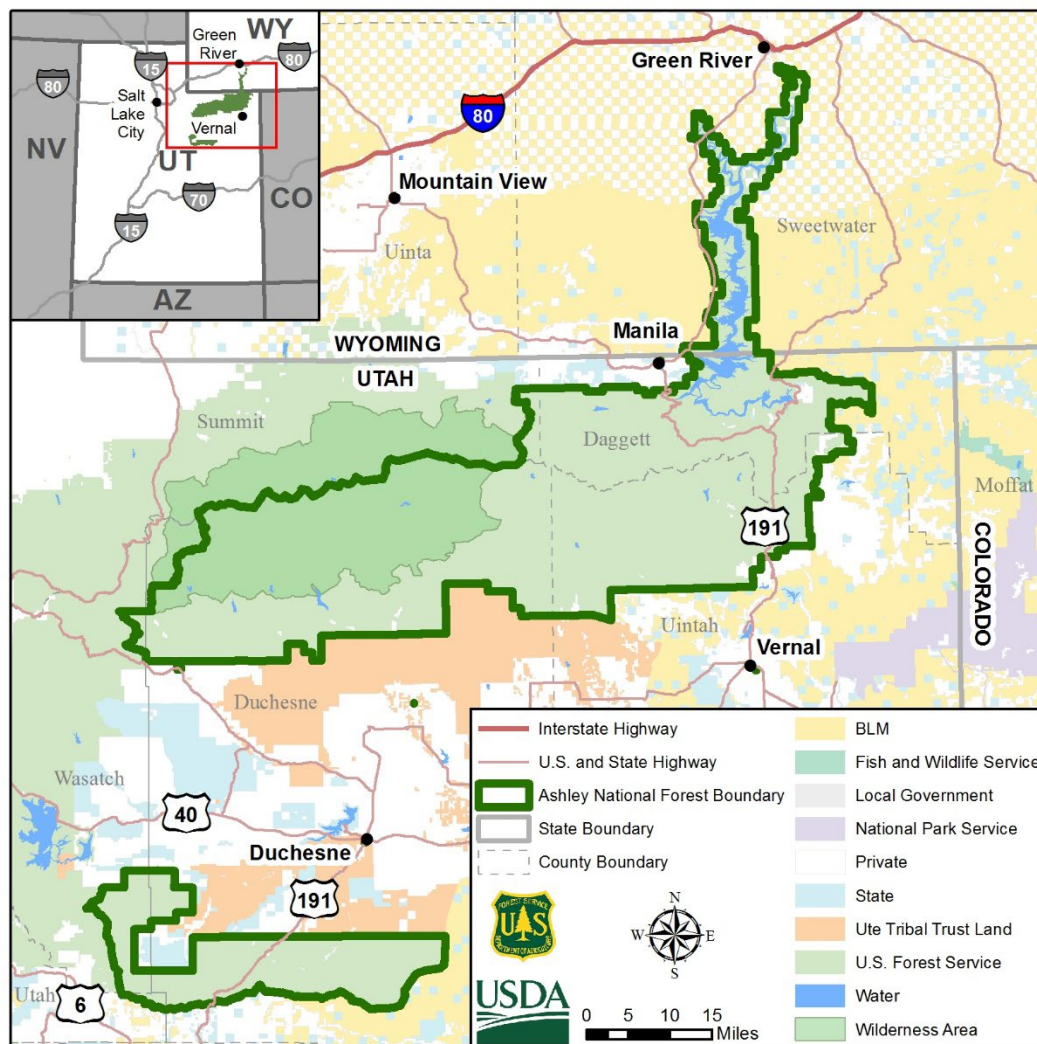


Figure 1. Ashley National Forest Planning Unit

The Ashley National Forest is generally considered a rural national forest with many traditional uses. Typical uses and activities include land- and water-based recreation (such as camping, hiking, boating, and all-terrain vehicle [ATV] riding), livestock grazing, commercial timber harvest, oil and gas production, hard rock mining, firewood gathering, hunting, fishing, viewing scenery and wildlife, and visiting historic and prehistoric sites. The Ute Indian Tribe has a unique interest in the Ashley National Forest and values the lands on the Ashley National Forest for many reasons including hunting and gathering, ceremonial and traditional uses, and ancestral connections. Portions of the Forest are within the original Uintah and Ouray Indian Reservation. Local Native American tribes value the lands on the Ashley National Forest for hunting and gathering, ceremonial and traditional uses, and ancestral connections.

Terrestrial Species Considered in this Biological Assessment

Canada lynx

In the United States, lynx inhabit conifer and conifer-aspen mix habitats that support their primary prey, snowshoe hares. Lynx habitat in the Southern Rockies is likely found within the subalpine and upper montane forest zones (USDA Forest Service 2006, ILBT 2013). Habitat use of reintroduced lynx in Colorado consisted primarily of Engelmann spruce/sub-alpine fir (Shenk T. M., 2007). In general habitat for lynx and snowshoe hare include multistory and dense, early successional coniferous and mixed coniferous/deciduous stands USDA Forest Service 2006, ILBT 2013)

Snowshoe hares are the primary prey of lynx, comprising 35-97% of the diet throughout the range of the lynx. Southern populations of lynx may prey on a wider diversity of species than northern populations because of lower average hare densities and differences in small mammal communities. Other prey species include red squirrel, grouse, flying squirrel, ground squirrel, porcupine, beaver, mice, voles, shrews, fish, and ungulates as carrion or occasionally as prey. Foraging of reintroduced lynx in Colorado consisted primarily of snowshoe hare and red squirrel (varying percentages), but also foraged on other small mammals and birds. (Shenk T. M., USDA Forest Service 2006, ILBT 2013)

General Key Ecological Conditions: A small portion of the Ashley NF along Flaming Gorge Reservoir extends into Wyoming; however, this area is generally flatland desert shrub/sagebrush intermixed with pinyon/juniper. Thus, the Wyoming portion of the Ashley NF does not contain lynx habitat and as such the analysis for lynx will focus on the Ashley NF that occurs within Utah. Key ecological conditions include forested areas, including Engelmann spruce, subalpine fir, and moist lodgepole pine with dense horizontal understory (ILBT 2013). Snowshoe hares (primary lynx prey species) use aspen stands much less than conifer stands in this area, because aspen stands lack dense understory cover for snowshoe hares (ILBT 2013). Where intermixed with spruce-fir and moist lodgepole pine stands, aspen may contribute to lynx habitat (ILBT 2013). The Ashley National Forest does not contain critical lynx habitat, core lynx habitat, or secondary lynx habitat, but does contain peripheral lynx habitat (ILBT 2013). This peripheral lynx habitat on the Ashley National Forest is unoccupied and incapable of supporting self-sustaining lynx populations (ILBT 2013). Peripheral habitat does not support reproductive lynx populations but is intended to provide a mosaic of forest structure within the landscape to support snowshoe hare prey resources for individual lynx that could infrequently move through or reside temporarily in the area (ILBT 2013). As such the delineation and use of Lynx Analysis Units on the Ashley NF is not necessary (ILBT 2013).

Key Potential Threats: Key potential threats to the species in peripheral habitat are the general loss or degradation of habitat; habitat fragmentation, loss, or degradation through activities such as timber harvest and road building; insect and disease outbreaks; and climate change (ILBT 2013, USDA Forest Service 2017a).

Status of Canada Lynx on the Ashley National Forest: The Canada lynx is federally listed as a threatened species, but the Ashley National Forest is unlikely to support the species. The Ashley NF is considered a peripheral area for Canada lynx that is incapable of supporting self-sustaining populations (ILBT 2013). The 2007 Northern Rockies Lynx Management Direction determined the Ashley National Forest does not support Canada lynx and only contains unoccupied lynx habitat. The Ashley National Forest is isolated from core Canada lynx areas, and there is a lack of historical evidence of reproduction of Canada lynx on the Ashley (ILBT 2013). There are very few historical records of lynx in the Uinta mountains (10 possible occurrence in the Uinta mountains between 1916 and 1972), and lynx have been considered rare in Utah (USDA Forest Service 2006). Hair snare surveys were conducted on the Ashley NF from 1999 - 2001, but none of the hair samples collected were from Canada lynx (USDA Forest Service 2006). Between 1999 and 2007, 22 lynx from the experimental release site in Colorado were located at least once in Utah. Use density of these locations indicates the primary area of use was in the Uinta Mountains. All individuals were transient and did not take up residency in the Uinta Mountains (USDA Forest Service 2017b). There have been no other known occurrences of lynx on the Ashley NF since 2007. Prior to these recent occurrences of lynx from Colorado, the last known occurrence of Canada lynx in the Uinta mountains was in 1972 (USDA Forest Service 2006, Christensen 2015). Winter track surveys and photographic bait stations on the Ashley National Forest from 2009 through 2022 have not detected any evidence of lynx on the Forest (Dzialak & Evans 2005, Evans & Dzialak 2006, Evans 2007, Watt 2009, Christensen 2015, Maxfield 2021, Maxfield 2022, USDA Forest Service 2022).

