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November 15, 2021

Chad Stewart, Forest Supervisor
Grand Mesa, Uncompahgre, and Gunnison National Forests
Attention: Forest Plan Revision
2250 South Main Street
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Submitted via electronically via CARA to: https://cara.ecosystem-management.org/Public//CommentInput ?Project=51806

RE: The Pew Charitable Trusts' Comments on the GMUG National Forests' Draft Plan and Draft EIS

Dear Forest Supervisor Stewart:

On behalf of The Pew Charitable Trusts, I'm submitting comments on the Grand Mesa, Uncompahgre, and Gunnison National Forests' (GMUG) Draft Revised Forest Plan and Draft Environmental Impact Statement (Draft Plan/DEIS). I appreciate the opportunity to present recommendations at this important stage of the forest planning process.

Pew's U.S. Public Lands and Rivers Conservation project seeks to preserve ecologically and culturally significant public lands and rivers through legislative designations, as well as federal and state administrative protections. To accomplish these goals, we work closely with local businesses, local governments, Indigenous Nations, the outdoor recreation industry, travel and tourism organizations, veterans, sportsmen and women, and many others to develop collaborative proposals that protect landscapes and local communities.

Consistent with this objective, Pew has an interest in the lands and rivers of the GMUG and the agency'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 "promote the ecological integrity of national forests" and "guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability" (36 CFR 219.1(c)). As such, we have a particular interest in the rule as it applies to the identification and conservation of core habitat, the maintenance of free-flowing rivers, and the promotion of habitat connectivity. We offer the following comments and suggestions, as the Forest Plan

Revision Team prepares the Final Revised Forest Plan in response to public comments on the Draft Plan.

Locally Supported Conservation Proposals

The lands and rivers of the GMUG are valuable to all Americans, regardless of where they reside. Given their proximity to the forest, local communities are particularly impacted by decisions related to the management of these forests. Local residents, businesses, community organizations, county commissioners, and others have collaborated to develop community-driven and broadly supported visions for the management of the GMUG. These collaborative efforts include, for example, the Community Conservation Proposal (which also incorporates the Gunnison Public Lands Initiative), the CORE Act, and the San Juan Mountains Wilderness bill. We encourage the Forest Service to give additional consideration to these collaboratively developed visions for the GMUG as it prepares its Final Revised Plan, particularly regarding their proposed areas for special management.

New Research Identifies Unprotected Areas of High Ecological Value on the GMUG

Pew recently commissioned a report that identifies unprotected areas of high ecological value on the GMUG. The research, conducted by Conservation Science Partners, uses a number of science-backed indicators of ecological value (e.g., biodiversity, carbon) to develop a composite score of ecological value for individual pixels across the forest. These ranked pixels were then aggregated into polygons which represent the top 10 percent of ecologically valuable, yet unprotected, lands on the GMUG. These areas, which the report refers to as 'HEVAs,' provide useful information regarding possible priorities for conservation-oriented management in the revised forest plan. The research only analyzed ecological considerations of value and, as such, additional human dimensions related to social and economic sustainability should be incorporated into the management decisions for these areas through the Forest's ongoing consultation with Indigenous Nations and through the public participation requirements of NEPA and the planning rule.

We have attached a copy of this report to these comments (filename: "CSP-Pew-USFS-GMUG-report-FINAL-20211019") and we encourage you to consider and incorporate the report's insights as the Forest Plan Revision Team prepares the Final Revised Plan. Doing so, will help to ensure the Forest meets the planning rule's "best available scientific information" (BASI) and "ecological sustainability" requirements.

Area-based Management for Conserving Biodiversity

Under the planning rule, there are a variety of area-based management approaches available to the Forest Service that can be used to tailor management consideration that goes beyond forest-wide plan components to values that are specific to a given area. These include recommended wilderness, wild and scenic rivers, research natural areas, and other management or geographic areas, all of which are important tools for conserving biodiversity, core habitat, and other aspects of a forest's ecological integrity. Such approaches are particularly relevant in light of the goal outlined in section 216 of President Biden's January 27, 2021, *Executive Order on Tackling the Climate Crisis at Home and Abroad* to conserve at least 30 percent of our nation's lands and waters by 2030. As the Forest Plan Revision Team prepares the Final Revised Plan, it should incorporate input from Indigenous Nations and others to identify areas that protect and enhance the unique and important values of these forests while furthering the administration's overall conservation objectives.

Additionally, while the Draft Plan does not explicitly identify a preferred alternative, for the purposes of these comments, we consider Alternative B, the "Blended Alternative," to be the Forest's preferred alternative, based on statements made by the Forest Plan Revision Team during recent open house webinars with the public.

Recommended Wilderness

As part of the forest planning process, the Forest Service is required to determine whether to recommend areas for wilderness designation (36 CFR 219.7(c)(2)(vii)). Chapter 70 of the Land Management Planning Handbook (FSH 1909.12) provides specific guidance on the wilderness inventory, evaluation, analysis, and recommendation steps in this process. While we appreciate the level of detail the Forest has provided in documenting these steps in conducting its Chapter 70 process, it is not clear from *Appendix 6: Chapter 70 Wilderness Process* (DEIS Vol.2) why the Forest is now poised to recommend approximately 91,000 fewer acres for wilderness designation than it did in its 2007 Proposed Forest Plan. The areas recommended for wilderness designation in Alternative B represent less than one percent of the GMUG, despite these forests containing over 1.1 million acres of Colorado Roadless Areas.

