Sportsmen for the Bridger-Teton draft comments on the Bridger-Teton National Forest Draft Assessment and Supplemental Assessment

August 24, 2025

Chad Hudson, Forest Supervisor
Bridger Teton National Forest
340 N. Cache Street
Jackson, WY 83001

Re: Bridger-Teton National Forest Plan Revision #63628

Dear Supervisor Hudson and Bridger-Teton National Forest Planning Team,

The undersigned sporting organizations appreciate the opportunity to provide comments on the Bridger-Teton National Forest Draft Assessment, Supplemental Assessment Information, and Species of Conservation Concern. Together, our organizations represent thousands of members and supporters from Wyoming and across the country who hunt, fish, and trap on Wyoming's vast landscape, including the Bridger-Teton National Forest (BTNF).

We appreciate the dedicated efforts of BTNF staff in preparing this document and your public outreach effort. According to the 2012 Planning Rule, Forest Plan Assessments are required to incorporate the Best Available Scientific Information, defined as:

> *"The 2012 Planning Rule requires the responsible official to use the best available scientific information to inform the Responsible Official about the development of a revised plan (36 CFR 219.3). The Responsible Official shall also document how scientific information used to provide information for the Assessment was determined to be the best available scientific information, based on what is most relevant, accurate, and reliable (36 CFR 219.6(a)(3)). Plan components for the revised Bridger-Teton Assessment will therefore be developed based on the scientific information used – and references included – in this Assessment."*

Our organizations recognize and support the State of Wyoming's primacy over wildlife management. We also recognize and support the United States Forest Service's regulatory authority over the management of the BTNF, including the habitat it provides for fish and wildlife. The 2012 Planning rule requires the BTNF to include the Best Available Scientific Information in the Final Assessment. A complete and accurate Final Assessment provides the BTNF, cooperators, and stakeholders with crucial information needed to revise the Forest Plan. We look forward to working with all involved parties to ensure that concerns over State primacy of wildlife management are addressed during the revision phase.

Our comments are centered around areas of the draft assessment that should be enhanced in order to meet the 2012 Planning Rule BASI requirement. We have included specific data and research, with specific citations, that should be added to the Final Assessment in order to address this issue.

Big Game Migration
The continued persistence of long distance big game migrations is a defining characteristic of the BTNF, which is why several of our organizations worked to create and submit a review of migration to the BTNF (Yovovich et al. (2021). We appreciate that the study was referenced and included in the BT Assessment along with

Department of the Interior Secretarial Order 3362, USDA Secretarial Memorandum 1077-013, the USDA Migratory Big Game Initiative, and migration corridors formally designated and identified by the State of Wyoming. Additional state-led big game migration research and data, including the extensively studied Wyoming Range mule deer migration, is missing from the draft assessment and should be included in the final assessment report.

The Wyoming Game and Fish Department's (WGFD) use of advanced GPS collar technology in the last two decades has dramatically changed our collective understanding of wildlife movements and habitat needs in the state. Wyoming is seen as a leader in the country on big game migrations thanks to the dedicated efforts made by the Wyoming Game and Fish Department and the University of Wyoming to extensively study big game and other wildlife. Including this research and data on wildlife movements in the final assessment is crucial for informing an up-to-date understanding of the current forest conditions and the value the forest provides to big game populations. A complete compilation of big game movement data, including migration corridors that have received formal designation as well as established, thoroughly researched and well-documented big game habitats that have not received the benefit of this designation, is necessary for the Forest Service to consider revisions to the Forest Plan while working with state cooperators, including WGFD. For instance, the draft assessment states "*When new infrastructure is necessary, conserving ungulate migration requires forest managers take migration routes, stopover locations, and other important habitat features into consideration. The Bridger-Teton calls for creating low human use zones containing security areas in locations adjacent to concentrated human activity (USDA 2015).*"

In addition to migration data, we have also included a synopsis of the most recent big game migration research for consideration to be included in the final assessment.

