

**Table 39. Wildlife Crucial Seasonal Periods**

Species	Crucial Season(s)	Approximate Dates
Pronghorn	Winter Fawning	January 1 through May 1 May 1 through June 30
Mule Deer	Winter Fawning	January 1 through May 1 May 1 through June 30
Elk	Winter Calving	January 1 through May 1 May 1 through June 30
California bighorn	Breeding Winter Lambing	October 15 through December 31 January 1 through May 1 April 15 through June 30
Upland game birds	Breeding/Nesting Winter	March 20 through June 30 November 15 through February 28
Neo-tropical migratory birds	Breeding/Nesting	April 20 through Jul 15
Raptors	Pair formation/Nesting Fledging young	March 1 through Jun15 June 15 through August 1
Amphibians	Breeding Hibernation	April 1 through June 30 October 15 through April 15

Habitats identified in the planning area include the following general categories:

- Grasslands dominated by grass species with a minimal (e.g. less than 10% canopy coverage) shrub component (annual grassland, non-native perennial grassland, native grasslands)
- Sagebrush steppe, where a species of sagebrush is usually the most abundant shrub (e.g. greater than 10% shrub canopy coverage) (black greasewood, salt desert shrub, basin big sagebrush/annual, Wyoming big sagebrush/annual; Wyoming big sagebrush/short grass, Wyoming big sagebrush/tall grass, black sagebrush; low sagebrush [low elevation]; low sagebrush [high elevation], mountain big sagebrush, mountain shrub)
- Woodlands, where the woody species is usually more than 15 feet tall with a single stem (mountain mahogany woodland and aspen woodlands)
- Riparian zones (semi-wet meadows [dominated by grasses and grasslikes – sedges and rushes], riparian juniper, riparian deciduous tree [aspen/cottonwood], and riparian shrub [willow/dogwood])
- Specialized habitats of dune lands and canyons (cliff/talus)

### *Indicators*

Standards 2, 3, 4, 5, and 7 of the Idaho Standards for Rangeland Health should be met as documented by S&Gs assessments (BLM, 1997). Standard 2 requires riparian-wetland areas are in properly functioning condition appropriate for the soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Standard 3 states stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size, shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Standard 4 requires native plant communities to be healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type climate, and landform to provide proper nutrient cycling, hydrologic cycling, and energy flow. Standard 5 states

rangelands seeded with mixtures, including predominantly non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle. Standard 7 states surface and ground waters on public lands comply with Idaho Water Quality Standards.

## *Current Condition*

### Big Game

#### *Mule deer*

Mule deer are the most abundant and widespread big game animal in the planning area. Although mule deer numbers are increasing compared to 5 years ago, mule deer numbers are down in the planning area compared to the late 1980s. The habitat requirements of mule deer vary seasonally; typically spring/summer habitats are distinct from fall/winter habitats. Mule deer diets consist of some browse year round; particularly in the fall and winter. Greater amounts of grasses and forbs are consumed in the spring and summer. In the spring, mule deer fawning habitat is characterized by dense stands of deciduous or coniferous trees or shrubs with diverse herbaceous understory. Mule deer winter range is characterized by low elevation, southern exposed xeric and mesic sagebrush steppe and mixed shrub-grasslands. Aspen and mountain mahogany stands, mountain shrub communities, and riparian areas are important seasonal habitats for mule deer as fawning, foraging, security, and transition range. Livestock management including season of use, fence locations, and water developments in these habitats in portions of the planning area are not compatible with the biological needs of mule deer.

In several areas, four-, five-, and six-strand fences inhibit mule deer movements and, in some instances, result in direct mortality through entanglement. Harrington and Harrington and Conover found mule deer mortality in fences has two peaks. The first is in the late summer, after weaning, with mortality primarily among young mule deer, pronghorn, and elk too large to move under fences, but without the skill or strength to jump fences (Harrington, 2005; Harrington & Conover, 2006). The second peak occurred in the winter among all age classes. Harrington attributed the increase in mortality in the winter to a weakened condition (Harrington, 2005).

#### *Pronghorn*

Pronghorn are widely distributed throughout the planning area. Pronghorn are typically associated with sagebrush steppe habitats, but readily use grasslands if there are adequate amounts of forbs. In sagebrush steppe habitats, pronghorn diets consist of sagebrush and other shrubs during all seasons, particularly in the fall and winter (O'Gara & Yoakum, 2004). Forbs are highly preferred by pronghorn when available. Research demonstrated pronghorn production can be influenced by forb diversity and abundance (Pyrah, 1987). Pronghorn are adapted to large open expanses and rarely jump fences (Sheldon et al., 2006). Research in Wyoming indicates areas with increasing fence density are avoided by pronghorn. In the sagebrush steppe habitats in western Wyoming, fence density was 0.58 mi/mi<sup>2</sup>, whereas fence density in areas used by pronghorn was less than 0.23 mi/mi<sup>2</sup> in the summer and 0.28 mi/mi<sup>2</sup> in the winter (Sheldon et al., 2006). Harrington and Sheldon et al. reported that where fences were present on both sides of the road, deer and pronghorn mortality was higher (Harrington, 2005; Sheldon et al., 2006). Fence density

on public lands in the planning area is 1.02 mi/mi<sup>2</sup> and is higher when private land is considered.

