US Department of Agriculture
US Forest Service
Ashley National Forest
Wild and Scenic Rivers Eligibility Study and Report

ELIGIBILITY STUDY PROCESS

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ACRONYMS AND ABBREVIATIONS

	Full Phrase
EPA	Environmental Protection Agency
FSH	Forest Service Handbook
Forest	Ashley National Forest
GIS	geographic information system
GLO	General Land Office
HUC	hydrologic unit code
NHD	National Hydrography Data set
NHL	National Historic Landmark
NRHP	National Register of Historic Places
NWSRS	National Wild and Scenic Rivers System
ORV	outstandingly remarkable value
ROS	recreation opportunity spectrum
SHPO	state historic preservation officer
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WSR	wild and scenic river
WSR Act	Wild and Scenic Rivers Act of 1968

SECTION 1
ELIGIBILITY EVALUATION PROCESS

1.1 INTRODUCTION

This document outlines Ashley National Forest's (Forest) method for evaluating the eligibility of rivers for their potential inclusion in the National Wild and Scenic River System (NWSRS). In particular, it describes the process for identifying rivers that are free flowing and contain one or more outstandingly remarkable values (ORVs). It further describes the process for assigning a preliminary classification to eligible rivers.

This document is not agency policy; rather it describes the method for implementing Forest Service policy in Forest Service Handbook (FSH) 1909.12, Chapter 80, and the Wild and Scenic Rivers Act of 1968, as amended (WSR Act).

The NWSRS was created by the WSR Act, which states the following:

> *It is hereby declared to be the policy of the United States that certain selected rivers of the Nation, which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.*

Section 5(d)(1) of the WSR Act directs federal agencies to consider the potential for national wild, scenic, and recreational rivers in all planning for the use and development of river and related land resources. Agencies typically conduct wild and scenic river (WSR) evaluations as part of their land management planning process. Forest Service Handbook 1901.12, Chapter 80, requires Forests to complete eligibility studies when developing or revising a Forest plan.

1.2 WILD AND SCENIC RIVER EVALUATION PROCESS

The WSR evaluation process has three phases: eligibility, preliminary classification, and suitability. This document focuses on the first two phases, but a summary of all three phases is provided for overall understanding of the evaluation process.

Phase 1: Eligibility

The purpose of the eligibility step is to determine which rivers in the Forest have values that meet the minimum requirements for inclusion in the NWSRS. To be eligible, a river must be free flowing and must exhibit one or more outstandingly remarkable scenic, recreational, geological, fish, wildlife, historic, cultural, or other similar value.

The finding of eligibility is an inventory step in the agency land use planning process. It is followed by a subsequent determination of suitability and possible recommendation to Congress in the NWSRS. The application of the eligibility criteria for the Region 4 process are further described in **Section 1.3.1**, Definitions and Parameters.

Phase 2: Preliminary Classification

All eligible rivers are assigned a preliminary classification based on the condition of the river and the development level of adjacent lands, as they exist at the time of the study. Section 2(b) of the WSR Act specifies and defines three classification categories for eligible rivers: wild, scenic, and recreational. The classification assigned during the eligibility phase is preliminary. Final classification is assigned during the comprehensive river management planning process required by the WSR Act if the river is designated by Congress. (See **Section 3**, Methods for Assigning Preliminary Classification, for the preliminary classification criteria and methods for application in the Region 4 process.)

The preliminary classification does not reflect the types of resource values along an eligible segment; rather, classes are based on the type and degree of human development and access associated with the river and adjacent lands at the time of the eligibility evaluation. Determining a preliminary classification also establishes guidelines for management until designation or there is a change in the eligibility or suitability status. This entails applying existing management measures to ensure that the values supporting the eligibility and classification evaluation are protected.

Phase 3: Suitability

Suitability provides the basis for determining which eligible rivers should be recommended to Congress for potential inclusion in the NWSRS. This is done by applying the WSR Act's suitability criteria to each eligible river. Suitability considerations include the environmental and economic consequences of designation and the manageability of a river if it were to be designated by Congress. The suitability evaluation does not result in actual legislative

designation but only a determination as to whether a river is suitable for inclusion in the NWSRS and a preliminary administrative recommendation.

1.3 PROCESS FOR DETERMINING ELIGIBILITY

With the foundation provided by the WSR Act, FSH 1909.12, Chapter 80, and the Interagency Wild and Scenic Rivers Coordinating Council, Forest Service Region 4 developed an eligibility process that could be modified to the minimum extent necessary to be specific to the needs of individual Forests. The sections below describe the definitions and parameters, as well as the 11-step process for eligibility evaluation to be used in the Forest.