1) Ungulate migrations of the western United States: Volume 1
    a) Dubois mule deer
    b) Mesa mule deer
    c) Red Desert mule deer
    d) Ryegrass mule deer
    e) South Wind River mule deer
    f) Upper Shoshone mule deer
    g) Wyoming Range North mule deer
    h) Wyoming Range South mule deer
    i) Cody elk
    j) Fossil Butte elk
    k) Jackson elk
    l) Piney elk
    m) Jackson North moose
    n) Sublette moose

2) Ungulate Migrations of the western United States: Volume 2
    a) Owl Creek Mountains mule deer
    b) Wind River mule deer
    c) Sublette pronghorn
    d) Wiggins Fork elk

3) Ungulate Migrations of the western United States: Volume 3
    a) Jackson mule deer

4) Ungulate Migrations of the western United States: Volume 4
    a) Jackson South moose

We understand the inclusion of the generic model is to determine high value connectivity areas on the Forest. There is, however, a wealth of GPS collar migration data in Northwest Wyoming compiled by the United States Geological Survey Corridor Mapping team in cooperation with WGFD. We request that this data be included in the final BTNF assessment to corroborate the findings of the generic species model.

Big Game Migration Science

Big game need a variety of habitats to fulfill their lifecycle needs and support viable, long-term population growth. The Assessment should include a robust citation of relevant big game migration science in order for forest plan management in the revised plan to manage for the conservation of critical seasonal habitats, as well as the routes and corridors that connect them. Below is a scientific summary with citations of the minimum science that should be included in the final assessment report.

Each spring, most ungulates across Wyoming and the American West– including mule deer, elk, pronghorn, and bighorn sheep– migrate from low elevation winter ranges to high-elevation summer ranges.[1] [2] [3] [4] Through seasonal migrations, ungulates can access high-quality food, escape severe weather, and avoid predation or ectoparasites.[5] [6] [7] [8]

Migration promotes nutritional gain, survival, and reproduction and thus, is often an optimal strategy for ungulates inhabiting seasonal environments.[9] [10] [11] For example, accumulating evidence suggests that migrating ungulates track the green-up of plants during spring, allowing them to gain fat before giving birth in their production areas.[12] [13] [14] [15] Moreover, migratory ungulates spend the summer on high-elevation summer ranges, which often contain a higher diversity, abundance and quality of plants compared with low-elevation winter

[1] Sawyer, H., A. D. Middleton, M. M. Hayes, M. J. Kauffman, and K. L. Monteith. 2016. The extra mile: ungulate migration distance alters the use of seasonal range and exposure to anthropogenic risk. Ecosphere 7:e01534.

[2] Kauffman, M. J., J. E. Meacham, H. Sawyer, A. Y. Steingisser, W. J. Rudd, and E. Ostlind. 2018. Wild Migrations: Atlas of Wyoming's Ungulates. Oregon State University Press.

[3] Middleton, A. D., J. A. Merkle, D. E. McWhirter, J. G. Cook, R. C. Cook, P. J. White, and M. J. Kauffman. 2018. Green-wave surfing increases fat gain in a migratory ungulate. Oikos 127:1060–1068.

[4] Lowrey, B., K. M. Proffitt, D. E. McWhirter, P. J. White, A. B. Courtemanch, S. R. Dewey, H. M. Miyasaki, K. L. Monteith, J. S. Mao, J. L. Grigg, C. J. Butler, E. S. Lula, and R. A. Garrott. 2019. Characterizing population and individual migration patterns among native and restored bighorn sheep (Ovis canadensis). Ecology and Evolution 9: 8829–8839.

[5] Fryxell, J. M., J. Greever, and A. R. E. Sinclair. 1988. Why are migratory ungulates so abundant? The American Naturalist 131:781–798

[6] Hebblewhite, M., and E. H. Merrill. 2009. Trade-offs between predation risk and forage differ between migrant strategies in a migratory ungulate. Ecology 90: 3445–3454.

[7] Monteith, K. L., V. C. Bleich, T. R. Stephenson, B. M. Pierce, M. M. Conner, R W. Klaver, and R. T. Bowyer. 2011. Timing of seasonal migration in mule deer: effects of climate, plant phenology, and life-history characteristics. Ecosphere 2: 1–34.

