WYOMING GAME AND FISH DEPARTMENT

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February 17, 2023

WER 14966.00
Bighorn National Forest
Pole Creek Vegetation Management Project
Scoping Notice
Johnson County

Thad Berrett
District Ranger
Bighorn National Forest
1415 Fort Street
Buffalo, WY 82834
comments-bighorn@fs.fed.us

Dear Mr. Berrett,

The staff of the Wyoming Game and Fish Department (Department) has reviewed the Scoping Notice for the Pole Creek Vegetation Management Project. 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 U.S. Forest Service's (USFS) goals for the proposed project are to improve the health and productivity of forests, grasslands, and watersheds; to achieve a mix of habitat diversity; and to reduce the risk of uncharacteristic wildfire effects in the Bighorn National Forest (Forest).

The actions proposed to achieve these goals are:

- Commercial timber harvest on approximately 9,000 acres.
- Pre-commercial harvest stand thinning on approximately 2,000 acres.
- Prescribed burning in accordance with the Prescribed Fire Burn Plan in areas where mechanical harvest or non-commercial thinning is not feasible and to meet specific management objectives.
- Non-commercial fuel reduction thinning on up to 5,400 acres, targeting the wildlife urban interface and areas within 0.33 miles of existing structures.
- Aspen habitat restoration on approximately 800 acres using felling or commercial harvest of encroaching conifers and prescribed burning in combination with slash barriers and fencing to allow aspen regeneration.

- Riparian and aquatic habitat improvement on approximately 8,300 acres using non-commercial tree felling or thinning of conifers, stream bank restoration, aquatic organism passage structures, beaver dam analogues, and the planting of native riparian species.
- Changes to the permanent road system, including improvement, repair, or replacement of improperly functioning stream crossings using culverts, armored stream crossings, riprap, or other stabilization and sediment load reduction techniques.
- Changes in road closure status to maintain elk security habitat acreage following timber harvest.
- Changes in road closure status to maintain human access.
- Associated activities needed to complete those actions include maintenance and reconstruction of timber haul routes, construction of approximately 25-28 miles of temporary roads, fire control lines, staging areas, realignment of range fence, and tree planting.

The project description does not include timelines associated with the implementation of the overall project or the individual management actions; however, it's anticipated that timber harvest related activities may occur over approximately the next 15 to 20 years.

The project area covers approximately 90,000 acres in the southern extent of the Forest, and includes areas in the Department's Cody and Sheridan Regions. The project area includes diverse habitats which support a broad array of wildlife. The area overlaps with many wetland features, including Red and Yellow Ribbon stream segments; parturition area for elk and moose; and potentially suitable habitat for 71 Wyoming Species of Greatest Conservation Need (SGCN, Table 1). The project area is outside of greater sage-grouse core population areas as described by the State of Wyoming's Sage-Grouse Executive Order 2019-3.

The scale of the proposed project area is large and the locations of thinning activities are highly concentrated. By our estimation, the timber harvest acreage would be the greatest in the last 100+ years on the Forest if the timber projects are fully realized. Fuel reduction to reduce the risk of uncharacteristic wildfire effects and aspen, riparian and aquatic habitat work to improve the amount and function of these habitats will benefit wildlife. However, the scope of the activity and disturbance could be intensive over a large portion of the Forest and comes with commensurate potential impacts to wildlife. The potential for and mitigation of impacts will, in part, be dependent on the relative location and timing of activities.

Aquatic Recommendations

The Department supports the proposal to maximize passage for aquatic organisms and to improve water quality and stream function by addressing stream crossings and enhancing riparian habitat. We recommend the following to maximize benefits to aquatic habitats and organisms:

- Ensure that all sediments and other pollutants are contained within the boundaries of the work area. Disturbed areas that are contributing sediment to surface waters as a result of project activities should be promptly re-vegetated to maintain water quality.
- Equipment should be serviced and fueled away from streams and riparian areas. Bases for fire operations and equipment staging areas should be at least 500 feet from riparian areas.