The Forest Service should better articulate the changed conditions that warrant such drastically different wilderness recommendations. Additionally, aspects of the Forest's Chapter 70 process that would benefit from clarification are (a) the identification and application of the "factors" used to select units for analysis under the various action alternatives, and (b) how those analysis factors were applied to a given unit. Regarding Alternative B, the Appendix 6 states that "several factors were consider in developing the areas to be analyzed for potential wilderness recommendation" (DEIS Vol.2, Appendix 6, p.346). From the text that follows, the Alternative B analysis factors appear to be:

1. Degree of wilderness characteristics present,
2. Manageability,
3. Minimization of conflict with existing uses, and
4. Public and cooperating agency input.

Analysis Factors 2 and 3, above, create confusion given their overlap with several of the criteria considered in the evaluation phase of the Chapter 70 process (see Table 59, Wilderness characteristics evaluation guide, p.169). For example, Evaluation Criterion 5 and Analysis Factor 2 both relate to the manageability of an area for the preservation of its wilderness characteristics. It is unclear why this same consideration would be addressed again in the analysis phase, since manageability considerations are already incorporated into the High, Moderate, Low, No ranking system of wilderness characteristics that was addressed in the evaluation phase and which is now included in the analysis phase through Analysis Factor 1. If a given polygon has low manageability, that information would reduce the presence of its wilderness characteristics, as determined during the evaluation phase, and would need not be considered again in the analysis phase as a separate factor. Similarly, Analysis Factor 3 overlaps with Evaluation Criteria 1 (apparent naturalness) and 2 (solitude, or primitive and unconfined recreation), and therefore need not be separately reconsidered as an Analysis Factor.

Relatedly, additional confusion is created by the text near the end of the Alternative B Chapter 70 summary, which states that some inventory units were not included for analysis under Alternative B because they "contain conflicting existing or desired uses that did not reflect the

appropriate balance of multiple uses the GMUG is striving for in alternative B" (p.347). This appears to be a reference to Analysis Factor 3, but it adds the additional consideration of "desired uses." This consideration was not included in the description of Analysis Factor 3, which was explicitly about "existing uses." Given the overlapping and conflicting considerations described in Appendix 6, it is unclear how the Forest Service determined which inventory units to analyze in Alternative B. Taken together, the process creates the impression that the Forest Service is working backwards from a desired outcome for wilderness recommendations and is developing rationale that purports to support that predetermined outcome.

The Forest Service should rectify this perception by revisiting its approach to the Chapter 70 analysis and clarifying to the public the factors it used to determine the units analyzed under the action alternatives – in particular, Alternative B – and explaining how those factors were applied to specific units. It is especially important to articulate the latter when a unit is not included for analysis in the preferred alternative. For example, Kelso Mesa (the largest roadless area on the Uncompahgre Plateau) and the Beaver area northwest of Gunnison (whose creeks support Green lineage Colorado River cutthroat trout) were not included in Alternative B despite being evaluated as possessing high degrees of wilderness characteristics and public support for their recommendation. These and other units should be reconsidered for analysis in the preferred alternative, in light of the clarified Analysis Factors. Ultimately, they should be recommended for wilderness designation. The recommendation of additional wilderness areas will support the forests' Distinctive Roles and Contributions (see Draft Plan, pp.7-9), which includes its critical function as a headwater for high-quality water resources, setting for numerous recreational opportunities that provide the forests' most significant economic contribution, and functional habitat for diverse populations of wildlife and wildflowers.

Wildlife Management Areas

We commend the Forest Service for its identification of Wildlife Management Areas (WMA)(MA 3.2, WDLF) across the forest and its close work with Colorado Parks and Wildlife (CPW) to ensure BASI was used in their development. We encourage the Forest to stay in close contact with CPW, as the Forest develops its Final Revised Plan, to ensure it is incorporating the newest BASI in its identification of areas important for management as WMAs.

Conservation-oriented management of WMAs will not only benefit iconic big game species like elk but will also provide improved outcomes for other species. Limiting human-caused disturbances will benefit both terrestrial and aquatic species (i.e., ensuring ecological sustainability), while also contributing to the conservation of a landscape that attracts both residents and visitors alike to the GMUG and its surrounding communities (i.e., contributing to the region's social and economic sustainability). To further promote these values, we offer the following recommendations for improving the management of WMAs.

Increase specificity of MA-DC-WLDF-01

Under the planning rule, desired conditions "must be described in terms that are specific enough to allow progress toward their achievement to be determined" (36 CFR 219.7(e)(1)(i)). While the current version of MA-DC-WLDF-01 provides a solid foundation, the Forest must add greater specificity to this desired condition for progress toward its achievement to be determined in order to achieve this planning rule requirement. As the Forest Service's Land Management Planning Handbook notes, "Responsible Officials should include sufficiently detailed descriptions of desired conditions so they are useful to determine the purpose and need for many projects such

as restoration projects and activities" (FSH 1909.12 22.11). The Forest can add this necessary specificity by further describing, either in quantitative terms or by reference to relevant BASI, the key phrases in the current version of the desired condition, such as "large blocks," "diverse habitat," and "relatively undisturbed."

Further strengthen MA-STND-WLDF-02

Standards are mandatory constraints that "help to achieve or maintain the desired condition or conditions (36 CFR 219.7(e)(1)(iii)). A critical aspect of the desired conditions for WMAs is the limitation on the disturbance of wildlife from motorized and mechanized routes. As such, the definition of a quantitative route density in MA-STND-WLDF-02 is critical for achieving MA-DC-WLDF-01. However, this standard could better help the Forest achieve this desired condition if it were modified to incorporate the following information:

- Research has shown that road densities of less than 0.5 km/km^2 (0.31 mi/mi^2) maintained high probability of elk occurrence and densities of 1-1.5km/km^2 (0.6-1.0 mi/mi^2) accounted for the biggest potential to alter elk behavior[1]. The Forest's current route density standard is at the very highest end of the range that may help to maintain habitat function. Because of this, the Forest should decrease the route density in this standard, in accordance with BASI, to ensure that it will achieve MA-DEC-WLDF-01.
- Another key aspect of MA-DC-WLDF-01 is the requirement that "Habitat connectivity is maintained or improved as fragmentation by routes is *reduced*" (emphasis added). However, the WMA plan components do not provide any direction for how this reduction in fragmentation by routes would occur. Therefore, the Forest should adopt an 'anti-degradation' approach to route densities by specifying that route density in a given WMA will not increase beyond their current density and, if the route density ceiling is already exceeded in a WMA, that action will be taken to bring such densities into compliance with the standard.