Snow and/or accumulated weeds can make even fences built to wildlife-friendly specifications difficult or impossible for pronghorn to pass, further fragmenting habitat (Harrington & Conover, 2006). Tumbleweed and tumbleweed accumulate each fall and through the winter to make some fences impassible. Fences running north-south tend to collect more weeds than those running east-west. Accumulated weeds readily exceed 30 feet wide and 42 inches tall, forming total barriers to big game movements. Weeds also collect in the bottoms of draws, normal travel routes, and places where big game normally pass under fences. Weed accumulation is substantially less where native sagebrush steppe is present. Net wire and strand wire fences with five or more strands and the bottom strand lower than 16 inches generally form barriers to pronghorn movements.

### *Elk*

Elk numbers increased in the area after elk were transplanted on USFS land in Nevada during the early 1990s. Forty-seven elk were released in the Jarbidge Mountains in 1990, 31 in 1991, and 15 in 1995. Ninety-eight elk were introduced into the Bruneau River area between 1994 and 1996. The projected population target for the Jarbidge Mountains was 250 to 300 adult elk following harvest by 1999 (NDOW, 1997).. NDOW is managing for a herd for 1,000 elk in the Jarbidge Mountains (NDOW, 2000). Current elk numbers are estimated to be about 1,500 in those hunt units (Martin, 2007). Elk numbers in the southern portion of the planning unit generally increase in the late fall and winter. Elk numbers decline to some extent as the majority of the elk move back to Nevada in the late spring to calve. IDFG does not have a specific population goal for elk in the planning unit at this time.

Elk are primarily grazers (Peek, 2003), but will consume forbs and browse. Browse is typically consumed in the winter if herbaceous vegetation is covered by snow. The conversion of sagebrush steppe to perennial grassland does not appear to hinder the expansion of elk in the planning area. However, most of the observations of elk in the central planning area have been in sagebrush steppe habitats year round. In the southern part of the planning area, elk have been observed in numerous canyons, aspen stands, and mountain mahogany woodlands.

### *Mountain Lion*

Mountain lions are widespread at a low density in the planning area. Because mountain lions have territories with relatively large home ranges, mountain lion populations are naturally fairly low (approximately 0.6 lions per 62 mi<sup>2</sup>) (Pierce & Bleich, 2003). In the planning area, the distribution of mountain lions is associated with the canyons and the proximity and abundance of big game (mule deer and bighorn sheep).

### *Big Game Winter Range*

Wildfire degraded big game winter range throughout the planning area (Figure 15). Sagebrush and some of the other browse species in some areas have been removed due to

the larger, more frequent wildfires with the exception of rabbitbrush (*Chrysothamnus* spp.) which responds by re-sprouting following burning (Tirmenstein, 1999a, 1999b).

Important browse species vary with habitat. Sagebrush, bitterbrush, serviceberry, chokecherry, and four-wing saltbush are important browse species on the big game winter range. Other species such as rabbitbrush, mountain snowberry, spiny hopsage, and shadscale can also be important browse species depending on winter severity. Winter range evaluations revealed Chokecherry and Utah serviceberry showed the most hedging followed by four-wing saltbush; a portion of this hedging could be attributed to fall and winter grazing by livestock. Wyoming big sagebrush and antelope bitterbrush showed moderate hedging at most plots. In addition to utilization levels, the relatively high amounts (10% to 29%) of rabbitbrush in winter ranges classified as salt desert shrub, low sagebrush, Wyoming big sagebrush, mountain big sagebrush, and mountain shrub is a concern. The majority of the shrubs were classified as mature; however, more than 20% of Wyoming big sagebrush was categorized as decadent or dead in most habitats. This may indicate that sagebrush in the winter range is old or receives more physical damage, or that recruitment of new shrubs is suppressed. There was no evidence of an insect outbreak to indicate that as a cause of decadence or mortality.

Junipers are slowly increasing in winter range in the canyon uplands. Because bighorn generally avoid woodlands, the juniper encroachment reduces bighorn access to otherwise suitable habitat.

In the 1960s and early 1970s, BLM chained, railed, or plowed large tracts of sagebrush habitat and seeded the treated areas to crested wheatgrass to improve forage for livestock and control cheatgrass, halogeton, and an agricultural pest, beet-leaf hoppers. The seedings were to provide fall, winter, and early spring forage and reduce the amount of cattle on native range further to the south. A large portion of the vegetation treatments, particularly in the northern portion of the planning area, have since burned by wildfires. Rabbitbrush and sagebrush are now approaching pretreatment levels in areas that burned in the 1960s and early 1970s and areas with old vegetation treatments. A few of the old burns are now dominated by non-native annual grasses. In several instances (areas of the Horse Butte, Inside Desert, Juniper Ranch, Juniper Butte, Buck Flat, Antelope Springs Allotments), rabbitbrush now makes up more than 50% of the shrub component. The late seral grasses and the majority of native forbs (hawksbeard, biscuitroot, arrowleaf balsamroot, fleabane, paintbrush, penstemon, etc.) are limited or lacking in the majority of old vegetation treatments. The combination of fire and subsequent rehabilitation to non-native perennial grasses converted sagebrush steppe habitats to non-native grasslands. This resulted in a net loss of sagebrush steppe habitat.