1.3.1 Definitions and Parameters

Rivers Considered

In accordance with FSH 1909.12, Chapter 80, the rivers to be studied for eligibility are all those named on a standard US Geological Survey (USGS) 7.5-minute quadrangle map. Should the Forest Service or another source (e.g., a member of the public) suggest the review of an unnamed river, that river would also be considered in the process if sufficient information related to the location of the river and potential outstandingly remarkable values is provided. Should the Forest Service or another source suggest the review of a river that was previously studied, the Forest Service will consider whether there is a changed circumstance. If there is evidence of a changed circumstance, the river will be reevaluated.

Changed circumstances are those in the river or corridor that have affected the free-flowing nature or the presence of an ORV. Changes indicating a stronger presence of an ORV may include listing a species on the Endangered Species List, recognizing the river for certain recreational opportunities, and considering changes that now make the river's values unique. Changes that indicate weaker ORVs may include a species' recovery and its being taken of the Endangered Species List, floods or other events that have adversely affected the river's recreation opportunities, or those that now make the values of the river more common. The Forest Service interdisciplinary team will identify changed circumstances for previously identified rivers.

River

The WSR Act, Section 16(a), defines a river as follows:

> *…a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes.*

There is no minimum length required for a river to be eligible.

Lake

The definition of river in the WSR Act includes small lakes. For the purposes of this process, as with other rivers, any lakes named on the USGS 7.5-minute

quadrangle map with a natural outflow will be considered. In addition, unnamed headwater ponds that flow into named rivers will be considered as part of the named river. No minimum or maximum size of a lake is defined.

Free-flowing Character

Section 16(b) of the WSR Act defines free-flowing as follows:

> *…existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic rivers systems shall not automatically bar its consideration for inclusion: provided, that this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the national wild and scenic rivers system.*

Congress has allowed for the existence of some human modification of a watercourse. Because of this, impoundments or major dams above or below a segment under review and the existence of minor dams, diversion structures, and riprap in the segment do not by themselves render a segment ineligible. This includes those impoundments or dams that may regulate the flow through the segment. Rivers impacted by such water resource developments may still be eligible, as long as they remain riverine in appearance.

There are no specific requirements concerning minimum flow for an eligible segment. Flows are considered sufficient for eligibility if they sustain or complement the ORVs for which the segment would be designated. Rivers with intermittent flows have been designated for inclusion in the NWSRS; rivers representative of desert ecosystems should also be considered for inclusion. Reasons for the determination must be documented.

An Eligibility Study spreadsheet will be used to document a river's free-flowing nature; it will also document impediments. River segments that are found not to be free flowing are ineligible and need not be considered further.

The Forest Service interdisciplinary team will make the determination of free-flowing character based on certain considerations, including the following:

- Number of impediments
- Type of impediments (e.g., impoundment, diversion, straightening, and riprapping)
- Size of impediments

These factors will be considered together to evaluate whether the river remains riverine in appearance and thus is free flowing. This parameter will be integrated into Step 5 of the process described in **Section 1.4.2**.

Outstandingly Remarkable Values

Outstandingly remarkable is not defined by the WSR Act; rather, the determination that a river contains ORVs is based on the interdisciplinary team's professional judgment, public participation, and objective scientific analysis (FSH 1909.12, Chapter 80, Section 82.73, and the Interagency Wild and Scenic Rivers Coordinating Council).

The process set forth below is intended to provide a standard that will yield consistent results throughout Region 4.

The resources to be evaluated for eligibility are identified in Section 1(b) of the WSR Act as "scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values." Other similar values can include, for example, paleontological or botanical. A river corridor needs to exhibit only one ORV to be eligible.

Regarding the nature of ORVs, there are three key points:

1. River-related. All values assessed should be directly river related. They should be in the river or river corridor (at least 0.25 miles from the ordinary high water mark on each side of the river), should contribute substantially to the functioning of the river ecosystem and its public value, or should owe their location or existence to the river.

2. Regionally significant. Resources should be regionally or nationally significant to be deemed outstandingly remarkable. To make this determination, a region should be explicitly delineated so that the significance of the rivers under review can be compared against others in the region. FSH 1909.12, Chapter 80, defines the region of comparison as "The geographic area of consideration for each outstandingly remarkable value that will serve as the basis for meaningful comparative analysis." Selecting a region of an appropriate size and character is critical in arriving at a realistic determination of regionally significant rivers.

   Once the region of comparison is identified for each ORV, a river's values can then be compared with other rivers in that region. Comparative regions should not be so large that only those few rivers that stand out as the very best in the nation are deemed outstandingly remarkable, nor so small that most rivers qualify as exemplary in some way. In each region, rivers should be assessed against each other to allow similar types of resources to be compared.

   A region of comparison is defined for each ORV, and there may be different regions of comparisons for different ORVs. For example, the appropriate region of comparison for scenic values may be an

entire Forest or Grassland, while for cultural values it may be the portion of the state in which the river is located.

3. Rare, unique, or exemplary. Features that are regionally exemplary, as well as those that are rare or unique, should be considered. Exemplary features are outstanding examples of common but important types.