[8] Mysterud, A., L. Qviller, E. L Meisingset, and H. Viljugrein. 2016. Parasite load and seasonal migration in red deer. Oecologia 180: 401–407.

[9] Albon, S. D., and R. Langvatn. 1992. Plant phenology and the benefits of migration in a temperate ungulate. Oikos 65: 502–513.

[10] Middleton, Merkle, McWhirter, Cook, Cook, White, and Kauffman. Green-wave surfing increases fat gain.

[11] Schuyler, E. M., K. M. Dugger, and D. H. Jackson. 2018. Effects of distribution, behavior, and climate on mule deer survival. Journal of Wildlife Management 83: 89–99

[12] Merkle, J. A., K. L. Monteith, E. O. Aikens, M. M. Hayes, K. R. Hersey, A. D. Middleton, B. A. Oates, H. Sawyer, B. M. Scurlock, and M. J. Kauffman. 2016. Large herbivores surf waves of green-up during spring. Proc. R. Soc. B 283:e20160456.

[13] 30 Aikens, E. O., M. J. Kauffman, J. A. Merkle, S. P. H. Dwinnell, G. L. Fralick, and K. L. Monteith. 2017. The greenscape shapes surfing of resource waves in a large migratory herbivore. Ecology Letters 20: 741–750.

[14] Middleton, Merkle, McWhirter, Cook, Cook, White, and Kauffman. Green-wave surfing increases fat gain.

[15] Aikens, E. O., S. P. H. Dwinnell, T. N. LaShaar, R. P. Jakopak, G. L. Fralick, J. Randall, R. Kaiser, M. Thonhoff, M. J. Kauffman, and K. L. Monteith. 2021. Migration distance and maternal resource allocation determine timing of birth in a large herbivore 102:doi:10.002.ecy.3334.

ranges.[16] [17] [18] [19] The foraging benefits of migration increase reproductive success, buffer ungulates from “bad” weather events, and allow ungulates to survive the nutritional constraints of winter.[20] For example, resident elk and moose experienced lower reproductive rates than their migratory counterparts.[21] [22] [23] Likewise, resident mule deer had lower survival rates over winter than migrants of the same population, most likely because of lower foraging benefits from non-migratory behavior.[24]Although migration is a key strategy that supports the persistence and productivity of big game herds, ungulate migrations are in peril and disappearing at an alarming rate.[25] [26] Climate change and a growing human footprint are reducing the benefits of migration and threatening ungulate populations.[27] Drought, which is expected to increase with climate change, has reduced the abundance and quality of plants on high-elevation summer ranges and has led to declining elk populations in northwestern Wyoming.[28] [29] In addition to reducing plant biomass and altering plant phenology, drought can also affect the rate and order of green-up, thereby reducing foraging benefits for migrating ungulates. [30] [31] Invasive plants also degrade habitat and compromise nutritional condition by altering the quantity and quality of forage available for ungulates. For example, elk and deer reduced their use of green ash and chokecherry habitat by 32% after an exotic and invasive plant (i.e., leafy spurge) became dominant and outcompeted native plants.[32]

Within migration corridors, fences, high-traffic roads, and other forms of development sever movement routes, thereby inhibiting the free movement of ungulates across the landscape and limiting their ability to track fleeting resources.[33] [34] For example, mule deer in northwestern Colorado and western Wyoming increased their movement rate as they migrated through natural gas and residential development, which can reduce their ability to track ephemeral peaks in forage quality before arriving to summer range and giving birth.[35] [36] [37]