In addition to roads and jeep trails, range infrastructure and other human-caused disturbance are sources and/or conduits for the spread of invasive non-native species and noxious weeds. The non-native annuals readily establish in high disturbance areas and subsequently invade the adjacent areas. Impact areas around water troughs vary from about 40 feet to over 200 feet in radius. Livestock waters, ponds, and troughs may temporarily alter the distribution of some big game while water is present. Because a

majority of the troughs contain water primarily when livestock are in the pasture, the benefits to wildlife are temporary. The benefits of livestock waters to big game populations are unknown (Lynn et al., 2006; Marshal et al., 2006; O'Brien et al., 2006). Livestock often use sagebrush and bitterbrush within 200 meters of water troughs. Upland shrubs in close proximity to water have many broken branches. Shrubs are damaged to a lesser degree in close proximity to salt/supplement locations.

Habitat alteration from water developments, fences, roads, and trails occurred throughout the planning area. Additional impacts include roads, power lines, towers, and gravel pits. Pasture fencing throughout the FO resulted in additional divisions within habitat. The mean pasture size is approximately 3,000 acres with a median pasture size is approximately 1,800 acres<sup>6</sup>. These numbers are actually smaller due to more than 20 subdivisions of larger pastures and the consideration of private land. Pronghorn are adapted to open spaces and escape predators by running long distances. Pronghorn are forced to go under fences, hindering their ability to rapidly outrun predators. Fence entanglement and strikes can be a source of mortality for big game (Autenrieth et al., 2006; Harrington & Conover, 2006) and birds (Allen & Ramirez, 1990). Although appropriate wire spacing and height can reduce impacts to big game, snow and weed accumulation in fences limit big game movements in some areas. Fencing can provide some benefit to big game when used to protect important habitats from resource use damage such as riparian fencing.

Power lines and communications towers are generally associated with population areas. At this time wind energy has been associated with private land in the northern portion of the planning area. At least one large wind energy development has been proposed in the Rogerson area just east of the planning area boundary. A ROW has been issued to evaluate wind energy in the southeastern portion of the planning area as well as in northern Nevada adjoining the planning area. Due to the significant infrastructure associated with constructing and operating a large-scale wind farm (roads, tower pads, turbines, maintenance buildings, powerlines, etc.), impacts to sage-grouse and their habitat is anticipated. At a minimum, some habitat will be lost and remaining habitat will be further fragmented.

#### Upland Game

The distribution of Gray partridge, California quail, Mourning dove, and Ring-necked pheasant is closely tied to agriculture throughout the planning area. Chukars are most commonly associated with deeply incised canyons such as Salmon Falls Creek, the Jarbidge River, and the Bruneau River, but also are present in areas with steep topography associated with some of the volcanic buttes such as Notch Butte and Twin Buttes.

Holechek et al. found herbaceous vegetation within 1 mile of water is available for livestock use unless a barrier blocks access (Holechek et al., 1998). Areas more than 2 miles from water are generally not used by livestock (Holechek et al., 1998). Approximately 800,000 (60%) acres of BLM land in the planning area are within 1 mile

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<sup>6</sup> These numbers are likely overestimates. Only pasture fences were included in the calculations.

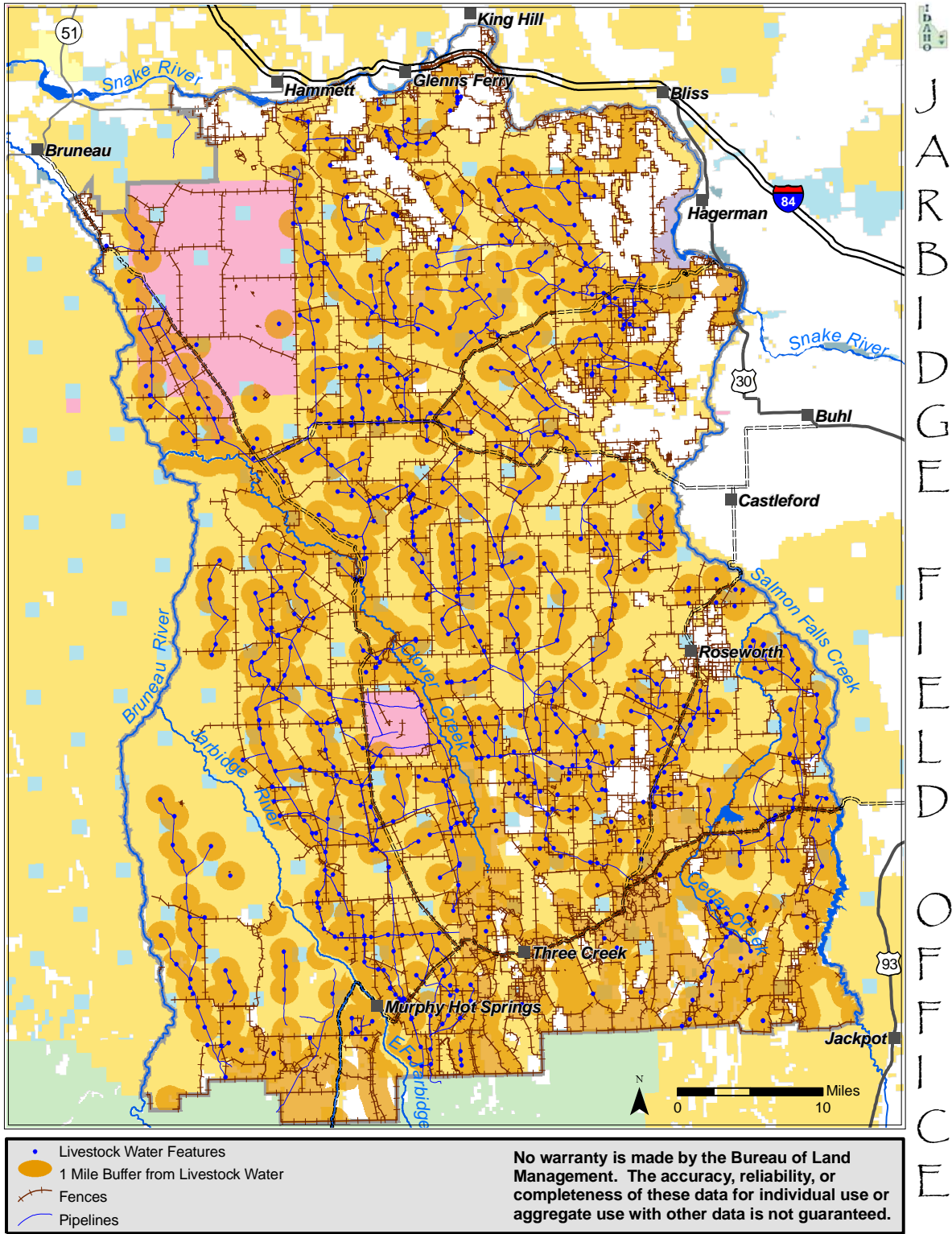
of a water source, whereas only 530,00 acres are more than 1 miles from water (Figure 18). These acreage values do not include seeps, springs, playas, or water haul troughs on public land or grazing and water developments on private land. Residual cover for bird nesting and wintering is reduced close to troughs and increases at further distances from troughs. The distribution of water developments in the planning area has implications for the availability of suitable residual cover required by ground-nesting birds.