Effects of the Action: The 2007 Northern Rockies Lynx Management Direction determined the Ashley National Forest does not support Canada lynx and only contains unoccupied lynx habitat. Thus, the plan area does not contain a viable Canada lynx population and is unlikely to ever support a breeding female lynx (ILBT 2013). However, forest management in the form of desired conditions, goals, and standards for general wildlife, terrestrial and forest vegetation, timber, soils, watersheds and aquatic ecosystems, riparian management zones, and carbon storage and sequestration would maintain ecological conditions in the plan area to retain peripheral lynx habitat for possible lynx dispersal movements from core Canada lynx areas.

A large portion of this species' peripheral habitat on the Ashley National Forest is remote and receives little human-related impacts. Still, forest management activities have the potential to affect lynx peripheral habitat. Timber harvest, prescribed fire, fuels reduction treatments, and road construction may contribute to habitat degradation and fragmentation, which may limit the suitability and individual's use of peripheral habitat.

Potential affects to peripheral habitat from forest management activities are primarily addressed through forest wide plan components in Table 1 below, which details plan components that address key ecological conditions for lynx habitat, such as dense early successional coniferous stands, and structural diversity (FW-GD-WILDL 13). Forest wide plan components emphasize resilient, connected forests containing the complex structural attributes for dispersing lynx that could infrequently move through or reside temporarily in the area (FW-DC-VEGTER-01 through 09; FW-GD-VEGTER-01 through 04; FW-DC-ASPEN 01 and 02; FW-DC-CONIF 01 and 02; FW-OB-CONIF 01; FW-GD-ASPEN 01 through 04; FW-ST-TIMB-01; FW-GD-TIMB 01 through 03; FW-GD-SOIL-01 through 05). Timber harvest and fuels reduction treatments would

occur on the Forest, but treatments would be planned in a manner to meet vegetation desired conditions, to sustain the ecological resilience of timber stands and vegetation, and to maintain structural diversity across the landscape (FW-DC-TIMB-01 and 03; FW-ST-TIMB-01 through 10; FW-GD-TIMB-01 through 03; FW-DC-SOIL-01, 02, 04, and 05; FW-GD-SOIL-01 through 05; FW-DC-FIRE-03; FW-GD-FIRE-01, 03, and 04; FW-GD-WILDL-13). Because a key requirement of peripheral habitat on the forest is foraging habitat (snowshoe hare and red squirrel habitat; ILBT 2013), a specific guideline for lynx (FW-GD-WILDL-13), adopted from the 2013 Lynx Conservation and Assessment Strategy (LCAS), emphasizes a mosaic of multistory and dense, early successional coniferous and mixed coniferous/deciduous stands to be maintained on the planning unit. This species-specific component would support prey populations and provide lynx cover for stalking prey (ILBT 2013). This would help maintain peripheral habitat for possible dispersal of Canada lynx onto the Ashley National Forest (FW-GD-WILDL 13), thereby alleviating threats from habitat loss and degradation.

The proposed plan includes Designated Management Areas (e.g. High Uinta's Wilderness) and Management Areas (e.g. Recreation Management Areas). Management within Designated Management Areas are generally more restrictive of management actions than other areas of the Forest, and thus peripheral lynx habitat in these areas are likely to be less affected by those actions than other areas of the Forest. Recreation Management Areas would be managed by all the Forest wide desired conditions, standards, and guidelines as previously mentioned and in Table 1. Thus, peripheral lynx habitat would be maintained in these areas of the Forest as previously described. Additionally, Recreation Management Areas do not propose any specific actions, but rather provide a framework for which future proposed actions within those areas may be evaluated.

Ecological stressors such as climate change and insect and disease outbreaks are another potential threat to lynx peripheral habitat on the Ashley National Forest (USDA Forest Service 2017a, 2017b), but the implications of climate change are unclear (Halofsky et al. 2018a, 2018b, ILBT 2013). A reduction in deep snow would decrease winter foraging opportunities, but increases in mast-producing hardwoods and understory may increase structural diversity and habitat features within aspen/conifer mixed stands. Increases in the rate of loss of mature trees and fragmentation from open-canopied areas caused by wildfire could reduce peripheral habitat availability by reducing habitat for prey, such as snowshoe hare and red squirrels, and therefore foraging opportunities. Currently, most of the landscape is not resilient to large, high-intensity fire, and is susceptible to drought and insect and disease outbreaks. Conifer mortality associated with insects tends to increase whenever annual precipitation is considerably less than the historical average (drought). The beetle epidemic has already decreased some lynx peripheral habitat on the Ashley National Forest; however, the lynx peripheral habitat is likely to persist as the conifer stands affected by the beetle epidemic regenerate over time. As this occurs, young, regenerating conifer stands, as well as snags falling to the forest floor over time, are likely to increase; these components would provide temporary areas for foraging that may be used by dispersing lynx that move through peripheral habitat (USDA Forest Service 2017b, ILBT 2013). However, moisture stress and the frequency and severity of bark beetle outbreaks are projected to increase with increasing temperatures, resulting in widespread tree mortality (Halofsky et al. 2018a, 2018b).

Threats to peripheral habitat from ecological stressors are primarily addressed through the forest wide plan components in Table 1. General guidelines for wildlife aim to maintain at-risk species habitat on the Ashley National Forest by providing necessary habitat features and connectivity. Achieving desired conditions in terrestrial and forest vegetation would reduce threats from ecological factors by increasing the resiliency of ecosystems to stressors, such as fire, insects, pathogens, and climate variability (FW-DC-VEGTER 01 to 09). Additionally, multiple plan components emphasize a timber harvest program that promotes ecosystem health, sustainability, and resilience by modifying the composition, density, structure, and spatial arrangement of vegetation to achieve desired conditions. Such treatments may prevent future adverse effects on lynx peripheral habitat associated with climate change, widespread tree mortality, and wildfire. A specific standard and guideline to reduce tree susceptibility to bark beetle attack (FW-ST-TIMB-06; FW-GD-CONIF 01) would help reduce the loss of lynx peripheral habitat from beetle kill. Desired conditions for diverse and productive plant communities to maintain carbon stocks (FW-DC-CARBON-01) may also provide habitat features used by lynx, such as resilient, connected forests with structural complexity. These desired conditions also would support carbon stability, which may ultimately help mitigate climate-related habitat changes. Incorporating best available science and guidance in forest management (FW-GO-CLIM 01) would improve the resilience of habitat to climate change, thereby reducing the threat of stand-replacing fire and changes in the distribution of spruce and fir forests. This would ultimately increase forest resilience and connectivity, which would continue to provide peripheral habitat characteristics for lynx (Interagency Lynx Biology Team 2013).

As described in the previous section above, other than periodic transient individuals, lynx are unlikely to occur on the Ashley NF, indicating the proposed land management plan is unlikely to have much effect to individual lynx. However, if an individual lynx does temporarily disperse onto the Ashley NF and thus is potentially ‘exposed’ to elements of the Ashley NF land management, then the effect to the individual lynx is expected to be low because of plan components that will retain a mosaic of lynx habitat on the landscape. This mosaic retention of lynx habitat will provide the life requisites for prey species and allow movement of individual lynx through habitat which will enable a lynx the ability to procure sufficient food as it moves across the landscape.

Determination of Effects

It is not within the inherent capability of the plan area to maintain or restore the ecological conditions to maintain a viable population of Canada lynx in the plan area. Nonetheless, the proposed plan is intended to provide a mosaic of forest structure within the landscape to support prey resources (snowshoe hare and red squirrel) for individual lynx that could infrequently move through or reside temporarily in the area. Overall, vegetation would meet or move toward desired conditions under the proposed plan, which would provide the ecological conditions on the Forest for temporarily dispersing lynx. As such, the effects of the proposed land management plan to individual lynx that temporarily disperse on to the Ashley NF are discountable. Therefore, it is determined that the proposed plan **may affect, but is not likely to adversely affect**, the Canada lynx.

Key rationale for determination:

- The Ashley National Forest is considered unoccupied peripheral habitat for Canada lynx that is incapable of supporting self-sustaining populations (ILBT 2013)
- The proposed plan provides a programmatic framework for future site-specific projects and actions but does not prescribe specific projects or assign project locations. Plan components exist to ensure proposed actions maintain peripheral habitat on the landscape. All future project-level activities that may affect this species peripheral habitat will require project-specific assessments, and if needed, consultation under section 7 of the Endangered Species Act.
- A combination of ecosystem level plan components and species-specific plan components for lynx provide for the ecological conditions, including a mosaic of forest structural diversity of coniferous and mixed coniferous/deciduous forests, that would maintain peripheral habitat on the planning unit for the species.
- If an individual lynx temporarily disperses on to the Ashley NF, plan components will retain a mosaic of lynx habitat on the landscape and will provide the life requisites for lynx prey species, which will allow movement of individual lynx through habitat and enable a temporarily dispersing lynx the ability to procure sufficient food as it moves across the landscape. See the “Effects of the Action” section above, as well as Table 2 below, for a discussion of how plan components will retain a mosaic of lynx habitat on the landscape and provide for the life requisites for lynx prey species.