Timber Harvest and Mechanical Thinning Treatments

- Slash control and disposal should be completed in a manner that minimizes the occurrence of debris entering stream courses. This material has the potential to either improve or degrade fish habitat and water quality depending on the location and type of material and characteristics of individual streams. Damming by these materials could restrict fish passage, and result in overflowing that could cut new channels, erode banks, and increase sedimentation in streams. Conversely, properly placed materials may increase cover and pool habitat in degraded stream reaches and debris may act as sediment traps. We recommend engaging the Cody and Sheridan regional fisheries supervisor and aquatic habitat biologist to discuss specific actions for removing these materials.

Prescribed Burn Treatments

- Site-specific treatment methods and extent of treatment areas adjacent to streams should be evaluated on a case-by-case basis with close coordination amongst fisheries, terrestrial, fire, and range personnel. Numerous variables such as slope, aspect, soils, existing plant community condition, etc. should be considered at each potential treatment site. Careful monitoring and management of ungulate use, including livestock, is essential to ensure successful aspen regeneration, especially near water sources. Treatment of relatively large areas away from perennial streams or water sources in conjunction with treatments near the streams can help distribute use and provide alternative foraging sites.
- To minimize or avoid increased erosion and sedimentation into surface waters from treated lands, burned areas should be adequately revegetated before grazing is allowed. Burned areas should be protected from grazing by livestock for at least two growing seasons or until recovery monitoring indicates the area can safely support grazing. Because opportunities to rest the proposed vegetation treatments from livestock grazing are limited, meeting vegetative objectives may be challenging. Therefore, we recommend the USFS coordinate closely with the permittee(s) to help facilitate these proposed vegetation treatments.
- A buffer strip at least 500-ft or the 100-year flood plain wide on each side of streams and water courses should be left unburned. The purpose of this buffer strip is to minimize loss of fish habitat associated with stream bank vegetation and to reduce the possibility of increased soil erosion and maintain woody vegetation for beaver dam construction and repairs. No riparian vegetation should be burned. If burns are intentionally targeting areas within these zones to stimulate new growth of willow and aspen, then a burn of the stream

bank is acceptable. However, to minimize potential sedimentation and maintain streambank stability, we recommend that burns on opposing banks be avoided in any one year.

- Burning activities should be conducted prior to June 1. Because riparian zones generally retain snow or moisture longer than more exposed areas, burning at this time minimizes the potential for fires to spread into riparian areas.
- Fire lines should be constructed outside of riparian habitat if possible.
- Implement a 500-foot buffer from drainages for the use of fire suppression chemicals, foams, and surfactants.

Stream Crossing Improvements

- Resources for stream crossings that maximize aquatic habitat and organism passage:
  - http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/NEGP/BMPStreamCrossings21Jan2015.pdf
  - https://www.fs.fed.us/restoration/Aquatic_Organism_Passage/index.shtml
- Stream crossing structures should be designed such that they are wider than bankfull width. Structures should be selected that avoid or minimize disruption to the streambed, and that avoid entire streambed reconstruction and maintenance inside the culvert of pipe arch, which may be difficult in smaller structures.
- Culverts that are excessively steep, smooth or undersized may produce water velocities that are unnavigable by fish. Different species and life stages of fish have burst, prolonged, and sustained speed limitations. Culverts should be designed to pass all lifestages of all species present. If burst swimming speeds are targeted, culverts should be designed to be as short as possible to avoid fish exhaustion. Multiple design approaches exist for reducing culvert water velocities. These include, in order of preference, stream simulation and use of baffles.
- Please consult with the local fisheries supervisor and aquatic habitat biologist on individual projects to discuss methods to minimize impacts to aquatic habitat function and quality.