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[16] Albon and Langvatn, Plant phenology and the benefits of migration in a temperate ungulate.
[17] 34 Hebblewhite and Merrill. Trade-offs between predation risk and forage differ between migrant strategies in a migratory ungulate. Ecology 90: 3445–3454
[18] Monteith, Bleich, Stephenson, Pierce, Conner, Klaver, and Bowyer, Timing of seasonal migration in mule deer: effects of climate, plant phenology, and life-history characteristics. Ecosphere 2: 1–34.
[19] LaSharr, T. N., Jakopak, R. P., Bårdsen, B.-J., Robinson, T. J., Dwinnell, S. P. H., Randall, J., Kaiser, R. C., Thonhoff, M., Scurlock, B., Fieseler, T., Hymas, N., & Monteith, K. L. (2025). Shifts in risk sensitivity and resource availability alter fat stores for a large mammal following extreme winter conditions. Functional Ecology. https://doi.org/10.1111/1365-2435.14440
[20] 36 Parker, K. L., P. S. Barboza, and M. P. Gillingham. 2009. Nutrition integrates environmental responses of ungulates. Functional Ecology 23: 57–69.
[21] 37 Hebblewhite and Merrill. Trade-offs between predation risk and forage differ between migrant strategies in a migratory ungulate. Ecology 90: 3445–3454
[22] 38 Rolandsen, C. M. E. J. Solberg, B. E. Saether, B. Van Moorter, I. Herfindal, and K. J. Bjørneraas. 2016. On fitness and partial migration in a large herbivore – migratory moose have high reproductive performance than residents. Oikos 126:547–555.
[23] 39 Berg, J. E., M. Hebblewhite, C. C. St. Clair, and E. H. Merrill. 2019. Prevalence and mechanisms of partial migration in ungulates. Frontiers in Ecology and Evolution 7: http://dx.doi.org.libproxy.uwyo.edu/10.3389/fevo.2019.00325
[24] 40 Schuyler, Dugger, and Jackson. Effects of distribution, behavior, and climate on mule deer survival. Journal of Wildlife Management 83: 89–99
[25] Bolger, D. T., W. D. Newmark, T. A. Morrison, and D. F. Doak. 2008. The need for integrative approaches to understand and conserve migratory ungulates. Ecology Letters 11:63–77.
[26] Kauffman, M. J., et al. 2021. Mapping out a future for ungulate migrations. Science 372:566–569.
[27] Bolger, D. T., W. D. Newmark, T. A. Morrison, and D. F. Doak. 2008. The need for integrative approaches to understand and conserve migratory ungulates. Ecology Letters 11:63–77.
[28] Gosling, S. M., and N. W. Arnell. 2016. A global assessment of the impact of climate change on water scarcity. Climatic Change 134:371–385.
[29] Middleton, A. D., M. J. Kauffman, D. E. McWhirter, J. G. Cook, R. C. Cook, A. A. Nelson, M. D. Jimenez, and R. W. Klaver. 2013. Animal migration amid shifting patterns of phenology and predation: lessons from a Yellowstone elk herd. Ecology 94:1245–1256.
[30] Middleton, A. D., M. J. Kauffman, D. E. McWhirter, J. G. Cook, R. C. Cook, A. A. Nelson, M. D. Jimenez, and R. W. Klaver. 2013. Animal migration amid shifting patterns of phenology and predation: lessons from a Yellowstone elk herd. Ecology 94:1245–1256.
[31] Aikens, E. O., K. L. Monteith, J. A. Merkle, S. P. H. Dwinnell, G. L. Fralick, and M. J. Kauffman. 2020a. Drought reshuffles plant phenology and reduces the foraging benefit of green-wave surfing for a migratory ungulate. Global Change Biology 26:4215–4225.
[32] Trammell, M. A., and J. L. Butler. 1995. Effects of exotic plants on native ungulate use of habitat. Journal of Wildlife Management 59:808–816; however, see Kohl et al. 2012 for an alternative scenario where elk consume cheatgrass and knapweed on winter range (Kohl, M. T., M. Hebblewhite, S. M. Cleveland, and R. M. Callaway. 2012. Forage value of invasive species to the diet of Rocky Mountain elk. Rangelands 34: 24–28.)
[33] Lendrum, P. E., C. R. Anderson Jr., K. L. Monteith, J. A. Jenks, and R. T. Bowyer. 2013. Migrating mule deer: effects of anthropogenically altered landscapes. Plos One:doi:10.1371/journal.pone.0064548.
[34] Kauffman, M. J., J. E. Meacham, H. Sawyer, A. Y. Steingisser, W. J. Rudd, and E. Ostlind. 2018. Wild Migrations: Atlas of Wyoming’s Ungulates. Oregon State University Press.
[35]Lendrum, P. E., C. R. Anderson Jr., K. L. Monteith, J. A. Jenks, and R. T. Bowyer. 2013. Migrating mule deer: effects of anthropogenically altered landscapes. Plos One:doi:10.1371/journal.pone.0064548.
[36] Wyckoff, T. B., H. Sawyer, S. E. Albeke, S. L. Garman, and M. J. Kauffman. 2018. Evaluating the influence of energy and residential development on the migratory behavior of mule deer. Ecosphere 9:doi:10.1002/esc2.2113.
[37] Ortega, A. C., E. O. Aikens, J. A. Merkle, K. L. Monteith, and M. J. Kauffman. 2022. Migrating mule deer compensate en route for phenological mismatches. In Prep.