Therefore, we recommend this standard be revised to read as follows (**<u>additions</u>** and ~~deletions~~):

> To maintain habitat function and provide security habitat for wildlife species by minimizing impacts associated with roads and trails, there shall be no net gain in system routes, both motorized and non-motorized, ~~where the system route density already exceeds 1 linear mile per square mile,~~ within a wildlife management area boundary. ~~Additions of new system routes within wildlife management areas shall not cause the route density in a proposed project's zone of influence to~~ **<u>Where route density</u>** exceed**<u>s</u>** ~~1~~ **<u>0.6</u>** linear mile per square mile**<u>, existing routes will be identified for decommissioning in order to achieve this density ceiling</u>**. ~~Within the Flattop Wildlife Management Areas in the Gunnison Ranger District, there shall be no new routes.~~ Exception: this does not apply to administrative routes (see appendix 12, Footnotes Regarding Best Available Scientific Information for further detail).

Addition of a new standard regarding vegetation management

In order to achieve the fundamental purposes of WMAs (i.e., "to maintain habitat function and provide security habitat for wildlife"), the Forest should add an additional standard to WMAs that addresses the purposes for which vegetation management projects can occur, which should

[1] Frair, et. al. 2008 "Thresholds in landscape connectivity and mortality risks in response to growing road networks." Journal of Applied Ecology 2008, 45, 1504–1513 https://besjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/j.1365-2664.2008.01526.x

be limited to habitat restoration and improved ecological function. We recommend the following language for this new standard:

> Vegetation management projects in WMAs, including timber management projects, fuels treatments, and wildlife habitat treatments must be designed to retain or enhance ecological integrity, wildlife habitat diversity within the forest's natural range of variation, and connectivity.

Addition of this standard is important for providing constraints on project or activity designs, so that they help achieve the desired condition for WMAs.

Prioritize route decommissioning as a management action in MA-OBJ-WLDF-03
Given the centrality of route density to the management approach for WMAs, the decommissioning of routes should be specified as a priority management action within this objective. Specifically, we recommend revising the objective to read:

> Within 5 years of plan approval, identify potential area-specific management actions for each wildlife management area to improve habitat connectivity with respect to existing route densities and to achieve desired ecological conditions for constituent ecosystems. **Route decommissioning will be prioritized as a management action, especially within WMAs which exceed the route density in STND-WLDF-02.** Within 10 years of plan approval, complete ~~one~~ **two** action**s** in each wildlife management area.

Watersheds and Water Resources, and the Watershed Conservation Network
The forest planning process should ensure that important resources, such as watershed health, are protected and enhanced. We congratulate the Forest and local water-management partners on the draft plan's notation that most watersheds on the Forest are in properly functioning condition. There are 163 Class 1 watersheds, functioning properly; 79 Class 2 watersheds, functioning at risk; and zero Class 3 watersheds, impaired (Draft Plan, Appendix 7, p. 222). While there is still work to be done, this is a positive achievement.

In this same vein, Pew supports designating high quality watersheds as Priority Watersheds. We applaud the Forest for the existing designation of Oh-be-joyful—Slate River as a Priority Watershed. (Draft Plan, Appendix 7, p. 223). In addition, we concur with the Town of Crested Butte's request to grant the following watersheds Priority Watershed designations in the final plan: Coal Creek, Slate River, East River, Daisy Creek, Copper Creek, West Elk Creek, Perry Creek, Sardine Creek, Silver Creek, Gold Creek (anthracite range & fossil ridge), Ruby Anthracite Creek, Ant Creek, Pass and Cliff Creeks, Castle Creek, Carbon Creek, Ohio Creek, Farris Creek, Cement Creek, East, Middle & West Brush Creeks, Crystal Creek, Lottis Creek, and Taylor River.

To maintain the proper functioning conditions of watersheds on the Forest for the long term, we also recommend expanding the scope of this management section to emphasize ecosystem-based management. The desired conditions, objectives, and management approaches included in this section are too narrow. Instead of balancing ecological importance and human needs, they focus narrowly on water delivery for human uses. The following excerpt from the Lincoln National Forest *Draft Land Management Plan,* August 2021 (p. 57) offers an example of recent Forest Service watershed management language that provides an appropriate balance of ecosystem and human uses:

> Water resources of the forest include waterbodies, stream ecosystems, and groundwater dependent ecosystems. Waterbodies serve as a catchall term for lentic systems, which are non-flowing water features. Groundwater and groundwater dependent ecosystems include springs, seeps, wetlands, fens, riparian areas, groundwater-fed streams and lakes, and aquifers…
>
> Water from the forest supports many uses and provides ecosystem services to the people and animals that inhabit and use these lands. Areas with water are centers of high biological diversity in arid landscapes, and their ecological health is important for forest ecosystem sustainability. Collectively, surface waters contribute to connectivity for fish and wildlife across the landscape, local and urban potable water supplies, agricultural uses such as livestock watering and irrigation, and recreation-providing support services, provisions, and cultural benefits...
>
> Plan components result in more efficient nutrient cycling and soil stabilization, increased water filtration and higher water quality, increased forage for livestock and wild ungulates, healthier forest stand structure, greater timber production, and a wildfire regime that approaches desired conditions. Aesthetic and recreation opportunities are also enhanced.

