



# Aquatic, Riparian, and Groundwater-Dependent Ecosystems

## Comments and Responses on Draft Assessment



Hikers exploring Little Spearfish Trail, Black Hills National Forest (photo courtesy of the USDA Forest Service).

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## **Introduction: Assessment Response to Comments**

The Black Hills National Forest received a variety of public comments on draft assessments published in June 2022. Some commenters have expressed support for the draft assessments, while others have expressed concerns.

Those who express concern about the draft assessments often state that they believe the assessments do not go far enough in addressing the challenges facing the Black Hills; do not address the needs of local communities; or do not utilize the best available scientific information. Those that support the draft assessments often state that they are pleased with the level of detail and analysis that went into the assessments. They believe it will provide a good foundation for the need to revise the land management plan.

The Forest Service has reviewed all public comment received on the draft assessments and used this feedback to revise assessments where appropriate. The table below is a detailed summary of public comment received related to aquatic, riparian, and groundwater-dependant ecosystems as well as the agency's response to each item. Many responses indicate where the revised assessment has been modified to better explain each item, or incorporate new information as provided by cooperators or the public.

Each comment and response table is provided not as a matter of regulatory compliance, but as an effort to demonstrate the Black Hills National Forest's commitment to transparency early in the plan revision process. Some comments below have been generalized or combined with similar comments to provide a more efficient response. No attempt has been made to retain a link between each comment and individual, organization, or entity that provided it.

## Response to Comments

Comment	Responses
<p>Remove the reference to the "Preliminary Draft Assessment" (PDA) not everyone had the opportunity to review the preliminary Assessments. The PDAs are not an official document appropriate to reference.</p>	<p>This information has been updated in our assessment to include the source of the data.</p>
<p>Both Properly Functioning Condition (PFC) and Multiple Indicating Monitoring (MIM) are listed as data gaps for riparian areas. Until these gaps are filled with updated analyses classifying 64 percent of the forest watersheds as Functioning at Risk (FAR) is misleading. Recommend removing framework ratings established in 2010. Outdated information should not be used to describe current conditions in the forest. The Assessment language should include a more general statement about the conditions and need for updated monitoring and not be tied to percentages that are either outdated or unknown.</p>	<p>“An updated assessment of watersheds utilizing the Watershed Condition Framework (USDA Forest Service 2011)” was added to the Data Gap section of the assessment to acknowledge the need for updated data.</p>
<p>Grazing does not remove vegetation from the landscape in the same manner as timber harvest, roads, and urbanization, but rather leaves behind living plant crowns and intact root systems. We suggest removing grazing from the list.</p> <p>No data has been presented to show that current management practices are negatively impacting riparian systems in the Black Hills National Forest. Domestic livestock grazing on the Black Hills National Forest is an accepted and permitted use.</p> <p>No data or references to support the statement of domestic livestock and native ungulates as contributing factors to degraded conditions on the forest. The Black Hills National Forest should provide documentation to the comments of concern or remove livestock grazing as a causal factor to degraded conditions.</p> <p>Statements are implicating livestock grazing management as a significant causal factor. The document contains no data to support these statements and is purely speculative.</p>	<p>This information has been updated in our assessment to reflect improper grazing practices and include the source of the supporting data.</p>
<p>Replace over-utilization with improper grazing. The Black Hills National Forest has existing policies and regulations in the place to manage improper grazing. The Assessment should focus on conditions and trends backed by data to assess current conditions.</p>	<p>This information has been updated in our assessment to reflect improper grazing practices.</p>