Conserving migration corridors will help ensure that ungulates are acquiring the maximum benefits of migration and is an essential step to maintaining healthy and robust herds of big game across the American West.

Migration is an important piece to the full annual cycle of big game species, yet other seasons and habitat also determine whether ungulates can survive and reproduce. Each autumn, ungulates migrate to low-elevation winter ranges to escape deep snow and extreme temperatures in the mountains.[38] Winter is a critical time of the year for many animals in temperate environments.[39] Severe weather, low abundance and quality of food, and a high density of conspecifics create nutritional bottlenecks.[40] [41] During winter, ungulates expend more energy than they consume and thus rely on fat and protein reserves to survive.[42] [43]

Anthropogenic disturbances on winter range – such as oil and gas development, renewable energy development, or motorized and non-motorized recreation – can displace ungulates, thereby limiting access to essential food or causing unnecessary expenditures of energy.[44] [45] Because fat and protein reserves are finite and carry over into subsequent seasons, it is important for the BTNF to consider how ungulates respond to disturbances on all seasonal habitats.[46] [47]

Outdoor Recreation

The draft assessment attempts to identify key findings on the challenge ahead for recreation in the BTNF. Given the growth of outdoor recreation and future trends indicating continued population growth in Wyoming included in the draft assessment, we question the validity of Finding #2 *"Social conflict will be more challenging to address than ecological effects."* Social conflict and ecological effects will both be challenging. We recommend including the report on Outdoor Recreation and Elk in Colorado as an example of how the Forest might use recreation and habitat data to measure ecological effects of recreation.

Finding #4 identifies winter recreation planning as one of the key challenges of the plan revision: *"(4) winter recreation planning to address non-motorized, motorized, and wildlife values will be particularly challenging;"* Ensuring that the most up to date research on winter recreation impacts as well as data on crucial winter range and recreation are included in the assessment is needed to address this finding.

The impacts of outdoor recreation on wildlife are only beginning to be understood and additional research is needed to help address impacts. The Assessment should include a robust citation of relevant outdoor recreation and wildlife science in order for forest plan management in the revised plan to manage for the conservation of critical habitats, including the migration routes and corridors that connect them. We have included some recent research that should be included in the final assessment. The forest should be prepared to adaptively manage recreation and update its management as new research or policy becomes available.

