Wyoming Game and Fish Department
Conserving Wildlife, Serving People
Governor Mark Gordon • Director Angi Bruce

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U.S. Forest Service
Bearlodge Ranger District
Fort Forest Management Project
Crook County

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Dear Ryan Tallmadge,

The staff of the Wyoming Game and Fish Department (Department) has reviewed the proposed Bearlodge Ranger District Fort Forest Management Project in Crook County. The Department is statutorily charged with managing and protecting all Wyoming wildlife (W.S. 23-1-103). Pursuant to our mission, we offer the following comments for your consideration.

The Fort Forest Management Project area consists of 31,907 acres of the Black Hills National Forest lands in Crook County. The project location is eight miles northwest of Sundance and eight miles southeast of Huelett. The project area includes Blacktail Creek, Lytle Creek, Taylor Divide, Hershey Creek, and Beaver Creek. The terrain is characterized by plateaus separated by drainages and includes 70 miles of perennial streams. Cliffs, rock outcrops and steep slopes are common. The Cook Lake recreation area is within the project boundary bust is excluded from activities and analysis. The project area overlaps the distribution of approximately 62 Wyoming Species of Greatest Conservation Need and delineated crucial winter yearlong range for white-tailed deer.

Terrestrial Recommendations:

The Department supports maintaining a mosaic of timber stand types and distribution across the Black Hills National Forest (BHNF). Ensuring viability for the variety of wildlife species occurring on the BHNF necessitates the creation and maintenance of a diversity of structural and stocking conditions of ponderosa pine, and maintaining their proximity to each other and other habitat types. This can be accomplished in conjunction with treatments designed to augment wildfire protection, control and diminish insect infestations, and enhance timber production. Planning requires careful consideration of treatment design, implementation measures, and post-logging activities to ensure timber management goals are achieved while wide ranging, monotypic

silvicultural treatments and undesirable impacts to aquatic and terrestrial habitats are avoided. As such, the Department recommends the following:

- Treatments should yield an irregular shaped mosaic of stand densities where possible. As a rule of thumb, stand or patch sizes of approximately 0.2 to 0.5 acres and polygons with linear widths of about 50 meters represent minimum effective patch sizes for most wildlife species. Clear cut openings and thinly stocked patches (less than 60 ft^2/acre) can provide excellent foraging areas for ungulates and other species. These more open areas should be:
    - At least 0.5 acres in size.
    - Located within 100 meters of dense pine stands (100 ft^2/acre, or at least 55% canopy cover).
    - Unbounded and unbisected by roads if possible, with roads buffered by at least 200 meters, but preferably 400 meters. The buffer zone should consist of moderate to dense timber stands (greater than about 85 ft^2/acre) to provide screening from the road.
- Coppice cut - Considering ungulate use/ densities in the areas of treatments. If herbivore pressure is high and there is a removal of aspen material, it is likely new seedlings will be limited. In an area of high herbivore pressure, the jackstraw treatment may be more successful for aspen rejuvenation because the left tree material protects young trees. Hinging ponderosa pine in and around the stand can also help reduce herbivore pressure and protect young trees.
- Changes in fire regimes to hotter, more frequent fires can negatively impact wildlife and their habitats. In locations where wildfire control is an issue, open stands (less than 70 ft^2/acre) of pine that foster understory growth of more fire resistant hardwoods should be encouraged.
- Deciduous trees and shrubs in mesic habitat provide valuable and relatively limited habitat within the ponderosa pine community. Open pine stands (less than 70 ft^2/acre) should be created in more mesic locations to encourage understory growth of deciduous trees and shrubs.
- Thinning and logging slash should be chipped and spread, or piled and burned. Burned piles should spread, dragged or disked, and planted with seed mixes designed to benefit wildlife by providing perennial food sources or cover. Leaving smaller slash piles (less than eight foot diameter) of untreated slash in some areas can be beneficial for creating foraging locations along with hiding, denning and nesting cover for a variety mammals, reptiles, amphibians, and birds. If slash piles are eventually burned, reseeding following burning is recommended to control weeds and provide additional forage for wildlife.
- Managers concerned with sustaining and increasing avian diversity in the Black Hills should maintain within-stand and between-stand structural diversity to provide habitat needs of birds during both the breeding season and winter. Thinning projects should leave at least 1 or 2 large snags per acre, and most snags less than 6 inches diameter at breast height should be retained, as theses provide foraging sites for cavity-nesting birds.