The ORVs are broken down into components that further identify the qualities of the ORV that will be evaluated. In other words, the component definitions specify what qualities will be considered and will provide the basis for evaluation. To provide as much consistency as possible between Region 4 Forests and other river reviews across the agency, Region 4 used the ORV criteria identified in FSH 1909.12, Chapter 80, Section 82.73a. It also used the component definitions developed by the interagency State of Utah eligibility study (1996) as a starting point for this eligibility study process.

Data sets

For each ORV component identified in **Section 2**, data sets are identified that will be used to evaluate that component. Additional data sets may be used at the Forest level; if none are available for a Forest, other similar data sets may be used. However, the data sets identified in **Section 2** are generally readily available with coverage across the West.

1.3.2 Eleven-Step Eligibility Evaluation Process

Forest Service Region 4 developed an eleven-step process for eligibility evaluation. The steps in the evaluation process will be common across the Forests. At the Forest level, the methods identified in **Section 2** will be refined to the minimum degree necessary to be specific to the needs of the Forest or Grassland. Refinements will generally be limited to identifying the specific region of comparison and components that contribute to the significance of each resource value or feature.

Step 1: Define methods for identifying outstandingly remarkable values. The first step of the process is to define the regions of comparison and components and measurements for identifying the presence of ORVs. See **Section 2**, Criteria for Identification of Outstandingly Remarkable Values, for the following:

- Approach to identifying regions of comparison
- Components of measuring the values
- Data to be used to evaluate the significance
- The degree to which a component might be rare, unique, or exemplary
- Assumptions and application of the information

Step 2: Develop a list of rivers to be studied. Rivers in the Forest that may have a potential for WSR designation must be identified and evaluated. In accordance with FSH 1909.12, Chapter 80, the rivers to be studied for eligibility are all those named on a standard USGS 7.5-minute quadrangle map. The Forest Service Region 4 has initially compared named rivers on the quadrangle map and rivers in the USGS National Hydrography Data set (NHD) in a geographic information system (GIS). The NHD has been updated to include all named features on the 7.5-minute quadrangle map. Any named rivers flowing within the Forest's administrative boundary will be evaluated for eligibility, including named lakes with a natural outflow. No minimum or maximum size of a lake is defined, only that it must be a named feature with an outflow. Any named rivers with a known impediment, such as a dam, will be determined not free flowing in this step and will not be carried forward for further consideration.

Rivers that have previously been found eligible or suitable for inclusion in the NWSRS or those rivers that are designated in the NWSRS will be excluded from this study. For the Ashley National Forest, only those rivers not included in the July 2005 Final Eligibility Determination of Wild and Scenic Rivers for the Ashley National Forest[1] or the November 2008 Wild and Scenic River Suitability Study for National Forest System Lands in Utah[2] will be evaluated in this study, unless there is a changed circumstance.

A record of all rivers not carried forward beyond this step (i.e., those known to be impounded and those with a previous systematic evaluation) will be kept and can be presented to the public as having been considered.

Step 3: Public engagement for Forest-specific process and list of rivers to be studied. This provides an opportunity for the public to review the Forest-specific process and the preliminary list of rivers to be studied. Feedback is documented and incorporated into the revised process, as appropriate. During this time, feedback on potential ORVs should also be solicited.

Step 4: Divide rivers into reaches of essentially similar character. Each river is looked at as a whole, as it flows through the Forest. It would be considered for division into segments only when there is a significant change in the river's character. Changes in character that should be considered in identifying segments could include the following:

- Presence of dams and reservoirs
- Significant changes in types or amount of development

[1]Final Eligibility Determination of Wild and Scenic Rivers for the Ashley National Forest, United States Department of Agriculture, National Forest Service, July 2005.
[2]Wild and Scenic River Suitability Study for National Forest System Lands in Utah Record of Decision and Forest Plan Amendments (Ashley, Dixie, Fishlake, Manti-La Sal, and Uinta Wasatch-Cache National Forests), United States Department of Agriculture, National Forest Service, November 2008.

- Significant changes in physiographic character, tributaries, or features
- Significant changes in hydrographic or geographic features, such as confluences with major tributaries or distinct changes in river gradient
- Significant changes in land status

A river should not be segmented simply because there are several small private parcels interspersed along it. It may be better to identify one longer segment that contains various ownership jurisdictions.

Step 5: Determine if segments are free flowing. Refer to **Section 1.3.1**, Definitions and Parameters, for parameters to consider when determining free-flowing character. Public comments and input from Forest specialists will be considered to determine if rivers in addition to those identified in Step 2 are not free flowing. Further evaluation of potential ORVs of segments that are not free flowing is unnecessary, because these segments are ineligible.