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[38] Kauffman, Meacham, Sawyer, Steingisser, Rudd, and Ostlind. Wild Migrations: Atlas of Wyoming's Ungulates.
[39] Smedley, S. R., and T. Wickman. 2017. Winter ecology: insights from biology and history – preface. Northeastern Naturalist 24:doi:10.1656/045.024.s703.
[40] Parker, K. L., P. S. Barboza, and M. P. Gillingham. 2009. Nutrition integrates environmental responses of ungulates. Functional Ecology 23:57–69.
[41] Denryter, K., D. W. German, T. R. Stephenson, and K. L. Monteith. 2021. State- and context-dependent applications of an energetics model in free-ranging bighorn sheep. Ecological Modelling 440:e109349.
[42] Parker, K. L., P. S. Barboza, and M. P. Gillingham. 2009. Nutrition integrates environmental responses of ungulates. Functional Ecology 23:57–69.
[43] Monteith, K. L. T. R. Stephenson, V. C. Bleich, M. M. Conner, B. M. Pierce, and R. T. Bowyer. 2013. Risk-sensitive allocation in seasonal dynamics of fat and protein reserves in a long-lived mammal. Journal of Animal Ecology 82: 377–388.
[44] Harris, G., R. M. Nielson, T. Rinaldi, and T. Lohuis. 2013. Effects of winter recreation on northern ungulates with focus on moose (Alces alces) and snowmobiles. European Journal of Wildlife Research 60: 45–58.
[45] Dwinnell, S. P. H., H. Sawyer, M. J. Kauffman, J. E. Randall, R. C. Kaiser, M. A. Thonhoff, G. L. Fralick, and K. L. Monteith. 2021. Short-term responses to a human-altered landscape do not affect fat dynamics of a migratory ungulate. Functional Ecology 35: 1512–1523.
[46] Monteith, K. L. T. R. Stephenson, V. C. Bleich, M. M. Conner, B. M. Pierce, and R. T. Bowyer. 2013. Risk-sensitive allocation in seasonal dynamics of fat and protein reserves in a long-lived mammal. Journal of Animal Ecology 82: 377–388.
[47] Harris, Nielson, Rinaldi, and Lohuis. Effects of winter recreation on northern ungulates with focus on moose...

There is a large body of scientific research on the impacts to big game habitat of trail-based recreation activities, especially high density motorized and non-motorized trail use.[48] [49] [50] [51] [52] [53] Wildlife researchers in Colorado have documented that unrestrained trail-based recreation during calving season disturbs elk and can negatively impact calf survival, resulting in negative impacts to elk populations.[54] [55] There is also evidence that removal of recreation disturbance during calving can increase survival rates and bolster elk populations.[56] Recreation disturbance in high priority winter ranges has also been shown to adversely impact big game.[57]

Roads, Trails, and Facilities

While non-system user generated roads are included in the total road mileage in the supplemental assessment, this information is not included for non-system, user constructed trails. Roads and trails have numerous impacts on the forest including changes to the Recreation Opportunity Spectrum, spread of invasive weeds, wildlife impacts, and more. An accurate assessment of all existing roads and trails on the forest will help identify opportunities to avoid and mitigate these impacts. For instance, this data was recently used in Colorado to determine that nearly 40% of high priority elk habitat overlaps with avoidance areas from recreational trails (motorized and non motorized).[58]

Big Game Crucial Range and Parturition

The draft Supplemental Assessment states *"Identifying high priority conservation areas (See Figure 15 and Figure 16) allows managers to focus on key areas to protect. Among the top habitat types to protect are: stopover habitat sites, crucial ranges, parturition areas (i.e., birthing grounds), areas utilized by multiple herds and/or species, travel bottlenecks, and other areas where sensitive behaviors occur."* (Page 49). The draft assessment includes some migration data that we discuss in a previous section but crucial range and parturition data are not included. These areas help inform how these animals use the Forest and should be included in the Forest Plan assessment to create a clear picture of current conditions. These data are available at: https://wyoming-wgfd.opendata.arcgis.com/

Species of Conservation Concern

<u>Native Cutthroat Trout Species</u>

We appreciate the inclusion of the Snake River Finespotted Cutthroat Trout and the Colorado River Cutthroat Trout as Species of Conservation Concern. We believe that two other species of Cutthroat trout should be added to this list - the Yellowstone Cutthroat, and Bonneville Cutthroat or Bear River Cutthroat.

Yellowstone Cutthroat Trout

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[48] Wisdom, M. J., Preisler, H. K., Naylor, L. M., Anthony, R.G., Johnson, B.K., & Rowland, M.M. (2018). Elk response to trail based recreation on public forests. Forest Ecology and Management, 411 (2018) 223-233. https://doi.org/10.1016/j.foreco.2018.01.032

[49] Naylor, L. M., Wisdom, M. J., & Anthony, R. G. (2009). Behavioral responses of North America elk to recreational activity. The Journal of Wildlife Management 73: 328-338.