#### *Wildlife Tracts Program*

From the 1960s into the 1980s, large acreages of formerly public lands were conveyed to private ownership through the Desert Land Act of 1877 and Carey Act of 1894 (CA). To mitigate for the loss of habitat, BLM retained scattered parcels of land to be managed for wildlife. The majority of these lands were designated as wildlife tracts under provisions of the Sikes Act of 1960, as amended. The planning area has 123 designated wildlife tracts, totaling approximately 13,000 acres. Designated tracts occur in three geographical areas: Blue Gulch has 78 tracts for 7,000 acres, Bell Rapids has 21 tracts for 3,000 acres, and Grindstone Farms has 24 tracts for 3,000 acres (Figure 19). A smaller acreage than expected was transferred using desert land entry (DLE) under the Desert Land Act of 1844 and CA due to a lack of water, resulting in a scattered tract pattern in several grazing allotments.

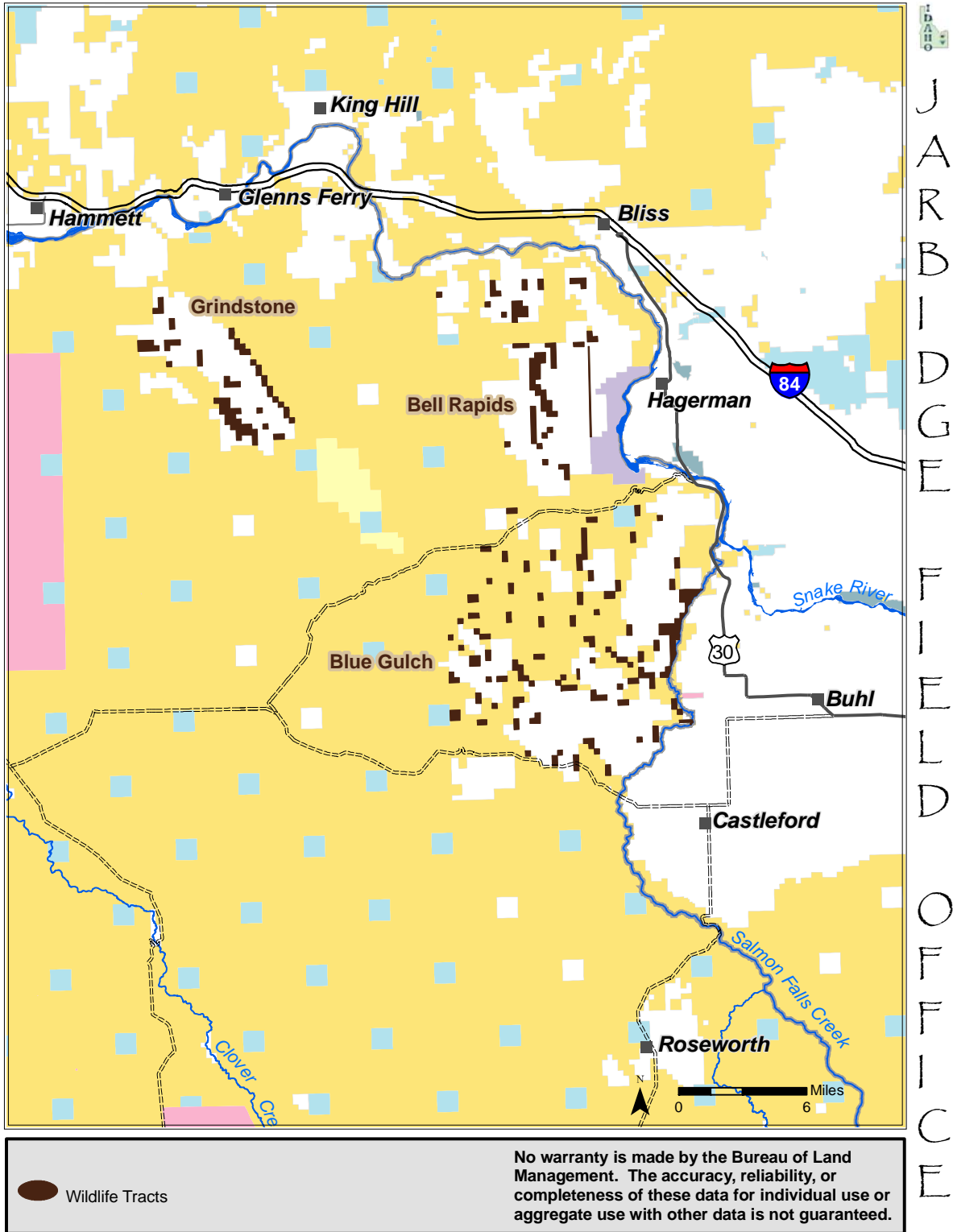
A Habitat Management Plan (HMP) outlined management for the tracts and identified various projects for completion. Eight guzzlers were installed on the tracts to provide wildlife with a water source. The existing guzzlers have limited value as they are old, require water hauled to their storage tank, and leak. Approximately 40% of the tracts are fenced. In the early 1980s, shrubs were planted on approximately 20 tracts to improve wildlife habitat. Shrubs were planted on several wildlife tracts in 2006.