Step 6: Evaluate each resource value and feature, based on the criteria developed in the Forest-specific process (Step 1, as modified by Step 3). An interdisciplinary team of technical experts will determine the significance of resources in the region of comparison, using the criteria identified in **Section 2**, Criteria for Identification of Outstandingly Remarkable Values. A preliminary review should be conducted to reveal resources of potential significance that should be reviewed more thoroughly. Sources for preliminary review are as follows:

- Nationwide Rivers Inventory list
- 1970 US Department of Agriculture and US Department of the Interior inventory list
- State protected rivers
- Public input

To determine regional significance of river resources, rivers in the region of comparison will be compared with each other (see **Section 1.3.1**, Definitions and Parameters, for a discussion of regions of comparison). In accordance with FSH 1909.12, Chapter 80, Section 82.73, the determination that a corridor contains ORVs is a professional judgment on the part of the interdisciplinary team, based on objective scientific analysis.

Step 7: Document the eligibility results. The results of the eligibility study will be documented in an Excel file. River segments that are determined to be not free flowing will not be included in the ORV evaluation. In the Excel file, the presence or absence of ORVs will be noted with a P, meaning that the ORV is present; a C, meaning that there was sufficient information in the data to

consider the ORV but it was determined that the value was not outstandingly remarkable; or an N, meaning that the river segment was not present in the data. For rivers that are free flowing and have at least one ORV, a narrative of the ORVs will be provided.

Step 8: Assign a preliminary classification for each eligible river. After the eligibility evaluation, the methods outlined in **Section 3** will be used to assign a preliminary classification to each eligible river. If a river falls into more than one classification, it will be segmented accordingly. (See Step 4, above, for information on how rivers will be segmented.) Reasons supporting preliminary classifications will be documented for each eligible river.

Step 9: Document all findings in an eligibility report. The eligibility findings and preliminary classification will be summarized in an eligibility report.

Step 10: Provide for public review and comment. The eligibility report is presented to federal agencies and state, tribal, and local governments, conservation and user groups, and the interested public for comment and additional input. The recommended duration of public review is 30 days.

Step 11: Complete documentation of findings and provide feedback. Comments should be given consideration, and the findings and report should be revised, as appropriate.

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SECTION 2
METHODS FOR IDENTIFICATION OF OUTSTANDINGLY REMARKABLE VALUES

This section describes the methods for identifying ORVs. For each potential ORV, the criteria from FSH 1909.12, Chapter 80, are presented and a region of comparison is defined. The ORVs are broken down into components that further identify the qualities of the ORV that will be evaluated. In other words, the component definitions specify what qualities will be considered and provide the basis for evaluation. A description of each component is provided, along with data sets to be used to evaluate that component. Finally, assumptions and direction regarding the application of the assessment criteria are documented. This section provides a framework for what is considered outstandingly remarkable.

2.1 SCENIC

Forest Service Handbook Criteria

Landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features or attractions. Additional factors, such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed, may be considered. Scenery and visual attractions may be highly diverse over different parts of the river or river segment. Outstandingly remarkable scenic features may occupy only a small portion of a river corridor.

Region of Comparison

As part of the Forest Service Scenery Management System inventory process, scenic attractiveness classes are developed to determine the relative scenic value of lands in a particular landscape character. The three scenic attractiveness classes are Class A, Distinctive; Class B, Typical; and Class C, Indistinctive. The landscape elements of landform, vegetation, rocks, cultural features, and water features are described in terms of their line, form, color, texture, and composition for each of these classes. The classes and their breakdown are generally displayed in a chart format, and a map delineating the scenic attractiveness classes is prepared. The region of comparison is the mapped scenic attractiveness classes for the Forest.

Table 2-1
Components of Scenic ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Diversity of view, special features, seasonal variations, and cultural modifications	• The presence of high relief; severe surface variation; pleasing color and contrast in soil, rock, and water; and still or cascading water that is dominant in the landscape • Outstanding natural features; landforms with unusual or outstanding topographic features, such as gorges, high relief, rock outcrops, canyons, falls, rapids, springs, hot springs, color, and vegetation • Diversity of vegetation types in interesting patterns, textures, and colors • Modifications and human-made features in the corridor and viewshed	Scenic attractiveness classes from the Scenery Management System inventory for the Forest	• Prior completion of the Scenery Management System inventory process for a Forest included in Forest Service Region 4's evaluation of the eligibility of rivers for the potential inclusion in the NWSRS • Scenery Management System scenic attractiveness Class A would be used to identify eligible rivers for the potential inclusion in the NWSRS

2.2 RECREATIONAL

Forest Service Handbook Criteria

Recreation opportunities and experiences are high quality and attract, or have the potential to attract, visitors from throughout or beyond the region of comparison, or they are unique or rare within the region. Water-based recreational opportunities primarily include fishing, swimming, and boating. Characteristics of a river corridor also influence other land-based recreational opportunities; however, these activities are not solely dependent on the river. Land-based activities include sightseeing, interpretation, wildlife observation, camping, photography, hunting, and hiking. Accordingly, recreational ORVs are those that contribute to unique water- and land-based recreation opportunities and user experiences in a river corridor.

