Appendix D3
Biological Assessments/ Evaluations

Wildlife Biological Evaluation

Canon C&H Allotment

February 2003

I. Project Description (timing and duration):

The proposed action is to implement a grazing strategy for the Canon Cattle and Horse Allotment. The current AMP is outdated and the current grazing system implemented on the allotment is in need of refinement. The AMP will integrate the actions needed to manage rangeland resources for grazing, soil and watershed protections, maintenance or improvement of vegetative conditions, wildlife and other resources within the area. Management activities included as part of the proposed action include:

1. Establish estimated grazing capacity.
2. Specify permitted livestock use.
3. Implement an appropriate grazing system to maintain or improve ecological status of plant communities with no downward trend.
4. Monitor for compliance with Forest Plan Standards and Guidelines.
5. Add range improvements to control livestock distribution.

Three alternatives were developed in detail for this environmental analysis process and include:

Alternative 1 – Proposed Action Alternative (PREFERRED ALTERNATIVE)

This alternative is a one herd seven pasture deferred grazing system. The West Lost Trail and Lost Trail pastures would be combined into one pasture

Alternative 1 - Proposed Action				
Cattle Numbers	179 cow/calf pairs			
Season of Use	6/26 to 10/1 (585 Ams) or 3.2667 Months			
Number of Units	Seven Units/Pastures: Brewster Park, Bear Creek, Upper Rio Grande, Pole Creek, Lost Trail Park, Lost Trail and Ute Creek			
Grazing System	Deferred Rotation			
Pasture	Year1	Year 2	Year 3	Year 4
Lost Trail Park	7/01-7/17	9/11-9/28	9/13-9/28	7/16-9/02
Lost Trail	7/18-8/04	7/01-7/15	7/09-7/25	7/01-7/15
Pole Creek	8/05-8/20	8/27-9/10	8/13-8/27	8/03-8/19
Upper Rio Grande	8/21-9/05	7/24-8/08	8/28-9/12	8/20-9/04
Bear Creek	9/06-9/20	8/09-8/26	7/28-8/12	9/05-9/20
Brewster Park	9/21-9/28	7/16-7/23	7/01-7/08	9/21-9/28
Ute Creek	Ute Creek pasture would be used from 6/26-6/30; 9/29-10/01.			
Range Improvements	Construct Lost Trail Campground, Bear Creek/Rio Grande Division Fence & Remove Kite Lake/Canon Boundary fence			

Alternative 2 – Four Pasture Alternative

This alternative would close the Bear Creek, Rio Grande and Pole Creek pastures to grazing. The remaining portion of the allotment would be open to grazing. The reduced capable acres would require a reduction in animal months of grazing.

Alternative 2 - Recreation/Wildlife Emphasis Alternative	
Cattle Numbers	104 cow/calf pairs
Season of Use	6/26 to 10/1 (336 Ams) or 3.2667 Months
Number of Units	Four Units/Pastures: Brewster Park, Lost Trail Park, Lost Trail (combination of Lost Trail and West Lost Trail), and Ute Creek
Grazing System	Deferred Rotation: Each pasture would be grazed approximately three weeks. In years when the Rio Grande lake bottom is exposed,

	it may be grazed in order to lighten use or rest one of the upland units.		
Pasture	Year1	Year 2	Year 3
Ute Creek	6/26-7/23	7/24-8/20	8/06-9/02
Lost Trail Park	9/04-10/01	6/26-7/23	9/03-10/01
Lost Trail	7/24-8/20	8/21-9/17	7/09-8/05
Brewster Park	8/21-9/03	9/18-10/01	6/26-7/08
Range Improvements	Construct Lost Trail Campground Fence, Remove Kite Lake/Canon Boundary, Rio Grande & Pole Creek Division. fences		

Alternative 3 – No Grazing Alternative

This alternative provides for no grazing on the allotment; therefore, no authorized livestock use would occur. There would be no need for individual grazing units; therefore, pasture division fences and cattle guards would be removed.

Alternative 3 - No Grazing Alternative	
Cattle Numbers	None
Season of Use	None
Number of Units	None
Grazing System	None
Range Improvements	Remove the following fences: Kite Lake/Canon Boundary, Rio Grande, Pole Creek Division Fences, Brewster, Lost Trail Park, Lost Trail Division

II. Location/Map:

The Canon C&H Allotment is approximately 20,682 acres in size. It is located in the western portion of the Divide Ranger District, Rio Grande National Forest. The allotment lies within Hinsdale and San Juan County and is approximately 32 miles west of Creede, Colorado. See the enclosed map for more information.

III. Habitat Overview:

Area of Influence: The area of influence is the Stoney Pass Lynx Analysis Unit (LAU).

The Stoney Pass LAU is approximately 103,197 acres in size and is best characterized as being relatively remote, of a high elevaton, with very little roading. One road runs

through the LAU, the Stoney Pass Road (FSR 520) which forks near the west end of the LAU. The left fork dead ends at an abandoned mining camp referred to as Bear Town and the right fork passes over Stoney Pass and leads to Silverton.

Approximately ½ of the LAU is designated as Wilderness, most of the remainder is designated Backcountry with the exception of a narrow strip of land designated as Dispersed Backcounty which follows the road system. Less than half (44%) of the LAU is classified as lynx habitat due to the high elevation of the LAU, which consists of large open parks and areas above timberline. Major drainages include Lost Trail Creek, Pole Creek and Bear Creek.

Project Site: The project site is the Canon C&H Allotment Perimeter .

The perimeter of the allotment is approximately 20,682 acres in size. The allotment is made up of the valley drainages and adjacent hillsides. The area is best described as consisting of narrow valleys leading up to large open grassy plateaus. North aspects are typically greater than 40% and are heavily timbered.

IV: Table 1: Region 2 Sensitive Species*

Species	Suitable Habitat w/in Area of Influence/Project Site	Species Doc. w/in or near Area of Influence/Project Site	Basic Habitat Description
AMPHIBIANS/FISH			
Boreal Toad (FC) **Bufo boreas boreas**	Yes	No	Spruce/fir near water and alpine meadows
Rio Grande Cutthroat Trout **O. clarkii virginalis**	Yes	Yes	Streams, rivers and lakes. Most frequently found in headwaters.
Northern Leopard Frog **Rana pipiens**	Yes	No	Riparian and wetland areas
Tiger Salamander **Ambystoma tigrinum**	Yes	No	Non-flowing or slow flowing water bodies.
BIRDS			
Black Swift **Cypseloides niger**	No	No	Nests behind or next to waterfalls and wet cliffs. Forages over forests and open areas.
Boreal Owl **Aegolius funereus**			Mature spruce/fir and mixed conifer forested areas with preference for wet situations (bogs or streams) for