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<b>Comment</b>	<b>Responses</b>
Is this an objective pasted from the current plan? The Assessment should address current conditions and trends and consider and evaluate existing and possible future conditions.	The assessment addresses current conditions and trends based on best data currently available. Further analysis of plan components is part of the plan revision process.
Transitions from riparian to upland species is a result of a lower water table. How are human activities lowering the water table? Are there other factors that are causing the water to recede? Provide documentation of activities affecting the water on the forest.	Information found in the assessment includes the best-known available data for the Forest. Future monitoring activities or projects may provide additional supporting information.
Grazing permittees should also be included in the coordination and planning for stream rehabilitation projects.	Thank you for the recommendation. The Forest strives to include willing cooperators on rehabilitation projects.
Coordinate water infrastructure with grazing permittees.	Thank you for the recommendation. The Forest strives to include willing cooperators on infrastructure improvements.
Native ungulates occur naturally, and the Black Hills National Forest does not have the ability to modify ungulate populations or use.	This information has been updated in our assessment.
Recreation activities have a significant impact on riparian systems on public lands but have not been included in the need for change section. Recommend including a section on recreational use including the significant increase of public activity on public lands and the impacts associated with this increase.	Additional language added to identify the potential impacts of recreation on riparian systems.
Wyoming Weed and Pest should be incorporated into the document as a source of management of noxious weeds and pests.	Wyoming Weed and Pest Control is incorporated into the Insects, Disease, and Invasive Species Assessment.
The importance of water yield cannot be overlooked in the Forest Plan.	Water yield is discussed in further depth in the Soils and Watershed Assessment.

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<b>Comment</b>	<b>Responses</b>
<p>Clarify whether the data gaps identified on page 5 will be filled before the Forest Plan revision or whether the data gaps will remain unfilled prior to the plan revision.</p>	<p>Data gaps identified require updated data or future study and analysis to obtain. The Forest will strive to fill these gaps prior to plan revision, but data may not be obtained before that time. The best available science will be used to make decisions that may pertain to this information.</p>
<p>Include other lacking datasets identified in the draft assessment in the data gaps section.</p>	<p>The presence of historic or dated information that is still applicable to the resource does not generally necessitate a data gap, but this information has been updated in our assessment to better reflect true data gaps.</p>
<p>Include a Wyoming waterbody such as Cook Lake to the discussion of lakes on page 6.</p>	<p>This information has been updated in our assessment to include Cook Lake.</p>
<p>Include Wyoming public water supply information in the aquifer section beginning on page 9.</p>	<p>Thank you for your recommendation and providing this additional source of information.</p>
<p>Include discussion of Wyoming's biennial 305(b)/303(d) Integrated Report. Beaver are omitted from the list of key species supported by riparian areas associated with aspen and paper birch habitats. Assessment fails to mention the decline of beaver on the Black Hills National Forest contributing to the reduction in habitats.</p>	<p>Thank you for providing this additional source of data and information. Additional language has been added to the assessment identifying the decline in beaver populations as a contributing factor to the presence of wetlands.</p>

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<p>This assessment incorrectly states that the National Best Management Practices for Water Quality on National Forest System Lands defines a minimum 100-foot buffer is maintained around water features known as the Aquatic Management Zone (AMZ). During our review of the above referenced document this specific direction was not found in relation to the AMZ. The Department is concerned that inclusion of a similar statement within the revised forest plan could unduly limit the Forest's ability to implement habitat improvement projects with the goals of improving aquatic and riparian area function and condition, as such projects may require work within 100-feet of water features.</p>	<p>This information has been updated in our assessment to identify a standard 100-foot no-disturbance buffer.</p>
<p>Recommend during efforts to inventory and classify streams, any Rosgen-based stream assessments along low-gradient corridors include a weighted bank-height ratio assessment to establish a reach-based inventory of floodplain connectivity. These data would support riparian delineation, aquatic refugia assessments, and inform stream and riparian restoration potential. Methods to assess weighted bank height ratios are available in the Wyoming Stream Quantification Tool User Manual.</p>	<p>Thank you for your recommendation and providing this additional source of information.</p>
<p>Recommend acquisition of high-resolution National Hydrology Dataset (NHD) data and vegetation community datasets adequate to complete the Beaver Restoration Assessment Tool provided by Utah State University.</p>	<p>Thank you for your recommendation and providing this additional source of information.</p>
<p>Recommend that the Forest wide Goals and Objectives portion of this assessment include statements that projects will be implemented with the goals to: Identify and remove instream barriers to improve and restore stream connectivity, restore channelized stream segments, prioritize the rerouting of roads to minimize instances in which roads are crossing through aquatic and riparian habitats.</p>	<p>Thank you for your recommendation. The development or revision of goals will be part of the future plan revision process.</p>
<p>Limit utilization of willows, shrubs, and young deciduous trees to at least 30% (preferably 20%) of the total individual leaders produced in that year. Many studies have shown reduced recruitment of aspen starting when 20-30% of current year's leaders are browsed (Jones et al. 2005, Olmstead et al. 1979, Rhodes 2017, Rogers and Mittanck 2014).</p>	<p>Thank you for your recommendation and providing this additional source of information.</p>