Region of Comparison

Factors that influence recreation opportunities and experiences vary between river corridors. However, the unique characteristics that differentiate rivers with outstandingly remarkable recreational values and that draw visitors to a certain river corridor over another should be evaluated at a landscape-level scale. Ashley National Forest is a smaller, contiguous Forest with similar climates, vegetation regimes, topography and associated recreation resources; therefore, the Forest boundary will be used as the region of comparison.

The presence or absence of human development and accessibility are important factors influencing the types of recreation opportunities and experiences in each river corridor. The Forest management plan describes the types of recreation opportunities throughout the Forest using the recreation opportunity spectrum (ROS). On one side of the spectrum, primitive areas exhibit unmodified natural environments with some trails; however, motorized use is prohibited. In primitive areas, there are few regulations, and visitors are unlikely to encounter other visitors. On the other side of the spectrum, rural areas are substantially modified, with development being the primary landscape feature. In rural areas, there are typically recreation facilities and other developed recreation areas, motorized access, and regulations that control the types and locations of use. Visitors are likely to encounter dozens of other visitors, especially in developed areas and on trails.

In descending order of primitiveness, the ROS classifications between primitive and rural are semiprimitive nonmotorized, semiprimitive motorized, and roaded natural. Accordingly, the Forest Service will also consider the underlying ROS designation of each river corridor when comparing components of recreational ORVs in each region of comparison. **Table 2-2**, below, describes the components of recreational ORVs and how each is used to determine the presence or absence of ORVs in the region of comparison.

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Quality of opportunities and experiences	Accounting for the underlying ROS classification, the fundamental quality of water- and land-based recreation opportunities in the corridor is taken into consideration.	• ROS classifications • Forest Service recreation amenities data • Aerial imagery • Visitor accounts • Feedback from outfitters and guides (if widely available) • Angler surveys (if widely available) • Feedback left on www.recreation.gov (if widely available) • Daily diaries of wilderness rangers	River corridors that support quality water- and land-based recreation opportunities provide visitors with the best recreation experience. Quality is difficult to measure and depends on many factors, including the type of activity, visitor expectations, user abilities, time of year, weather conditions, water quality (turbidity), riparian vegetation, and level of human modification to the landscape. Additionally, the conditions that contribute to quality recreation opportunities and experiences for one activity may not provide the same benefit for another activity. For example, in a stream segment with multiple Class III or higher rapids, a swimmer is not likely to have the same quality experience as a whitewater rafter. Accordingly, this component considers the quality of recreation opportunities and experiences accounting for the underlying ROS classification and the primary type of recreation opportunities a visitor is likely to expect in the corridor.

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			The presence of trails, natural setting, and streamflow contribute most to the quality of land-based recreation opportunities and experiences. In ROS primitive and semiprimitive areas, quality land-based experiences are those that occur in a remote setting and offer the visitor a chance to test his or her backcountry skills in solitude or groups of generally fewer than 10 people. While stream flow and character of the river run may contribute to the quality of land-based recreation, they are not determining factors. For water-based activities, flow and character of the river run are critical (see *Level and duration of flow component*, below). Rivers whose characteristics support high-quality water-based recreation, such as boating, fishing, and swimming, are of higher value. Rivers that are excessively shallow, narrow, overgrown with vegetation, or turbid typically do not support high-quality water-based recreation opportunities or experiences and are therefore of lower value.

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Range of opportunities and experiences	Accounting for the underlying ROS classification, the variety of water- and land-based recreation opportunities in the corridor and the types of visitors engaged in those activities is taken into consideration.	• ROS classifications • Forest Service recreation amenities data	Rivers that provide the most diverse opportunities to the widest range of recreationists are of higher value. Rivers that support only limited recreation in the river corridor are generally less outstanding and remarkable than those where visitors can engage in a wide variety of activities. Topography, flow conditions, types of recreation facilities, and availability of access contribute to the range of recreation opportunities in a corridor. In some cases, opportunities may be available only to users with advanced skill levels. Accordingly, river corridors that have fewer opportunities for a narrower range of users are less outstanding and remarkable than those with numerous opportunities available to most users. The amount of human influence on the landscape directly contributes to the types of opportunities and who can experience them. In primitive areas, there are fewer

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			opportunities, because there are few or no recreation facilities, and motorized use is prohibited. Recreating in primitive areas also requires a certain level of skill, training, and equipment. Not all visitors will possess these minimum qualifications, which limits the number of people recreating in primitive areas. Conversely, in semiprimitive motorized, roaded natural, or rural ROS areas, there will be a wider range of opportunities available to a broader subset of Forest visitors. For this reason, the range of recreation opportunity and experiences component are compared only for rivers in areas of the same or similar ROS level, such as two rivers within primitive areas, or two other rivers where one is in a roaded natural area and the other in a rural area.
Uniqueness of opportunities and experiences	Accounting for the underlying ROS classification, the uniqueness of potential opportunities and experiences are taken into consideration. Rivers that support or contribute to opportunities or experiences that cannot be found	• Forest Service recreation amenities data • ROS classifications • Forest plans • Aerial imagery • Public input	This component compares the uniqueness of opportunities in areas with similar ROS classifications. In general, rivers and streams with similar flow, access, and range of opportunities offer users similar recreation