To further aid the Forest in further developing this section to ensure the best outcomes for people and nature, we offer the following specific recommendations regarding desired conditions, guidelines, and management approaches:

Desired conditions
We recommend adding the following specific language to the general desired conditions for watersheds and water resources:

- Watersheds are functioning properly and provide for high biotic integrity (habitats that support adaptive plant and animal communities), are resilient to natural and human-caused disturbances such as wildfire and climate fluctuations, exhibit connectivity, and maintain long-term soil productivity.
- There is continuous exchange of water between the stream channel, the adjacent riparian management zone, and the underlying groundwater. Through these processes, sediment and organic debris is efficiently filtered, transported, and stored. Additionally, floodplains are developed and maintained to withstand high-flow events, improve floodwater retention, and provide efficient water holding capacity for stream base flow and groundwater recharge.
- The flow regime (magnitude, timing, duration, frequency, and rate of change) of streams is sustained at levels that maintain or enhance essential ecological functions including channel and floodplain morphology, groundwater recharge, water quality, nutrient cycling, and stream temperature regulation.
- Channel type (width/depth ratio, sinuosity, gradient, etc.) is appropriate for the landscape setting (landform, geology, bioclimatic region, etc.). Stream channels are vertically and laterally stable and resist headcutting and gullying.
- Beaver habitat (including wetlands and riparian areas), which benefit and enhance groundwater, surface water, and floodplain and riparian complexity, is present forest-wide in suitable areas.

- Beaver reintroduction, and the persistence of beaver habitat, contributes to channel recovery and floodplain function.

Guidelines
We recommend adding the following specific language as additional guidelines for watersheds and water resources:

- To encourage natural channel morphology on perennial and intermittent streams, new or redesigned stream crossings (such as bridges and culverts) should be wide enough to successfully pass water, sediment, wood, and aquatic organisms.
- Measures should be taken to eliminate the risk of introducing new or spreading existing invasive species and pathogens to streams, riparian areas, or wetland ecosystem.
- Where known, groundwater recharge areas should be protected or restored to maintain water quality and quantity (discharge).

Management approaches
We recommend adding the following specific language as additional management approaches for watersheds and water resources:

- Work with tribal, state, and local governments, nongovernmental organizations, and others to identify improvement projects and priorities for the protection and management of watersheds especially in priority watersheds.
- Consider developing watershed-specific plans that prioritize specific roads for decommissioning or maintenance to result in improved water quality and a smaller road system (administrative or public).

We also urge greater specificity for the management and enhancement of watershed health for Colorado River cutthroat trout and Boreal toad in the forest plan management components for riparian, aquatic ecosystems, watersheds, and water sections, including respective desired conditions, objectives, standards, guidelines, and management approaches. In addition to Texas Creek, Upper East River, and Headwaters Buzzard Creek, which are already identified for Boreal toad breeding (Draft Plan, Appendix 7, p. 224), those additional management components should be applied to all potential habitat watersheds and sub-watersheds for the species.

Finally, we recommend that management direction for watersheds and water resources also reference and interconnect with provisions of the Forest Service watershed condition framework, and with 2012 Planning Rule provisions regarding priority watersheds and conservation watershed networks. (Draft Plan, Appendix 7, pp. 222-224).

Riparian Management Areas and Groundwater Dependent Ecosystems
Most riparian and wetland ecosystems in the Forest occur in subwatersheds that are properly functioning. Exceptions of particular concern include riparian shrublands, fens, and cottonwood riparian ecosystems (DEIS 1, pp. 114-115), which have been stressed or damaged by grazing. (DEIS 1, p. 115).

To prevent further damage to riparian ecosystems, the prescriptions listed in this section should include a more specific summary of riparian and groundwater features on the Forest, and a summary of characteristics that constitute healthy conditions for those features.

To provide an example, we include a partial excerpt from the Carson National Forest, proposed final *Land Management Plan*, September 2021 (p. 73):

> Riparian management zones include those portions of watersheds around lakes, perennial, and intermittent streams, and open water wetlands that have characteristic riparian vegetation or provide riparian function. The riparian ecosystem within that zone encompasses any surface water and its associated aquatic habitat, connected shallow groundwater, aquatic and riparian vegetation, associated soils (*i.e.*, hydric, and alluvial), and contributing fluvial landforms.
>
> Riparian areas are more productive than other vegetation communities in terms of plant and animal biomass per acre. As a result, they provide some of the most important habitat on the forest (supporting ecosystem services).
>
> Healthy riparian areas slow water movement that raises the water table and saturation zone and recharges aquifers (regulating ecosystem services). Riparian zones protect streams from excessive sedimentation, erosion, and pollution, and, thus, play a role in water quality (regulating and provisioning ecosystem services). They provide shelter and food for aquatic animals and shade that is important for water temperature regulation (supporting and provisioning ecosystem services). They dissipate stream energy, which can reduce flood damage (regulating ecosystem service). They provide wildlife habitat, increased biodiversity, and habitat connectivity, enabling aquatic and riparian organisms to move along river systems and thus preventing community isolation and fragmentation (supporting ecosystem service). They are a source of large woody debris recruitment. Soils in riparian ecosystems play a key role in nutrient and water storage and distribution (regulating and supporting ecosystem services).
>
> Riparian areas have been influenced by water withdrawal (from private water rights), roads and motor vehicle activity, recreation pressure, and animal grazing, all of which can impact riparian ecosystem function. Unless properly constrained, these activities can result in higher influx of invasive species in riparian areas.