[50] Wisdom, M. J., Ager, A. A., Preisler, H. K., Cimon, N. J., & Johnson, B. K. (2004). Effects of off-road recreation on mule deer and elk. Transactions of the North American Wildlife and Natural Resources Conference 69: 67-80.

[51] Taylor A. R., & Knight, R. L. (2003). Wildlife response to recreational and associated visitor perceptions. Ecological Applications 13: 951-963.

[52] Washington Department of Fish & Wildlife. (2013). A Brief review of the scientific literature on elk, roads, & traffic. pp. 26. Accessed Aug. 2022 from: https://wdfw.wa.gov/sites/default/files/publications/01491/wdfw01491.pdf

[53] Naidoo, R. & Burton, A. C. (2020). Relative effects of recreational activities on a temperate terrestrial wildlife assemblage. Conservation Science and Practice, 2(10). https://doi.org/10.1111/csp2.271

[54] Peterson, C. (2019, August 27). Hiking trails are a path to destruction for Colorado elk. High Country News. Accessed Aug. 2022 from: https://www.hcn.org/articles/wildlife-hiking-trails-are-a-path-to-destruction-for-colorado-elk-vail

[55] Phillips, G.E & Alldredge, A.W. (2000). Reproductive success of elk following disturbance by humans during calving season. Journal of Wildlife Management. 64(2): 520-530

[56] Shively, K.J., Alldredge, A.W., & Phillips, G.E. (2005). Elk reproductive response to removal of calving season disturbance by humans. Journal of Wildlife Management 69(3): 1073-1080.

[57] Western Association of Fish & Wildlife Agencies, Mule Deer Working Group. (2016). Fact Sheet 17: Winter Range Disturbance. Accessed Aug. 2022 from: https://wafwa.org/wpdm-package/fact-sheet-17-winter-range-disturbance/

[58]Theodore Roosevelt Conservation Partnership (2022). Outdoor Recreation and Elk: A Colorado Case Study https://storymaps.arcgis.com/stories/a0a8b0e3d65d4156886cd7e0cc5cee7f

This species is native to the BTNF, has been designated a Tier II Species of Greatest Conservation Need by the Wyoming Game and Fish Department, an imperiled species by the US Fish and Wildlife Service, and a sensitive species by the Bureau of Land Management. Given these designations, we believe the YCT warrants more attention in forest planning and should be added as a Species of Conservation Concern.

Bonneville Cutthroat or Bear River Cutthroat.
The BTNF contains two Bear River Cutthroat populations that are of critical importance to the Bear River Basin. These populations are under threat from non-native fish, disease, habitat degradation, wildfire, and climate change. We ask the Forest Service to consider BRC abundance and trend data, along with habitat conditions and trends - none of which are provided or evaluated. Given these threats and importance of BRC habitat on the BTNF, we recommend that the BRC be considered a Species of Conservation Concern.

<u>Bighorn Sheep</u>
Our groups strongly recommend that bighorn sheep be designated as a **Species of Conservation Concern (SCC)** on the BTNF. The best available science clearly supports this designation:

- **State and Regional Designations**:
  Bighorn sheep are recognized as a **Species of Greatest Conservation Need (SGCN)** in Wyoming's State Wildlife Action Plan. They are also listed as a **Sensitive Species** by the Regional Foresters in Regions 2 and 4, and classified by **NatureServe** as imperiled/vulnerable in Wyoming. These designations reflect the species' precarious status across the region. Additionally, the BTNF has all or portions of all four of Wyoming's **Core Native bighorn sheep herds**, which are designated in the **Statewide Domestic/Bighorn Sheep Interaction Working Group Plan** under state statute as being "the highest priority areas for bighorn sheep management in Wyoming."

- **Population Status**:
  Compared to historic numbers, bighorn sheep populations remain low and occur primarily as **isolated, disjunct herds in restricted habitats** across Wyoming and on the planning unit. Within the BTNF, several herds (two of which are designated Core Native Herds) show troubling trends, including the Whiskey Mountain, Targhee, and Darby herds, each of which has experienced population declines. These declines underscore the importance of proactive management to ensure persistence of these native populations.