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
	elsewhere in the region of comparison are of a higher value than those where visitors can engage in the same opportunity or have the same experience somewhere else in the region of comparison.		experiences. To be considered a unique recreation opportunity, it must be influenced by some element or elements of the physical, biological, or cultural landscape that produce an experience that cannot be found elsewhere in the region of comparison. Because the opportunity is unique, it enhances visitors' recreation experiences. Features that might create a unique opportunity and enhance the recreation experience include unique geologic features, such as rock formations that are in or visible from the corridor; stream channel features, such as waterfalls, Class V rapids, or an oxbow with a sandy beach and deep pool; or a dramatic landscape vista. Features can contribute to the uniqueness of multiple opportunities and experiences. An oxbow, for example, could be a unique location for water-based activities, such as fishing, swimming, and floating. The adjacent beach could be a unique spot for camping, wildlife viewing,

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			nature photography, and sunbathing. In roaded natural or rural areas, there may be picnic tables, interpretive signs, and vehicle parking for visitors. In primitive and semiprimitive nonmotorized areas, the visitor experience would be in a remote setting, with little or no human influence.
Scenery and naturalness	Accounting for the underlying ROS classification, the scenic integrity and diversity, presence of panoramic views, level of remoteness and wildness, and the extent of undeveloped areas that directly or indirectly contribute to recreation experiences and opportunities are taken into consideration.	• Forest Service-developed recreation database • ROS classifications • Aerial imagery • Wilderness inventory data	In primitive and semiprimitive areas, undeveloped corridors are of higher value. In these areas, there is a lower threshold for human influence. Any surface disturbance or other human-made features could detract from primitive water- and land-based opportunities and experiences in the corridor. In roaded natural and rural areas, scenery and naturalness are less influential, because visitors generally expect development and human influence to be a component of their recreation experience. This is especially true where the primary recreation opportunities are developed, such as camping in designated areas, hiking on trails, and boating from

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			boat launches. However, where human-made features dominate the visual landscape, visitor experiences could be less enjoyable. Within the larger roaded natural or rural area, areas with higher value would be those with primitive or semiprimitive characteristics, memorable vistas, or where development is well-integrated with the landscape so as to minimize visual impacts.
Access	Accounting for the underlying ROS classification, the ability of visitors to access water- and land-based recreation opportunities in the river corridor are taken into consideration.	• Forest Service-developed recreation database • Forest Service trails database • ROS classifications • Aerial imagery	Access to a river corridor directly influences visitors' ability to engage in water- and land-based recreation. Factors influencing access primarily include the presence of roads or trails and the type of landownership. In primitive and semiprimitive nonmotorized areas, access is inherently limited to nonmotorized modes of travel; that is, those wishing to recreate in the river corridor must access it without the benefit of a motor vehicle. River corridors where recreation opportunities can be directly accessed by public trail are of a higher value. River

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			corridors with no public trails providing access to the river or other land-based recreation opportunities in the corridor have the lowest value. In semiprimitive motorized, roaded natural, and rural areas, access to recreation is likely to be via motorized vehicle. It is also possible that developed facilities and interpretive signs support recreation opportunities. In these areas, river corridors with motorized trail and road access have a higher value than areas accessible only by foot or other nonmotorized means. The presence of staging areas, signs, boat ramps, and other facilities in the corridor that facilitate access to water- and land-based opportunities also increase the value of the corridor. Regardless of ROS classification, landownership can influence access. Private inholdings, special use authorizations, or other legal encumbrances can prevent access to water- and land-based recreation and experiences in a

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			river corridor. Corridors with landownership encumbrances to access are of lower value. Snow coverage, soil conditions, and high streamflows can also influence access; however, the degree to which these factors limit access to recreation in a river corridor depends on the type of activity and snow, soil moisture, and streamflow conditions. Data limitations and seasonal and site-specific variability prevent the Forest Service from including these measures in the study.
Level and duration of flow	The duration and extent to which instream flow supports water-based recreation and contributes to other land-based recreation is taken into consideration.	• USGS stream flow data • Natural Resources Conservation Service Snowtel data	In all ROS levels, rivers that have year-round flows are more desirable for water-based recreation than those that have more ephemeral flows. Rivers with sufficient continual flow also draw visitors not engaged in water-based activities. Especially in more arid Forests, the presence of surface water attracts those engaged in camping, hiking, sightseeing, hunting, nature photography, and other land-based activities.