Riparian areas are integral to nearly every ecosystem, function, and activity on the forest. Proper monitoring and protective management of riparian areas will therefore translate into a healthier, more productive forest. Correspondingly, specific directives should be expanded to highlight the importance of maintaining connected, unfragmented, unconstrained riparian areas and the techniques for that maintenance.

To aid the Forest in further developing this section and ensure the best outcomes for people and nature, we offer the following specific recommendations:

Desired conditions

We recommend adding the following specific language to the general desired conditions for riparian areas:

- Riparian ecosystems are not fragmented or constrained, and are properly functioning, commensurate with their type and capability. Riparian ecosystems have vegetation, landform, large coarse woody debris, litter, and root masses to capture sediment, filter contaminants, dissipate stream energy and overland flow from uplands to protect and enrich soils and stabilize banks and shorelines.

- Riparian vegetation, particularly native species, support a wide range of vertebrate and invertebrate animal species. There is adequate recruitment and reproduction to maintain diverse native plant species composition indicative of the soil moisture conditions for the site and desired conditions for the vegetation community.
- Native obligate wetland species dominate herbaceous bank cover.
- Riparian vegetation (density and structure) provides site-appropriate shade to regulate water temperature in streams.
- Riparian ecosystems exhibit connectivity between and within aquatic, riparian, and upland components that reflect their natural linkages and range of variability. Stream courses and other links provide habitat and movement that maintain and disperse populations of riparian-dependent species, including beaver. Riparian areas are connected vertically between surface and subsurface flows.
- Floodplains and adjacent upland areas provide diverse habitat components (e.g. vegetation, debris, logs) necessary for migration, hibernation, and brumation (extended inactivity) specific to the needs of riparian-obligate species.
- Natural disturbances (e.g., flooding and scouring) promote a diverse vegetation structure necessary for the recruitment of riparian-dependent species. The ecological function of riparian areas is resilient to other disturbance, including animal and human use, drought, and changes in climate patterns.
- Commensurate with the capability of individual riparian types and consistent with the hydrologic cycle, riparian vegetation provides life-cycle habitat needs for native and desirable nonnative, obligate riparian, and aquatic species and supports other wildlife.

Objectives

- Objective FW-OBJ-RMGD-06 is particularly well conceived as comprehensive guidance to restoring and enhancing healthy, properly functioning riparian areas and groundwater (especially as cross-referenced to forest wide objective SPEC-03), (Draft Plan. p. 18).

Guidelines

We recommend adding the following specific language as additional guidelines for riparian areas:

- Improve or eliminate at-grade stream vehicle crossings to reduce sedimentation.
- Limit the use of motorized vehicles to designated routes in riparian areas except when short-term uses are required to improve resource conditions or to maintain infrastructure.
- Vegetation and fuels projects in riparian management zones should re-establish riparian vegetation species and habitat.
- Forested riparian ecological response units should be managed to retain large diameter trees and snags near stream channels and riparian areas, in a quantity that provide for recruitment of large woody material to stream channels.
- Riparian areas should be managed to reduce gullies and headcuts, reconnecting riparian functions to the adjacent floodplain.
- Riparian habitats should be managed to be relatively free from alterations and promote connectivity for species movement, re-connect fragmented populations and support genetic exchange.

- Riparian habitat alterations, such as water gaps or road crossings, should not exclude riparian species from their historical habitat or restrict seasonal and opportunistic movements.
- Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to riparian habitats to help provide for riparian obligate species needs.
- Project activities and special uses should be designed and implemented to maintain riparian refugia and critical life cycle needs of riparian obligate species, particularly for at-risk species.
- Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to riparian habitats to help provide for species needs. Project activities and special uses must be designed and implemented to maintain riparian refugia and critical life cycle needs of species, particularly for at-risk species.

Aquatic Ecosystems

An array of stressors affecting aquatic ecosystems are documented in the DEIS. While aquatic conditions are described as generally good, they are disrupted and damaged in some places by dams and diversions, roads, mining, invasive species, disease, climate change, stream fragmentation, sediment, and low water quality. (DEIS 1, pp. 112-113).

To aid the Forest in further developing this section to ensure the best outcomes for people and nature, we offer the following specific recommendations:

Desired conditions

While we support the desired conditions included in this section, we recommend adding the following specific language to the general desired conditions for Aquatic Ecosystems:

- Aquatic Ecosystems are healthy, connected and functioning properly which provides resilience against natural disasters and reduces the impacts of floods, droughts, and wildfires.
- Aquatic habitats are connected and free from alterations (such as temperature regime changes, lack of adequate streamflow, or barriers to aquatic organism passage) to allow for species migration, connectivity of fragmented populations, and genetic exchange. Barriers to movement are located where necessary to protect native fish from nonnative species. Stream alterations (such as culverts and water crossings) do not exclude aquatic species from their historical habitat or restrict seasonal and opportunistic movements. Barriers to movement may exist to protect native aquatic species from nonnative aquatic species.

Climate Change and Water Management

Increasing temperatures and water scarcity are expected either to compromise the health and survival of water and temperature sensitive plants, fish, and animals or to cause their movement to more supportive areas, which are generally upstream and at higher elevations. Climate adaptation by many plants, fish, and animals will become an important dynamic during the life of the forest plan, and forest managers should be prepared to monitor and adjust accordingly. The 2012 forest planning rule confirms this priority, including the notation:

> The intent of this framework is to create a responsive planning process that informs integrated resource management and allows the Forest Service to adapt to changing conditions, including climate change... (36 CFR 219.5(a))

To aid in that effort, we draw attention to Adaptation Partners, the interagency research service funded by the U.S. Forest Service to coordinate resource and data sources toward "science-based management partnerships focused on climate change adaptation in the western United States." Adaptation Partners notes that sensitivities to climate change include:

- Shift in hydrologic regime involving changes in timing and magnitude of flows. Anticipated changes include lower summer flows and higher, more frequent winter flows.
- Reduction in size and hydroperiod of wetlands and changes in nutrient availability, productivity, and species composition, including riparian obligates.
- Climate change stressors cross boundaries, forcing agencies to coordinate and work across boundaries.
- Higher temperature and increased disturbance will cause shifts in species ranges and loss of species functional types.
- Area of summer range for ungulate species will decrease.
- Increased flooding will alter riparian habitats.
- Decreased stream flow reduces riparian vegetation, affects food supply and habitat structure, causing increased animal mortality.