Table 2. Proposed Plan Components for Canada Lynx

Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring or Management Approach
Canada Lynx (Federal – threatened species)	Wildlife (Introduction Section)	Wildlife (FW-GO-WILDL-01 and 02)	Wildlife FW-GD-WILDL-13	Monitoring Table-Wildlife, Watershed, Soils, Terrestrial Vegetation, Forest Vegetation, Aspen, Fire
<u>Habitat</u> Forested areas including Engelmann spruce, subalpine fir, lodgepole pine, Douglas fir, and aspen. Areas of dense understory cover and/or thickets of young trees and mature forests with large amounts of coarse woody debris.	Wildlife (FW-DC-WILDL-01, 02, 03)	Terrestrial Vegetation (FW-GO-VEGTER-01 and 02)	Terrestrial Vegetation FW-GD-VEGTER-01 through 04	Management Approach – Wildlife 02
	Terrestrial Vegetation (FW-DC-VEGTER-01 through 09)	Forest Vegetation FW-OB-CONIF-01	Forest Vegetation FW-GD-ASPEN-01 through 04	-Forest Vegetation 01-03, 05, 08
<u>Stressors/Threats</u> Habitat fragmentation or degradation, spruce/pine beetle outbreaks, climate change	Forest Vegetation (FW-DC-ASPEN-01 and 02; FW-DC-CONIF-01 and 02)	Fire (FW-GO-FIRE-02)	Timber (FW-ST-TIMB-01 through 10; FW-GD-TIMB-01 through 03)	-Timber 01-03
	Timber (FW-DC-TIMB-01 and 03)	Energy and Minerals (FW-GO-MINL-02 and 03)	Soils FW-GD-SOIL-01 through 05	-High Uintas Wilderness 01
			Riparian Management	-Flaming Gorge National Recreation Area 03 and 04
				-Ashley Karst National

Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring or Management Approach
	<p>Fire (FW-DC-FIRE-03)</p> <p>Soils (FW-DC-SOIL-01, 02, 04, 05)</p> <p>Watershed and Aquatic Ecosystems (FW-DC-WATER-06 and 07)</p> <p>Riparian Management Zones (FW-DC-RMZ-01)</p> <p>Fire (FW-DC-FIRE-03)</p> <p>Energy and Minerals (FW-DC-MINL-02)</p> <p>Recreation Opportunity Spectrum (FW-DC-ROS-05 and 06)</p> <p>Dispersed Recreation (FW-DC-RECDIS-01 and 02)</p> <p>Carbon Storage and Sequestration (FW-DC-CARBON-01)</p> <p>Flaming Gorge National Recreation Area (DA-DC-FGNRA-06 and 09)</p>	<p>Adapting to Climate Change (FW-GO-CLIM-01)</p>	<p>Zones FW-GD-RMZ-03 through 05</p> <p>Fire (FW-GD-FIRE-01, 03 and 04)</p> <p>Energy and Minerals (FW-GD-MINL-03 and 05)</p> <p>Recreation Opportunity Spectrum (FW-GD-ROS-01)</p> <p>High Uintas Wilderness (DA-ST-HUW-01 through 04; DA-GD-HUW-01; DA-SUIT-HUW-01 and 02)</p> <p>Ashley Karst National Recreation and Geological Area (DA-ST-AKNRGA-01 and 02)</p>	<p>Recreation and Geologic Area 01</p>

Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring or Management Approach
	<p>High Uintas Wilderness (DA-DC-HUW-01 through 07)</p> <p>Ashley Karst National Recreation and Geological Area (DA-DC-AKNRGA-01 and 02)</p> <p>Back Country Recreation Area (MA-DC-RMABACK-02, 03, and 05)</p>			

Wolverine

General Key Ecological Conditions: A small portion of the Ashley NF along Flaming Gorge Reservoir extends into Wyoming; however, this area is generally flatland desert shrub/sagebrush intermixed with pinyon/juniper. Thus, the Wyoming portion of the Ashley NF does not contain typical wolverine habitat and receives high recreational activity, and as such the analysis for wolverine will focus on the Ashley NF that occurs within Utah. Ecological conditions for this species include tundra, boreal forests, and coniferous forests of western mountains, but may use a diversity of habitats that support its prey base and carrion. The physical and ecological needs of the species can be described as large territories in relatively inaccessible landscapes; at high elevation (1,800 to 3,500 meters or 5,906 to 11,483 feet); access to a variety of food resources, that varies with seasons; and reproductive behavior linked to both temporal (e.g. time differences in persistent snow pack, reproductive patterns, and foraging opportunities) and physical features (e.g., talus slopes, rugged terrain). (USDI F&WS 2018)

Key Potential Threats: Primary threats to the species are wildland fire and climate change. Disturbance during the winter months (denning and young rearing) is another identified threat in areas where there are breeding populations. (USDI F&WS 2018)

Status of Wolverine on the Ashley National Forest: The wolverine is a proposed species for federally listing as threatened, but the Ashley National Forest does not support a breeding population of wolverine (McKay 1991, USDA Forest Service 2006, Christensen 2015, UDWR 2022a). There is a paucity of wolverine occurrence (historical or recent) in Utah and wolverine have thought to be possibly extirpated from the State of Utah (McKay 1991, USDA Forest Service 2006, Christensen 2015, UDWR 2022a). However in 2014 a wolverine was documented on the north slope of the Uintas on the Uinta/Wasatch/Cache NF, and possible wolverine tracks were found by the UDWR near Dutch John on the Flaming Gorge RD that same year

(Christensen 2015, UDWR 2015, UDWR 2022a). A wolverine was trapped and collared in Rich County, Utah in March of 2022 and released on the North Slope of the Uinta mountains (UDWR 2022a). This wolverine spent a brief time in the Uinta mountains and then traveled west and north back to the area of Rich County (within a few weeks of its capture), where the signal was lost (personal communication UDWR 2022b, Maxfield 2022). These individuals were likely transient since no other occurrences were documented in the Uintas or in Utah in the previous 30+ years, and since Utah and the Ashley NF are not included within the Current Potential Extant of Wolverine Occurrence in North America (McKay 1991, UDWR 2022a&b, USDA Forest Service 2006, Berg and Inman 2010, UDWR 2015, Christensen 2015, USDA Forest Service 2022, Maxfield 2022, USDI F&WS 2018). Wolverine are considered dispersers and there has been no evidence of wolverine reproducing in Utah or the Uintas (USDA Forest Service 2006, Berg and Inman 2010, Christensen 2015, UDWR 2015, USDA Forest Service 2022, Maxfield 2022, USDI F&WS 2018, UDWR 2022a). Additionally, photographic bait stations monitored by Utah State University between 2005 and 2009 were placed throughout the Ashley NF, but there were no detections of wolverine (Christensen 2015). Annual winter carnivore track surveys and periodic bait camera stations have been conducted on the Ashley NF between 2005 and 2022 and have yielded no wolverine detections (USDA Forest Service 2006, Berg and Inman 2010, Christensen 2015, USDA Forest Service 2022, Maxfield 2022). Given that there is so few recent evidence of wolverine occurrence on the Ashley NF, so few historical occurrences, a span of 30+ years of no documented wolverine occurrences in Utah, and the lack of wolverine detections during surveys on the Ashley NF; it is evident that a breeding population of wolverine do not occur on the Ashley NF (McKay 1991, USDA Forest Service 2006, Berg and Inman 2010, UDWR 2015, Christensen 2015, USDI F&WS 2018, USDA Forest Service 2022, Maxfield 2022). Furthermore, as stated previously, analysis by the F&WS of wolverine occurrence did not include Utah or the Ashley NF within the Current Potential Extant of Wolverine Occurrence in North America (USDI F&WS 2018).

Effects of the Action: A breeding population of wolverine is not considered to be within the Ashley NF, but individual wolverine may occasionally disperse to the Ashley. Forest management in the form of desired conditions, goals, and standards for general wildlife, terrestrial and forest vegetation, timber, soils, watersheds and aquatic ecosystems, riparian management zones, and carbon storage and sequestration would maintain ecological conditions for transient wolverine that may occasionally disperse to the Ashley NF.

A large portion of this species' potential habitat on the Ashley National Forest is remote, receives little human-related impacts, and likely will remain so into the future (e.g. High Uintas Wilderness Area). Still, forest management activities in other parts of the Forest may affect other areas of potential wolverine habitat on the Ashley NF. Timber harvest, prescribed fire, fuels reduction treatments, and road construction may contribute to habitat degradation and fragmentation, which may limit the suitability and individual's use of potential habitat.