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			Stream flows generally peak in the spring and decrease into the summer. During summer and fall, flow in some rivers may be insufficient to support water-based recreation. The lack of water-based recreation opportunities in these river corridors would make them less desirable for those seeking water-based recreation, such as swimming, fishing, and boating. Although land-based activities would be less influenced by flow, dry riverbeds would likely be less desirable to most hikers, campers, hunters, and other land-based recreationists, compared with a flowing river. Rivers fed by perennial springs or large catchment basins generally have continual flow and therefore support year-round water-based activities. Especially in the summer and in arid climates, they also attract land-based activities. Accordingly, in all ROS levels, rivers with continual flow sufficient to support water-based activities are the most desirable for all types of recreation and, thus, have the highest value.

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Attraction	Accounting for the underlying ROS classification, the river corridor's broader national or international draw for recreation is taken into consideration.	• Forest Service visitor data (including data from the National Visitor Use Monitoring program) • Special recreation permit data • Internet search for reviews, articles, or photos • ROS classifications	This component accounts for the presence of certain recreation opportunities or experiences that lead destination visitors to recreate at one river instead of others in the region. Destination visitors are those traveling 200 miles or further to reach the river. These visitors have limited time and must prioritize their destination based on how closely the settings and opportunities align with their preferences. Because remote recreation opportunities are more attractive to some than developed opportunities, this component considers the underlying ROS classification. Attractiveness is influenced by a combination of all other recreation ORV components. Rivers that receive the most visitors living more than 200 miles from the corridor likely possess one or a combination of all recreation ORV components that make people want to bypass similar, potentially more proximate opportunities in the region.

Table 2-2
Components of Recreational ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			Rivers with the highest visitor use do not necessarily have the greatest attraction. High use rivers may be easily accessed from a nearby urban area, whereas other rivers in the Forest are farther from an urban center and less visited. The measure of attraction considers the degree to which a river draws people from distances well beyond the region. Rivers that receive national and international visitors are likely highlighted in online recreation resource materials, reviews, and articles. For example, angler associations may post fishing guides and visitor accounts for popular rivers. The level of attraction could also influence the number of commercial outfitters and guides operating in the corridor. Corridors that attract more destination visitors likely have more applications for water-based commercial recreation operations, such as guided fishing, kayaking, or whitewater rafting trips.

2.3 GEOLOGIC

Forest Service Handbook Criteria

The river corridor contains one or more examples of a geologic feature, process, or phenomenon that is unique, rare, or exemplary within the region of comparison. The features may be in an unusually active stage of development, may represent a "textbook" example, or may represent a unique, rare, or exemplary combination of geologic features, such as erosional, volcanic, glacial, or other geologic structures.

Region of Comparison

The USGS physiographic provinces are areas of distinct geologic and geomorphic characteristics; they serve as the region of comparison for geologic values. There are parts of eight physiographic provinces in Forest Service Region 4. Choosing a relatively large and geologically similar region of comparison like physiographic provinces will avoid potential issues in classifying areas that have only a small number of geologic features exposed.

Table 2-3
Components of Geologic ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Unique features	Landforms with unusual or outstanding geologic/hydrologic features are taken into consideration, such as gorges, arches, badlands, oxbows, caves, relic shorelines, bogs, waterfalls, deep canyons, hot springs, and unique rock formations and outcrops. The unique or rare combination of geologic/ hydrologic features, such as erosional, volcanic, and glacial, are taken into consideration.	• Forest Service geologic GIS data sets or personnel knowledge of state agency-maintained geologic data sets: https://gis.utah.gov/data/geoscience/; http://geology.utah.gov/resources/data-databases/ • National geologic data: https://mrdata.usgs.gov/geology/ • State research institution data	River corridors with rare, unusual, unique, or distinctive geologic features in the region are of higher value.
Diversity and abundance of features	The number and variety of special geologic/hydrologic features and the value of these features to the region are taken into consideration. The number of features of a single type and the variety of features present are also taken into consideration.	• Forest Service geologic GIS data sets or personnel knowledge of state agency-maintained geologic data sets: https://gis.utah.gov/data/geoscience/; http://geology.utah.gov/resources/data-databases/ • National geologic data: https://mrdata.usgs.gov/geology/ • State research institution data	River corridors with the greatest diversity or the greatest abundance of geologic/hydrologic features are of higher value. An example of a segment with this ORV might have many similar geologic features, such as six natural arches, or a number of diverse geologic features, such as one natural arch, one hot spring, one glacier, and one canyon, or a combination of abundance and diversity.

Table 2-3
Components of Geologic ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Educational/scientific	Taken into consideration are the geologic/hydrologic features that clearly and graphically reveal an interesting/unique educational or scientific story of the earth's history, as determined by expert judgment.	• Forest Service geologic GIS data sets or personnel knowledge of state agency-maintained geologic data sets: https://gis.utah.gov/data/geoscience/; http://geology.utah.gov/ • resources/data-databases/ • National geologic data: https://mrdata.usgs.gov/geology/ • State research institution data	Of higher value are river corridors containing geologic/hydrologic features with the greatest scientific or educational value.

2.4 FISH

Forest Service Handbook Criteria

Fish values may be judged on the relative merits of either fish populations or habitat or a combination of these river-related conditions.