Prevent the Spread of Aquatic Invasive Species

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:

1. 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.
2. 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.
3. Equipment used in any Wyoming water that contains AIS, must be Cleaned, Drained and Dried before use in another water. Wyoming waters with AIS can be found at: https://wgfd.wyo.gov/Fishing-and-Boating/Aquatic-Invasive-Species-Prevention/AIS-Boating-Information.
4. When equipment that has been in contact with any Wyoming water is moved from one 4th level watershed (8-digit Hydrological Unit Code) to another within Wyoming, it must be Cleaned, Drained and Dried. Specific guidance is available at: https://wgfd.wyo.gov/Fishing-and-Boating/Aquatic-Invasive-Species-Prevention/AIS-Construction-and-Fire

To avoid transferring water between perennial waters (4th Level HUC) that contain aquatic invasive species (AIS), we recommend consulting with Department personnel before project construction, or before each fire season. The purpose of this meeting is to identify waters that contain AIS and to provide guidance on preventing their spread within Wyoming.

Unless in an emergency (life or structure loss) we recommend moving water between perennial watersheds (4th Level HUC) be avoided to protect against spreading AIS.

Terrestrial Recommendations

Mitigate Impacts Due to Timber Harvest, Pre-Commercial Stand Improvement Thinning, and Fuel Reductions, and Habitat Enhancement Activities

Due to the large amount of timber harvest, pre-commercial stand improvement thinning, and fuel reductions activities proposed in such a concentrated area and over an unknown timeframe, there is a significant potential for impacts to wildlife on a large scale, including elk leaving the area due to disturbance. To mitigate the potential for significant impacts to wildlife, we recommend:

- Spreading out timber harvest, pre-commercial stand improvement thinning, and fuel reduction activity both geographically and temporally across the project area, so as not to concentrate activity in a manner that could limit habitat availability or disrupt wildlife's ability to carry out necessary biological processes.
    - Timber sales should be rotated as stands are replaced rather than cutting the entire project area in a short period.
    - The density of treatment units within elk parturition areas (Hesse Creek, Pole Creek, and Sheep Mountain area) should be decreased or only harvested in a rotational manner, so as to leave areas undisturbed and in suitable habitat condition during the parturition period.
    - The amount of elk security habitat should be maintained or increased at the forest-scale throughout the duration of this project's management actions and upon completion of the vegetation management plan.
- Apply wildlife stipulations to timber harvest, pre-commercial thinning, fuel reductions, and habitat improvement activities:
    - Moose and elk parturition area seasonal timing: May 1 – June 15
    - Raptor nest spatial and seasonal timing as per the U.S. Fish and Wildlife Service guidelines available at: https://www.fws.gov/project/wyoming-ecological-services-field-office-raptor-guidance. Several raptor species require species-specific surveys to ensure an adequate probability of detection.
    - Conduct a minimum of 2 years of inventory for northern goshawk prior to management activity. Minimal habitat conversion should occur within 70-80 ha of nesting areas. Maintain greater than 50% mature forest cover within a 1-mile radius of known nests.
    - As described above in the Aquatic Recommendations, a 500-foot buffer surrounding wetland and riparian habitats will protect many SGCN, including amphibians and the North American water vole in potentially suitable habitat. We recognize that riparian improvement projects may require work within 500 feet of wetlands and riparian habitats. In such instances, please consult with Department biologists on a case-by-case basis to mitigate impacts to wildlife.
    - Plan and maintain habitat connectivity corridors for SGCN herpetofauna between unaltered habitat, especially along drainages, seeps, and creeks (both permanent and ephemeral) to aid in the dispersal and movement of reptiles and amphibians.
    - If possible, harvest timber when SGCN reptiles and amphibians are dormant to reduce accidental and intentional take. If not possible, harvest during July and August when populations are most dispersed.
    - To protect SGCN bats, avoid disturbance surrounding known maternity colonies from April 1 to October 1. Avoid disturbance within 0.25-miles of known bat roost sites. Retain live trees with cavities, dead-topped trees, snags used by bats, soft snags, and from 6 hard snags per ha (2.5 per acre) to 21 hard snags per ha (8.5 per acre). Retain an abundance of live trees of various ages to replace existing snags over time and maintain snag densities in the future.

