Wildlife Habitat & Natural Resource Specialists
RICK SHERMAN
13730 60.00 Rd.
Montrose, CO 81401
Phone (970) 249-6154, Fax (970) 252-8763, Cell (970-901-9634)
E-mail: rtsherman@montrose.net

May 1, 2006

Mr. Mike Badger
Mr. Mike Lawler
LB Moab Land LLC
500 Benchmark Drive
Telluride, CO 81435

Re: Lionsback Village Raptor Assessment

Gentlemen:

Thank you for retaining my services to do an assessment on raptors for the Lionsback Village proposal located immediately east of Moab, Utah in Section 6, Township 26 South, Range 22 East. Whereas the planning process does not require this assessment, I commend you for your concerns and willingness to assess potential natural resources impacts in your planning efforts.

On April 25, 2006 I met with Mike Lawler to look at the site plan, discuss environmental awareness and raptor issues, determine the juxtaposition of the property with adjacent public lands and features and determine the property boundaries. After our meeting, I walked the property to inventory and assess the biological features of the property, with a focus on raptors. Because the project area is adjacent to BLM managed public lands, I visited the local BLM office and have communicated with BLM wildlife biologist Pamela Riddle to learn more about BLM's management concerns for raptors and federally listed threatened and endangered and agency listed sensitive species.

Assessment items:

- Overall raptor habitat suitability.
- Potential raptor nesting sites.
- Potential raptor roosting sites.
- Prey availability and abundance.
- Influences on suitable raptor habitat.
- Overall habitat suitability for federal threatened, endangered and sensitive species that might occur within the Lionsback Village proposal.
- Potential for mitigating development impacts on raptors.

## Background

The Lions Back area is geologically comprised primarily of Entrada sandstone. This formation is noted for the massive white, pink, buff or salmon colored cross-bedded sandstone and distinctive rounded domes and vertical cliffs. Below the Lions Back, mounds of wind blown sand have formed dunes which are stabilized by scrub oak, black bush, snakeweed, penstemons, rabbit brush, sagebrush, Mormon tea, yucca, prickly pear cactus, globe mallow, Utah juniper, Indian rice grass, four wing saltbush and other miscellaneous grasses, forbs and shrubs. Introduced Fremont cottonwoods, Chinese elm and tamarisk are found near the campground office.

The site is dry with the exception of the areas irrigated by the well next to the office. Annual precipitation in the area is approximately nine inches. Ephemeral flows provide intermittent moisture to accommodate some of the larger vegetative species found along the drainages. Sandstone formations and sandy surface materials provide a limited medium for moisture retention and plant growth. However, the vegetation mentioned above is relatively robust considering the extensive surface disturbance from recreational uses.

Terrestrial wildlife species are typical of desert climates on the Colorado Plateau. Collared lizard, side blotched lizard, short horned lizard, long nosed leopard lizard, tree lizard, Western whiptail lizard, sagebrush lizard, Western garter snake, striped whip snake, night snake, Western rattlesnake, Great Basin spade foot, Silver haired bat, Townsend's big-eared bat, Pallid bat, Beta's pocket gopher, Rod's kangaroo rat, deer mouse, brush mouse, house mouse, desert cottontail, black tailed jackrabbit, ring-tailed cat, coyote, turkey vulture, mourning dove, common nighthawk, common raven, canyon wren, black-billed magpie, European starling, Brewer's sparrow, house sparrow, and house finch are just a few of the wildlife species that inhabit the area or are found in the adjacent areas around Moab.

In terms of raptors, the primary species that have adapted and use the desert canyon lands in the area include, golden eagle, bald eagle, Northern harrier, burrowing owl, red-tailed hawk, kestrel, great horned owl, prairie falcon, peregrine falcon, Swainson's hawk and ferruginous hawk. Species such as the burrowing owl and ferruginous hawk are more adaptable to nesting limitations than the prairie falcon, golden eagle and other species that are limited to cliffs and areas providing solitude. Burrowing owls are commonly found around prairie dog towns and use abandoned holes for nesting. Prairie dog habitat or presence was not observed during the field assessment. Ferruginous hawks are adaptable to using ground, pinyon-juniper or cliff areas for nesting and have greater potential for using the project area than most raptors. They are also more tolerant of human activities, as are Northern harriers, kestrels and great horned owls.

