Data Submitted (UTC 11): 4/13/2020 7:00:00 AM
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Comments: Please see the attached comment letter. Thank you.

The Pew Charitable Trusts

April 13, 2020

RE: The Pew Charitable Trusts[rsquo] Comments on the Nez Perce-Clearwater National Forests[rsquo] Draft Revised Forest Plan and Draft Environmental Impact Statement

The Pew Charitable Trusts respectfully submits for your consideration the following comments on your Draft Revised Forest Plan (Draft Plan) and Draft Environmental Impact Statement (DEIS) (December 2019). We appreciate this opportunity to present our information and recommendations at this stage of the process. The Pew Charitable Trusts works closely with governments at the local, state, national, and international levels on a wide variety of issues, including public health, budget, and the environment. Pew[rsquo]s U.S. Public Lands and Rivers Conservation project works to conserve and connect areas of biodiversity critical to species survival by identifying and preserving important tracts of land and rivers throughout the American West.

Consistent with this objective, Pew has an interest in the lands and rivers of the Nez Perce- Clearwater National Forests and the agency[rsquo]s implementation of its 2012 planning rule (36 CFR Part 219) through the forest plan revision process. The purpose of the planning rule is to design land management plans that [ldquo]promote the ecological integrity of national forests[rdquo] and [ldquo]guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability[rdquo] (36 CFR 219.1(c)). Although not limited to the following topics, we have a particular interest in the rule as it applies to the identification and management of recommended wilderness, and the utilization of other management strategies to protect valuable habitat.

We congratulate the Nez Perce-Clearwater National Forests Plan Revision Team on their careful attention to detail and process in developing the Draft Plan and DEIS, including multiple consultations with citizens and professional organizations. We offer the following comments and suggestions, as the Forest Plan Revision Team moves toward a final revised forest plan.

Recommended Wilderness
The 2012 planning rule requires the Forest Service to identify and evaluate lands that may be suitable for inclusion in the National Wilderness Preservation System during the forest plan revision process and determine whether to recommend any such lands for Wilderness designation (36 CFR 219.7(c)(2)(vii)). Chapter 70 of the Land Management Planning Handbook (FSH 1909.12) provides specific guidance for the wilderness inventory, evaluation, analysis, and recommendation steps of the wilderness recommendation process.

As noted in the DEIS, the forest contains many acres of wilderness-quality lands outside of designated wilderness areas: [ldquo]The Nez Perce-Clearwater contains some of the wildest lands in the United States. Parts of three wilderness areas are found on the Nez Perce-Clearwater. [...] Yet many more acres of wild country...are found on the Nez Perce-Clearwater[rdquo] (DEIS, p.1-28). As part of its Chapter 70 process, the Forest Plan Revision Team identified 33 wilderness inventory areas and analyzed 13 of these in at least one of the DEIS alternatives (see DEIS, Appendix E: Recommended Wilderness Inventory, Evaluation, and Analysis,

p.E-1 et seq.).

Alongside the Chapter 70 process, the Forest Plan Revision Team also described the Distinctive Roles and Contributions of the Nez Perce-Clearwater National Forests (see Draft Plan, pp.10- 14). This section describes the distinctive attributes and benefits and contributions to social, economic, and ecological sustainability of the local area, region, and nation. Excerpts from the Distinctive Roles and Contributions section that pertain to wild lands include the following (emphases added):

Outdoor Recreation (p.10)
-[ldquo]The Nez Perce-Clearwater serves a unique national role, providing vast, contiguous wildland areas, including the Selway-Bitterroot, Gospel-Hump, and Frank Church-River of No Return wilderness areas with regional linkages in the Hells Canyon Wilderness area and Idaho Roadless Rule areas, such as the Great Burn (Hoodoo) and Mallards-Larkin. Together, these areas comprise the largest complex of unroaded lands in the lower forty-eight states.[rdquo]
-[ldquo]The diverse landscapes and stunning scenery of the Nez Perce-Clearwater provide extraordinary settings for recreational activities[hellip][rdquo]
-[ldquo]Recreation opportunities also include wildlife-oriented recreation, such as hunting, wildlife watching, photography, and sportfishing. The Nez Perce- Clearwater provides crucial habitat for salmon, steelhead, and resident fish, which include nationally renowned blue-ribbon fisheries, including Kelly Creek, the North Fork Clearwater River, and the Lochsa River.[rdquo]