Affects to potential wolverine habitat from forest management activities are primarily addressed through forest wide plan components in Table 2 below, which details plan components that address key ecological conditions for wolverine. Forest wide plan components emphasize resilient, connected forests containing the complex structural attributes for wolverine prey and dispersing wolverine that could infrequently move through or reside temporarily in the area (FW-

DC-VEGTER-01 through 09; FW-GD-VEGTER-01 through 04; FW-DC-ASPEN 01 and 02; FW-DC-CONIF 01 and 02; FW-OB-CONIF 01; FW-GD-ASPEN 01 through 04; FW-ST-TIMB-01; FW-GD-TIMB 01 through 03; FW-GD-SOIL-01 through 05). Timber harvest and fuels reduction treatments would occur on the Forest, but treatments would be planned in a manner to meet vegetation desired conditions, to sustain the ecological resilience of timber stands and vegetation, and to maintain structural diversity across the landscape FW-DC-TIMB-01 and 03; FW-ST-TIMB-01 through 10; FW-GD-TIMB-01 through 03; FW-DC-SOIL-01, 02, 04, and 05; FW-GD-SOIL-01 through 05; FW-DC-FIRE-03; FW-GD-FIRE-01, 03, and 04; FW-GD-WILDL-13). These plan components would retain wolverine prey species habitat on the planning unit. A specific guideline for lynx (FW-GD-WILDL-13) would maintain a mosaic of multistory and dense, early successional coniferous and mixed coniferous/deciduous stands across planning unit, which would also contribute to maintaining habitat for many wolverine prey species.

The proposed plan includes Designated Management Areas (e.g. High Uinta's Wilderness) and Management Areas (e.g. Recreation Management Areas). Management within Designated Management Areas are generally more restrictive of management actions than other areas of the Forest, and thus potential wolverine habitat in these areas are likely to be less affected by those actions than other areas of the Forest. Recreation Management Areas would be managed by all the Forest wide desired conditions, standards, and guidelines as previously mentioned and in Table 2. Thus, potential wolverine habitat would be maintained in these areas of the Forest as previously described. Additionally, Recreation Management Areas do not propose any specific actions, but rather provide a framework for which future proposed actions within those areas may be evaluated. Thus, Recreation Management Areas themselves do not present any actions and would not affect wolverine habitat.

Ecological stressors such as climate change and insect and disease outbreaks are potential threats to wolverine habitat on the Ashley National Forest (USDI F&WS 2018), but the implications of climate change are unclear (Halofsky et al. 2018a, 2018b, USDI F&WS 2018). A reduction in deep snow due to climate change may decrease suitability for wolverine on the Ashley NF. Increases in the loss of mature trees and fragmentation caused by wildfire could reduce habitat availability by reducing habitat for prey, and therefore foraging opportunities. Currently, most of the landscape is not resilient to large, high-intensity fire, and is susceptible to drought and insect and disease outbreaks. Conifer mortality associated with insects tends to increase whenever annual precipitation is considerably less than the historical average (drought). The beetle epidemic has likely decreased some wolverine habitat on the Ashley National Forest; however, wolverine habitat is likely to persist as the conifer stands affected by the beetle epidemic regenerate over time. As this occurs, young, regenerating conifer stands, as well as snags falling to the forest floor over time, are likely to increase. These components would provide habitat for foraging that may be used by temporarily dispersing wolverine that move through potential habitat (USDI F&WS 2018). However, moisture stress and the frequency and severity of bark beetle outbreaks are projected to increase with increasing temperatures, resulting in widespread tree mortality (Halofsky et al. 2018a, 2018b).

Threats to wolverine habitat from ecological stressors are primarily addressed through the forest wide plan components in Table 2. General guidelines for wildlife aim to maintain at-risk species habitat on the Ashley National Forest by providing necessary habitat features and connectivity.

Achieving desired conditions in terrestrial and forest vegetation would reduce threats from ecological factors by increasing the resiliency of ecosystems to stressors, such as fire, insects, pathogens, and climate variability (FW-DC-VEGTER-01 to 09). Additionally, multiple plan components emphasize a timber harvest program that promotes ecosystem health, sustainability, and resilience by modifying the composition, density, structure, and spatial arrangement of vegetation to achieve desired conditions. Such treatments may prevent future adverse effects on wolverine habitat associated with climate change, widespread tree mortality, and wildfire. A specific guideline and standard to reduce tree susceptibility to bark beetle attack (FW-ST-TIMB-06; FW-GD-CONIF 01) would help reduce the loss of habitat for wolverine and their prey from beetle kill. Desired conditions for diverse and productive plant communities to maintain carbon stocks (FW-DC-CARBON-01) may also provide habitat features used by wolverine, such as resilient, connected forests with structural complexity. These desired conditions also would support carbon stability, which may ultimately help mitigate climate-related habitat changes and reduce the potential for loss of persistent snowpack. Incorporating best available science and guidance in forest management (FW-GO-CLIM 01) would improve the resilience of habitat to climate change, thereby reducing the threat of stand-replacing fire, changes in the distribution of spruce and fir forests, as well as loss of persistent snowpack. This would ultimately increase forest resilience and connectivity, which would continue to provide habitat characteristics for temporarily dispersing wolverine and their prey.

As described in the previous section above, it is evident that a breeding population of wolverine do not occur on the Ashley NF. Given the paucity of historical and recent wolverine occurrences on the land management area, it is reasonable to assume that any future wolverine occurrence would be more rare than common (McKay 1991, USDA Forest Service 2006, Berg and Inman 2010, UDWR 2015, Christensen 2015, USDI F&WS 2018, USDA Forest Service 2022, Maxfield 2022). As such it is unlikely that wolverine would be affected by land management on the Ashley NF. However, if an individual wolverine does disperse onto the Ashley NF and thus is potentially ‘exposed’ to elements of the Ashley NF land management, then the effect to the individual wolverine is expected to be low because wolverine do not appear to be as negatively affected by human activities as previously supposed, such as heavy recreation use (including winter recreation), human disturbance, infrastructure, timber harvest, and prescribed fire (USDI F&WS 2013a, USDI F&WS 2018). Studies have found wolverines to be present and reproducing in heavy recreational use areas such as developed ski resorts, dispersed winter and summer recreation, and dispersed snowmobile (USDI F&WS 2013a). Other studies found wolverine movements increase with heavy recreation use, but they still maintained their home ranges (USDI F&WS 2018). Another study found that wolverines were attracted to some roads, some industrial infrastructure (older seismic lines exhibiting latter stages of regeneration), and disturbance (areas of active logging), likely related to foraging opportunities (e.g., small prey) (USDI F&WS 2018). Human activities appear to be generally small or narrow in scope and scale and appear to represent a trade-off between foraging opportunities in areas that provide minimal risk of predation and avoidance of open areas and/or higher predation risk (USDI F&WS 2018).

Regardless, plan components listed in the table below such as those for the Recreation Opportunity Spectrum and the High Uintas Wilderness provide areas of restricted recreation and human use which would restrict disturbance to wildlife such as wolverine. Additionally, plan

components described in the section above will retain key ecological characteristics for wolverine and their forage base. This will provide the life requisites for forage species, allow movement of individual wolverine through the landscape and will enable a temporarily dispersing wolverine the ability to procure sufficient food.

Determination of Effects

A breeding population of wolverine do not occur on the Ashley NF, and the paucity of wolverine occurrences on the land management area indicate this species rarely occurs in the area. Nevertheless, the proposed plan is intended to provide a mosaic of forest structure within the landscape to support prey resources for individual wolverine that could infrequently move through or reside temporarily in the area. Overall, vegetation at all elevations would meet or move toward desired conditions under the proposed plan, which would provide the ecological conditions for wolverine that may temporarily disperse on to the Forest. As such, the effects of the proposed land management plan to individual wolverine that temporarily disperse on to the Ashley NF are discountable. Therefore, it is determined that the proposed plan is **not likely to jeopardize continued existence** of wolverine. There is no designated “critical habitat” on the Ashley NF.

Key rationale for determination:

- The Ashley NF does not reside within the Current Potential Extant of Wolverine Occurrence in North America (USDI F&WS 2018).
- The 2022 collared wolverine that was released on the North Slope of the Uinta mountains, briefly moved through the Ashley NF, and then moved off of the Uinta mountains and headed north toward the area where it was captured Maxfield 2022, UDWR 2022a&b).
- There are very few historical records of wolverine on the Ashley NF or in Utah, and surveys for wolverine have been conducted on the Ashley NF for many years with no documentation (McKay 1991, USDA Forest Service 2006, Berg and Inman 2010, UDWR 2015, Christensen 2015, USDI F&WS 2018, USDA Forest Service 2022, Maxfield 2022, UDWR 2022a&b). See the “Status of Wolverine on the Ashley National Forest” section above for a discussion of surveys and occurrence of wolverine in Utah and on the Ashley National Forest.
- Considering the paucity for past wolverine occurrence on the Ashley NF, and recent occurrences being so few it is likely that wolverine occurrence on the Ashley is rare and sporadic, and that the Ashley NF does not support breeding individuals (McKay 1991, USDA Forest Service 2006, Berg and Inman 2010, UDWR 2015, Christensen 2015, USDI F&WS 2018, USDA Forest Service 2022, Maxfield 2022, UDWR 2022a&b). See the “Status of Wolverine on the Ashley National Forest” section above for a discussion of surveys and occurrence of wolverine in Utah and on the Ashley National Forest.
- A large portion of this species’ habitat on the Ashley National Forest is remote, receives little human-related impacts, and likely will remain so into the future (e.g. High Uintas Wilderness Area). Areas such as the High Uintas Wilderness Area restrict human activities,

land uses, and some types of recreation. See the “Effects of the Action” section above for further discussion.