The Wingate formation immediately west of Moab provides excellent nesting and roosting habitat for many raptor species, particularly prairie falcon, golden eagle and red-tailed hawk. Steep canyon walls, fissures, ledges, solitude and a diversity of habitat for prey species make this geologic formation a haven for raptors. The riparian areas along the Colorado River, Mill Creek, Pack Creek and Negro Bill Canyon are significant habitats for birds such as the great horned owl, Northern harrier, kestrel, bald and golden eagles, turkey vultures and numerous shore birds, waterfowl, small mammals, reptiles and amphibians. In

addition, the 900 acre Scott M. Matheson Wetland Preserve, also known as the Moab Slough, is located just outside of Moab along the Colorado River. It is a unique and significant wildlife area for over 200 species of seasonal and year round wildlife. It is an important feeding area for raptors and is managed by The Nature Conservancy in cooperation with the Utah Division of Wildlife Resources.

Historic and current recreational activities in the area have had significant impacts on the natural resources in the area. Heavily incised roads and trails crisscross the landscape, including the steep slopes on the Lions Back and adjacent sandstone formations. Public recreation in the forms of camping, mountain biking, hiking, ATV and four wheeling, cross country motorcycling, horse back riding, photography and touring are very popular. The sandstone escarpments throughout the area are pock marked with bullet holes from recreational shooting.

Raptor Assessment Findings

Overall raptor habitat suitability:

The immediate area around the proposed Lionsback Village was not found to be good raptor habitat. White wash, nests, residue from feeding and other normal raptors activities were not observed on the site. Power lines located on and adjacent to the property do not have raptor perches or electrocution prevention equipment installed. Public land management agencies normally require the installation of raptor perches or electrocution prevention features on the cross members or tops of the power poles on easements crossing public lands if raptor presence is a concern.

Heavy public recreational uses preclude the solitude needed by most raptors to successfully nest. Preferred habitat is found on the ridge west of Moab. The BLM lands surrounding the Lionsback Village project area are within raptor feeding areas but are not considered a significant raptor area by the BLM, (Personal communication with BLM wildlife biologist Pamela Riddle, Moab Area Office.).

Potential raptor nesting sites:

Entrada sandstone formations are not conducive to raptor nesting or prey species nesting and colonization. Broken, steep walled canyons with ledges and nesting sites are rare on the property. No nests or whitewash were observed on the cliffs or sites suitable for nesting. Mature cottonwood and other tall trees are not available with the exception of a few located near the campground office. The vertical habitat structure desirable for nesting for many raptors is not present. Prairie dog colonies are not available for ground nesting by species such as burrowing owls.

Potential raptor roosting sites:

Power lines crisscross the property and are often used by raptors for roosting at different times of the day. Inspections of the power poles for whitewash and feeding debris near the base of the poles indicated minimal use by raptors. Common ravens were observed using

the power poles and were also seen perching on the rock formations. Roosting trees are not available on site for most raptors. High rock points show minimal use for roosting based on white wash and feeding debris.

Prey availability and abundance:

Small rodents and reptiles are abundant on the property and are available food sources for raptors. Nocturnal activities by owls and early morning and late evening periods are active feeding periods for many of the raptors. The lizards are most commonly fed on during daylight periods when they are most active. Chipmunks, mice, lizards and cottontail rabbits are some of the more common prey species found on the property. Colony nesting bird species such as bank and barn swallows are rare due to the distance to water and availability of mud nest building materials. A variety of passerine birds inhabits the area and is available prey species.