Social and Economic Contributions (pp.10-11)
-[ldquo]...sustain an outfitter and hunting guide recreation economy. The sport fisheries for spring and fall Chinook salmon, westslope cutthroat trout, steelhead trout, and kokanee and big game hunting opportunities for elk, black bear, moose, and bighorn sheep are important components supporting the area[rsquo]s social and economic vitality.[rdquo]

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-[ldquo]In addition, the diverse vegetative communities on the Nez Perce-Clearwater provide terrestrial habitats that host several regionally unique native wildlife populations. This includes native lineages of fisher and bighorn sheep, as well as mountain quail, the white-headed woodpecker, and the Harlequin duck. The extensive acreage

of undeveloped lands on the Nez Perce-Clearwater interconnected with neighboring public lands provide important habitat security and linkage for wide-ranging species, such as lynx, wolverine, and other carnivores. Notable large herds of elk are significant to the people of the area historically and currently. Many economies within the planning area benefit greatly from the elk herds.[rdquo]

Taken as a whole, the Distinctive Roles and Contributions section paints a picture of the Nez Perce-Clearwater National Forests as an ecologically diverse and intact forest that provides a variety of social and economic benefits.

To further support the forest[rsquo]s Distinctive Roles and Contributions, the Nez Perce-Clearwater National Forests should increase the amount of recommended wilderness in its final revised forest plan. The DEIS describes in detail the manner in which increased recommended wilderness would support these outcomes. Select examples from the DEIS include, but are not limited to, the following:

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-While there are few plan components specific to mountain goats, alternatives for recommended wilderness and motorized over snow travel suitability within recommended wilderness has potential impacts to mountain goats. Mountain goats are sensitive to disturbance and tend to leave suitable habitats if disturbed. The effects are particularly acute during the winter when mountain goats may not be able to travel through deep snow. Alternatives for recommended wilderness in the Hoodoo area, the Mallard-Larkin area, Moose Mountain, and Bighorn Weitas would include several mountain goat herds, including some of the largest herds in the plan area. Allowing these areas to be open to motorized over snow travel could potentially expose mountain goats to this disturbance. (p.3.2.3.4-44).
-[ldquo]A reasonably foreseeable outgrowth of recommended wilderness is wilderness designation. Wilderness designation has a neutral, trending-positive effect on cultural resources[rdquo] (p.3.4.1-14).
-[ldquo]Management of recommended wilderness generally promotes recreational use[rdquo] (p.3.4.2- 26).

Therefore, Pew encourages the Nez Perce-Clearwater National Forests to include in its final revised forest plan the areas recommended for wilderness in the proposal submitted by the Idaho Conservation League, The Wilderness Society, and Great Burn Conservation Alliance (hereafter referred to as [ldquo]conservation groups[rsquo] wilderness proposal[rdquo]). Incorporation of these proposed areas would best support the forest[rsquo]s Distinctive Roles and Contributions and balance the need for other forest uses. The conservation groups[rsquo] wilderness proposal also generally aligns with geographic features, which would improve the manageability and administration of these areas.

The Nez Perce-Clearwater National Forests should give particular consideration to the inclusion of the Hoodoo, Mallard-Larkins, and East and West Meadow Creek recommended wilderness areas in its final revised forest plan. These areas have a high degree of wilderness characteristics and other important values and managing them as wilderness would clearly support the forest[rsquo]s Distinctive Roles and Contributions.