Figure 18. Areas Within 1 Mile of Water



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**Figure 19. Locations of Existing Wildlife Tracts in the Grindstone Farms, Bell Rapids, and Blue Gulch Areas**



The Sikes Act Wildlife Tracts are managed jointly by BLM and IDFG with the primary emphasis on providing habitat for upland game. A grazing decision closed the wildlife tracts to livestock grazing; however, the HMP provides designated tracts can be periodically grazed with prior concurrence from IDFG. The division of MUA 7 into individual allotments by agreement did not address wildlife tracts. Table 40 lists the approximate acreage of tracts and the grazing allotments they are in. In areas adjacent to farmland, isolated tracts contain the only early spring, fall, and winter upland game habitat. However, because many tracts are small, upland game mortality may be high (Saunders et al., 1991).

**Table 40. Allotment Tracts and Tract Acreage**

Allotment Name	# Tracts	Total Tract Acres <sup>A</sup>
Grindstone	1	80
Hagerman Group	21	3,200
Kubic	52	4,900
Lower Salmon Falls	1	80
Noh Pasture	2	190
Thousand Springs	1	40
Notch Butte	5	440
Saylor Creek/North Three Island	2	80
Thompson	10 (parts)	200
Twin Buttes	3	240
Yahoo	7	840
Balance Rock	4	300
Devil Creek/Balanced Rock	4	220
<b>Subtotal</b>	<b>113<sup>B</sup></b>	<b>10,810</b>
Tracts Not In Allotments	10	2,600
<b>Total</b>	<b>123</b>	<b>13,410</b>

<sup>A</sup> Acres have been rounded.  
<sup>B</sup> This total includes 3 tracts that are split by allotment boundaries

### Waterfowl

The Snake River, Salmon Falls Creek and Reservoir, Roseworth Reservoir, and other sources of surface water provide important nesting and brood-rearing habitat, migratory resting areas, and winter habitat for a wide variety of waterfowl. Historically, Toana Gulch was artificially recharged by irrigation through approximately 4 miles of irrigation canals and 30 acres of ponds on BLM land. The canals and ponds are now dry, and water flows in Toana Gulch are declining.

### Furbearers

Furbearers such as badger, bobcat, and red fox are present throughout the planning area. A number of riparian zones including China Creek, Rocky Canyon, Dorsey, Columbet, and portions of Flat Creek show current occupancy by beaver. Beaver do not appear to be present in most of Cedar, Deadwood, Dave, Cherry, Upper Three, Pole, and portions of Flat Creeks. These streams have mixtures of aspen and willow riparian zones that could potentially support beaver. There is evidence that beaver have been present in the past. The habitat appears to be suitable, and beaver could potentially be introduced into some

of the drainages. Otter and mink are present in portions of Salmon Falls Creek and the Bruneau, Jarbidge, and Snake Rivers.

## *Trends*

### Big Game

#### *Mule Deer*

Mule deer populations are static to trending downward since the mid 1980s (Hayden, Spicer, Wakkinen et al., 2006). Approximately, 56,000 acres of designated big game winter range burned since 1982. Some allotments have experienced an increase in livestock grazing on winter range during the winter since the late 1980s. Austin and the Western Association of Fish and Wildlife Agencies Mule Deer Working Group recommend livestock grazing on winter ranges be conducted in the late spring rather than the fall and winter to reduce competition and displacement of wintering big game (Stewart et al., 2002) at a critical time of year and to promote shrub production (Austin, 2000; "Mule Deer: Changing Landscapes, Changing Perspectives," 2003).