- A combination of ecosystem level plan components provides for the ecological conditions, including a mosaic of forest structural diversity of coniferous and mixed coniferous/deciduous forests, and non-forested vegetation structural diversity that would maintain prey species habitat on the planning unit for the species.
- The proposed plan provides a programmatic framework for future site-specific projects and actions but does not prescribe specific projects or assign project locations. Plan components exist to ensure proposed actions maintain wolverine prey habitat on the landscape. All future project-level activities that may affect this species habitat will require project-specific assessments.
- Wolverine do not appear to be as negatively affected by human activities as previously supposed, such as heavy recreation use (including winter recreation), human disturbance, infrastructure, timber harvest, and prescribed fire (USDI F&WS 2013a, USDI F&WS 2018).
- Plan components will retain key ecological characteristics for wolverine and their forage base. This will provide the life requisites for forage species, allow movement of individual wolverine through the landscape and will enable a temporarily dispersing wolverine the ability to procure sufficient food.

Table 3. Proposed Plan Components for Wolverine

Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring or Management Approach
Wolverine (Federal – proposed species)	Wildlife (Introduction Section)	Wildlife (FW-GO-WILDL-01 and 02)	Wildlife FW-GD-WILDL-13	Monitoring Table-Wildlife, Watershed, Soils, Terrestrial Vegetation, Forest Vegetation, Aspen, Fire
Habitat Tundra, boreal forests, and coniferous forests of western mountains, and habitats that support its prey base and carrion. Ecological needs of the species are large territories in relatively inaccessible landscapes at high elevation (5,906 to 11,483 feet), with rugged and talus features, and access to a variety of food resources, that varies with seasons.	Wildlife (FW-DC-WILDL-01, 02, 03) Terrestrial Vegetation (FW-DC-VEGTER-01 through 09) Forest Vegetation (FW-DC-ASPEN-01 and 02; FW-DC-CONIF-01 and 02) Timber (FW-DC-TIMB-01 and 03)	Terrestrial Vegetation (FW-GO-VEGTER-01 and 02) Forest Vegetation FW-OB-CONIF-01 Fire (FW-GO-FIRE-02) Energy and Minerals (FW-GO-MINL-02 and 03)	Terrestrial Vegetation FW-GD-VEGTER-01 through 04 Forest Vegetation FW-GD-ASPEN-01 through 04 Timber (FW-ST-TIMB-01 through 10; FW-GD-TIMB-01 through 03) Soils FW-GD-SOIL-01 through 05	Management Approach – Wildlife 02 -Forest Vegetation 01-03, 05, 08 -Timber 01-03 -High Uintas Wilderness 01 -Flaming Gorge National Recreation Area 03 and 04 -Ashley Karst National Recreation and Geologic Area 01
Stressors/Threats Wildland fire, climate change, and prey	Fire (FW-DC-FIRE-03)	Adapting to Climate	Riparian Management Zones FW-GD-	

Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring or Management Approach
species habitat degradation.	<p>Soils (FW-DC-SOIL-01, 02, 04, 05)</p> <p>Watershed and Aquatic Ecosystems (FW-DC-WATER-06 and 07)</p> <p>Riparian Management Zones (FW-DC-RMZ-01)</p> <p>Fire (FW-DC-FIRE-03)</p> <p>Energy and Minerals (FW-DC-MINL-02)</p> <p>Recreation Opportunity Spectrum (FW-DC-ROS-05 and 06)</p> <p>Dispersed Recreation (FW-DC-RECDIS-01 and 02)</p> <p>Carbon Storage and Sequestration (FW-DC-CARBON-01)</p> <p>Flaming Gorge National Recreation Area (DA-DC-FGNRA-06 and 09)</p> <p>High Uintas Wilderness (DA-DC-HUW-01 through 07)</p> <p>Ashley Karst National Recreation and Geological Area (DA-DC-AKNRGA-01 and 02)</p>	Change (FW-GO-CLIM-01)	<p>RMZ-03 through 05</p> <p>Fire (FW-GD-FIRE-01, 03 and 04)</p> <p>Energy and Minerals (FW-GD-MINL-03 and 05)</p> <p>Recreation Opportunity Spectrum (FW-GD-ROS-01)</p> <p>High Uintas Wilderness (DA-ST-HUW-01 through 04; DA-GD-HUW-01; DA-SUIT-HUW-01 and 02)</p> <p>Ashley Karst National Recreation and Geological Area (DA-ST-AKNRGA-01 and 02)</p>	

Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring or Management Approach
	Back Country Recreation Area (MA-DC-RMABACK-02, 03, and 05)			

Mexican Spotted Owl

General Key Ecological Conditions: Habitat for this species does not occur on the Wyoming portion of the Ashley NF, since this area is more flatland desert shrub, sagebrush mixed with some pinyon/juniper. As such the analysis for Mexican spotted owl will focus on the Ashley NF within Utah. Typical habitat for this species in Utah occurs in steep-walled rocky canyon lands. These areas typically include parallel-walled canyons up to 1.2 miles (2 kilometers) in width (from rim to rim), with canyon reaches often 1.2 miles (2 kilometers) or greater with cool north-facing aspects; canyon walls containing crevices, ledges, or caves; presence of water; clumps or stringers of mixed conifer, pine/oak, pinyon/juniper, and/or riparian vegetation; and a high percent of ground litter or woody debris (USDI F&WS 2013b).

Key Potential Threats: Commercial timber harvest was the primary threat for this species when it was first federally listed. However, recent stand replacing fires and climate change have generally shifted forest management in the west from a commodity focus to an emphasis on sustainable ecological function and a return toward pre-settlement fire regimes. These recent stand replacing wildfires have also caused the loss of habitat for this species. Thus, key threats to this species have now shifted away from commercial timber harvest to wildland fire and climate change. To a lesser extent, recreation may be another threat as anecdotal evidence indicates that Mexican spotted owls in heavily used recreation areas may have more erratic movements. (USDI F&WS 2013b)

Status of the Mexican Spotted Owl on the Ashley National Forest: The Mexican spotted owl is federally listed as a threatened species. However, there are no historical occurrences of the Mexican spotted owl (MSO) on the Ashley NF, and periodic surveys on the Ashley NF conducted in predicted habitat have not detected the species (USDA Forest Service 2006, Christensen 2015, USDI F&WS 2013b). Thus, there are no protected activity centers designated on the Ashley NF. Likewise, designated “critical habitat” for the species has not been identified within the Ashley NF boundaries (USDA Forest Service 2006, Christensen 2015, USDI F&WS 2013b). Three models have been developed to estimate the presence of MSO habitat. The 1997 model predicts surface ruggedness (indicative of this owl’s habitat) and high relief topography. This model tends to overestimate the extent of owl habitat in almost all cases throughout the state of Utah (USDA Forest Service 2006, Christensen 2015). The 2000 model includes additional variables such as geology suitable for forming steep cliffs, aspects suitable for nesting and roosting, a radiation index to predict areas of cooler temperatures, and steep slope mixed conifer habitat (USDA Forest Service 2006, Christensen 2015). This model may underestimate Mexican spotted owl habitat (USDA Forest Service 2006, Christensen 2015). The Lewis model used several vegetative and geologic variables including: elevation, aspect, surface ratio, curvature,

slope, geology, and vegetation to predict MSO habitat on the Colorado Plateau of Utah (Lewis 2014). Of these variables elevation, surface ratio, curvature, geology, and vegetation were most important in predicting where MSOs occur (Lewis 2014). The variables curvature, which indicates the presence of canyons, and surface ratio, which identifies steep cliffs and walls, indicated that the MSO prefers steep and narrow canyons, as opposed to flat tablelands that show little topographic variability (Lewis 2014). Field verification of the 1997 and 2000 models on the Ashley NF, which followed approved US Fish and Wildlife Service protocol, occurred from 2001-2006 (USDA Forest Service 2006, Christensen 2015). The results indicated that MSO habitat does not occur on the Roosevelt/Duchesne Ranger District (RD), but limited habitat occurs on the Vernal and Flaming Gorge Ranger Districts, and that habitat for the species overall is very limited on the Ashley NF (USDA Forest Service 2006, Christensen 2015). The Lewis model predicted much less habitat on the Ashley NF than the other two models, but nearly all the Lewis model predicted habitat falls within habitat predicted by either the 1997 or 2000 models. Thus, prior field verification of these areas of the 1997 and 2000 models can also be extrapolated to the Lewis model. The Lewis model predicts a limited amount of high value MSO habitat on the Roosevelt/Duchesne RD (Lewis 2017), however as stated above, field verification (2001-2006 and 2021-2022) of these areas indicates that either the canyons in these areas are too broad and/or were burned in the 2020 East Fork Wildfire. The Lewis model predicts limited amount of high value MSO habitat on the Vernal and Flaming Gorge Ranger Districts in Ashley Gorge, Big Brush Gorge, Little Brush Gorge, and some around Flaming Gorge (Lewis 2017). The canyon areas predicted around Flaming Gorge by the Lewis model may be too broad for typical MSO habitat, but Ashley Gorge, Big Brush and Little Brush Gorges may offer MSO habitat.