- Avoid harvest activity during the breeding season for migratory SGCN birds to reduce incidental take of eggs, young, and adults.

Riparian and Aspen Enhancement

The Department strongly supports riparian and aspen enhancement projects. On the west slope of the Bighorns, we note that conifer encroachment is a significant issue within the East Tensleep and Leigh Creek watersheds. Woody browse and tall forb communities are lacking in these areas, therefore, improving wet meadows or aspen stands by reducing the footprint of homogeneous lodgepole pine stands will benefit moose, mule deer, and the diverse array of other wildlife associated with these limited riparian and aspen habitats.

To reduce overbrowsing of aspen and willow by animals following conifer removal projects in these habitats, we recommend:

- Implement jackstrawing techniques.
- On the west slope of the Bighorns, treat as much aspen as possible in a short time frame.

Road Closures

- Ensure that road closures are barricaded in a manner that limits/restricts illegal attempts to access the closed roads.

Noxious Weeds and Invasive Annual Grasses

Invasive Annual Grasses (IAGs) are not native to Wyoming and can cause significant harm to the ecosystem when introduced. IAGs establish and spread quickly. They significantly reduce the quality of wildlife habitat and their presence increases the probability of catastrophic wildfire. The potential economic impacts to the State of Wyoming are severe, and once IAGs become established eradication is difficult and costly. Prevention of establishment remains the best way to keep Wyoming's habitats free of IAGs.

The most significant known threat to Wyoming is from cheatgrass, medusahead, and ventenata. To prevent the spread of IAGs, we recommend the following:

- Prevent IAG introduction and establishment by cleaning vehicles and equipment prior to movement to a new location in order to minimize the potential for transporting seeds.
- Develop and implement a plan to assess, treat, and monitor for IAGs at the project scale and in the adjacent landscape where they are present.
- Work with the local Weed and Pest District to implement and fund long-term plans for successful restoration of disturbed sites.

Additional information on prevention and treatment options for these grasses can be found at https://wyagresearch.org/imagine.

Evaluation of Proposed Management Actions Over Time

Given the open-ended timeline of the potential implementation of management actions, the Department recommends the re-evaluation of individual project actions as new and relevant information becomes available. Re-evaluation should include both location and timing of project activities, as well as technologies and methods used in management actions. Project actions should take into account the best available information to mitigate potential impacts to aquatic and terrestrial wildlife and habitats.

Thank you for the opportunity to comment. If you have any questions or concerns please contact Anika Mahoney, Habitat Protection Biologist, at 307-335-2623.

Sincerely,

Will Schultz
Habitat Protection Supervisor

WS/am/ct

cc: U.S. Fish and Wildlife Service
Tim Thomas, Wyoming Game and Fish Department
Paul Mavrakis, Wyoming Game and Fish Department
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Corey Class, Wyoming Game and Fish Department
Chris Wichmann, Wyoming Department of Agriculture

Table 1. State of Wyoming Species of Greatest Conservation Need with distributions overlapping the Pole Creek Vegetation Management Project area presented with Native Species Status (NSS) and Tier ranking.