#### *Pronghorn*

Pronghorn populations are slowly trending downward since the mid 1980s (Figure 26) (Rachael et al., 2006); however, populations in northern Nevada appear to be increasing (Martin, 2007). Suspected reasons for the decline in numbers within the planning area include the failure of forbs, primarily alfalfa, to persist in crested wheatgrass seedings planted in the late 1970s and 1980s; conversion of sagebrush steppe to non-native annual and perennial grasslands and habitat fragmentation due to wildfires and rehabilitation; increased road and trail densities; and increased fencing which reduces pasture size. Fences can present complete or partial barriers to movements of pronghorn (Autenrieth et al., 2006). In the past three years, BLM has modified over 26 miles of six-strand fence and removed approximately 12 miles of net wire fence. Net wire, as well as five and six-strand wire fences, are still present in several areas. These fences strongly influence the movement of pronghorn to seasonal habitats, water sources, and feeding areas because pronghorn prefer to cross under, rather than over, fences. Non-native weeds and accumulated snow can make fences impassible for pronghorn.

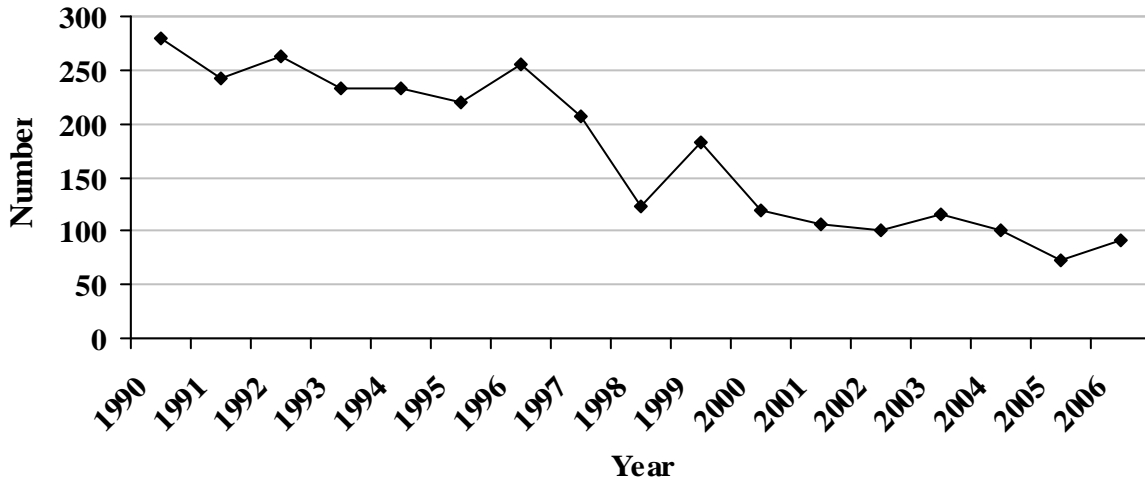
#### *Elk*

Elk numbers increased in the area since elk were transplanted on USFS land in Nevada during the early 1990s. As the elk population increases in Nevada, it is likely that more elk will immigrate to Idaho. Elk numbers in the Jarbidge Mountains are estimated to be around 1,500. Given the recent observations of elk in the central portion of the planning area, the population is likely increasing and will continue to extend its distribution into the planning area.

#### *Mountain Lion*

Mountain lion populations are static to trending downward since the mid 1980s (Hayden, Spicer, Crenshaw, Hickey et al., 2006).

**Figure 20. Numbers of Pronghorn Observed During August and September Herd Compositions Surveys, 1990-2006<sup>7</sup>**



*Winter Range*

There has been limited information collected on trends of winter range. There is not adequate information to determine a long-term trend. Four-wing saltbush, an important component of winter range, is being browsed at utilization levels of 90% or more in some areas.

Upland Game

Gray partridge, quail, dove, and chukar populations appear to have been stable throughout the planning area since 1985 (Hayden, Spicer, Crenshaw, Rachael et al., 2006). Ring-necked pheasant populations have been generally stable at lower numbers following a precipitous decline during the 1980s (Hayden, Spicer, Crenshaw, Rachael et al., 2006). Changes in farming practices such as the proliferation of sprinkler irrigation and subsequent loss of suitable habitat such as canal and ditch banks, seasonal wetlands, and residual grain stubble were major factors associated with the decline of pheasant populations. Changes to late fall and winter livestock grazing use combined with increases in range infrastructure have reduced nesting cover.

The timing and amount of spring and winter precipitation typically account for most of the annual variation observed in upland game bird populations. No specific information is available regarding the status of Dusky grouse (formerly blue grouse) populations in southern Idaho or Nevada. In general, cottontail rabbit numbers have declined due to the amount of sagebrush habitat converted to grassland.

A number of factors adversely impacted habitat quality of wildlife tracts including wildfire; the issuance of ROWs for communications sites, pipelines, and roads; unauthorized agricultural use; authorizations for gravel pits; and the proliferation of unauthorized routes. In a few instances, legal public access to specific tracts is lacking

<sup>7</sup> Numbers were standardized across all years for the Roseworth Reservoir to Poison Butte route. Source: ("IDFG Unpublished Data,")

because BLM did not retain an easement across the land when it was conveyed to private ownership. A few tracts have been used as dump sites for household trash and/or stone from agricultural land.

#### *Waterfowl*

Fencing of Cedar Mesa Reservoir, Columbet Creek, Camas Slough, Grindstone Farms, Heil Reservoir, Horse Pond, and 71 Draw Pond, among others, improved waterfowl nesting on roughly 1,000 acres of habitat. Other exclosures were constructed; however, water in the majority of these ponds does not persist long enough for waterfowl to successfully raise broods. The loss of water for irrigation at Bell Rapids resulted in a decline in waterfowl nesting habitat in the Toana Gulch area. Reduced water flows in Toana Gulch resulted in the loss of 3.3 miles of streamside wetlands.