- **Vulnerability to Threats**:
  Bighorn sheep face a wide range of persistent threats that elevate their risk of extirpation. They are highly susceptible to respiratory disease, particularly pneumonia caused by *Mycoplasma ovipneumoniae (M. ovi)*, which has repeatedly driven population declines and continues to limit herd recovery. Habitat quality is reduced by invasive noxious weeds, while increasing recreational use, particularly winter skiing and snowmobiling, displaces sheep from critical habitat. Competition from expanding **non-native Rocky Mountain goats** further threatens core herds, and the continued risk of contact with **domestic sheep and goats** on both public and private lands creates ongoing potential for catastrophic disease transmission.

- **Management Considerations**:
  Longstanding statewide disease surveillance, research, and collaborative efforts underscore the importance of proactive bighorn sheep management. The Wyoming Statewide Domestic/Bighorn Sheep Interaction Working Group and the Wyoming Game and Fish Department's internal Bighorn Sheep Working Group both highlight the need for continued vigilance. These groups consistently identify bighorn sheep as a high-priority species requiring coordinated conservation action.

For these reasons, it is essential that the BTNF recognize bighorn sheep as a Species of Conservation Concern in the Forest Plan. This designation will ensure that proactive and science-based management measures are in place to address threats, maintain herd viability, and secure the long-term future of one of Wyoming's most iconic native species.

Socioeconomic Data

The communities surrounding the BTNF have seen astounding growth since the implementation of the 1990 forest plan. Indeed, much of this growth is related to the public land opportunities offered by the BTNF. The Draft Assessment correctly analyzes job creation directly related to forest activities in Chapter 3, but only offers economic data related to recreation and grazing.

Per the Multiple Use Sustained Yield Act (MUSYA), the national forests

> *"shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes[59]"*

Unfortunately, the percentages offered in the Draft Assessment appear to include only on-forest outputs and there is no mention of the socioeconomic contributions of wildlife and fish, timber and watershed. The BTNF offers unrivaled opportunities for hunting, fishing, wildlife viewing and photography, all of which draw visitors and support local economies. Additionally, water that is stored on the BTNF as snow has very large economic benefits off of the forest. This water is used for a multitude of purposes including municipal, industry and irrigation. We ask that the final assessment include the socioeconomic benefits of all forest resources included in the MUSYA.

Management Constraints and Opportunities

In Chapter One under the the Management Constraints and Opportunities section, the Draft Assessment states

> *"Forest plans are implemented through projects vetted through site-specific environmental analysis. Since 2004, 483 projects have occurred to help achieve the future conditions envisioned in the forest plan."*

This statement is inaccurate as forest plans are not solely implemented through completing projects. While completing projects is an important aspect of forest plans, conserving wildlife species and other resources is just as important, especially in a wildlife rich forest such as the BTNF. For example, DFC 2A has been important in retaining the primitive or semi-primitive recreation setting, but this has not necessarily been completed through projects, but rather an ethos of maintaining a certain experience. This discrepancy should be addressed in a final forest plan.

Conclusion

The undersigned organizations thank the BTNF planning team and specialists for your efforts to develop a thorough assessment and appreciate the opportunities to improve upon this document. The Forest Service is required by the 2012 Planning Rule to use the Best Available Scientific Information in preparing the Assessment. The inclusion of this data can inform, not dictate any changes to the forest plan during the revision phase. Our organizations and members are proud of the dedicated efforts made by WGFD, the University of Wyoming, and other partners to better understand the fish and wildlife populations found on the BTNF. We've invested countless hours and dollars into supporting these state led research efforts and urge you to incorporate them into the assessment to ensure a forest plan revision is informed by the best available

[59] ''Multiple-Use Sustained-Yield Act of 1960''

science. This is critical to ensure that the Forest Service makes management decisions that support the state of Wyoming's priorities to conserve big game. We look forward to working with BTNF staff, state and local cooperators, and the diverse stakeholders who care about the future of this forest on making needed revisions to the forest plan.

Thank you for your consideration,

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