Effects of the Action: There are no documented occurrences of the Mexican spotted owl on the Ashley NF and habitat for the species is very limited on the Forest (USDA Forest Service 2006, Christensen 2015). However, the limited areas (Ashley Gorge, Big Brush and Little Brush Gorges, and possibly a few limited areas around Flaming Gorge) may contain suitable Mexican spotted owl habitat and as such management actions on the Forest “**may affect but is not likely to adversely affect**” the Mexican spotted owl. The limited amount of MSO habitat that does occur on the Ashley NF, would be maintained under the proposed plan. The 2012 MSO Recovery Plan states that “recent forest management now emphasizes sustainable ecological function and a return toward pre-settlement fire regimes, both of which are more compatible with maintenance of spotted owl habitat conditions than the even-aged management regime practiced at the time of listing” (USDI F&WS 2012). Likewise, forest wide plan components in the Forest Plan would emphasize sustainable ecological function and retuning to natural fire regimes. Forest-wide plan components in Table 3 below, details plan components that would maintain this MSO habitat. Forest wide plan components emphasize resilient, connected forests containing structural diversity (FW-DC-VEGTER 01 through 09; FW-GD-VEGTER 01 through 04; FW-DC-ASPEN 01 and 02; FW-DC-CONIF 01 and 02; FW-OB-CONIF 01; FW-GD-ASPEN 01 through 04; FW-ST-TIMB-01 through 10; FW-GD-TIMB 01 through 03; FW-GD-WILDL-13). Timber harvest and fuels reduction treatments would occur on the Forest, but treatments would be planned in a manner to meet vegetation desired conditions, to sustain the ecological resilience of timber stands and vegetation, and to maintain structural diversity across the landscape, including vegetation within the Gorges where MSO habitat may occur (FW-DC-TIMB-01 through 03; FW-

ST-TIMB-01 through 10; FW-GD-TIMB-01 through 03; FW-DC-SOIL-01; FW-GD-SOIL-01 through 05; FW-DC-FIRE-03; FW-GD-FIRE-01, 03, and 04; FW-GD-WILDL-13). Specifically, a guideline for lynx (FW-GD-WILDL-13) would maintain a mosaic of multistory and dense, early successional coniferous and mixed coniferous/deciduous stands across planning unit, which would also maintain structural diversity where MSO habitat may occur.

The proposed plan includes Designated Management Areas (e.g. High Uinta's Wilderness, Flaming Gorge National Recreation Area). The areas of the Ashley NF that may contain MSO habitat do not occur in the High Uintas Wilderness area, but some MSO habitat areas may occur within the Flaming Gorge National Recreation Area (NRA) where some recreational activities may occur (hiking, camping, hunting, fishing; to a lesser extent OHV use - recreational OHV use is limited where MSO habitat may occur around Flaming Gorge). Designated Management Areas, including the Flaming Gorge NRA, would be managed by all the Forest wide desired conditions, standards, and guidelines as previously mentioned and in Table 3. Furthermore, management in these Designated Management Areas is generally more restrictive than other areas of the Forest. Thus MSO habitat would also be maintained in Flaming Gorge National Recreation Area.

Recreation Management Areas are divided into three categories based on the level of current recreation. The Destination Recreation Management Areas may receive heavy recreation use; General Recreation Management Areas generally receive light to moderate recreation use; and Backcountry Recreation Management Areas generally receive light recreation use. The areas of the Ashley NF that may contain MSO habitat (Ashley Gorge, Big Brush and Little Brush Gorges) occur within either the General or Backcountry Recreation Areas and as such is likely to receive some recreation use from activities such as hiking, climbing, and camping; however, the level of use is not anticipated to be heavy. Furthermore, much of the area in the Gorges where MSO habitat may occur do not contain roads or OHV trails, thus further limiting the likelihood of heavy recreation in those areas. Additionally, all Recreation Management Areas would be managed by all the Forest wide desired conditions, standards, and guidelines as previously mentioned and in Table 3. Thus, MSO habitat would be maintained in these areas of the Forest as previously described. Additionally, Recreation Management Areas would be managed as the areas currently are and do not propose any specific actions to increase recreation. Although there are no documented occurrences of MSO on the Ashley NF, and it remains in question whether the species will occur on the Ashley in the future, the forest plan contains plan components, in addition to those described above, that would help protect raptors in general, including the MSO. Plan components would avoid removal and disturbance to raptor nests, and provide snags and downed woody debris for prey species (FW-GD-WILDL-02 and 03; FW-GD-SOILS-03).

As mentioned above, ecological stressors such as climate change, wildfire, and insect/disease outbreaks in forests are potential threats to MSO habitat (USDI F&WS 2013b). Increases in the loss of mature trees and fragmentation caused by wildfire could reduce habitat availability by reducing habitat for prey, and therefore foraging opportunities. Currently, most of the landscape is not resilient to large, high-intensity fire, and is susceptible to drought and insect and disease outbreaks. Conifer mortality associated with insects tends to increase whenever annual precipitation is considerably less than the historical average (drought). However, moisture stress and the frequency and severity of bark beetle outbreaks are projected to increase with increasing

temperatures, resulting in widespread tree mortality (Halofsky et al. 2018a, 2018b). These ecological stressors are primarily addressed through the forest wide plan components in Table 3 and would include areas of the Forest that may have MSO habitat. General guidelines for wildlife aim to maintain at-risk species habitat, which would include the MSO, on the Ashley National Forest by providing necessary habitat features and connectivity. Achieving desired conditions in terrestrial and forest vegetation would reduce threats from ecological factors by increasing the resiliency of ecosystems to stressors, such as fire, insects, pathogens, and climate variability (FW-DC-VEGTER 01 to 09). Additionally, multiple plan components emphasize a timber harvest program that promotes ecosystem health, sustainability, and resilience by modifying the composition, density, structure, and spatial arrangement of vegetation to achieve desired conditions. Achieving desired conditions would provide sustainable ecological function and a return toward pre-settlement fire regimes as recommended by the 2012 Mexican Spotted Owl Recovery Plan. Such treatments may help dampen the effects from climate change, and prevent widespread tree mortality, and wildfire. A specific guideline and standard to reduce tree susceptibility to bark beetle attack (FW-ST-TIMB-06; FW-GD-CONIF 01) would help reduce the loss of conifer trees. Desired conditions for diverse and productive plant communities to maintain carbon stocks (FW-DC-CARBON-01) which would provide resilient, connected forests with structural complexity. These desired conditions also would support carbon stability, which may ultimately help mitigate climate-related habitat changes. Incorporating best available science and guidance in forest management (FW-GO-CLIM 01) would improve the resilience of habitat to climate change, thereby reducing the threat of stand-replacing fire, changes in the distribution of spruce and fir forests. This would ultimately increase forest resilience and connectivity, which would continue to maintain what little MSO habitat that occurs on the Ashley NF.

Determination of Effects

It is determined that the proposed plan **”may affect, but is not likely to adversely affect”**, the Mexican spotted owl. Rationale for this determination is as follows:

- There are no documented occurrences of the Mexican spotted owl on the Ashley NF and as such individual Mexican spotted owls are unlikely to be adversely affected.
- There is a minimal amount of Mexican spotted owl habitat on the Ashley NF.
- There is no designated ‘critical habitat’ on the Ashley NF.
- A combination of ecosystem level plan components (see table below), including desired conditions of forested vegetation, a mosaic of forest structural diversity of coniferous and mixed coniferous/deciduous forests, and non-forested vegetation structural diversity would emphasize sustainable ecological function and a return toward pre-settlement fire regimes as recommended by the 2012 Mexican Spotted Owl Recovery Plan to maintain what little Mexican spotted owl habitat occurs on the Ashley NF.
- The proposed land management plan does not specifically authorize individual projects or activities. Site-specific actions will be subject to future and separate Endangered Species Act section 7(a) (2) consultations.