Species	Suitable Habitat w/in Area of Influence/Project Site	Species Doc. w/in or near Area of Influence/Project Site	Basic Habitat Description
	Yes	No	foraging
Burrowing Owl **Athene cunicularia**	No	No	Open grasslands associated with prairie dogs. Nests in burrow dug by other animals.
Ferruginous Hawk **Buteo regalis**	No	No	Open grasslands and shrub steppe communities. Nests in tall trees or shrubs along streams or on steep slopes
Flammulated Owl **Otus flamineolus**	No	No	Depend on cavities for nesting, open forests for foraging, brush for roosting. Occupy open ponderosa pine or forests with similar features (dry montane conifer or aspen, with dense saplings).
Fox Sparrow **Passerella iliaca**	Yes	No	Dense shrubbery understory associated with watercourses (mid to high elevation willow carrs).
Golden-Crowned Kinglet *Regulus satrapa*	Yes	No	Mature, dense spruce/fir with old growth characteristics.
Goshawk **Accipter gentiles**	Yes	No	Mature forest generalist. On the Rio Grande, often found in mixed conifer/aspen stands.
Lewis's Woodpecker **Melanerpes lewis**	No	No	Open pine forests, burnt over areas with snags and stumps, riparian and rural cottonwoods, and pinyon-juniper woodlands.
Loggerhead Shrike **Lanius ludovicianus**	No	No	Grassy pastures that are well grazed. Nests in shrubs or small trees, preferably thorny such as hawthorn.
Olive-Sided Flycatcher **Contopus borealis**	Yes	No	Mature spruce/fir or Douglas-fir forests with preference for natural clearings, bogs, stream and lakeshores with water-killed trees, burns and logged areas with standing dead trees.
Osprey **Pandion haliaetus**	Yes	Yes	Closely associated with lakes and large rivers with large populations of fish.
Peregrine Falcon *Falco peregrinus nataum*	No	No	Cliff habitat over 200 feet high with suitable ledges for nest construction.

Species	Suitable Habitat w/in Area of Influence/Project Site	Species Doc. w/in or near Area of Influence/Project Site	Basic Habitat Description
Pygmy Nuthatch **Sitta pygmaea**	No	No	Open mature ponderosa pine stands. Affiliated with larger, mature ponderosa pine snags.
Three-Toed Woodpecker **Picoides tridactylus**	Yes	No	Spruce/fir forests primarily, dependant upon bark beetle populations and diseased trees. Responsive to recently burned areas.
White-Faced Ibis **Plegadis chihi**	No	No	Marshes, swamps, ponds and rivers. Forages on aquatic species.
Gunnison Sage Grouse (FC) *Centrocercus minimus*	No	No	Lek sites are characterized by low vegetation with sparse shrubs often surrounded by big sagebrush dominated plant communities below 9200' elevation. Brood rearing habitat is characterized by riparian vegetation of intermittent and perennial streams, springs and meadows within upland vegetation.
MAMMALS			
Dwarf Shrew **Sorex nanus**	Yes	No	Forested, rocky and open areas. Forest generalist.
American Marten **Martes americana**	Yes	No	Spruce/fir and mixed conifer forests with complex physical structure.
Townsend's Big Eared Bat *Corynorhinus townsendii townsendii*	Yes	No	Forages in semi-desert shrublands, pinyon-juniper woodlands and open montane forests. Roosts in caves, mines and mature forests.
Wolverine **Gulo gulo luscus**	Yes	No	Remote subalpine and spruce/fir forested areas. Overall, this species utilizes a wide range of habitat types as it is very mobile.

*If no habitat present, then no further analysis required.

V. Survey/Occurrence Information

Cursory field reviews of the allotment and general area have occurred periodically over the past several summers. Site-specific surveys strictly for this proposal have not occurred. However, I am familiar enough with the area to feel comfortable with analyzing the potential impacts of the sale on species known or suspected in the area.

Primary information sources for this project include the Forest Species Occurrence Database, the Colorado Division of Wildlife Database, the Colorado Heritage Program Database, the San Luis Valley Biologists Database, and internal records and documents.

Species known or strongly suspected to occur within the area of influence include; Boreal Toad, Rio Grande Cutthroat Trout, Northern Leopard Frog, Tiger Salamander, Boreal Owl, Fox Sparrow, Golden-Crowned Kinglet, Goshawk, Olive-Sided Flycatcher, Osprey, Three-Toed Woodpecker, Dwarf Shrew, Marten, Townsend's big-eared bat and Wolverine.

VI: Analysis of Effects

Suitable habitat does not exist in either the project site or area of influence for the following species: Black Swift, Burrowing Owl, Ferruginous Hawk, Flammulated Owl, Lewis's Woodpecker, Loggerhead Shrike, Peregrine Falcon, Pygmy Nuthatch, White-Faced Ibis and the Gunnison Sage-Grouse. These species are addressed no further in this document.

1). BOREAL TOAD (Life History and Habitat Needs)

The boreal toad occurs throughout most of the mountainous portion of Colorado and is most common between 8,500 – 11,000 feet (Hammerson 1986). Distribution is restricted to areas with suitable breeding habitat in spruce/fir and alpine meadows. Breeding habitat includes lakes, marshes, ponds, and bogs with sunny exposure and quiet, shallow water. Rarely are toads known to lay eggs in streams. During the summer adult toads may move considerable distances from breeding sites. During the winter, however, they are primarily restricted to underground chambers, beaver dams, and other sites adjacent to water.

a) Area of Influence:

There are no known populations of boreal toads within the area of influence. Suitable habitat exists in beaver dams and areas of slow moving water.

b) Project Site: The potential toad habitat present in the area of influence is also within the boundary of the project site. Due to terrain, the majority of the allotment is located in the valley drainages and adjacent hillsides.

c) Effects Analysis (direct, indirect and cumulative):

Direct and Indirect Effects

There are three separate habitat components necessary for amphibians. These habitat types are breeding, summer and overwintering habitat. Livestock grazing could impact breeding and overwintering habitat, which is associated with riparian/wetland areas. Summer habitat consists of the adjacent forested uplands near breeding habitat. There is little use of this habitat by livestock since there are generally small amounts of forage to attract them into the forested stands. Some use would occur along the edges of stands as livestock seek out shade during warmer days. This could lead to some instances of trampling by livestock.

Breeding habitat consists of areas that have open, standing water that lasts the entire summer. Of particular concern are the impacts of grazing upon streamside and riparian vegetation. Significant changes in vegetation structure could increase water temperature, increase sedimentation and decrease water quality.

Alternative 1 - Under this alternative one herd of 179 pairs would graze seven separate pastures for approximately 2 week intervals.

Under this alternative, a higher number of cattle would graze a larger area approximately twice the size of Alternative 2. The potential for cattle to impact toad breeding, summer and overwintering habitat is higher in Alternative 1 because of the larger amount of acres grazed but the likelihood is less than Alternative 2 due to Alternative 1 having a shorter grazing period and better flexibility in grazing patterns. Alternative 1 offers the better opportunity to increase and improve riparian area vegetation complexity and structure.

Alternative 2 – Under this alternative, one herd of 104 pairs would graze four separate pastures for approximately 3.5 week intervals. Three pastures on the west side of the allotment would no longer be grazed by cattle.

The number of cattle is fewer than Alternative 1 but the amount of area grazed and amount of time grazed is greater than Alternative 1. There will be no potential for direct or indirect impacts upon toads or their habitat in the west side of the allotment (3 pastures closed) under this alternative. However, the east side of the allotment will receive heavy use by livestock even with reduced numbers due to less flexibility in grazing patterns and extended period of time to be spent in each pasture.

