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Executive Summary

Long Term Special Use Authorization for Wyoming Game and Fish Commission to Use National Forest System Land for their Winter Elk Management Activities

Bridger-Teton National Forest Teton and Sublette Counties, Wyoming



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**Long Term Special Use Authorization for Wyoming Game and Fish
Commission to Use National Forest System Lands for Their Winter Elk
Management Activities**

**Executive Summary for Final Environmental Impact Statement
Teton and Sublette Counties, Wyoming**

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Abstract: The WGFC has requested authorization to use the National Forest System (NFS) lands within the Bridger-Teton National Forest at Alkali Creek, Dog Creek, Fall Creek, Fish Creek, Muddy Creek, Patrol Cabin, and Upper Green River Feedgrounds to continue their winter elk management activities at these locations. Three alternatives were developed in response to the WGFC request. **No Action - No Special Use Authorization (Alternative 1)** would result in no permits issued; with the projection that the WGFC would continue to implement their winter elk management activities on other federal, state, or private lands. **No Change in Permitted Area (Alternative 2)** would permit the WGFC to use NFS lands at the existing locations with no change in facilities or feeding area. **The Proposed Action (Alternative 3)** is the Preferred Alternative and would permit the WGFC to continue to use NFS lands with the same facilities and feeding area at Alkali Creek, Dog Creek, Fall Creek, and Upper Green River; increase the feeding area at Fish Creek; allow one haystack yard with 2 hay sheds, horse corrals, water facilities, and additional feeding areas at Patrol Cabin Feedground; and increase the permitted area for the construction of a horse corral at Muddy Creek Feedground.

Summary

Supplemental feeding of elk in western Wyoming was initially implemented on an emergency basis to prevent large-scale die-offs due to the loss of winter ranges in the early 1900's. Today the Wyoming Game and Fish Commission (WGFC) provides feed for elk at 21 state operated feedgrounds and one staging area near the communities of Afton, Jackson, Pinedale, and Big Piney during the winter months to substitute for the loss of native winter range, minimize winter mortality, and maintain robust elk populations. Elk feedgrounds also reduce depredation of private haystack yards and pastures and decrease commingling of cattle and elk.

The Bridger-Teton National Forest (BTNF) proposes to continue to authorize the Wyoming Game and Fish Commission (WGFC) to use six sites on National Forest System (NFS) land for their winter elk management activities and to begin authorizing use of NFS land adjacent to the existing feedground on State land at Patrol Cabin. The six existing sites are Alkali Creek, Dog Creek, Fall Creek, Fish Creek, Muddy Creek, and Upper Green River. The new site is Patrol Cabin. This action is needed because the six existing authorizations have expired or will expire within the next several years and because expansion from State managed lands onto NFS land is desired at Patrol Cabin. Key issues identified by the Forest Service and through public scoping and comments include:

Issue #1. High concentrations of elk on the feedgrounds during certain soil conditions could cause soil compaction and/or increased erosion.

Issue #2. Use of the feedgrounds concentrates the elk, which could result in impacts to vegetation from browsing and trampling causing changes in vegetation type and condition, especially in sagebrush, aspen, and willow stands associated with riparian/wetlands. These vegetation impacts could affect wilderness characteristics when feedgrounds are located near Wilderness and WSAs.

Issue #3. Use of the feedgrounds concentrates the elk, which could reduce stream bank stability and result in impacts to stream channel function. Surface water quality and fish habitat may also be affected by bank instability via sediment delivery and increased water temperatures.

Issue #4. Use of the feedgrounds could impact elk, wolves, scavengers, and wildlife species that utilize sagebrush and riparian habitat.

Three alternatives, including the proposed action, were developed to address the Wyoming Game and Fish Commission's winter elk management Activities that takes place on NFS lands:

- **Alternative 1 – No Action - No Special Use Authorization:** This alternative would not permit the WGFC to use NFS land to conduct its winter elk management activities. The effects analysis for this alternative projects that elk winter management activities would continue to be performed by WGFC on other federal, state, or private lands. Alternative 1 is the environmentally preferred alternative.
- **Alternative 2 - No Change from Current Permitted Area:** Under this alternative, the Forest Service would reissue authorization for continuation of use of NFS lands for WGFC winter elk management activities under the same terms at the six locations

where use occurred in the recent past: Alkali Creek, Dog Creek, Fall Creek, Fish Creek, Muddy Creek, and Upper Green River. A permit would not be issued for use of NFS land adjacent to the State’s Patrol Cabin area.

- **Alternative 3 - Proposed Action:** Under the Proposed Action Alternative, the Forest Service would authorize the use of NFS lands for the WGFC’s winter elk management activities at seven locations on the National Forest. The specific areas included in this action would be: Alkali Creek, Dog Creek, Fall Creek, Fish Creek, Muddy Creek, Patrol Cabin, and Upper Green River. Two areas on NFS lands are proposed for use at Patrol Cabin: Coal Mine Draw and Yellowjacket Flat. This alternative would also allow expansion of the land currently used for winter elk management activities at Fish Creek and Muddy Creek. See Table S-1 below.