Hoodoo Recommended Wilderness
Spanning the Bitterroot Divide, which separates Idaho and Montana and the Nez Perce- Clearwater National Forests and the Lolo National Forest, the vast Great Burn area is known for its high wilderness potential. Consequently, the Lolo National Forest recommends the portion of the Great Burn that it manages as wilderness in its current forest plan. The portion of the Great Burn on the Nez Perce-Clearwater National Forests (i.e., the Hoodoo Recommended Wilderness) likewise [ldquo]retains a high degree of natural integrity and appearance[rdquo] (DEIS, Appendix E, p.E-71). [ldquo]Due to its size and configuration[,] the boundary to area ratio is very low, minimizing opportunity for external activities affecting opportunity for solitude in the interior of the area[rdquo] (DEIS, Appendix E, p.E-223). It also contains abundant wildlife, such as elk, black bear, mountain goats, and moose, as well as a high quality westslope cutthroat trout fishery (DEIS, Appendix E, p.E-70). Given these wilderness characteristics, the Lolo National Forest[rsquo]s management of the Great Burn, and the area[rsquo]s other values, the Hoodoo Recommended Wilderness area, as identified in Alternative Z (147,039 acres), should be included in the final revised forest plan.

Mallard-Larkins Recommended Wilderness
With intact apparent naturalness ([ldquo]Visitors to the Mallard-Larkins area will probably not be aware of any improvements or alterations by man[rdquo] (DEIS, Appendix E, p.E-113)) and a [ldquo]high degree of solitude[rdquo] (DEIS, Appendix E, p.E-115), this large area supports one of the biggest mountain goat populations in northern Idaho (DEIS, Appendix E, p.E-117). In addition, over half of the area consists of ecological types that are currently underrepresented in the National Wilderness Preservation System (DEIS, Appendix E, p.E-117). Given these wilderness characteristics and the area[rsquo]s other values, the Mallard-Larkins Recommended Wilderness area, as identified in Alternative Z (79,011 acres), should be included in the final revised forest plan.

East and West Meadow Creek Recommended Wildernesses
Although divided by the Forest Plan Revision Team into two separate east and west units, the lands encompassing the Meadow Creek watershed possess a high degree of wilderness characteristics. As the Forest Plan Revision Team noted in its wilderness evaluation, [ldquo]East Meadow Creek Roadless Area connects the Selway-Bitterroot and Frank Church-River of No Return Wildernesses and together, offers an opportunity for solitude possibly unmatched in the

lower 48 states[rdquo] (DEIS, Appendix E, p.E-51). The West Meadow Creek Roadless Area, [ldquo]along with the East Meadow Creek Roadless Area, the Selway-Bitterroot Wilderness on the east and north, and the Frank Church-River of No Return Wilderness on the south, offers excellent opportunity for solitude[rdquo] (DEIS, Appendix E, p.E-124). Additionally, these areas also retain their apparent naturalness and support numerous other features and values of importance (see DEIS, Appendix E, pp. E-47 et seq. and E-210 et seq.). For example, these areas consist of ecological types that are currently underrepresented in the National Wilderness

Preservation System and include significant acreage of modeled whitebark pine habitat, a high elevation species currently in decline. These areas also support numerous species of wildlife, as well as a unique assemblage of fish species. Given these wilderness characteristics and these areas[rsquo] other values, the East and West Meadow Creek areas, as identified in Alternative Z (192,078 total acres), should be included in the final revised forest plan as the Meadow Creek Recommended Wilderness.

Management of Recommended Wilderness
Recommended wilderness areas must be appropriately managed to ensure that their ecological, social, and economic benefits are realized through the implementation of the final revised forest plan. The 2012 planning rule requires the Forest Service to provide for the [ldquo]Protection of congressionally designated wilderness areas as well as management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation[rdquo] (36 CFR 219.10(b)(1)(iv)).

Further, Forest Service Manual 1923.03(3) states that [ldquo]Any area recommended for wilderness or wilderness study designation is not available for any use or activity that may reduce the wilderness potential of the area[rdquo] and FSH 1909.12 74.1 states that [ldquo]All plan components applicable to a recommended area must protect and maintain the social and ecological characteristics that provide the basis for wilderness recommendation.[rdquo]

Motorized and mechanized activities, whether occurring in the summer or winter, have long been recognized as nonconforming uses in designated and recommended wilderness areas. Therefore, in order to comply with aforementioned authorities, the Nez Perce-Clearwater National Forests must select plan components and management actions for recommended wilderness areas in its final revised forest plan that exclude these and other nonconforming uses.