Name	Scientific	Minor taxa	NSS	Tier
Northern Leopard Frog	*Lithobates pipiens*	Amphibians	NSS4(Bc)	II
Plains Spadefoot	*Spea bombifrons*	Amphibians	NSS4(Bc)	II
Western Tiger Salamander	*Ambystoma mavortium*	Amphibians	NSS4(Bc)	III
Wood Frog	*Lithobates sylvaticus*	Amphibians	NSS2(Ba)	II
American Kestrel	*Falco sparverius*	Birds	NSS4(Bc)	III
American Pipit	*Anthus rubescens*	Birds	NSS4(Bc)	III
American White Pelican	*Pelecanus erythrorhynchos*	Birds	NSS4(Bc)	II
Bald Eagle	*Haliaeetus leucocephalus*	Birds	NSS3(Bb)	II
Black Rosy-Finch	*Leucosticte atrata*	Birds	NSSU(U)	II
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Birds	NSS4(Bc)	II
Black-chinned Hummingbird	*Archilochus alexandri*	Birds	NSSU(U)	II
Blue Grosbeak	*Passerina caerulea*	Birds	NSS4(Bc)	III
Boreal Owl	*Aegolius funereus*	Birds	NSS3(Bb)	II
Brewer's Sparrow	*Spizella breweri*	Birds	NSS4(Bc)	II
Burrowing Owl	*Athene cunicularia*	Birds	NSSU(U)	I
Calliope Hummingbird	*Selasphorus calliope*	Birds	NSS4(Bc)	II
Canyon Wren	*Catherpes mexicanus*	Birds	NSS4(Bc)	III
Clark's Grebe	*Aechmophorus clarkii*	Birds	NSSU(U)	II
Clark's Nutcracker	*Nucifraga columbiana*	Birds	NSS4(Bc)	II
Common Loon	*Gavia immer*	Birds	NSS1(Aa)	I
Common Nighthawk	*Chordeiles minor*	Birds	NSS4(Bc)	III
Common Yellowthroat	*Geothlypis trichas*	Birds	NSS4(Bc)	III
Dickcissel	*Spiza americana*	Birds	NSSU(U)	II
Ferruginous Hawk	*Buteo regalis*	Birds	NSS4(Cb)	II
Forster's Tern	*Sterna forsteri*	Birds	NSS3(Bb)	II
Franklin's Gull	*Leucophaeus pipixcan*	Birds	NSSU(U)	II
Golden Eagle	*Aquila chrysaetos*	Birds	NSS4(Bc)	II
Grasshopper Sparrow	*Ammodramus savannarum*	Birds	NSS4(Bc)	II
Great Blue Heron	*Ardea herodias*	Birds	NSS4(Bc)	II
Greater Sage-Grouse	*Centrocercus urophasianus*	Birds	NSS4(Bc)	II
Lewis's Woodpecker	*Melanerpes lewis*	Birds	NSSU(U)	II
Loggerhead Shrike	*Lanius ludovicianus*	Birds	NSS4(Bc)	II
Long-billed Curlew	*Numenius americanus*	Birds	NSS3(Bb)	II