Alternative 3 – Under this alternative, there would be no grazing on the allotment.

There would be no potential for direct or indirect effects from grazing upon toads or toad habitat by this alternative.

d) Mitigation Measures:

1) Incorporate the USDA Region 2 Watershed Conservation Practices Handbook's design criteria with respect to bank trampling and utilization of riparian woody vegetation.

2) The riparian will have a stubble height requirement. The specific height varies by location. For more specifics, see the Canon Allotment Annual Operating Instructions.

e) Determination - Based on the analysis discussed above, I determine that as proposed, this project **May Impact Individuals** but is not likely to cause a trend towards Federal listing or result in loss of viability in the planning area for the Boreal

Toad or its primary habitat either directly, indirectly, or cumulatively for Alternatives 1 and 2.

Alternative 3 would result in a **No Impact** determination for Boreal Toad.

2). RIO GRANDE CUTTHROAT TROUT (Life History and Habitat Needs)

An analysis for Rio Grande Cutthroat Trout has been completed separately. For more information, refer to the Rio Grande Cutthroat Trout Biological Evaluation.

3). NORTHERN LEOPARD FROG (Life History and Habitat Needs)

The Northern leopard frog is found throughout North America except on the West Coast. Leopard frogs prefer the banks and shallows of marshes, ponds, lakes, reservoirs, beaver ponds, streams and other permanent bodies of water, especially those with rooted vegetation.

a) Area of Influence: Same as for Boreal Toad.

b) Project Site: Same as for Boreal Toad.

c) Effects Analysis (direct, indirect and cumulative):
Same as for Boreal Toad with the exception that leopard frogs are more restricted to water than Boreal Toads and are seldom found in adjacent forested uplands near breeding habitat.

d) Mitigation: Same as Boreal Toad

e) Determination –
Based on the analysis discussed in the Boreal Toad section previously, I determine that as proposed, this project **May Impact Individuals** but is not likely to cause a trend towards Federal listing or result in loss of viability in the planning area for the Leopard Frog or its primary habitat either directly, indirectly, or cumulatively for Alternatives 1 and 2.

Alternative 3 would result in a No Impact determination for Leopard Frog.

4). TIGER SALAMANDER (Life History and Habitat Needs)

Tiger salamanders inhabit ponds, lakes, reservoirs and other water bodies that may vary in size from 10 feet across to many acres (USDA 2001). Sunny mud-bottomed ponds at least 18-24 inches deep with a shallow beach-like shore seem to be preferred. Vegetation may or may not be present. However, tiger salamanders are typically absent from waters inhabited by predatory fish, bullfrogs, turtles and crayfish (USDA 2001). Metamorphosed adults are primarily active from March through November, and spend the winter months underground in rodent burrows. They also occasionally dig their own burrows in areas where loose soil is located.

Tiger salamanders occur throughout Colorado at elevations up to 12,000 feet in all but

tundra and alpine habitats (Hammerson 1986). Currently the tiger salamander is known to occur in at least 35 different locations on the Forest. Most of these include lakes, reservoirs, and small side channels off of stream systems.

a) Area of Influence: Same as for Boreal Toad.

b) Project Site: Same as for Boreal Toad

c) Effects Analysis (direct, indirect and cumulative):
Same as for Boreal Toad with the exception that tiger salamanders are more restricted to water than Boreal Toads and are seldom found in adjacent forested uplands near breeding habitat.

d) Mitigation: Same as for Boreal Toad.

e) Determination - Based on the analysis discussed in the Boreal Toad section previously, I determine that as proposed, this project **May Impact Individuals** but is not likely to cause a trend towards Federal listing or result in loss of viability in the planning area for the Tiger Salamander or its primary habitat either directly, indirectly, or cumulatively for Alternatives 1 and 2.

Alternative 3 would result in a **No Impact** determination for Tiger Salamander.

5). BOREAL OWL (Life History and Habitat Needs)

Boreal owls are closely related with spruce/fir zone forests throughout their range (Clark et al. 1989). They are year-round residents that use similar habitats during all seasons. Mature forests are necessary for nesting due to their requirement for large-sized snags to serve as nesting cavities. The boreal owl is a secondary nester and is dependant upon woodpecker cavities and to a lesser extent on natural cavities in large trees for nesting. Spruce is the preferred species but cavities have been found in Douglas-fir, lodgepole, aspen and high elevation ponderosa pine (Hayward and Verner 1994). Home range sizes in Colorado average 3600 acres with considerable overlap between males (Palmer 1987). They are very mobile predators and frequently traverse much of their home range in the course of 2-3 days or weeks (Hayward et al. 1993). Roosting generally occurs in mature spruce-fir forests along branches close to the boles of trees. They move little during the day but will frequently change to nearby roost trees. Winter roosts show little pattern, but summer roosts usually occur in cool micro-sites and there may be movement to higher elevations (Clark et al. 1989).

Boreal owls frequently use pole-sized stands for hunting. They will also use openings where perches are available along the forest edge. This is especially true in spring when snow cover is still present under the forest canopy but openings have melted. Boreal owls forage using sit and wait tactics from perches, as opposed to pursuit hunting (Hayward et al. 1993). Small mammals are preferred prey items, especially the red-backed vole, which makes up 25 to 50 percent of their diet (Clark et al. 1989). Boreal owls are opportunistic hunters with a varied summer diet that includes insects, jumping mice, chipmunks, birds, pocket gophers, shrews, deer mice and voles. They are primarily nocturnal birds but will also actively hunt in daylight if bad weather has

hampered nocturnal foraging. Their peak hunting activity occurs within 2 hours of sunset and sunrise. Boreal owls are generally tolerant of human activities that potentially cause direct disturbances in other raptor species.

Area of Influence:

There are no known populations of Boreal Owls within the area of influence. Suitable habitat exists particularly in the north facing slopes throughout the area.

b) Project Site:

The potential Boreal Owl habitat present in the area of influence is also within the boundary of the project site. Due to terrain and lack of preferred vegetation within suitable Boreal Owl habitat, it is unlikely that cattle spend much time grazing in this habitat with the exception of the edges of timber where cattle may congregate for shade on warm days and along the forested edge.

c) Effects Analysis (direct, indirect and cumulative):

No direct effects upon Boreal Owls by cattle grazing are known or suspected of occurring on the allotment. Indirect impacts could include limited displacement by cattle or by cattle grazing along the forested edge reducing the habitats effectiveness for Boreal Owl prey species. The potential for displacement of Boreal Owls by cattle is probably no more than the potential for displacement by other grazing ungulates. The potential for overgrazing impacting Boreal Owl prey items is low but can occur in certain circumstances.

Alternatives 1 - 3

The effects of cattle grazing or not grazing on the allotment upon Boreal Owl and their habitat, is virtually the same for all alternatives. There is a remote chance that grazing could disturb Boreal Owls or that grazing along forested edges could impact Boreal Owl hunting success but this likelihood is so low that the differences between the alternatives are negligible.

d) Mitigation:

No mitigation measures are necessary for the protection of Boreal Owl or Boreal Owl habitat.

e) Determination

Based on the analysis discussed above, I determine that the effects upon Boreal Owls by any of the three alternatives will be the same. There will be No Impact on Boreal Owl or their primary habitat either directly, indirectly, or cumulatively.