(*adaptationpartners.org/library.php*)

Based on these considerations, we urge the Forest to expand and revise its analyses, to offer specific management details such as additions and adjustments to desired conditions, objectives, standards, guidelines, and management approaches for vegetation, aquatic ecosystems, riparian areas, and water resources. These new climate provisions can be similar to, and integrated with, provisions included in the Draft Plan for Riparian Management Zones, Aquatic Species, Native Species Diversity, and Watersheds and Water Resources (Draft Plan, pp. 17, 20, 26, and 40, respectively)

We also recommend that the Forest include climate adaptation as an additional management prescription category and accelerate its climate focused objectives; for example, Objective FW-OBJ-ECO-04 should be modified to identify an initial list of potential climate refugia within 5 years of plan approval. (Draft Plan, p. 14).

Headwaters located at higher elevations in the Forest will become increasingly important as climate change prompts heat and drought-sensitive species to move into those higher elevations for survival. The Final Forest Plan should reflect this dynamic and anticipate that movement, crafting corresponding management decisions to support that survival. The Forest Service should correspondingly expand and adjust the DEIS to address climate adaptation in relevant water-related categories: riparian and wetland ecosystems, watersheds and water, aquatic species and habitats, streams, seeps and springs, water quantity, water quality.

Eligible Wild and Scenic Rivers Interim Management

The management prescriptions included in the draft plan for wild and scenic eligible rivers (Draft Plan, p. 79) are adequate but present opportunities for improvement. To aid the Forest in further developing this section to ensure the best outcomes for people and nature, we offer the following specific recommendations:

Desired conditions
We recommend adding the following specific language as additional desired conditions for eligible wild and scenic rivers:

- The outstandingly remarkable values, free-flowing condition, and classifications of eligible wild and scenic river corridors are protected or enhanced until rivers are designated or released from consideration.
- Eligible wild and scenic river corridors are valued by the public for the ecosystem services they provide, including contributions to clean water, enhancing wildlife habitat, and recreation opportunities.

Standards
We recommend adding the following specific language for the standards for eligible wild and scenic rivers:

- Recreation and other activities near eligible rivers and associated corridors should be managed to occur at appropriate locations and intensities to protect and enhance the free-flowing condition and the outstandingly remarkable values, while remaining consistent with the classification.
- Management activities (such as vegetation treatments) should be prohibited within eligible river corridors unless treatment is needed to protect eligibility, classification, or values.

Wild and Scenic Rivers Eligibility
The Grand Mesa-Uncompahgre-Gunnison National Forest (GMUG) includes numerous natural-condition streams that warrant protection under the provisions of the Wild and Scenic Rivers Act of 1968 (P.L. 90-542: 16 U.S.C. 1271-1287).

Those streams provide essential habitat for riparian vegetation, including rare plant communities; habitat for diverse wildlife, including big game, birds, rare and common fish species, invertebrates, and insects, all essential to the dynamic ecological health of the forest; the aquatic essence and geological carving of designated wilderness areas and of other specially designated lands; clean water for municipal and agricultural uses; unique recreation opportunities; and inherent scenic and natural values.

The new forest plan will provide important management directives for wild and scenic eligible streams, and for the stream-related values described above. Because that management will endure for two decades or longer, this is a rare and crucial opportunity to ensure decisions regarding eligibility determinations and interim management are correct and well-supported. It is essential that every qualified stream be found eligible to preserve these values.

Standards for eligibility
The Wild and Scenic Rivers Act's standards for eligibility are straightforward. Section 2(b) of the Act states that:

> "A wild, scenic or recreational river area eligible to be included in the system is a free-flowing stream and the related adjacent land area that possesses one or more of the values referred to in Section 1, subsection (b) of this Act."

The corresponding list of potential values to be considered for eligibility are "outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar

values." There are just three components of eligibility: two of them objective, and a third more subjective. First, an eligible stream segment must be free-flowing; second, the stream area must contain at least one important stream-related value; and third, the value or values must be "outstandingly remarkable."

The *Forest Service Handbook* provides guidance for that third, more subjective assessment of the outstandingly remarkable nature of a stream-area value. The handbook provides that such value(s) must be river-related and, "must be a unique, rare, or exemplary feature that is significant when compared with similar values from other rivers at a regional or national scale." (FSH 1909.12, Chapter 80, 82.73).

However, neither the Draft Plan nor the 2019 draft eligibility report include a list of streams considered for eligibility but found ineligible, nor do they include documentation explaining ineligibility determinations for individual streams.

The *Forest Service Handbook* is clear that further documentation is necessary:

> The Interdisciplinary Team shall document a finding of eligibility or ineligibility (sec. 82.2) for each river and, for each eligible river, its potential classification in an appendix to the environmental analysis document for a land management plan, revision, or amendment, and summarize the findings in the plan decision document. (FSH 1909.12, Chapter 80, 82.9)

The absence of information about streams inventoried or otherwise considered for eligibility is a significant shortcoming in the Draft Plan and DEIS. We recommend the Forest publish the full list of inventoried streams subjected to eligibility analysis, including those streams that were previously found eligible which were not found eligible in this draft plan. The lists should include clear documentation of determinations regarding the free-flowing condition and potential outstandingly remarkable values for each stream studied. There should then be a subsequent opportunity for public review and comment.