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<p>Include Beaver Dam Analogs (BDA) as an option in riparian area habitat improvement. This will help in the proposed management goal of reintroducing beaver into suitable habitat.</p>	<p>Thank you for your recommendation. The Forest recognizes the importance of beaver dam analogs as a restoration option.</p>
<p>Increase the goal of restoring riparian shrub communities across the forest to at least 2,000 acres instead of 500. Efforts should be increased to restore and protect this important habitat.</p>	<p>Thank you for your recommendation. Goals and objectives will be analyzed and addressed during the plan revision process.</p>
<p>Allow areas of tree mortality (wind throw, storm damage, beetle kill, etc.) to be harvested of intact root wads to be used in stream habitat improvement projects.</p>	<p>Thank you for your recommendation on actions that could be taken for additional stream habitat improvements.</p>
<p>Add zebra mussels (<i>Pactola</i>), New Zealand mud snail (Beaver Creek) and Asian clam (<i>Angostura</i>) to AIS list.  Mention would be made of the zebra mussel now present in Pactola Reservoir.</p>	<p>This information has been updated in our assessment.</p>
<p>Stockade lake is no longer managed for cold-water species, it is managed for warm and cool-water species.</p>	<p>This information has been updated in our assessment.</p>
<p>Splake can be removed from the fish list, they have not been stocked in over a decade and do not persist.</p>	<p>This information has been updated in our assessment.</p>
<p>Need for Rosgen stream classifications. Some of this has been done through previous riparian assessments conducted on the Forest. Therefore, the need is to locate and use this data.</p>	<p>The current best available science was included in the assessment. The Forest acknowledges the different methodologies for stream assessments and classifications for future consideration.</p>
<p>It would be good to clarify to the lay person that trout did not exist in the Black Hills prior to European settlement. This is an important difference from many other western National Forests that should not have been omitted.</p>	<p>This information has been updated in our assessment to reflect historic trout populations.</p>



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<b>Comment</b>	<b>Responses</b>
It would be good to clarify that unlike many forests in the west, the Black Hills does not contain large, slow melting snowpacks that provide a continuous, summer long water source common throughout other parts of the west.	This information has been updated in our assessment to reflect the lack of slow melting winter snow.
The statement that waterways flow radially away from the forest into the surrounding landscape (Page 13), differs from what is said in the watershed assessment that states that most streams flow west to east.	Language has been added to the assessment describing that waterways flow radially away from the Black Hills to surrounding landscapes.
This would be better to put in plain language. Recommend replacing "discrete spatial extent" with "specific areas that have been inventoried/monitored" or something to this effect. While the assessments are scientific in nature, they should be understandable to the lay person and general public.	Thank you for your recommendation. The Forest has taken this into consideration as assessments are revised.
State of SD has a large role in the management and regulation of water. There should be an entire heading and discussion devoted to this.	Additional information on the roles in water management of the State can be found in the Soils and Watershed Assessment.
There are numerous conflicting statements between the aquatics and riparian assessment and the soil and watershed sections as noted above. The assessments should be cross checked and integrated rather than relying on the reviewers to note these conflicts.	Thank you for your thorough review of the assessments. The Forest intends to make every effort to thoroughly evaluate information as we revise our assessment documents.
With the exceptions of five natural lakes in the Black Hills vicinity all of the “lakes” are in fact reservoirs or impoundments. This should be corrected throughout the document.	This information has been updated in our assessment to identify lakes and reservoirs as separate resources.
“Due to their size and depth, these larger reservoirs are typically more resilient to fluctuations in temperature, dissolved oxygen, pollution inputs and sedimentation rates than smaller lakes. The recreational fisheries in these waterbodies are managed by the respective states and a description of these practices is included below” This is much too general a statement that includes reservoirs with very different conditions and watersheds. What respective “states” are involved.	This information has been updated in our assessment to show the separation in size and depth of reservoirs and their difference in resiliency to these factors.