Table 4. Proposed Plan Components for Mexican Spotted Owl

Species	Desired Conditions	Goals Or Objectives	Standards and Guidelines	Monitoring Or Management Approach
<p>Mexican spotted owl (Federal – threatened species)</p> <p>Habitat Steep-walled rocky canyon lands with presence of water; clumps or stringers of mixed conifer, pine/oak, pinyon/juniper, and/or riparian vegetation.</p> <p>Stressors/Threats Wildland fire and climate change. A lesser threat is commercial timber harvest.</p>	<p>Wildlife (FW-DC-WILDL-01, 02, 03)</p> <p>Terrestrial Vegetation (FW-DC-VEGTER-01 through 09)</p> <p>Forest Vegetation (FW-DC-ASPEN-01 and 02; FW-DC-CONIF-01 and 02)</p> <p>Timber (FW-DC-TIMB-01 and 03)</p> <p>Non-Forest Vegetation (FW-DC-VEGNF-01)</p> <p>Fire (FW-DC-FIRE-03)</p> <p>Soils (FW-DC-SOIL-01, 02, 04, 05)</p> <p>Watershed and Aquatic Ecosystems (FW-DC-WATER-06 and 07)</p> <p>Riparian Management Zones (FW-DC-RMZ-01 and 02)</p> <p>Fire (FW-DC-FIRE-03)</p> <p>Livestock Grazing (FW-DC-GRAZ-02)</p> <p>Energy and Minerals (FW-DC-MINL-02)</p>	<p>Wildlife (FW-GO-WILDL-01 and 02)</p> <p>Terrestrial Vegetation (FW-GO-VEGTER-01 and 02)</p> <p>Forest Vegetation FW-OB-CONIF-01</p> <p>Non-Forest Vegetation (FW-OB-VEGNF-01)</p> <p>Fire (FW-GO-FIRE-02)</p> <p>Energy and Minerals (FW-GO-MINL-02 and 03)</p> <p>Adapting to Climate Change (FW-GO-CLIM-01)</p> <p>Flaming Gorge National Recreation Area (DA-GO-FGNRA-02)</p>	<p>Wildlife FW-GD-WILDL-02, 03, 13, and 14</p> <p>Terrestrial Vegetation FW-GD-VEGTER-01 through 04</p> <p>Forest Vegetation FW-GD-ASPEN-01 through 04</p> <p>Timber (FW-ST-TIMB-01 through 10; FW-GD-TIMB-01 through 03)</p> <p>Soils FW-GD-SOIL-01 through 05</p> <p>Riparian Management Zones FW-GD-RMZ-03 through 05</p> <p>Fire (FW-GD-FIRE-01, 03 and 04)</p> <p>Livestock Grazing (FW-GD-GRAZ-01 and 02)</p> <p>Energy and Minerals (FW-ST-MINL-01 and 02; FW-GD-MINL-03, 04 and 05)</p> <p>Recreation Opportunity Spectrum (FW-GD-ROS-01)</p> <p>Ashley Karst National Recreation and Geological Area</p>	<p>Monitoring Table-Wildlife, Watershed and Riparian, Soils, Terrestrial Vegetation, Forest Vegetation, Non-Forest Vegetation, Aspen, Fire, Livestock Grazing, Soils,</p> <p>Management Approach –</p> <p>-Forest Vegetation 01-03, 05, 08</p> <p>-Timber 01-03</p> <p>-Livestock Grazing 01</p> <p>-Watershed, Aquatic, and Riparian Ecosystems 07, 08, and 09</p> <p>-Flaming Gorge National Recreation Area 03 and 04</p> <p>-Ashley Karst National Recreation and Geologic Area 01</p>

Species	Desired Conditions	Goals Or Objectives	Standards and Guidelines	Monitoring Or Management Approach
	<p>Recreation Opportunity Spectrum (FW-DC-ROS-05 and 06)</p> <p>Dispersed Recreation (FW-DC-RECDIS-01 and 02)</p> <p>Carbon Storage and Sequestration (FW-DC-CARBON-01)</p> <p>Flaming Gorge National Recreation Area (DA-DC-FGNRA-06 and 09)</p> <p>Ashley Karst National Recreation and Geological Area (DA-DC-AKNRGA-01 and 02)</p> <p>Back Country Recreation Area (MA-DC-RMABACK-02, 03, and 05)</p>		(DA-ST-AKNRGA-01 and 02)	

Aquatic Species

Table 5. Endangered, Threatened, Proposed, and Candidate Species listed for Duchesne, Uintah and Daggett Counties and the ANF.

Species	Status	Habitat Use and Local Distribution
Bonytail <i>Gila elegans</i>	Endangered	Specific habitat requirements of the bonytail are not well known because the species was extirpated from most of its historic range prior to extensive fishery surveys. It is a very rare species in the Colorado River Basin, with only a few individuals having been found in the last decade (USFWS, 2002d). Very low numbers may occur in the Gray Canyon of the Green River, which is approximately 65 miles south of the Planning Area. Critical habitat has been designated for this species within Duchesne County, Utah in the Green and Duchesne Rivers (USFWS, 2006). However, there is no critical habitat on the Planning Area. Suitable

Species	Status	Habitat Use and Local Distribution
		aquatic habitats that the bonytail would utilize are not present within the Planning Area. There would be no water depletion from the Upper Colorado River Basin as a result following the direction from the proposed action in the revised Forest Plan. Therefore, the proposed action for Plan Revision would have “No Effect” on the bonytail.
Colorado pikeminnow <i>Ptychocheilus lucius</i>	Endangered	The range of the Colorado pikeminnow is restricted to the Upper Colorado River basin, upstream of Glen Canyon Dam (USFWS, 2002b). Adult Colorado pikeminnow use a variety of habitat types, depending on time of year, but mainly utilize shoreline runs, eddies, backwater habitats, seasonally flooded bottoms, and side canyons. They are most abundant in the upper Green River (between the mouth of the Yampa River and head of Desolation Canyon) and lower Green River (between the Price and San Rafael Rivers) (USFWS, 2002a). Critical habitat has been designated for these species in the Green River in Carbon, Emery, and Grand Counties (USFWS, 2006). Suitable aquatic habitats that the Colorado pikeminnow would utilize are not present within the Planning Area. There would be no water depletion from the Upper Colorado River Basin as a result following the direction from the proposed action in the revised Forest Plan. Therefore, the proposed action for Plan Revision would have “No Effect” on the Colorado pikeminnow.
Humpback chub <i>Gila cypha</i>	Threatened	Suitable habitat for this fish species is characterized by a wide variety of riverine habitats, especially canyon areas with fast currents, deep pools, and boulder habitat (USFWS, 2002c). This species originally inhabited the main stem of the Colorado River from what is now Lake Mead to the canyon areas of the Green and Yampa River Basins. Currently, the species appears to be restricted to the Colorado River at Black Rocks and Westwater Canyon of the Green River, and Yampa Canyon of the Yampa River (USFWS, 2002c). Suitable aquatic habitats that the humpback chub would utilize are not present within the Planning Area. There would be no water depletion from the Upper Colorado River Basin as a result following the direction from the proposed action in the revised Forest Plan. Therefore, the proposed action for Plan Revision would have “No Effect” on the humpback chub.
Razorback sucker <i>Xyrauchen texanus</i>	Endangered	This species inhabits warm water reaches of large rivers in areas that include deep runs, eddies, backwaters, and flooded off channel environments (USFWS, 2002d). The largest population is known to occur in the upper Green River between the confluence of the Yampa River and the confluence of the Duchesne River. Adult suckers also occur in the Colorado River near Grand Junction, Colorado, although numbers are very low (USFWS, 2002d). Critical habitat has been designated for this species in the Green River in Carbon, Duchesne, Emery, Uintah, and Grand Counties (USFWS, 2006). Suitable aquatic habitats that the razorback sucker would utilize are not present within the Planning Area. There would be no water depletion from the Upper Colorado River Basin as a result following the direction from the proposed action in the revised Forest Plan. Therefore, the proposed action for Plan Revision would have “No Effect” on the razorback sucker.

The only threat or risk from forest management would be a major water development project such as large reservoir or pipeline project which would result in a water depletion to the downstream fishes. There are no plans to do this type of work in the proposed alternative.

There are multiple plan components for on-Forest cold water aquatic species and riparian habitat in the revised Forest Plan. Given that these species are several river miles (50+) removed from

the Forest there would be no direct or indirect benefit or impact to these Endangered species. Plan components will not affect these species long term persistence.

In summary, the humpback chub, bonytail, Colorado pikeminnow, and razorback sucker are all native to the Colorado River Basin (USFWS 2002 a, b, c, and d). Each of these species are listed as endangered by the USFWS and currently do not occur within the Ashley National Forest. There is no suitable habitat in the project area. No new water depletions from the Colorado River Basin would occur as a result of the proposed action for Plan Revision. Based on the analyses that were completed for this BA, we determined that the Proposed Action would have “**No Effect**” on all four Colorado River fish species identified.