Spectrum of outstandingly remarkable values

The Draft Plan details the importance of maintaining and enhancing a diverse and healthy array of natural features, ecological functions, and human services on the GMUG National Forest. Examples include:

> Forest wide components that provide for integrated social, economic, and ecological sustainability and ecosystem integrity and diversity as well as ecosystem services and multiple uses (citing 2012 forest planning rule guidance, Draft Plan, p. 2
>
> These lands provide large backcountry habitats essential for maintaining several rare, threatened, and endangered species, and a wide variety of fish, wildlife, and other species, sustaining biodiversity in an increasingly populated region... Ecological sustainability is the foundation of the plan. (Draft Plan, pp. 7-8).

The recognition and protection of outstanding remarkable values (ORVs) is a key tool in fulfilling that vision. It is therefore important to establish an appropriate collection of ORVs and readily apply them, wherever appropriate, to eligible stream segments. For details pertaining to each stream, including ORV recommendations, and supporting evidence, please refer to Pew's comments submitted to the Forest on March 22nd, 2019 regarding the GMUG Draft Wild and Scenic Eligibility Evaluation.

In addition, we urge the Forest to add two ORVs not included in the Draft Plan and not included in Pew's 2019 comments:

Slate River is under consideration as a secondary water supply for the Town of Crested Butte. Wild and scenic eligibility for the upper segment of Slate River will help protect stream flows and water quality for that future use, warranting an additional ORV for ecosystem services.

Also, as detailed earlier in these comments, increasing temperatures and water scarcity are expected either to compromise the health and survival of water and temperature sensitive plants, fish, and animals, or to cause their movement to more supportive areas, which are generally upstream and at higher elevations. Climate adaptation by many plants, fish, and animals will become an important dynamic during the life of the forest plan. Higher-elevation, healthy, and remote streams will become increasingly important in hosting plant and animal species pressured by climate change, warranting the addition of an ORV for climate adaptation.

Pew recommends additional ORVs for climate adaptation and ecosystem services for the following streams:

Slate River	climate adaptation, ecosystem services	Wildhorse Creek	climate adaptation
East River	climate adaptation	Difficulty Creek	climate adaptation
Copper Creek	climate adaptation	Kelso Creek	climate adaptation
Copper Lake tributary	climate adaptation	North Fork Escalante Creek	climate adaptation
Triangle Pass tributary to Copper Creek	climate adaptation	Oh-be-joyful Creek, Blue Lake tributary, Dippold Basin tributary	climate adaptation
Queen Basin tributary to Copper Creek	climate adaptation	Oh-be-joyful Creek	climate adaptation
Copper Creek tributaries	climate adaptation	Peeler Basin tributary to Oh-be-joyful Creek	climate adaptation
Cow Creek	climate adaptation	Redwell Basin tributary	climate adaptation
Wetterhorn Creek	climate adaptation	Points Creek	climate adaptation
Roubideau Creek	climate adaptation	Tabeguache Creek and North Fork Tabeguache Creek	climate adaptation
West Soap Creek	climate adaptation	West Elk Creek	climate adaptation

Wild and Scenic Rivers Eligibility Findings

Streams found eligible

We support the Forest's decision to confer wild and scenic river eligibility to 33 segments of 14 streams and stream complexes. We thank planners for including three additional streams (bolded) since the publication of the *Draft Wild and Scenic Eligibility Evaluation* in February 2019:

- Copper Creek
- Cow Creek
- Kelso Creek
- San Miguel River
- Tabeguache Creek
- Upper West Soap Creek

- North Fork Escalante Creek
- Oh-be-joyful Creek
- Points Creek
- Roubideau Creek
- West Elk Creek
- **Anthracite Creek**
- **Fall Creek**
- **Muddy Creek**

Streams that should be found eligible

The period between the end of the Draft Plan comment period and the finalization of the plan presents the Forest with an opportunity to review additional information and revisit previous analysis to ensure that all eligible segments are identified in the final plan and receive the interim protections they require. We have identified three primary categories of stream segments that should be found eligible, but were not in the Draft Plan.

Stream segments contiguous to eligible segments on adjacent federal land

Downstream contiguous segments of four streams traversing the Forest have been found eligible for inclusion in the national wild and scenic rivers system by the Bureau of Land Management (BLM). However, contiguous segments of these same streams, found just upstream in the Forest, are not proposed for eligibility in the Forest Service's Draft Plan. We call attention to four such stream segments:

- Potter Creek
- Monitor Creek
- Cottonwood Creek
- Beaver Creek

As noted above, there is insufficient documentation, in the Draft Plan and the DEIS, for failing to find the National Forest segments of those streams eligible.

Wild and scenic river qualifications for those streams and stream corridors are thoroughly documented by the BLM. Many of those qualifications also are present in the National Forest segments, along with additional values that should qualify those upstream segments, warranting a finding of eligibility for the national forest segments. For details pertaining to each stream, including ORV recommendations, and supporting evidence, please refer to the attached letter, Pew's comments submitted to the Forest on March 22nd, 2019 regarding the GMUG Draft Wild and Scenic Eligibility Evaluation.