6). FOX SPARROW (Life History and Habitat Needs)

Fox sparrows in Colorado are closely associated with riparian willow carrs and shrubby undergrowth from 7,500 feet to 11,000 feet in elevation. Nests commonly contain two to five eggs that are located on or close to the ground in riparian willow and meadow habitats (Burns and Hackett 1993). Incubation occurs for 12 to 14 days

with fledglings arriving 9 to 11 days later. Up to two broods may be produced, which often takes the nesting season into August. Fox sparrows return to Colorado from late March through mid April, with most individuals leaving the state by mid September. The active breeding season occurs from late April/early May through late July or early August, depending upon elevation. The fox sparrow is a ground feeder with a diet composed mainly of seeds with smaller amounts of fruits and insects.

a) Area of Influence:

The area of influence is large and contains a wide diversity of habitats including willow carrs and shrubby undergrowth in the form of cinque foil particularly in grassy openings. No reports of Fox Sparrow are known however, but it is very likely that they are present.

b) Project Site:

The project site perimeter contains several narrow bands of willows and cinque foil which could potentially provide habitat for Fox Sparrows.

c) Effects Analysis (direct, indirect and cumulative):

Direct and Indirect Effects

Livestock grazing could impact nesting and rearing habitat, which is associated with riparian willow carrs and shrubby undergrowth. Overgrazing of willow and shrubs could make Fox Sparrow young more susceptible to predation and the elements by altering willow and shrub structure. Shrub structure could be impacted to the point of not being suitable for nesting.

Being ground feeders, grazing could impact the amount and type of seeds and insects available to Fox Sparrows. There is some potential for limited displacement due to livestock grazing particularly during the nesting season.

Alternative 1 - Under this alternative one herd of 179 pairs would graze seven separate pastures for approximately 2 week intervals.

Under this alternative, a higher number of cattle would graze a larger area approximately twice the size of Alternative 2. The potential for cattle to impact riparian willow carrs and shrubby undergrowth is higher in Alternative 1 because of the larger amount of acres grazed but the likelihood is less than Alternative 2 due to Alternative 1 having a shorter grazing period and better flexibility in grazing patterns. Alternative 1 offers the better opportunity to increase and improve riparian and shrub vegetation complexity and structure.

Alternative 2 – Under this alternative, one herd of 104 pairs would graze four separate pastures for approximately 3.5 week intervals. Three pastures on the west side of the allotment would no longer be grazed by cattle.

The number of cattle is fewer than Alternative 1 but the amount of area grazed and amount of time grazed is greater than Alternative 1. There will be no potential for direct or indirect impacts upon Fox Sparrows or their habitat in the west side of the allotment (3 pastures closed) under this alternative. However, the east side of the

allotment will receive heavy use by livestock even with reduced numbers due to less flexibility in grazing patterns and extended period of time to be spent in each pasture.

Alternative 3 – Under this alternative, there would be no grazing on the allotment.

There would be no potential for direct or indirect effects from grazing upon Fox Sparrows or their habitat by this alternative.

d) Mitigation Measures:

1) Incorporate the USDA Region 2 Watershed Conservation Practices Handbook's design criteria with respect to bank trampling and utilization of riparian woody vegetation.

2) The riparian will have a stubble height requirement. The specific height varies by location. For more specifics, see the Canon Allotment Annual Operating Instructions.

e) Determination - Based on the analysis discussed above, I determine that as proposed, this project **May Impact Individuals** but is not likely to cause a trend towards Federal listing or result in loss of viability in the planning area for the Fox Sparrow or its primary habitat either directly, indirectly, or cumulatively for Alternatives 1 and 2.

Alternative 3 would result in a **No Impact** determination for Fox Sparrow.

7) GOLDEN-CROWNED KINGLET (Life History and Habitat Needs)

Golden-crowned kinglets are considered residents in the higher mountains of Colorado where they are uncommon to fairly common in summer and rare in winter (Andrews and Righter 1992). Golden-crowned kinglets breed primarily in mature, dense spruce/fir forest, and rarely in limber pine and Douglas-fir (Andrews and Righter 1992). Carter (1995) found a strong correlation between golden-crowns and late-successional spruce/fir forests. This species forages over leaves, branches, and trunks, feeding almost exclusively on insects and their eggs (bark beetles, scale insects) and especially plant lice. In summer, they feed mainly on flying insects (DeGraaf et al. 1991).

Golden-crowned kinglets are included in this assessment since they occur in the spruce/fir and Douglas-fir forests on the Rio Grande National Forest

a) Area of Influence: Same as for Boreal Owl.

b) Project Site: Same as for Boreal Owl.

c) Effects Analysis (direct, indirect and cumulative): Same as for Boreal Owl.

d) Mitigation:

No mitigation measures are necessary for the protection of Golden-Crowned Kinglet or their habitat.

e) Determination –

Based on the analysis discussed above, I determine that the effects upon Golden-Crowned Kinglets by any of the three alternatives will be the same. There will be No Impact on Golden-Crowned Kinglets or their primary habitat either directly, indirectly, or cumulatively.

8) NORTHERN GOSHAWK (Life History and Habitat Needs)

The northern goshawk is sometimes referred to as a forest generalist because it occurs in all major forest types (Reynolds et al. 1992). Nest areas often contain a relatively high tree canopy cover and a high density of large trees. Nest stands range in size from 20 to 25 acres and are often on slopes with northerly exposures or in drainages or canyon bottoms protected by such slopes. A post-fledging area (PFA) usually surrounds the nest site and represents a concentrated use and protection area for the family unit from fledging until the young are no longer dependant on the adults. PFA's often resemble the nest area in stand structure but also contain a greater mosaic of trees sizes and snags, small openings and large, downed logs. Large tree components (live trees, snags, and down woody material) are often scattered throughout the foraging area (Reynolds et al. 1992). Home range sizes often vary from 5,000 to 6,000 acres and may contain several alternate nests (Woodbridge and Detrich 1994).

Nest sites in Colorado vary in respect to particular habitat types across different portions of the state (Barrett 1998). Shuster (1980) found that Colorado nests tend to occur on gentle north or east facing slopes or benches above 8,250 feet that contain a mixture of both pine and aspen. Nests were seldom farther than 907 ft from water. Nest sites on the San Juan National Forest primarily occurred in larger-sized aspen trees (< 14" dbh). Known nests on the Rio Grande National Forest have been found to occur in both aspen as well as mixed-conifer or spruce/fir stands.

Goshawks in Colorado begin re-establishing breeding territories by early April. Egg-laying occurs by late April, with nestlings hatching by late May. Fledging occurs approximately 45 days thereafter, with the young using the post-fledging area through at least late July. Primary prey species include forest birds and mammals (e.g. robins, flickers, squirrels, cottontails) that reside mainly on the ground and in lower portions of the tree canopy (Reynolds et al. 1992).

a) Area of Influence:

The area of influence contains adequate Goshawk habitat particularly in the east side of the LAU. Within the area of influence there exists mixed conifer stands with an aspen component for nesting and adjacent hunting areas comprised of older age tree classes and habitat components that support high densities of prey species.

b) Project Site: Same as the area of influence.

c) Effects Analysis (direct, indirect and cumulative):

No direct effects upon Goshawk by cattle grazing are known or suspected of occurring on the allotment. Indirect impacts could include limited displacement by cattle or by cattle grazing along the forested edge or within aspen stands reducing the habitats effectiveness for Goshawk prey species. The potential for displacement of Goshawk by cattle is probably no more than the potential for displacement by other grazing ungulates. The potential for overgrazing impacting Goshawk prey items is low but can occur in certain circumstances.