Influences on suitable raptor habitat:

Habitat diversity, including nest sites, prey abundance and availability, solitude to raise young, slope and aspect (related to raptor heat tolerance and protection of nest sites and nestlings), roost sites, and competition with other raptors and predators are all important influences for suitable raptor habitat. In the project area the most critical influence on suitable raptor habitat is the heavy recreation and lack of solitude for nesting birds. Human activities, primarily related to vehicular recreation and hiking, have a major impact on the habitation capacity for raptors. Habitat structure is secondary for providing nesting habitat. This habitat is basically unsuitable for most raptors near Lions Back.

Overall habitat suitability for federal threatened, endangered and sensitive species:

The bald eagle and Mexican spotted owl, both listed as threatened, are the two raptors listed on the Federal Threatened and Endangered Species List that occur within the general area. The bald eagle is found along the Colorado River and is primarily a winter resident, however, three known nesting pairs are found within the Moab BLM Field Office area (Pamela Riddle, BLM). The Mexican spotted owl inhabits primarily old growth, conifer forests. Neither of these species inhabits the project area, although it is suspected that occasionally a bald eagle may fly over the area.

Other BLM species of concern include the Gunnison sage grouse, Southwestern willow flycatcher (federally endangered) and white-tailed prairie dog. Suitable habitat for the flycatcher is found along the willow and tamarisk dominated riparian areas along the Colorado River and side streams. Suitable habitat for the sage grouse and prairie dog are not present in the project area.

Potential for mitigating development impacts on raptors:

There is significant potential to mitigate adverse development impacts on raptors and other wildlife species. Some of these mitigation measures include:

- Initially, simply removing the extensive recreational activities on the property will allow natural restoration of vegetation and wildlife habitat to occur in the non-development areas.
- Existing and new power lines should be raptor proofed collaborating with the Utah Division of Wildlife Resources, Bureau of Land Management, local conservation organizations and the local utility company. The utility company may be willing to install some raptor perches in designated areas recycling old poles.
- Designate open space in suitable habitat for raptors.
- Develop water sources and landscape with large trees such as Fremont cottonwoods and Utah juniper in the higher areas on the property.
- Educate the Home Owners Association on the value of managing different areas for wildlife, particularly during important breeding and nursing periods. Some open space areas may need to be closed during breeding seasons.
- Develop HOA covenants that preclude free roaming dogs and cats.
- Encourage homeowners to landscape with native, desert species that provide good habitat for wildlife.
- Utilize environmental awareness and housing design as a development selling tool. This is an incredible area that has been historically used and abused. Your thinking on doing the development right is "the right thing to do". Most people will buy into the concept of living in an environmentally aware community. Educate the buyers on conservation and best management practice concepts. This goes for environmental housing design, landscaping and helping to manage the significant open space you are suggesting.

Conclusions

It is my professional opinion that the Lionsback Village area is not suitable habitat for most raptors that occur in the Moab area. Extensive public recreation use and marginal raptor habitat limit the use of raptors in this particular area. Traffic patterns related to public access through the middle of the property along with the adjacent city landfill are deterrents to raptor activities, although the landfill could be an attractant to common ravens and crows, black-billed magpies, rats, mice and other species that serve as prey species for owls, hawks and eagles.

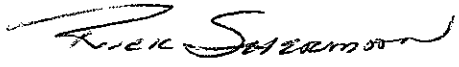
Inventory efforts found no historic or active nests, no white wash areas indicating nesting or roost sites, and no colonization of prey species such as swallows, rock pigeons or concentrations of passerine birds. Feedback from the BLM biologist indicated the area had little raptor activity due to concentrated public use and relatively unsuitable habitat.

Extensive, suitable raptor habitat exists across the valley along the long, fractured escarpment immediately west of Moab. This ridge has diverse terrain suitable for raptor

**nesting, brood rearing, and is closer to the irrigated and riparian habitats that support diverse populations of small rodent and prey species necessary to support a diversity of raptors.**

**Please contact me if you have any questions or need further information on this assessment.**

**Best regards,**



**Rick Sherman**
**Wildlife Habitat & Natural Resource Specialists**
**13730 6000 Road**
**Montrose, CO 81401**
**(970-249-6154)**