Wildlife Habitat Connectivity and Migration
The Forest Service[rsquo]s 2012 planning rule requires consideration of ecological sustainability through maintenance or restoration of ecological integrity, which in turn includes the maintenance or restoration of structure, function, composition, and connectivity (36 CFR 219.8(a)(1)). As it pertains to wildlife, connectivity is defined as [ldquo]the ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the daily and seasonal movements of animals within home ranges, the dispersal, and genetic interchange between populations, and the long distance range shifts of species, such as in response to climate change[rdquo] (36 CFR 219.19; see also FSH 1909.12 23.1). New technologies, such as GPS-enabled collars that allow biologists to track animal movements in real time, have dramatically enhanced knowledge about the movement characteristics of large ungulates such as mule deer, elk, and pronghorn, including length and location of migration routes throughout the state of Idaho.

The study of movement corridors has shed light on how land uses such as roads, energy development, and residential encroachment can impede important populations of big game and other species. Blocked or altered migrations can affect access to food sources, movement to hospitable elevations when seasons change, or breeding behavior. Additionally, the increase in motorized and mechanized recreation is also having an impact on animal behavior.
Multiple studies have concluded that increasing ATV use on public lands is having significant impacts on wildlife behavior including distribution shifts; increased flight responses, movement rates and energetic costs; reduced foraging times; and reduced carrying capacity of populations away from trails (Havlick 2002). Additionally, new studies point to similar avoidance by ungulates to other trail-based recreational activities like mountain biking and horseback riding. One study evaluating elk responses to multiple forms of trail-based recreation observed that the distances between elk and recreationists were highest during ATV riding, lowest but similar during hiking and horseback riding, and intermediate during mountain biking. The study draws the conclusion that elk avoid trail-based recreation similarly to their avoidance of roads open to motorized traffic on public forests (Wisdom et al.

2018).

Avoidance by elk to recreation trails and recreationists represents a form of [ldquo]habitat compression,[rdquo] similar to that of forest roads open to traffic (Wisdom et al. 2000). Habitat compression in response to human activities is a form of habitat loss for species like elk considering the potentially large areas not used in the presence of humans (Rowland et al. 2000). Habitat compression can ultimately lead to largescale population shifts by elk from public forests to private lands, thus eliminating hunting and viewing opportunities on public lands (Proffitt et al. 2013).

Open road density and corresponding human activity play a key role in determining whether wildlife remains in an area. For areas in the National Forest identified as being crucial to big game wildlife movement including winter range, migratory corridors and stopover areas, we recommend the Draft plan incorporate road density standards of 1 mile per square mile to limit human disturbance and best facilitate the movement of big game species.

The DEIS includes a list of key statutory authorities that affect wildlife management on National Forest System lands. Included in this list are all of Idaho[rsquo]s big game species management plans for elk, whitetail deer, moose, mule deer, bighorn sheep, and mountain goat. These plans function as an overarching action plan to provide specific goals, strategies, and performance objectives for the management of big game in Idaho. Relative to connectivity and wildlife movement, the recently revised Idaho Mule Deer Management Plan 2019-2025 prioritizes the following management objectives:

1. Manage winter ranges to minimize the negative effects of disturbance to mule deer,
2. Improve and protect key winter, summer, and migratory habitats, on public, private, and Idaho Department of Fish and Game (IDFG) lands that provide for mule deer populations that meet statewide objectives,
3. Provide technical assistance for long and short-term land-use planning efforts by providing information, analysis, and recommendations to improve and preserve mule deer habitat and migrations, and

4. Develop strategies with Idaho Transportation Department, mining corporations, and other entities to implement projects to minimize deer-vehicle collisions and otherwise reduce the impacts of development on mule deer migrations.