Streams stripped of eligibility with insufficient documentation to support findings of changed circumstances

The Forest chose to reevaluate the eligibility of multiple stream segments in the 2019 draft wild and scenic eligibility evaluation and proposes to remove eligibility previously established for the following seven stream segments, without presenting sufficient documentation or justification:

- Slate River
- East River
- Lower Taylor River
- Bear Creek
- Escalante Creek
- Bridal Veil Falls
- Ingram Falls

Reassessment of existing eligibility is not appropriate except in response to documented changed circumstances to the river or river corridor. The *Forest Service Handbook* directive regarding changed circumstances reads:

> Changed circumstances are changes that have occurred to the river or the river corridor that have affected the outstandingly remarkable values... Changes that indicate weaker outstandingly remarkable values may include recovery and delisting of a species, floods, or other events that have adversely affected the river's recreational opportunities, or changes that now make the value of the river more common. (FSH 1909.12 82.4)

The 2019 draft eligibility evaluation and the Draft Plan assert that some changed circumstances have occurred including changes to species presence and classifications for cutthroat trout, boreal toad, and changes to state plant species rankings. These represent potentially compelling considerations for discontinuing wild and scenic eligibility determinations for streams. (Draft Wild and Scenic Eligibility Evaluation, p. 2; Draft Plan, Appendix 11, p. 287).

However, both the Draft Plan and DEIS fail to explain and document how such changes may have affected any particular streams that were previously found eligible and now found ineligible. Without more detailed explanation of effects, or other justification for not retaining all existing eligibility findings, those existing eligibilities should be carried forward and incorporated into the revised forest plan. For details pertaining to each stream, including ORV recommendations, and supporting evidence, please refer to the attached letter, comments submitted to the Forest on March 22nd, 2019 regarding the GMUG Draft Wild and Scenic Eligibility Evaluation.

Streams inherently qualified for eligibility; yet not found eligible in the Draft Plan
The Forest should reconsider eligibility determinations for the following streams:

- Horsefly Creek
- Ruby Fork, Anthracite Creek

As detailed in Pew's previous comments submitted to the Forest on March 22, 2019, regarding the GMUG Draft Wild and Scenic Eligibility Evaluation, the Forest should designate these streams as eligible.

Forest-wide Management for Migration and Connectivity

We commend the planning team for addressing big game migration corridors and crucial habitat throughout the draft Forest Plan alternatives, with several Desired Conditions, Standards, Guidelines, and Objectives sections addressing the importance of maintaining habitat connectivity and movement corridors. In particular, we strongly support the forest-wide components that create timing restrictions on development activities in sheep, elk, deer, and pronghorn production and severe/critical winter range (FW-GDL-SPEC-15); the guidance for route realignments during projects that increase the integrity of migration corridors and other key habitat (FW-GDL-SPEC-16); the language regarding the removal of all woven-wire fence in closed allotments (FW-OBJ-RNG-04); and the prioritization of movement corridors for potential land acquisitions (FW-DC-LSU-01).

We offer the following recommendations to improve the forest-wide management and facilitation of big game migration corridors, seasonal habitat, and connectivity.

Addition of a new standard regarding the maintenance of priority habitat outside of WMAs
Though the majority of Colorado Parks and Wildlife's (CPW) mapped high priority big game habitat fall within WMAs identified in the draft, some high priority habitats do not. These habitats should still merit the protections of MA-STND-WLDF-02. We recommend a new forest-wide standard to maintain habitat connectivity and function of CPW-mapped high priority habitats that lie outside of WMAs, consistent with state management recommendations.

Addition of a new standard regarding wildlife security areas
We suggest the inclusion and modification of a previous iteration (see Draft Plan, p. 339) of FW-GDL-SPEC-17, which was included in the working draft but dropped from the Draft Plan, and which contains beneficial conditions for providing and maintaining connectivity across the forest for all species. The guideline read: "To improve elk distribution, maintain existing wildlife security areas at no less than 30 percent of a HUC 12 subwatershed (by area)." We recommend converting it to a forest-wide Desired Condition that reads, "To maintain habitat connectivity and to promote desirable elk distribution, maintain existing habitat blocks that provide wildlife security at approximately 30 percent of each HUC 12 subwatershed (by area). See also FW-GDL-SPEC-12."

Strengthen FW-DC-SPEC-12
Regarding security areas to maintain big game populations, we recommend a modification of FW-DC-SPEC-12 to fully incorporate the evaluation of security areas during project-level planning and explicitly incorporating into the language the 250-acre minimum patch size used for the security area analyses in the DEIS (Vol 1, p.225). This plan component could be revised to read as follows (**additions** and ~~deletions~~):

> FW-DC-SPEC-12: Habitat blocks of sufficient size and quality exist *well-distributed* across the landscape to support *CPW* wildlife *population objectives*. Travel routes provide necessary access while maintaining relatively undisturbed high-quality habitat blocks—greater than *250 acres in size and a least* 0.62 mile (1,000 m) from open motorized system routes and 0.41 mile (660 m) from open non-motorized system routes~~—*sufficient in size*~~ to provide necessary security areas for populations of big game and other species. Relatively undisturbed migration and movement corridors exist across the landscape that provide sufficient security and habitat quality to allow for relatively unabated movement of big game and other species. See also chapter 3, Wildlife Management Area section; the forest wide Desired Conditions for ecosystem connectivity ~~*ECO-06*~~*ECO-05* and for range RNG-01; and the forest wide Objective for native species diversity SPEC-03.

Bighorn Sheep
We support CPW comments on the plan's lack of inclusion of bighorn sheep as a species of conservation concern (SCC). Given its vulnerability to disease passed from livestock and habitat fragmentation, we support the species' addition to the SCC list.

In addition, GDL-SPEC-13, dealing with the separation of bighorn sheep and domestic sheep, should be a Standard. Disease transmission from domestic sheep to bighorns is considered one of the biggest threats to the continued viability of Colorado's bighorn sheep herds.

Conclusion

Pew commends the Forest Plan Revision Team for its hard work in reaching this important milestone in the forest plan revision process and appreciates the opportunity to comment on this stage of the effort. We look forward to continuing our engagement and, if you have any questions about these comments, please feel free to contact Blake Busse at bbusse@pewtrusts.org or 720-822-5998.