- In areas with wild turkeys, stand densities of 60-70 ft^2/acre are appropriate where spring to fall wild turkey use is present. In areas with wintering wild turkeys, ponderosa pine stands should be managed for a basal area of at least 85 ft^2/acre. Turkey roost habitat typically requires stands with a basal area of least 100 ft^2/acre.
- Removing pine overstory augments a faster rate of conversion to dense bur oak shrub cover leading to an overall decrease in plant diversity. Bur oak occurs within the project area in both the problematic dense shrub form and in the desirable tree form. As such, the Department recommends:
    - Developing site specific bur oak treatment as part of the planning process.
    - Consider leaving tree from bur oak understory intact in within pine stands.
- At lower elevations, spring burns may be preferred over fall burns as they produce "cooler" fires resulting in a mosaic of treated and untreated areas. Soil moisture is more available in the spring resulting in quicker plant re-growth. Spring burns should be timed to allow for sufficient re-growth prior to the songbird nesting season. The Department suggests surveying areas for raptor nests prior to burning, as owls and raptors nest early in the season and nest failures may result from spring burns.
- Burning decadent aspen stands, if present in the project area, is recommended to encourage sprouting and restore stand vigor.

White-tailed Deer Crucial Winter - Yearlong Range - Crucial winter-yearlong range provides habitat for a portion of the white-tailed deer population on a year-round basis. During the winter months, there is a significant influx of additional animals into the area from other seasonal ranges. Big game crucial winter-yearlong range habitat is delineated as such because it is a determining factor in a population's ability to maintain itself long-term. The Department recommends:

- Avoiding project activities in white-tailed deer crucial winter-yearlong range from November 15 to April 30 to reduce impacts to white-tailed deer during this sensitive wintering time period.

Species of Greatest Conservation Need (SGCN)

- *Northern Long-eared Bat and Tricolored Bat* – As identified in the proposal, there may be overlap with habitat for these bat species. The northern long-eared bat is a Species of Greatest Conservation Need and is federally protected. The tricolored bat is proposed to be federally protected. The Department supports the implementation of U.S. Fish and Wildlife Service recommendations for the protection of these species.
- *Migratory Bird SGCN* – The Department supports the implementation of U.S. Fish and Wildlife Service recommendations for the protections of migratory bird SGCN, including raptors.

Control Noxious Weeds and Other Invasive Plants - We support the commitment to minimize establishment and spread of non-native invasive plants and to suppress infestations which may

follow proposed project activities. Northeast Wyoming is at high risk for the introduction of medusahead and ventenata. Medusahead has been reported in Sheridan County and ventenata has been reported in 5 Wyoming counties including neighboring Campbell County. The impact of these annual invasive grasses to wildlife habitat are severe. Preventing introduction by cleaning vehicles and equipment prior to reaching work sites to minimize the potential for transporting seeds.

Aquatic Recommendations:

Protect water quality and stream function - We support the implementation of environmental protection measures to protect water quality and stream function, including from actions that may contribute sediments, slash debris, or other pollutants to aquatic habitats, or action that may result in the compaction of unconsolidated aquatic or mesic substrates.

Prevent the Spread of AIS – Work may occur in or adjacent to waterways. Aquatic invasive species (AIS) are organisms that are not native to Wyoming and can cause significant harm to an ecosystem when introduced. Harmful impacts can occur to municipal water supplies, fishing and boating-related recreation, agriculture, aquaculture, and other commercial activities. The potential economic impacts to the State of Wyoming could be severe if these non-native species are introduced into our water systems. Once these organisms become established in a waterbody, there is very little that can be done to remove them. Prevention is the best way to keep a water body safe from AIS.

The most significant known threat to Wyoming is from zebra and quagga mussels based on their proximity and demonstrated impacts in neighboring states. Other AIS include New Zealand mudsnail, Asian carp, rusty crayfish, and several species of aquatic plants.

The spread of AIS from one body of water to another is a violation of Wyoming state statute (WS § 23-1-102 & §§ 23-4-201 through 205) and Wyoming Game and Fish Commission Regulation. To prevent the spread of AIS, the following is required:

- Equipment that was in contact with a water positive for zebra/quagga mussels (currently none in Wyoming) within the last 30 days is required to undergo inspection by an authorized inspector prior to contacting a Wyoming water.

- From March through November, all water hauling equipment and watercraft entering the state by land must be inspected before contacting a water of the state.

- Equipment used in any Wyoming water that contains AIS, must be Cleaned, Drained and Dried before use in another water.

To minimize impacts to the aquatic resources, we recommend the most current information found in the Wyoming Forestry Best Management Practices and Forestry BMPs, be utilized. Consultation with Paul Mavrakis, Sheridan Regional Fisheries Supervisor, at 307-675-5478 is encouraged if avoidance of specific aquatic issues is in question.

Thank you for the opportunity to comment. If you have any questions or concerns please contact Angelique Curtis, Habitat Protection Biologist, at 307-777-4566.

Sincerely,

Will Schultz
Habitat Protection Supervisor

WS/ac/kgb

cc: U.S. Fish and Wildlife Service
Chris Wichmann, Wyoming Department of Agriculture