To meet the objectives of the 2012 planning rule and the management goals outlined by IDFG in their elk, whitetail deer, moose, mule deer, bighorn sheep and mountain goat management plans, we recommend the final revised forest plan prioritize the conservation of big game migratory pathways through the formulation of standards and guidelines that limit uses incompatible with maintaining functional, permeable habitat. To this end, we also recommend the Forest administratively designate priority big game migratory habitats as Special Management Areas to maintain the unique and special character these habitats provide for migratory big game animals while preserving landscape connectivity throughout the Forest.

Conclusion

Pew commends the Forest Plan Revision Team for its hard work in developing the Draft Plan and DEIS and appreciates this opportunity to comment. We look forward to continuing our engagement on this important planning effort. If you have any questions about these comments, please feel free to contact Blake Busse at bbusse@pewtrusts.org or 202-540-6699.

References

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? [ldquo]The alternatives provide varying amounts of recommended wilderness, which would slightly enhance connectivity for grizzly bears over Idaho Roadless Rule management. The proposed Mallard-Larkin, Meadow Creek North-Upper North fork, Rawhide, Hoodoo, Sneakfoot, and Northfork Spruce White Sand recommended wilderness areas would provide the most benefits to connectivity for dispersing bears to enter into the Bitterroot Ecosystem[rdquo] (p.3.2.3.3-90).
-While there are few plan components specific to mountain goats, alternatives for recommended wilderness and

motorized over snow travel suitability within recommended wilderness has potential impacts to mountain goats. Mountain goats are sensitive to disturbance and tend to leave suitable habitats if disturbed. The effects are particularly acute during the winter when mountain goats may not be able to travel through deep snow. Alternatives for recommended wilderness in the Hoodoo area, the Mallard-Larkin area, Moose Mountain, and Bighorn Weitas would include several mountain goat herds, including some of the largest herds in the plan area. Allowing these areas to be open to motorized over snow travel could potentially expose mountain goats to this disturbance. (p.3.2.3.4-44).
-[ldquo]A reasonably foreseeable outgrowth of recommended wilderness is wilderness designation. Wilderness designation has a neutral, trending-positive effect on cultural resources[rdquo] (p.3.4.1-14).
-[ldquo]Management of recommended wilderness generally promotes recreational use[rdquo] (p.3.4.2- 26).

Therefore, Pew encourages the Nez Perce-Clearwater National Forests to include in its final revised forest plan the areas recommended for wilderness in the proposal submitted by the Idaho Conservation League, The Wilderness Society, and Great Burn Conservation Alliance (hereafter referred to as [ldquo]conservation groups[rsquo] wilderness proposal[rdquo]). Incorporation of these proposed areas would best support the forest[rsquo]s Distinctive Roles and Contributions and balance the need for other forest uses. The conservation groups[rsquo] wilderness proposal also generally aligns with geographic features, which would improve the manageability and administration of these areas.

The Nez Perce-Clearwater National Forests should give particular consideration to the inclusion of the Hoodoo, Mallard-Larkins, and East and West Meadow Creek recommended wilderness areas in its final revised forest plan. These areas have a high degree of wilderness characteristics and other important values and managing them as wilderness would clearly support the forest[rsquo]s Distinctive Roles and Contributions.

Hoodoo Recommended Wilderness
Spanning the Bitterroot Divide, which separates Idaho and Montana and the Nez Perce- Clearwater National Forests and the Lolo National Forest, the vast Great Burn area is known for its high wilderness potential. Consequently, the Lolo National Forest recommends the portion of the Great Burn that it manages as wilderness in its current forest plan. The portion of the Great Burn on the Nez Perce-Clearwater National Forests (i.e., the Hoodoo Recommended Wilderness) likewise [ldquo]retains a high degree of natural integrity and appearance[rdquo] (DEIS, Appendix E, p.E-71). [ldquo]Due to its size and configuration[,] the boundary to area ratio is very low, minimizing opportunity for external activities affecting opportunity for solitude in the interior of the area[rdquo] (DEIS, Appendix E, p.E-223). It also contains abundant wildlife, such as elk, black bear, mountain goats, and moose, as well as a high quality westslope cutthroat trout fishery (DEIS, Appendix E, p.E-70). Given these wilderness characteristics, the Lolo National Forest[rsquo]s management of the Great Burn, and the area[rsquo]s other values, the Hoodoo Recommended Wilderness area, as identified in Alternative Z (147,039 acres), should be included in the final revised forest plan.