Table ES-1. Alternative Comparison Table

Acres of National Forest System Land Authorized for use			
	Alt 1: No Authorization	Alt 2: No Change from Current Permitted Area	Alt 3: Proposed Action
Alkali Creek	0	105	105
Dog Creek	0	80	80
Fall Creek	0	54	54
Fish Creek	0	121	168
Muddy Creek	0	19	20
Patrol Cabin	0	0	88
Upper Green	0	58	58
Total	0 acres	437 acres	573 acres
Facilities			
	Alt 1: No Authorization	Alt 2: No Change from Current Permitted Area	Alt 3: Proposed Action
Alkali Creek	None Authorized	1 haystack yard with 2 hay sheds, corrals, tack shed, elk trap, and water development	1 haystack yard with 2 hay sheds, corrals, tack shed, elk trap, and water development
Dog Creek	None Authorized	1 haystack yard with 2 hay sheds, corral and tack shed	1 haystack yard with 2 hay sheds, corral and tack shed
Fall Creek	None Authorized	None Authorized	None Authorized
Fish Creek	None Authorized	1 haystack yard with 2 hay sheds, metal Quonset, horse corral, tack shed, and elk trap,	1 haystack yard with 2 hay sheds, metal Quonset, horse corral, tack shed, elk trap, and water facilities
Muddy Creek	None Authorized	1 haystack yard with 2 hay sheds, a permanent elk trap, a portable elk trap, and 0.5 miles of elk proof fence	1 haystack yard with 2 hay sheds, a permanent elk trap, a portable elk trap, 0.5 miles of elk proof fence, horse corral and water facilities
Patrol Cabin	None Authorized	None Authorized	1 haystack yard with 2 hay sheds, horse corrals and water facilities
Upper Green	None Authorized	3 haystack yards with 3 hay sheds, granary, tack shed, horse corral, elk trap, cabin & horse pasture	3 haystack yards with 3 hay sheds, granary, tack shed, horse corral, elk trap, cabin & horse pasture

Table ES-2. Summary of Effects by Alternative.

	Alternative 1 No Action	Alternative 2 No Change	Alternative 3 Proposed Action
Project Area - Acres used under Special Use Permit	0	437 acres	573 acres
Analysis Area - Area Within 1 Mile of the Special Use Permit Area	0	15,907 acres	19,509 acres
Acres of Soil Surface Potentially Detrimentially Disturbed in the Project Area	0 acres after 10 to 20 years	27.13 acres	37.14 acres
Acres of Riparian Vegetation Potentially Affected in the Project Area	0 acres after 10 to 20 years	140 acres	152 acres
Acres of Willow and Riparian Herbland Potentially Affected in the Analysis Area	653 acres	1,393 acres	1,695 acres
Acres of Sagebrush Affected in the Analysis Area	3,432 acres	11,035 acres	11,515 acres
Acres of Aspen Affected in the Analysis Area	500 acres	997 acres	1,049 acres
Distance of Stream Channel Potentially Affected	0.64 miles	2.85 miles	4.26 miles
Potential Effects to Wildlife Species	Improves habitat for species dependent upon aspen, sagebrush, willow, and cottonwood	Maintains current amount degraded habitat for species dependent upon aspen, sagebrush, willow, and cottonwood	Increases amount of degraded habitat for species dependent upon aspen, sagebrush, willow, and cottonwood
Potential for Disease Transmission Elk-to Elk	Elk would be concentrated on 17 existing and 2 new State operated feedgrounds	Elk would be concentrated on 21 existing State operated feedgrounds	Elk would be concentrated on 21 existing State operated feedgrounds, with a total increase of 136 acres of feeding area
Potential for Disease Transmission Elk-to Cattle	The 2 new feedgrounds would be closer to private land than the existing feedgrounds, increasing potential for elk-to-cattle transmission	The existing feedgrounds (and other WGFC measures) would greatly reduce elk-to-cattle transmission	The existing and proposed feedgrounds (and other WGFC measures) would greatly reduce elk-to-cattle transmission
Acres of Vegetation Affected Within Wilderness	278 Acres	1,570 Acres	2,461 Acres
Acres of Vegetation Affected Within Wilderness Study Areas	1,019 Acres	1,019 Acres	1,019 Acres

Soils in the Project Area and Analysis Area would be affected by compaction and erosion. Concentrated occupation of the feedgrounds by elk would cause compaction because their hooves have a relatively small area and therefore exert a high pressure. Feeding equipment, horses, and machinery also would create compaction. The potential impacts on soil resources were measured by comparison of expected amount of detrimental soil disturbance by alternative.