Alternatives 1 - 3

The effects of cattle grazing or not grazing on the allotment upon Goshawk and their habitat, is virtually the same for all alternatives. There is a remote chance that grazing could disturb Goshawks or that grazing along forested edges or within aspen stands could impact Goshawk hunting success but this likelihood is so low that the differences between the alternatives are negligible.

d) Mitigation Measures: No mitigation measures are necessary for the protection of Goshawk or their habitat.

e) Determination – Based on the analysis discussed above, I determine that the effects upon Goshawk by any of the three alternatives will be the same. There will be No Impact on Goshawk or their primary habitat either directly, indirectly, or cumulatively.

9) OLIVE-SIDED FLYCATCHER (Life History and Habitat Needs)

The olive-sided flycatcher is a montane summer resident in Colorado that occurs at elevations of 7,000 to 11,000 feet (Andrews and Righter 1992). It primarily occurs in mature spruce/fir or mixed-conifer forests but also occupies several other forest types such as aspen. Primary habitat is most closely associated with mature forest stands that contain natural or created openings adjacent to tall, spike-topped snag habitat. Habitats adjacent to water are also preferred. Olive-sided flycatchers return to the breeding grounds by mid to late April and usually depart by early September.

The olive-sided flycatcher has frequently been associated with forest edge habitat and openings that result from post-burn and forest management practices that also retained large, live and dead trees. The strong association with burned areas is likely due to creation of a more open forest with increased edge at the interface of live and dead forest (Altman 1997). In west-central Colorado the olive-sided flycatcher occurred in higher densities in stands with low overstory canopy, and was absent as the overstory coverage approached 100 per cent (Scott et al. 1988). A 1994 spruce/fir habitat-relationship study on the Rio Grande National Forest found that the flycatcher did not respond to particular patch sizes, shapes, or structural stages (Carter 1995). It was assumed that the presence of snags was the most important habitat attribute. Nests most often occur on a horizontal branch along the forest edge (Altman 1997). Nest heights in western North America are usually 4 to 67 feet (Altman 1997). Limited data indicates strong site fidelity at the wintering and breeding grounds (Altman 1997).

The olive-sided flycatcher is an aerial insectivore that forages from a high prominent

perch mostly at the top of a snag or the dead tip or uppermost branch of the tallest trees where it flies out (sallying or hawking) to capture a flying insect, and then returns to the same or another prominent perch. Unlike other flycatchers it is entirely restricted to sallying or hawking for prey (Eckhardt 1979). Its foraging behavior requires exposed perches and unobstructed air space, thus tall trees and open canopy provide a better environment than closed canopy forest. Bees, wasps and flying ants make up a high percentage of their diet.

a) Area of Influence: Same as for Boreal Owl.

b) Project Site: Same as for Boreal Owl.

c) Effects Analysis (direct, indirect and cumulative): Same as for Boreal Owl.

d) Mitigation:

No mitigation measures are necessary for the protection of Olive-Sided Flycatchers or their habitat.

e) Determination –

Based on the analysis discussed above, I determine that the effects upon Olive-Sided Flycatchers by any of the three alternatives will be the same. There will be No Impact on Olive-Sided Flycatchers or their primary habitat either directly, indirectly, or cumulatively.

10) OSPREY (Life History and Habitat Needs)

Osprey are closely associated with rivers and lakes where there is adequate supplies of fish. They do not maintain large exclusive breeding territories and defend only the immediate area around a nest. They nest primarily in large trees, either live or dead but usually with broken tops. It prefers tall trees for nesting which may be 60 feet or more above the ground that provide good visibility and security. They feed nearly exclusively on fish, captured by hovering over water and then diving or by snatching prey directly from water following low flight.

a) Area of Influence

With the exception of the Rio Grande Reservoir, the Stoney Pass LAU does not provide adequate habitat for Osprey. Rio Grande Reservoir is approximately ½ mile wide and 5 miles long. The water level of the reservoir fluctuates widely in most years. The area surrounding the reservoir contains no known Osprey nests and lacks suitable trees for potential nesting sites. It is unlikely that Osprey utilize the area of influence other than occasional foraging.

b) Project Site

Within the project site perimeter, there are no bodies of water, which are large enough to support Osprey. There is very little potential for the area to provide foraging opportunities for Osprey. The western end of the Rio Grande Reservoir makes up the eastern boundary of the allotment. The western end of the reservoir in most years is a

mud flat in which cattle occasionally trail through but do not spend a large amount of time foraging within.

c) Effects Analysis (direct, indirect and cumulative)

Alternatives 1 – 3

The effects of cattle grazing on the allotment upon Osprey, is the same for all alternatives (including the no grazing alternative). There are no expected direct, indirect or cumulative effects anticipated upon Osprey as a result of any of the alternatives. No water sources, which provide, or may potentially provide habitat for Osprey will be impacted.

d) Mitigation: No mitigation measures are necessary for the protection of Osprey or their habitat.

e) Determination –
Based on the analysis discussed above, I determine that the effects upon Osprey by any of the three alternatives will be the same. There will be No Impact on Osprey or their primary habitat either directly, indirectly, or cumulatively.

11). NORTHERN THREE-TOED WOODPECKER (Life History and Habitat Needs)

The Northern three-toed woodpecker is considered an uncommon year round resident of Colorado (Andrews and Righter 1992). It is closely associated with mature and older spruce-fir forests that offer ample quantities of bark beetles and other insect prey. The three-toed is known to be opportunistic and abundant during and after bark beetle outbreaks, and are otherwise usually uncommon and relatively inconspicuous (Bock and Bock 1974). At all seasons and elevations, this species is only common in spruce-fir forests during years and areas where high populations of bark beetles are present. Normal population densities approach one pair per 75 to 100 acres but may significantly increase during bark beetle outbreaks (Bull 1980, Towry 1984). In response to bark beetle buildups after a forest fire, its numbers swell for 3 to 5 years in burned stands and then decline to pre-fire population levels (Koplin 1969, Taylor and Barmore 1980, Hutto 1995). During spruce beetle epidemics not associated with fire, the predatory impact of three-toed woodpeckers on beetle larvae is much greater than during endemic beetle periods because of dramatic increased numbers of this woodpecker (Koplin and Baldwin 1970, Koplin 1972).

Approximately 75% of the summer diet of three-toeds consists of insects, especially beetles and wood-boring larvae. Winter diets are comprised of 99% insects, primarily spruce beetle larvae (Towry 1984). Other food taken includes ants, insect larvae, fruits, mast and cambium. They may require at least 1,200-2,200 larvae per day in winter to satisfy its caloric needs when air temperatures are at freezing (Koplin 1969). Three-toeds primarily feed by scaling bark rather than pecking which account for their preference for conifers with bark-scales (Clark et al. 1989, and Villard 1994).