#### *Furbearers*

There is no information on the population of most furbearers. Trapping license sales have increased statewide from 558 in 1999 to 1,022 in 2005 (IDFG, 2006).

### *Forecast*

#### Big Game

Mule deer and pronghorn are expected to decline as wildfire continues to alter winter range habitats and non-native annuals increase in low elevation sagebrush steppe habitats. The increase in cheatgrass is expected to result in more fires in important wildlife habitat. Impacts to mule deer and pronghorn may be intensified in those areas if livestock grazing displaces mule deer and pronghorn or competes with them for forage in the late fall and winter. During the winter, particularly during periods when snow accumulation of more than 6 inches hardens, livestock forage on browse. Big game displacement from preferred winter habitat and direct competition for available browse has implications for big game survival and production. Increasing elk numbers may compete with both mule deer and pronghorn seasonally for forbs and during the winter browse. Modifying or removing four- or more strand barbed wire fences could benefit big game. Increases in fencing, even when built to wildlife specifications, will make pasture sizes small, further hindering big game movements.

#### Upland Game

Pheasants require dense tall grass for nesting and winter habitat. Changes in farming, as well as other man caused disturbances, reduces the quality of habitat for upland game. These disturbances are expected to continue, further changing the existing habitat. The wildlife tracts will still provide important habitat to upland game.

#### Waterfowl

Waterfowl populations are not expected to change. Fenced ponds continue to provide limited nesting habitat for waterfowl.

#### Furbearers

No forecast is made for furbearers due to a lack of data.

### Winter range

Wildfire is expected to continue to burn in big game winter ranges at the present rate. With the large amount of rabbitbrush present on some portions of the winter range due to wildfire, rabbitbrush is expected to dominate more of the winter range in the future. Wildfires are expected to reduce or eliminate sagebrush and bitterbrush in winter range.

### *Key Features*

Riparian zones and wetlands are key features for a large number of wildlife species throughout the planning area. These areas should receive careful management and improvement that move them toward PFC. Riparian habitat and stream channel restoration will benefit a variety of wildlife species including amphibians, mammals, and birds.

Developing methods to slow the spread of invasive annuals and reduce the impact of wildfire on remaining native plant communities and restoration areas will be important. In absence of a large-scale restoration effort, sagebrush-obligate species could be restricted to 30% or less of their historic range.

Given the wide-scale loss of sagebrush steppe habitat in the planning area, management of remaining contiguous blocks and island will be important. Developing management strategies to balance the needs of sagebrush steppe-obligate wildlife with other uses such as livestock grazing, motorized vehicles, noxious and invasive plant management, and fire management will be essential.

Big game winter ranges are key features of the planning area. Winter ranges in the planning area include the Jarbidge Foothills and numerous canyons and adjoining upland plateaus within 1 mile of the Bruneau, Clover, Devil, Jarbidge, Cedar, Salmon Falls, and Snake River Canyons. The adjacent uplands offer flat topography for foraging, whereas the canyons offer escape terrain and thermal habitat. The distribution of wintering mule deer and pronghorn shifted in the planning area since the early 1980s. The boundary of designated mule deer and pronghorn winter range in the planning area needs to be amended and/or updated. Winter range boundaries have been identified for elk by NDOW introduced in northern Nevada that now winter in the southern portion of the planning area. IDFG is in the process of identifying winter range boundaries.

### **Current Management**

The 1987 Jarbidge RMP directed big game habitat be managed to support mule deer, pronghorn, and elk. It also identified forage to be allocated to these species. Forage allocations were inadequate to meet the population objectives stated in the RMP.

The 1987 Jarbidge RMP directed the development of a Snake River Wildlife Tract HMP. A plan was drafted in 1992; however, a change in policy resulted in the plan not being finalized or implemented.

Present levels of upland game nesting and cover habitat were to be maintained in MUAs 6 and 7. One of seven sage-grouse leks is active in MUA 6 and 1 of 13 in MUA 7. The increase in livestock AUMs originally proposed for this MUA would not have allowed upland game nesting and cover habitat to be maintained. Wildfires, fire rehabilitation, the construction of numerous

water pipelines, and increases in livestock AUMs and wild horse numbers have resulted in a reduction in upland game nesting and cover habitat in both MUAs. Remaining sagebrush steppe habitat in MUA 6 and 7 is highly fragmented and generally in early seral stage with an abundance of cheatgrass and a general lack of native forbs and grasses (BLM).

Nearly 4,000 acres in MUA 7 were to be managed for curlews. Pipelines and fences have impacted curlew habitat. Curlew mortalities occasionally occur in barbed-wire fences.

No projects have been implemented to improve big game habitat in MUA 11 or 15. Most of the remaining sagebrush steppe is highly fragmented in MUA 11. Issuance of temporary non-renewable grazing permits (TNR), increases in livestock AUMs, and changes in livestock seasons of use have increased livestock presence on winter range in the winter. Winter livestock use has damaged four-wing saltbush resulting in minimal seed production and plant mortality. In MUAs 15 and 16, fires have burned approximately 51,000 and 7,000 acres respectively. Crested wheatgrass and to a lesser extent four-wing saltbush were planted on identified winter range in several fire rehabilitation plans. Livestock use on four-wing saltbush has resulted in minimal seed production and mortality on individual plants. New routes, fences, and livestock water developments have altered habitat. Higher elevation habitats are generally better quality due in part to greater precipitation, resulting in fewer wildfires.