Plants Species

Ute ladies’- tresses: In January 1992, Ute ladies’-tresses was listed as a threatened species by the U.S. Fish and Wildlife Service. Ute ladies’-tresses is an endemic orchid of low-elevation riparian meadows, streams, and similar wetland habitat in the interior western United States. Populations are known from three broad general areas of the interior western United States: near the base of the eastern slope of the Rocky Mountains in southeastern Wyoming, Nebraska, and north central Colorado; in the upper Colorado River Basin, particularly the Uinta Basin; and in the eastern Great Basin along the Wasatch Front of north-central and western Utah, extreme eastern Nevada, and southeastern Idaho. The plant has also been discovered in southwestern Montana, lower British Columbia; also, in the Okanogan region and along the Columbia River in north-central Washington.

General Key Ecological Conditions: The elevational range of known plant populations is 4,300 to 7,000 feet. Plants occur in moist to wet meadows and floodplains along perennial streams, near freshwater lakes or springs where water tables are at or near ground surface throughout the growing season. The plant is apparently intolerant of shade and alkaline soils but is known to colonize disturbed sites such as gravel pits and irrigation ditches.

Local Distribution: Ute ladies’-tresses have been found at four locations of close proximity (<1 mile apart) along the banks of the Green River on the Ashley National Forest between Little Hole boat ramp and the Forest Service - BLM administrative boundary. Additional populations are found along the Green River below this administrative boundary. The plant is also found along rivers of the south slope of the Uinta Mountains, including Yellowstone, Uinta, Lake Fork, and Rock Creek. Extensive surveys of south slope streams determined that Ute ladies’-tresses populations occur below 7,000 feet elevation but none were found in the upper reaches of these streams where elevations exceeded 7,000 feet, which included all National Forest Lands in that area (Franklin 1992). All *Spiranthes* specimens collected from the National Forest during the surveys were identified as hooded ladies’-tresses (*Spiranthes romanoffiana* Cham.).

Key Potential Threats: Potential threats of Ute ladies’-tresses include competition from invasive species, vegetation succession (increase in late-seral woody plants), hydrology change, loss of pollinators (in quantity and species richness), and drought related to climate change. Competition from invasive species is considered the greatest potential threat.

Status of Ute ladies'-tresses on the Ashley National Forest: There are four occurrences of Ute ladies'-tresses on the Ashley National Forest. These are within less than a mile of each other along the Green River. Its habitat and known occurrences are restricted to floodplains and wetlands along the river below Little Hole boat ramp. Annual flooding events due to high water releases from Flaming Gorge Dam to improve or maintain native fish habitat also helps maintain Ute ladies' tresses habitat by tempering late seral conditions (e.g. dominance of coyote willow) within the floodplain. Invasive species and livestock grazing are currently nonexistent along this segment of the Green River. Plant habitat currently is within desired condition with a stable trend.

All other streams within the National Forest are either above 7,000 feet elevation or are private land inholdings (e.g. Whiterocks River). Numerous informal surveys since 1992 verify the present distribution of the plant on Ashley National Forest.

Effects of the Action: There are four documented occurrences of Ute ladies'-tresses within close proximity on the Ashley National Forest. These all occur within a mile of stream segment along the Green River. Potential and known habitat for the plant is limited to the floodplains of the Green River from Little Hole to the National Forest boundary (less than 3 miles total distance). Forest uses of this stream segment are primarily limited to recreation, such as rafting and boating, fishing, hiking, and dispersed camping associated with rafting and boating. Surrounding canyon topography is rugged, remote, and essentially inaccessible. Trails are limited. Roads and domestic livestock grazing are excluded. Some recreational activity listed above occurs in potential and known plant habitat, which may affect individual plants but has not diminished desired condition of the habitat. These activities would continue under the proposed forest plan, but additional activity and supportive infrastructure is not planned or authorized. Annual high-water releases from Flaming Gorge Dam mimic natural flooding of the river, helping to maintain and replenish floodplains and gravel bars, which are habitat of the plant. The effects of climate change are currently unknown, but the dam and reservoir upstream might soften its potential effects due to the large reservoir of water, which ensures a constant river flow, and with sufficient water reserves to create artificial flood conditions on an annual basis.

Protections of Ute ladies' tresses are described in desired condition statements of the proposed forest plan. Several components with direct application are cited here. Plan component FW-DC-ATRIST-01 states that "Ecological processes are present and functioning in a manner that sustains long-term persistence, supports recovery, and maintains viable populations of at-risk plant species," including Ute ladies' tresses. Plan component FW-DC-WATER-04 addresses floodplain health. One element of the desired condition states that "Floodplains are accessible to overbank flows. Sediment deposited during overbank floods allows for floodplain development and the propagation of flood-dependent plants." Plan component FW-DC-VEGTER-05 addresses invasive species: "Invasive species are either nonexistent or are in low abundance and neither disrupt ecological processes nor diminish ecological integrity and resilience." In addition, a 13-mile segment of Green River below Flaming Gorge Dam, which includes all Forest Service administered Ute ladies'-tresses habitat, was identified as eligible and suitable for wild and scenic river designation as of 2008. Current plan component DA-ST-WSR-01 includes interim protection measures to maintain the wild and scenic river characteristics and values for which the river segment was found to be eligible and suitable. With plan components that address habitat

needs, the limited use of this segment of the Green River, and its wild and scenic river eligibility and suitability, the proposed plan is likely to have insignificant effects to Ute ladies'-tresses. Plan components in Table 6 below, provide additional desired conditions, objectives, goals, standards, guidelines, and monitoring questions that would help maintain or improve plant habitat, sustain ecological integrity and resilience, protect hydrologic function, and foster timely response and recovery to disturbance events, concurrent with existing and foreseeable drivers and stressors.

The proposed plan provides a programmatic framework for future site-specific projects and actions. All future project-level activities that may affect this species' habitat will require project-specific assessments.

It is determined that the proposed plan “**may affect, not likely to adversely affect**” Ute ladies'-tresses. Key rationale for determination:

- Limited potential and known habitat on Ashley National Forest (all occurrences are within about one mile of stream).
- Potential and known habitat is relatively remote with limited access and recreation use (e.g., rafting and boating, fishing, hiking, dispersed camping) with no planned expansion of activity or infrastructure. Under current activity desired condition of habitat is being maintained.
- Potential and known habitat is included in a stream segment that is eligible and suitable for wild and scenic river designation. Protective measures were added to the plan to maintain wild and scenic river characteristics and values. These measures would also protect Ute ladies'-tresses.
- The plan provides a combination of plan components to maintain ecological and hydrological function requisite to sustain viable Ute ladies-tresses plant populations.
- The proposed land management plan does not specifically authorize individual projects or activities. Site-specific actions will be subject to future and separate Endangered Species Act section 7(a) (2) consultations.
- Table 6 lists applicable plan components that would help sustain long-term persistence, support recovery, and maintain viable populations of Ute ladies' tresses on Ashley National Forest.

Table 6. Proposed Plan Components for Ute Ladies Tresses

Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring
Ute ladies'-tresses	Watershed- and Groundwater-Dependent Ecosystems (FW-DC-WATER-01, 02, 03, 04, 06, 09, 10)	Watershed- and Groundwater-Dependent Ecosystems (FW-OB-WATER-03)	Watershed- and Groundwater-Dependent Ecosystems (FW-GL-WATER-02)	Watershed- and Groundwater-Dependent Ecosystems, (MON-Water-01 through 03)
Habitat moist to wet meadows and floodplains along perennial streams, near freshwater lakes or springs	Riparian Management Zones	Terrestrial Vegetation (FW-GO-TV-01 and 02)	Riparian Management Zones (FW-GL-RMZ-01, 03)	Terrestrial Vegetation, (MON-

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Species	Desired Conditions	Goals or Objectives	Standards and Guidelines	Monitoring
Stressors/Threats invasive species, vegetation succession, hydrology change, loss of pollinators, and drought related to climate change.	(FW-DC-RMZ-01 and 02) Terrestrial Vegetation (FW-DC- TV-01, 05, 08, 09) At-Risk Species (FW-DC-ATRISK- 01) Rare and Unique Habitats (FW-DC- RAREHAB-01) Livestock Grazing (FW-DC-GRAZ-02) Eligible and Suitable Wild and Scenic Rivers (DA-DC- WSR-01)	At-Risk Species (FW-GO-ATRISK- 01) Adapting to Climate Change (FW-GO-CLIM-01)	Terrestrial Vegetation (FW- GL-TV-01 through 02) Rare and Unique Habitats (FW-ST- RAREHAB-01) Livestock Grazing FW-GL-GRAZ- 02 Eligible and Suitable Wild and Scenic Rivers (DA-ST-WSR-01)	VEGTER-01 and 02) At-Risk Plant Species (MON- TRISK-01)

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