Pair bonding, courtship and territorial drumming begin in mid to late April with nest cavities being excavated by mid May (Clark et al. 1989). Nest cavities are excavated in trees with heart-rot, typically recently dead trees. Snags at least 12 inches in dbh

and at least 15 feet in height are preferred are nest sites (Towry 1987, Bull 1980). Optimal habitat includes areas with 42 to 52 snags per 100 acres preferably in clumps, with snags measuring 12 to 16 inches dbh and 20 to 40 feet tall. Nest cavities excavated by three-toed woodpeckers are used by a wide variety of secondary cavity-nesting birds long after the woodpeckers have left the area.

a) Area of Influence: Same as for Boreal Owl.

b) Project Site: Same as for Boreal Owl.

c) Effects Analysis (direct and indirect): Same as for Boreal Owl.

d) Mitigation: No mitigation measures are necessary for the protection of the Northern Three-Toed Woodpecker or its habitat.

e) Determination –
Based on the analysis discussed above, I determine that the effects upon Northern Three-Toed Woodpeckers by any of the three alternatives will be the same. There will be No Impact on Northern Three-Toed Woodpeckers or their primary habitat either directly, indirectly, or cumulatively.

12). DWARF SHREW (Life History and Habitat Needs)

The dwarf shrew is Colorado's smallest mammal. Very little is known about the ecology, behavior, or reproductive cycles of this species in Colorado. The suspected species range is confined to the Rocky Mountain Region from Montana to southern New Mexico (Fitzgerald et al. 1994). In Colorado, the dwarf shrew is known to inhabit elevations above 5,500 ft (1,680 meters) in the southern mountains with collections made near the Forest along the Arkansas River, in Mesa Verde National Park, and near Durango.

The dwarf shrew has been collected in a variety of habitat types from the edges of alpine and subalpine rockslides, spruce/fir bogs, coniferous forests, sedge marsh, dry brushy hillsides and open woodland (Fitzgerald et al. 1994). Apparently the dwarf shrew can also tolerate arid conditions, with some captures up to 0.5 miles from water. The wide diversity of habitats used suggests that this shrew may be more widely distributed than records indicate (Fitzgerald et al. 1994). Although little is known about the dwarf shrew, it exhibits some common life history traits shared by other members of the Soricidae family. Besides sharing many physical attributes, all Colorado shrews are terrestrial. They typically live in shallow tunnels or create runways in the litter of the surface of the soil (Fitzgerald et al. 1994). They may use the tunnels of other moles or voles. Their high metabolic rate requires them to feed almost constantly, and they will eat practically any animal or plant matter available, particularly insects and other small invertebrates.

Reproduction in the dwarf shrew is likely to be based on a 1 year life cycle as they are born in the summer of their first year, over-winter as immatures, breed the following spring and then die (Churchfield 1990). In Montana, breeding occurs in June and July in the alpine and subalpine areas (Hoffman and Owen 1980). The average number of embryos vary from 4 to 8, and second litters may be common in some areas (Fitzgerald et. al. 1994). Nests of Soricids are constructed by the female a few days

prior to birth. These may be constructed of dried grasses, moss or other vegetative material and placed beneath a fallen log, in a grass tussock or in an underground burrow (Churchfield 1990). Young shrews grow rapidly and are fully weaned within 22-25 days. Their most common predators are likely to be species of owls.

a) Area of Influence:

Little is known about dwarf shrews and their use of the area of influence but given the shrew's wide range of habitat types utilized and the large area of influence, it is very likely that they inhabit the area.

b) Project Site:

Similar to the area of influence, it is likely that the shrew inhabit the project site.

c) Effects Analysis (direct, indirect and cumulative):
Direct and Indirect Effects:

There is always the chance that direct mortality to individuals as a result of trampling by cattle could occur but this likelihood is low. Grazing could result in limited disturbance to dwarf shrews particularly if near nests.

Shrews could be more at risk to predators if significant changes in vegetation structure occur due to grazing.

Alternative 1 - Under this alternative one herd of 179 pairs would graze seven separate pastures for approximately 2 week intervals.

Under this alternative, a higher number of cattle would graze a larger area approximately twice the size of Alternative 2. The potential for cattle to impact shrew habitat is higher in Alternative 1 because of the larger amount of acres grazed but the likelihood is less than Alternative 2 due to Alternative 1 having a shorter grazing period and better flexibility in grazing patterns. Alternative 1 offers the better opportunity to sustain and improve upon the vegetative conditions on the allotment, thus protecting shrew habitat.

Alternative 2 – Under this alternative, one herd of 104 pairs would graze four separate pastures for approximately 3.5 week intervals. Three pastures on the west side of the allotment would no longer be grazed by cattle.

The number of cattle is fewer than Alternative 1 but the amount of area grazed and amount of time grazed is greater than Alternative 1. There will be no potential for direct or indirect impacts upon shrews or their habitat in the west side of the allotment (3 pastures closed) under this alternative. However, the east side of the allotment will receive heavy use by livestock even with reduced numbers due to less flexibility in grazing patterns and extended period of time to be spent in each pasture.

Alternative 3 – Under this alternative, there would be no grazing on the allotment.

There would be no potential for direct or indirect effects from grazing upon Dwarf Shrews or Shrew habitat by this alternative.

d) Mitigation Measures:

1) Incorporate the USDA Region 2 Watershed Conservation Practices Handbook's design criteria with respect to bank trampling and utilization of riparian woody vegetation.

2) The riparian will have a stubble height requirement. The specific height varies by location. For more specifics, see the Canon Allotment Annual Operating Instructions.

e) Determination - Based on the analysis discussed above, I determine that as proposed, this project **May Impact Individuals** but is not likely to cause a trend towards Federal listing or result in loss of viability in the planning area for the Dwarf Shrew or its primary habitat either directly, indirectly, or cumulatively for Alternatives 1 and 2.

Alternative 3 would result in a **No Impact** determination for Dwarf Shrew.

13). AMERICAN MARTEN (Life History and Habitat Needs)

The American marten is considered a fairly common resident in Colorado. Primary habitat includes late-successional coniferous forests, especially those with complex woody structure near the ground (Fitzgerald et al. 1994). Both spruce-fir and mixed-conifer habitat comprise the primary habitat types for marten on the Rio Grande National Forest. Down woody material is considered an important element of suitable marten habitat, and provides critical resting, denning, and hunting areas (Buskirk and Ruggiero 1994, Bull and Blumton 1999). Down woody complexes are also readily used for subnivean sites during winter when marten readily use natural and made-made piles of wood for resting and hunting areas. Raphael and Jones (1997) found that 29% of denning areas is Oregon occurred in human-created slash piles.

Fitzgerald et al. (1994) felt that at least 30% canopy cover was necessary for suitable marten habitat, with an optimum of 40% to 60% for resting and foraging. Clark et al. (1989) described optimum habitat as having 30+% canopy cover, a well-established understory of fallen logs and stumps, and a lush shrub and forb vegetation. Mature and late successional conifer stands readily provide all of these components.