Mallard-Larkins Recommended Wilderness
With intact apparent naturalness ([ldquo]Visitors to the Mallard-Larkins area will probably not be aware of any improvements or alterations by man[rdquo] (DEIS, Appendix E, p.E-113)) and a [ldquo]high degree of solitude[rdquo] (DEIS, Appendix E, p.E-115), this large area supports one of the biggest mountain goat populations in northern Idaho (DEIS, Appendix E, p.E-117). In addition, over half of the area consists of ecological types that are currently underrepresented in the National Wilderness Preservation System (DEIS, Appendix E, p.E-117). Given these wilderness characteristics and the area[rsquo]s other values, the Mallard-Larkins Recommended Wilderness area, as identified in Alternative Z (79,011 acres), should be included in the final revised forest plan.

East and West Meadow Creek Recommended Wildernesses
Although divided by the Forest Plan Revision Team into two separate east and west units, the lands encompassing the Meadow Creek watershed possess a high degree of wilderness characteristics. As the Forest

Plan Revision Team noted in its wilderness evaluation, [ldquo]East Meadow Creek Roadless Area connects the Selway-Bitterroot and Frank Church-River of No Return Wildernesses and together, offers an opportunity for solitude possibly unmatched in the

lower 48 states[rdquo] (DEIS, Appendix E, p.E-51). The West Meadow Creek Roadless Area, [ldquo]along with the East Meadow Creek Roadless Area, the Selway-Bitterroot Wilderness on the east and north, and the Frank Church-River of No Return Wilderness on the south, offers excellent opportunity for solitude[rdquo] (DEIS, Appendix E, p.E-124). Additionally, these areas also retain their apparent naturalness and support numerous other features and values of importance (see DEIS, Appendix E, pp. E-47 et seq. and E-210 et seq.). For example, these areas consist of ecological types that are currently underrepresented in the National Wilderness Preservation System and include significant acreage of modeled whitebark pine habitat, a high elevation species currently in decline. These areas also support numerous species of wildlife, as well as a unique assemblage of fish species. Given these wilderness characteristics and these areas[rsquo] other values, the East and West Meadow Creek areas, as identified in Alternative Z (192,078 total acres), should be included in the final revised forest plan as the Meadow Creek Recommended Wilderness.

Management of Recommended Wilderness
Recommended wilderness areas must be appropriately managed to ensure that their ecological, social, and economic benefits are realized through the implementation of the final revised forest plan. The 2012 planning rule requires the Forest Service to provide for the [ldquo]Protection of congressionally designated wilderness areas as well as management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation[rdquo] (36 CFR 219.10(b)(1)(iv)).

Further, Forest Service Manual 1923.03(3) states that [ldquo]Any area recommended for wilderness or wilderness study designation is not available for any use or activity that may reduce the wilderness potential of the area[rdquo] and FSH 1909.12 74.1 states that [ldquo]All plan components applicable to a recommended area must protect and maintain the social and ecological characteristics that provide the basis for wilderness recommendation.[rdquo]

Motorized and mechanized activities, whether occurring in the summer or winter, have long been recognized as nonconforming uses in designated and recommended wilderness areas. Therefore, in order to comply with aforementioned authorities, the Nez Perce-Clearwater National Forests must select plan components and management actions for recommended wilderness areas in its final revised forest plan that exclude these and other nonconforming uses.

Wildlife Habitat Connectivity and Migration
The Forest Service[rsquo]s 2012 planning rule requires consideration of ecological sustainability through maintenance or restoration of ecological integrity, which in turn includes the maintenance or restoration of structure, function, composition, and connectivity (36 CFR 219.8(a)(1)). As it pertains to wildlife, connectivity is defined as [ldquo]the ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the daily and seasonal movements of animals within home ranges, the dispersal, and genetic interchange between populations, and the long distance range shifts of species, such as in response to climate change[rdquo] (36 CFR 219.19; see also FSH 1909.12 23.1). New technologies, such as GPS-enabled collars that allow biologists to track animal movements in real time, have dramatically enhanced knowledge about the movement characteristics of large ungulates such as mule deer, elk, and pronghorn, including length and location of migration routes throughout the state of Idaho.