Name	Scientific	Minor tax	NSS	Tier
MacGillivray's Warbler	*Geothlypis tolmiei*	Birds	NSS4(Bc)	II
Merlin	*Falco columbarius*	Birds	NSSU(U)	III
Mountain Plover	*Charadrius montanus*	Birds	NSSU(U)	I
Northern Goshawk	*Accipiter gentilis*	Birds	NSSU(U)	I
Peregrine Falcon	*Falco peregrinus*	Birds	NSS3(Bb)	II
Pygmy Nuthatch	*Sitta pygmaea*	Birds	NSS3(Bb)	II
Red Crossbill	*Loxia curvirostra*	Birds	NSS4(Bc)	II
Red-eyed Vireo	*Vireo olivaceus*	Birds	NSS4(Bc)	II
Red-headed Woodpecker	*Melanerpes erythrocephalus*	Birds	NSS4(Bc)	II
Rufous Hummingbird	*Selasphorus rufus*	Birds	NSS4(Bc)	II
Sage Thrasher	*Oreoscoptes montanus*	Birds	NSS4(Bc)	II
Sagebrush Sparrow	*Artemisiospiza nevadensis*	Birds	NSS4(Bc)	II
Short-eared Owl	*Asio flammeus*	Birds	NSS4(Bc)	II
Swainson's Hawk	*Buteo swainsoni*	Birds	NSSU(U)	II
Thick-billed Longspur	*Rhynchophanes mccownii*	Birds	NSS4(Bc)	II
Virginia Rail	*Rallus limicola*	Birds	NSSU(U)	III
Virginia's Warbler	*Leiothlypis virginiae*	Birds	NSSU(U)	II
Western Grebe	*Aechmophorus occidentalis*	Birds	NSSU(U)	II
Williamson's Sapsucker	*Sphyrapicus thyroideus*	Birds	NSS3(Bb)	II
Willow Flycatcher	*Empidonax traillii*	Birds	NSS3(Bb)	III
Yellowstone Cutthroat Trout	*Oncorhynchus clarkii bouvieri*	Fishes	NSS3(Bb)	II
American Pika	*Ochotona princeps*	Mammals	NSS2(Ba)	II
Bear Lodge Meadow Jumping Mouse	*Zapus hudsonius campestris*	Mammals	NSS4(Bc)	III
Black-tailed Prairie Dog	*Cynomys ludovicianus*	Mammals	NSS4(Cb)	II
Canada Lynx	*Lynx canadensis*	Mammals	NSS1(Aa)	I
Dwarf Shrew	*Sorex nanus*	Mammals	NSS3(Bb)	II
Fringed Myotis	*Myotis thysanodes*	Mammals	NSS3(Bb)	II
Long-eared Myotis	*Myotis evotis*	Mammals	NSS4(Cb)	III
Long-legged Myotis	*Myotis volans*	Mammals	NSS4(Cb)	III
Moose	*Alces alces*	Mammals	NSS4(Bc)	II
North American Water Vole	*Microtus richardsoni*	Mammals	NSS3(Bb)	II
Northern Meadow Jumping Mouse	*Zapus hudsonius*	Mammals	NSS4(Bc)	III
Northern Rocky Mountain Pika	*Ochotona princeps princeps*	Mammals	NSS2(Ba)	II
Olive-backed Pocket Mouse	*Perognathus fasciatus*	Mammals	NSS4(Cb)	III

Name	Scientific	Minor tax	NSS	Tier
Pallid Bat	*Antrozous pallidus*	Mammals	NSS3(Bb)	II
Plains Spotted Skunk	*Spilogale interrupta*	Mammals	NSS3(Bb)	II
Prairie Shrew	*Sorex haydeni*	Mammals	NSSU(U)	III
Spotted Bat	*Euderma maculatum*	Mammals	NSS4(Bc)	III
Swift Fox	*Vulpes velox*	Mammals	NSS4(Cb)	II
Townsend's Big-eared Bat	*Corynorhinus townsendii*	Mammals	NSS3(Bb)	II
Western Little Brown Myotis	*Myotis carissima*	Mammals	NSS3(Bb)	II
Western Small-footed Myotis	*Myotis ciliolabrum*	Mammals	NSS4(Cb)	II
Western Spotted Skunk	*Spilogale gracilis*	Mammals	NSSU(U)	III
Wolverine	*Gulo gulo*	Mammals	NSS3(Bb)	II
Common Gartersnake	*Thamnophis sirtalis*	Reptiles	NSSU(U)	III
Eastern Spiny Softshell	*Apalone spinifera spinifera*	Reptiles	NSS2(Ba)	II
Greater Short-horned Lizard	*Phrynosoma hernandesi*	Reptiles	NSS4(Bc)	II
Northern Rubber Boa	*Charina bottae*	Reptiles	NSS3(Bb)	II
Plains Gartersnake	*Thamnophis radix*	Reptiles	NSSU(U)	III
Prairie Rattlesnake	*Crotalus viridis*	Reptiles	NSS4(Bc)	III
Red-sided Gartersnake	*Thamnophis sirtalis parietalis*	Reptiles	NSSU(U)	III
Western Milksnake	*Lampropeltis gentilis*	Reptiles	NSS3(Bb)	II
Western Painted Turtle	*Chrysemys picta bellii*	Reptiles	NSS4(Bc)	III