The most important prey of martens in the west during winter are forest dwelling species (red-backed voles (Clethrionomys spp.) and pine squirrels (Tamiascurus spp.) and herbaceous or riparian species (Microtus spp.). In the western United States in winter, the distribution and abundance of these species provide some measure of the value of habitats for foraging. According to Buskirk and Ruggiero (1994) deer mice and shrews are generally eaten less than expected based on their numerical abundance.

The home range size for marten varies from less than one to almost six square miles (Fitzgerald et al. 1994). In one Wyoming study that is geographically closest to the Forest, average home ranges were 0.76-1.2 square miles for males and 0.3 square miles for females. Home range size has been shown to vary as a function of prey abundance and habitat type, with habitat modifications often increasing the amount of

area required by individuals (Buskirk and Ruggiero 1994). Most breeding occurs during late July to early September, with delayed implantation occurring thereafter. A litter of one to five young is born from mid-March through late April.

a) Area of Influence:

The area of influence contains marten habitat especially in the north facing slopes and drainages.

b) Project Site:

The project site contains good marten habitat.

c) Effects Analysis (direct, indirect and cumulative):

Direct impacts could include limited displacement by cattle or by cattle grazing along the forested edge reducing the habitats effectiveness for Marten prey species. The potential for displacement of Marten by cattle is probably no more than the potential for displacement by other grazing ungulates. Direct impacts may also include increased human disturbance to Marten by herd management activities (herding, salting, fencing…) within the various pastures. The potential for overgrazing impacting Marten prey items is low but can occur in certain circumstances.

Alternatives 1 - 3

The effects of cattle grazing or not grazing on the allotment upon Marten and their habitat, is virtually the same for all alternatives. There is a remote chance that grazing could disturb Marten or that grazing along forested edges could impact Marten hunting success but this likelihood is so low that the differences between the alternatives are negligible.

d) Mitigation:

No mitigation measures are necessary for the protection of Marten or Marten habitat.

e) Determination

Based on the analysis discussed above, I determine that the effects upon Marten by any of the three alternatives will be the same. There will be **No Impact** on Marten or their primary habitat either directly, indirectly, or cumulatively.

14) TOWNSEND'S BIG-EARED BAT (Life History and Habitat Needs)

Townsend's big-eared bats forage in semi-desert shrublands, pinyon-juniper woodlands, and open montane forests. Roosting habitat consists most frequently in caves and abandoned mines and also in buildings, under bridges, rock crevices and hollow trees. Their main prey item are moths but they readily feed on most flying insects.

a) Area of Influence:

No known bat roosts are documented within the area of influence. Potential foraging habitat exists throughout the area for Townsend's big-eared bats.

b) Project Site:

Potential foraging habitat exists in the project site.

c) Effects Analysis (direct and indirect):

No direct effects upon Townsend's Big-eared Bats by cattle grazing are known or suspected of occurring on the allotment. Indirect impacts could include limited displacement by cattle or by cattle grazing along the forested edge reducing the habitats effectiveness for bat prey species. The potential for displacement of bats by cattle is probably no more than the potential for displacement by other grazing ungulates. The potential for overgrazing impacting bat prey items is low but can occur in certain circumstances.

Alternatives 1 - 3

The effects of cattle grazing or not grazing on the allotment upon Townsend's Big-Eared Bats and their habitat, is virtually the same for all alternatives. There is a remote chance that grazing could disturb bats or that grazing along forested edges could impact bat hunting success but this likelihood is so low that the differences between the alternatives are negligible.

d) Mitigation Measures:

No mitigation measures are necessary for the protection of Townsend's Big-Eared Bats or their habitat.

e) Determination:

Based on the analysis discussed above, I determine that the effects upon Townsend's Big-Eared Bats by any of the three alternatives will be the same. There will be **No Impact** on Townsend's Big-Eared Bats or their primary habitat either directly, indirectly, or cumulatively.

15) WOLVERINE (Life History and Habitat Needs)

Generally, wolverines are restricted to the boreal forests, tundra, and remote mountains of North America (Banci 1994). In Idaho, suitable montane coniferous forests may only be useful if associated with subalpine cirque habitats needed for natal denning, security areas, and summer foraging (Seidel et al. 1998). Female wolverines in Idaho prefer secluded subalpine talus sites for natal and kit rearing dens (Copeland and Harris 1994). Post-weaning rendezvous sites for kits and adult females included large boulder talus and mature spruce/fir riparian sites with dense understory and forest floor

wood complexes (Copeland and Hudak 1995).

Wolverines are generally described as opportunistic omnivores in summer and scavengers in winter. Diet studies display the importance of large mammals and carrion, primarily ungulates, to the wolverine (Banci 1994). Wolverines have very large home ranges, with males and females in Idaho requiring over 770 and 270 square miles, respectively (Copeland and Harris 1994).

With respect to timber harvesting, the greatest potential effects are most likely due to road construction and increased human access. Copeland and Hudak (1995) suggest that road building near sub-alpine boulder talus sites might eliminate historical or potential wolverine foraging or denning habitat. They also felt that recreational activities such as backcountry skiing and snowmobiling might displace wolverines from potential denning habitat or cause abandonment. Hornocker and Hash (1981) suggest that human access on snowmobiles or all-terrain vehicles in winter and early spring may cause behavioral disturbances that could affect life history traits.

The status of the wolverine in Colorado is undetermined. According to Seidel et al. (1998), there are 22 records representing 25 animals documented in the literature that were collected between 1871 and 1919. Since that time, 3 more specimens have been reported in or near Colorado, the latest being a adult male trapped near Cheyenne, Wyoming in April 1996. The biological record is confounded by the escape from the Cheyenne Mountain Zoo (near Colorado Springs, CO) of 6 wolverines from 1964 to 1986.

Since 1979, 12 investigations have been conducted in the state with the goal of trying to document the presence of lynx or wolverine (Seidel et al. 1998). After intensive efforts using snow-tracking (5,834 miles), hair snags (62 locations), remote cameras (110 locations), and snares (686 trap nights), only 10 sets of tracks that appeared to have a high probability of being wolverine were found (Seidel et al. 1998). No evidence of wolverine was found on the Rio Grande National Forest.

a) Area of Influence:

The area of influence provides potential habitat for wolverine particularly in the more remote areas in the Wemuniche Wilderness and Backcounty areas.

b) Project Site:

The Stoney Pass Road passes through the project site. However, the amount of traffic on the right is generally light and it is likely that Wolverine may inhabit the project site.

c) Effects Analysis (direct, indirect and cumulative): Same as for Marten.

Direct impacts could include limited displacement by cattle or by cattle grazing along the forested edge reducing the habitats effectiveness for Wolverine. The potential for displacement of Wolverine by cattle is probably no more than the potential for displacement by other grazing ungulates. Direct impacts may also include increased human disturbance to Wolverine by herd management activities (herding, salting, fencing…) within the various pastures. The potential for overgrazing impacting Wolverine prey items is low but can occur in certain circumstances.