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In reference to "coldwater permanent fisheries," define the terms used by the state of South Dakota for fish and water quality management rather than just including with quotes.	A definition of coldwater permanent fishery has been added to the revised assessment.
"Angostura Reservoir is also managed by the United States Bureau of Reclamation (USBR) and operated by the Angostura Irrigation District," It is not in the Black Hills National Forest.	This information has been updated in our assessment and Angostura Reservoir has been identified as a receiving waterbody from US Forest Service lands.
A watershed-based description of water resources/geology for the layman can be found in Berry et al 2007 in chapter 7 as well as USGS publications focused on the Black Hills uplift.	Thank you for your recommendation and providing this additional source of information.
Biotic Communities within Aquatic Ecosystems, reference citation (Barnes 2007): A much better citation in regard to fish species and associated discussion of the species in the Black Hills is found in chapter 10 of Berry et al 2007; the same publication from which Barnes is cited.	Thank you for your recommendation and providing this additional source of information.
The Black Hills is a karst system overall. Focus on the cave portions of the system here misses a bigger point of how the overall geology of the Black Hills is structured. See various simple explanations of Black Hills geology and groundwater in Berry et al 2007 chapter 7 and USGS publications specific to the Black Hills.	Thank you for your recommendation and providing this additional source of information.
All Black Hills streams and associated wet areas arise from groundwater outflows; the term "rare" does not seem inappropriate.	This language has been updated in the assessment.
Restoration Opportunities: How does the text in this section directly relate to wildfire related restoration?	Additional supporting information has been added to the revised assessment.
<p>"In 2013, a total of 625 acres of riparian habitat had been restored or enhanced from 2003 to 2012. The report indicated that progress regarding the restoration of riparian shrub communities has been achieved throughout the Black Hills National Forest." Cite report.</p> <p>A citation is needed here regarding this statement on impact of MPB on watersheds and the interconnection with water flows etc.</p>	A citation for this information is present or has been added to the revised assessment.

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<p>"There is some indication that the didymo infestation in Rapid Creek is not impacting trout there. Since aquatic invertebrates are physical smaller in Rapid Creek than in comparable non-infested streams, trout are able to consume enough of them to maintain healthy growth and energy reserves (James 2015)." This sentence would follow better right after the didymo discussion at the start of the section. It is out of place here.</p>	<p>This statement has been moved to the suggested location within the assessment. Thank you for your recommendation.</p>
<p>"The aquatic, riparian, and GD ecosystems of the Black Hills NF are dynamic and experience a constant flux of drivers from the surrounding landscape.": Drivers not mentioned here include road building and associated changes in water delivery, grazing impacts riparian areas/ownership of the valleys in contrast to the uplands on the Forest, and how these play into the dynamics of change.</p>	<p>Impacts to riparian and wetland ecosystems result from direct disturbances such as the examples listed are addressed in the Considerations for Managing Multiple Use within Aquatic, Riparian, and Groundwater-Dependent Forest Ecosystems section of the assessment.</p>