Natural vegetation at and near the feedground sites would be affected by this proposal by elk browsing on shrubs, trees, grass, and forbs, by increased fertilization of vegetation from concentrated elk feces, suppression of vegetation by accumulation of litter, and by soil compaction and erosion. Vegetation at the existing feedgrounds was inventoried and compared to sites that have not been impacted by feedground use. Where elk are fed, vegetation species richness and diversity are reduced, and occurrence and production of exotic grass species is increased. Shrubs of low palatability are typically killed and excluded from feedgrounds by repetitive crushing or trampling from trucks/trailers, horses/feed sleighs, and/or elk. When present, shrubs and trees of greater palatability are often stunted or killed from intense browsing and trampling. Accumulation of litter (feces, unconsumed hay) is sometimes present on various areas within feedgrounds, inhibiting vegetation diversity and productivity. Feedgrounds with relatively small feeding areas, high numbers of elk, and long feeding seasons typically have larger areas of deep litter accumulation. The impacts on vegetation resources were measured by comparison of the amount of acres of vegetation affected in each alternative, including total acres and acres of sagebrush, riparian vegetation, and aspen vegetation.

Stream banks would be affected by elk trampling the vegetation and creating erosion. Water quality would then be affected by sedimentation, which would affect fish reproduction. Existing feedgrounds were inventoried to determine the current status of resources; then alternatives were compared using miles of stream channel and acres of riparian vegetation affected.

Feedground operation would affect elk by supplementing their winter diet and altering their migration patterns. The artificial concentration of elk during winter and early spring perpetuates the disease brucellosis, caused by the bacterium *Brucella abortus*. (Thorne et al. 1978). Transmission of *Brucella* typically occurs orally when cattle and/or elk come into contact with infected aborted fetuses, fetal membranes and fluids, or uterine discharges (Thorne et al. 1982, Cheville et al. 1998). Brucellosis seroprevalence of elk on feedgrounds averages 25 percent, while brucellosis seroprevalence in elk from herd units adjacent to feedgrounds varies from 0 to 22%. Elk completely independent of feedgrounds have no prevalence of the disease (WGFD 2007). Brucellosis infections in cattle can impact Wyoming's Brucellosis Free status, resulting in increased testing requirements and potential trade sanctions on Wyoming's cattle producers. A major role of elk feedgrounds today is to reduce the commingling of elk and cattle for concerns over elk-to-cattle brucellosis transmission. Thus, elk feedgrounds maintain the disease in elk while limiting elk-to-cattle transmissions at the same time.

Chronic wasting disease (CWD) is a transmissible spongiform encephalopathy presumably caused by a proteinase-resistant isoform (PrP^{CWD}) of the prion protein. (Spraker et al., 2002). The known natural hosts for CWD are mule deer, white-tailed deer, Rocky Mountain elk, and moose (Kreeger et al., 2006). Chronic wasting disease is

considered invariably fatal to the natural hosts, but this has not been proven under conditions of natural exposure.

The model of Gross and Miller (2005), combined with high prevalence both in captive and wild populations, have led to concerns that when CWD is found in elk frequenting state and federal feedgrounds in Wyoming that this would inevitably result in catastrophic population declines. At this time, there are no empirical data to support this conclusion. Conversely, preliminary evidence in captive elk suggests that elk can maintain very high prevalence of CWD without a concomitant population decline if allowed to reproduce (Kreeger, unpubl. data). There are currently no empirical data to support the contention that CWD in elk utilizing winter feedgrounds will result in catastrophic, or even observable, population declines. The potential effect of CWD on elk populations is similar for all alternatives in this analysis because the WGFC will continue to feed elk on Federal lands or other locations on State or private lands as near to the current site(s) as possible.

Feedground operation would affect wolves by concentrating their prey species. It would affect other wildlife by altering their habitat – in particular, species dependent upon riparian habitat and sagebrush habitat. Brewer's sparrow, Boreal toads, and boreal chorus frogs are three ecological indicator species that would be affected. Gray wolves, sage grouse, cutthroat trout and Columbia spotted frogs are four Sensitive species that would be affected. This project may impact individuals or habitat but would not likely cause species to trend towards Federal listing or cause a loss of viability for these four species. Neotropical migratory bird habitat would also be affected by impacts to riparian vegetation. Effects to wildlife species were compared by alternative using acres of habitat affected.

Alkali Creek, Patrol Cabin and Dog Creek feedgrounds were permitted and in operation at the time of the designation of the Gros Ventre Wilderness Area and the Palisades Wilderness Study Area (WSA). The vegetation, character and natural appearance of the areas adjacent to these feedgrounds were already altered by the presence of elk in these areas before these areas were designated. Continued authorization of feedgrounds adjacent to wilderness and WSAs would continue to affect the wilderness character in these areas because of the continuation of congregated elk numbers at these locations. The potential for invasive weeds to become established in Wilderness or WSA is present, and is mitigated by the requirement of certified weed-free hay, effective monitoring, and effective treatment of identified invasive species.

Cultural Resources, Social Resources, and Economic Resources would not be affected by this proposal.

A decision concerning this proposal is expected in June 2008. If a decision is made to authorize NFS lands for winter elk management activities, a special use authorization would be issued in fall, 2008. This decision would be subject to appeal under 36 CFR Parts 215 and 251.