Alternatives 1 - 3

The effects of cattle grazing or not grazing on the allotment upon Wolverine and their habitat, is virtually the same for all alternatives. There is a remote chance that grazing could disturb Wolverine or that grazing along forested edges could impact Wolverine hunting success but this likelihood is so low that the differences between the alternatives are negligible.

d) Mitigation:

No mitigation measures are necessary for the protection of Wolverine or Wolverine habitat.

e) Determination

Based on the analysis discussed above, I determine that the effects upon Wolverine by any of the three alternatives will be the same. There will be **No Impact** on Wolverine or their primary habitat either directly, indirectly, or cumulatively.

VIII. Cumulative Effects For All Species and All Alternatives:

Cumulative Effects include a combination of the past impacts of the Canon C&H Allotment and other ongoing or planned projects within the LAU. Potential sources of cumulative effects are:

Past Human Actions –
The effects of the proposed action when added to past development projects and human activities, may create significant effects to the environment.

Past activities which have taken place, include timber sales, firewood cutting and various recreational activities including hiking and hunting. In comparison to other areas, the allotment is lightly roaded and receives moderate visitation as the result of its relative remoteness and lack of access.

Ongoing and Foreseeable Future Actions – Other ongoing or human activities which are scheduled or reasonably likely to occur in the foreseeable future, and which combined with the proposed action, may create significant effects to the environment.

Several motorized trails exist in the allotment in addition to developed and dispersed camping in the Ute Creek area. Several summer homes and dude ranches also exist in the general vicinity of Ute Creek.

The vast majority of recreational use comes form the motorized Lost Trail Creek system and Road 520, which is a 4WD road, which runs throughout the southern boundary of the allotment and is a common route for 4WD enthusiasts traveling across the Continental Divide.

None of the alternatives are precedent setting. The preferred alternative, and associated grazing activities will not automatically trigger other projects, which

might have similar effects on this area of the environment. Any future actions, which may be proposed by the Forest Service, will be studied and an independent evaluation will be made of the cumulative effects of those actions. There are no other known or anticipated projects in the general area, which cumulatively might impact lynx or lynx habitat.

X. Table 5: Determination Summary by Alternative for R2 Sensitive Species

SPECIES	EFFECT	RATIONALE	Mitigation
Boreal Toad Alternative 1 Alternative 2 Alternative 3	 MI MI NI	For alternatives 1 and 2, grazing could affect vegetation structure in Boreal Toad habitat impacting toad reproduction success. Limited potential for trampling. For alternative 3, suitable Boreal Toad habitat will not be impacted by livestock grazing.	Yes
RGC Trout		See separate BE for Rio Grande Cutthroat Trout.	
N. Leopard Frog Alternative 1 Alternative 2 Alternative 3	 MI MI NI	For alternatives 1 and 2, grazing could affect vegetation structure in Leopard Frog habitat impacting frog reproduction success. Limited potential for trampling. For alternative 3, suitable Leopard Frog habitat will not be impacted by livestock grazing.	Yes
Tiger Salamander Alternative 1 Alternative 2 Alternative 3	 MI MI NI	For alternatives 1 and 2, grazing could affect vegetation structure in Tiger Salamander habitat impacting salamander reproduction success. Limited potential for trampling. For alternative 3, suitable Tiger Salamander habitat will not be impacted by livestock grazing.	Yes
Black Swift Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No

SPECIES	EFFECT	RATIONALE	Mitigation
Boreal Owl Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing has a remote chance of impacting Boreal Owl prey species habitat but this likelihood is extremely low rating a No Impact determination. Remote likelihood of limited displacement due to livestock grazing. For alternative 3, suitable Boreal Owl habitat will not be impacted by livestock grazing.	No
Burrowing Owl Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Ferruginous Hawk Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Flammulated Owl Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Fox Sparrow Alternative1 Alternative 2 Alternative 3	 MI MI NI	For alternatives 1 and 2, grazing could affect willow structure in Fox Sparrow habitat impacting reproduction success. Remote likelihood of limited displacement due to livestock grazing	Yes

SPECIES	EFFECT	RATIONALE	Mitigation
Golden-Crowned Kinglet Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing has a remote chance of impacting Golden-Crowned Kinglet habitat but this likelihood is extremely low rating a No Impact determination. Remote likelihood of limited displacement due to livestock grazing. For alternative 3, suitable Golden-Crowned Kinglet habitat will not be impacted by livestock grazing.	No
Goshawk Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing has a remote chance of impacting Goshawk habitat but this likelihood is extremely low rating a No Impact determination. Remote likelihood of limited displacement due to livestock grazing. For alternative 3, suitable Goshawk habitat will not be impacted by livestock grazing.	No
Lewis' Woodpecker Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Loggerhead Shrike Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Olive-Sided Flycatcher Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing has a remote chance of impacting Olive-Sided Flycatcher habitat but this likelihood is extremely low rating a No Impact determination. Remote likelihood of limited displacement due to livestock grazing For alternative 3, suitable Olive-Sided Flycatcher habitat will not be impacted by livestock grazing.	No

SPECIES	EFFECT	RATIONALE	Mitigation
Osprey Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No impact by any of the alternatives (including the No Action) upon Osprey or Osprey habitat.	No
Peregrine Falcon Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Pygmy Nuthatch Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Three Toed Woodpecker Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing should have no affect upon Northern Tree-Toed Woodpecker habitat. There is a remote likelihood of limited displacement due to livestock grazing For alternative 3, suitable woodpecker habitat will not be impacted by livestock grazing.	No
White-Faced Ibis Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No

SPECIES	EFFECT	RATIONALE	Mitigation
Gunnison Sage-Grouse Alternative 1 Alternative 2 Alternative 3	 NI NI NI	No Suitable Habitat for all Alternatives.	No
Dwarf Shrew Alternative 1 Alternative 2 Alternative 3	 MI MI NI	For alternative 1 and 2, grazing could result in disturbance, trampeling and changes in vegetation structure impacting individual Dwarf Shrew survival. For alternative 3, suitable shrew habitat will not be impacted by livestock grazing.	Yes
American Marten Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing has a remote chance of impacting Marten habitat but this likelihood is extremely low rating a No Impact determination. Remote likelihood of limited displacement due to livestock grazing For alternative 3, suitable Marten habitat will not be impacted by livestock grazing.	No
Townsend's Big-Eared Bat Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing has a remote chance of impacting bat habitat but this likelihood is extremely low rating a No Impact determination. Remote likelihood of limited displacement due to livestock grazing For alternative 3, suitable bat habitat will not be impacted by livestock grazing.	No
Wolverine Alternative 1 Alternative 2 Alternative 3	 NI NI NI	For alternatives 1 and 2, grazing has a remote chance of impacting Wolverine habitat but this likelihood is extremely low rating a No Impact determination. Remote likelihood of limited displacement due to livestock grazing For alternative 3, suitable Wolverine habitat will not be impacted by livestock grazing.	No

No Impact - (NI)

May Impact – (MI) May Impact Individuals, but is not likely to cause a trend towards Federal listing or result in loss of viability in the planning area

Beneficial Impact – (BI)

Likely Impact – (LI) Likely to result in a trend towards federal listing or loss of viability in the planning

Area.

Prepared by and Date: /s/ Dale Gomez 2/10/03
District Wildlife Biologist

XII. Contacts and References:

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