NDOW reintroduced elk on to USFS lands in Nevada during the early 1990s. Initially, the elk herd was capped at 300 elk, post harvest, by agreement. In the late 1990s, independent research indicated habitat would support substantially more than 300 elk. BLM did not amend the Jarbidge RMP to allocate AUMs and habitat to meet NDOW's elk population target because the elk were introduced on USFS land.

## **Management Opportunities**

The 1987 Jarbidge RMP has few objectives and limited management guidelines for a variety of wildlife species or their habitat. The following could be considered for components of a desired outcome for maintaining wildlife populations and their habitats in the revised RMP:

- Populations of game species are stable to increasing based on population management objectives established by IDFG and NDOW.
- Condition for shrub steppe big game winter range is a mixture of seral stages, with most in late seral stage or PNC. Key shrub species such as sagebrush, bitterbrush, serviceberry, and mountain mahogany are recruited as represented by a diversity of age and cover classes. Less desirable shrubs such as rabbitbrush are not increasing. Browsing of key shrub species by livestock and big game is categorized at moderate or less. Use by livestock does not result in moderate to severe browsing or physical damage.
- Adequate residual herbaceous cover remains to meet wildlife forage as well as nesting winter cover requirements.
- Perennial streams are near normal in pool frequency and depth, width/depth ratios, sinuosity, large woody debris, amount of sediment, cobble embeddedness, and water temperature for the size of watershed and geomorphologic setting in which they occur. The composition and diversity of riparian trees and shrubs are adequate to provide streambank shading, trap sediment, protect soils during run off, and recruit woody debris.
- Acreages of aspen and mountain mahogany stands are not decreasing. Aspen stands

contain a variety of young, mature, and dead trees to meet wildlife needs. The understory in these woodlands contains a diversity of native grasses, forbs, and shrubs through the fall. The encroachment of junipers and other conifers is not suppressing the production of aspen, mountain mahogany, or the understory.

- Riparian areas provide adequate vegetation given stream type and potential in order to dissipate energy and meet a variety of wildlife and special status species needs.
- Herbaceous understories in wetlands/riparian zones contain a variety of late seral native forbs, grasses, and grasslike species and remain functional to meet wildlife needs. Late seral species such as woolly sedge, Nebraska sedge, and beaked sedge are not decreasing. Grazing tolerant species such as Kentucky bluegrass and Baltic rush are not increasing or replacing late seral species. Non-native annuals, noxious weeds, and upland vegetation are absent to rare and are not present to the water's edge.
- Acreages of sagebrush steppe habitat are maintained or increasing with an appropriate representation of late seral native bunchgrasses and an abundant and diverse native forb component appropriate for site potential.
- Restoration of habitat focuses on linking or expanding isolated, fragmented habitats with more contiguous blocks. Restoration activities include the use of a variety of native grasses, forbs, and shrubs. Priority will be given to restore shrubs in areas where the existing native grass/forb component is adequate and only shrub abundance and cover is lacking.

Since the mid 1990s, IDFG has urged BLM to realign the wildlife tracts with a no net loss of acreage to the tracts program to make larger tracts and reduce the tract acreage within allotments. If a realignment were to occur, an agreement with IDFG could be written to improve habitat on the tracts and protect the areas from dumping, unauthorized storage and roads, and agricultural trespass. Specific projects could include self-filling guzzlers, restoration of areas dominated by invasive non-native annuals, noxious weed control, fencing, and shrub plantings. With an updated plan, BLM and IDFG could be better able to work with local sportsmen groups as well as groups like Pheasants Forever to improve habitat primarily for upland game.

Livestock grazing seasons of use or pasture rotations could be altered so few livestock are present in big game fawning areas during the fawning period or winter range in the winter (Table 39). Livestock grazing could be encouraged on big game winter ranges from May 1 through July 30 to facilitate browse production and establishment. Grazing management guidelines that recognize the cover needs of upland game birds during nesting and winter could be adopted.

Pronghorn habitat in the southern half of the planning area could be restored using species including winterfat, low sagebrush, black sagebrush, globemallow, and Wyoming big sagebrush along with native grasses. Restoring burned crucial big game habitat within the planning area could be considered. Browse species to be considered may include antelope bitterbrush, chokecherry, serviceberry, sagebrush and four-wing saltbush depending upon the site potential. Adjusting big game winter range boundaries in light of new information provided by state agencies could be considered.

Adequate forage for elk population targets as established by NDOW could be reserved, recognizing some Nevada elk will winter in Idaho. Adequate forage for elk in Idaho could be

reserved to meet IDFG management objectives.

Fences could be modified using Davidson clips or let down fences to facilitate big game movements (Karsky, 1988). Range infrastructure including troughs, corrals, and holding pastures could be removed and the impact areas could be restored.

Partnerships could be developed with the Mule Deer Foundation, Rocky Mountain Elk Foundation, Foundation for North American Wild Sheep to restore habitat as well as IDFG Mule Deer Initiative to restore habitat. Partnerships could be developed with IDFG and NDOW for inventory efforts.