The study of movement corridors has shed light on how land uses such as roads, energy development, and residential encroachment can impede important populations of big game and other species. Blocked or altered migrations can affect access to food sources, movement to hospitable elevations when seasons change, or

breeding behavior. Additionally, the increase in motorized and mechanized recreation is also having an impact on animal behavior.
Multiple studies have concluded that increasing ATV use on public lands is having significant impacts on wildlife behavior including distribution shifts; increased flight responses, movement rates and energetic costs; reduced foraging times; and reduced carrying capacity of populations away from trails (Havlick 2002). Additionally, new studies point to similar avoidance by ungulates to other trail-based recreational activities like mountain biking and horseback riding. One study evaluating elk responses to multiple forms of trail-based recreation observed that the distances between elk and recreationists were highest during ATV riding, lowest but similar during hiking and horseback riding, and intermediate during mountain biking. The study draws the conclusion that elk avoid trail-based recreation similarly to their avoidance of roads open to motorized traffic on public forests (Wisdom et al. 2018).

Avoidance by elk to recreation trails and recreationists represents a form of [ldquo]habitat compression,[rdquo] similar to that of forest roads open to traffic (Wisdom et al. 2000). Habitat compression in response to human activities is a form of habitat loss for species like elk considering the potentially large areas not used in the presence of humans (Rowland et al. 2000). Habitat compression can ultimately lead to largescale population shifts by elk from public forests to private lands, thus eliminating hunting and viewing opportunities on public lands (Proffitt et al. 2013).

Open road density and corresponding human activity play a key role in determining whether wildlife remains in an area. For areas in the National Forest identified as being crucial to big game wildlife movement including winter range, migratory corridors and stopover areas, we recommend the Draft plan incorporate road density standards of 1 mile per square mile to limit human disturbance and best facilitate the movement of big game species.

The DEIS includes a list of key statutory authorities that affect wildlife management on National Forest System lands. Included in this list are all of Idaho[rsquo]s big game species management plans for elk, whitetail deer, moose, mule deer, bighorn sheep, and mountain goat. These plans function as an overarching action plan to provide specific goals, strategies, and performance objectives for the management of big game in Idaho. Relative to connectivity and wildlife movement, the recently revised Idaho Mule Deer Management Plan 2019-2025 prioritizes the following management objectives:

1. Manage winter ranges to minimize the negative effects of disturbance to mule deer,
2. Improve and protect key winter, summer, and migratory habitats, on public, private, and Idaho Department of Fish and Game (IDFG) lands that provide for mule deer populations that meet statewide objectives,
3. Provide technical assistance for long and short-term land-use planning efforts by providing information, analysis, and recommendations to improve and preserve mule deer habitat and migrations, and

4. Develop strategies with Idaho Transportation Department, mining corporations, and other entities to implement projects to minimize deer-vehicle collisions and otherwise reduce the impacts of development on mule deer migrations.

To meet the objectives of the 2012 planning rule and the management goals outlined by IDFG in their elk, whitetail deer, moose, mule deer, bighorn sheep and mountain goat management plans, we recommend the final revised forest plan prioritize the conservation of big game migratory pathways through the formulation of standards and guidelines that limit uses incompatible with maintaining functional, permeable habitat. To this end, we also recommend the Forest administratively designate priority big game migratory habitats as Special Management Areas to maintain the unique and special character these habitats provide for migratory big game animals while preserving landscape connectivity throughout the Forest.

Conclusion
Pew commends the Forest Plan Revision Team for its hard work in developing the Draft Plan and DEIS and

appreciates this opportunity to comment. We look forward to continuing our engagement on this important planning effort. If you have any questions about these comments, please feel free to contact Blake Busse at bbusse@pewtrusts.org or 202-540-6699.

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