Populations. The river is nationally or regionally an important producer of resident or anadromous fish species or both. Of particular significance are a diversity of fish species or the presence of wild stocks or federal or state-listed or candidate threatened or endangered species or species of conservation concern.

Habitat. The river provides uniquely diverse or high quality habitat for fish species indigenous to the region of comparison. Of particular significance is exemplary habitat for wild stocks and federal or state-listed species, or candidate threatened or endangered species, or species of conservation concern. Also, rare and unique habitats in the corridor are taken into consideration.

Region of Comparison

The USGS watershed boundary data set defines the areal extent of surface water drainages. They are determined solely on science-based hydrologic principles, not favoring any administrative boundaries.

Hydrologic units in the USGS watershed boundary data set have an established base-line drainage boundary. Hydrologic units are assigned a code (HUC), which describes where the unit is in the country and the level of the unit. A hydrologic unit is a drainage area delineated to nest in a multilevel, hierarchical drainage system. Its boundaries are defined by hydrographic and topographic criteria that delineate an area of land upstream of a specific point on a river, stream, or similar surface waters.

For the purposes of this analysis, HUC 6, or Basin, is the watershed level chosen for the region of comparison. There are two HUC 6 watersheds in the Forest.

For the cultural/historic component of the fish ORV, an administrative or political boundary, such as Forest Service administrative boundaries or state boundaries, would be more appropriate regions of comparison for fish values in Region 4. This is because much of the available data that would be used to evaluate this component (e.g., tribal consultations) would be applicable to such administrative boundaries. The decision to use such a region of comparison should be made during the specific Forest-level planning process. This is due to the administrative nature of the data sets that would inform analysis of this component.

Table 2-4
Components of Fish ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Habitat quality	Consider if the river provides exceptionally high-quality habitat for fish of national or regional significance, or if it may provide unique or particularly valuable habitat for rare fish species (federally or state-listed species or candidate threatened or endangered species). Consider if the river is a known anadromous fish-bearing stream or catalogued anadromous river.	• Presence of high-quality habitat—USFWS designated or proposed critical habitat is mapped in the river. This data set is available from the USFWS at https://ecos.fws.gov/ecp/report/table/critical-habitat.html. • Presence of high-quality habitat—The river contains designated habitat for state-listed sensitive species, or species of conservation concern, or fish of national or regional significance. These data may be available from Forest Service PacFish/InFish sites, Forest- or Grassland-specific GIS data, or state wildlife agency GIS data. • Presence of high-quality habitat—Anadromous fish-bearing streams or known anadromous rivers. These data may be available from Forest Service PacFish/InFish sites, Forest- or Grassland-specific GIS data, or state wildlife agency GIS data. • Decreased habitat quality—USGS nonindigenous aquatic species by HUC watershed.	Of higher value are rivers providing high quality habitat for fish of national or regional importance or for rare fish species. High-quality habitat could be indicated by the presence of USFWS designated or proposed critical habitat or designated habitat for state-listed sensitive species or species of conservation concern. Rivers that are known anadromous fish-bearing streams or catalogued anadromous rivers are of higher value. Rivers that are free of infestation by nonindigenous aquatic species, both plant and wildlife, provide better habitat and are of higher value. An example of a segment where the component might be said to have outstandingly remarkable value is one that has suitable habitat for fish of national or regional significance or for rare species; could be designated or proposed critical habitat for a listed fish species; or is a known anadromous river. Such a segment would be free or nearly free of nonindigenous aquatic

Table 2-4
Components of Fish ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
		These data are available on the following internet website: https://nas.er.usgs.gov/taxgroup/fish/default.aspx.	species infestations, or, if limited infestations are present, they would not have a significant bearing on habitat quality.
Fish diversity and abundance	The number and variety of species present are taken into consideration. This includes wild stocks, fish of national or regional significance, or rare fish species that are federally listed, state-listed, or candidate threatened or endangered species.	• Diversity of fish species—Occupied streams for rare fish species. Spatial data for occupied streams may be available from USFWS state offices or state fish and game agencies, as in the following example for Idaho: Fish Presence – Streams: http://data.idfggis.opendata.arcgis.com/data sets/648d7d0ba49d4385a782a1f51b854fb6_0. • Abundance of fish species—Generally, state fish and game agencies may have fisheries data sets or spatial data available. Population estimates per run or watershed would be particularly useful data to evaluate this component.	Of higher value are rivers with the greatest diversity of native or other significant species, including wild stocks, fish of national or regional significance, or rare fish species (federally or state-listed species or candidate threatened or endangered species). Forests will decide to evaluate this component, based on either the total count of species per river or the percentage in the region of comparison for each river. Rivers with the greatest number of native or other significant species are of higher value. Forests will decide how to best use available data when evaluating this component; for example, data on species diversity or abundance may need to be averaged by river mile to account for segment-specific conditions along a river. An example of a segment where the component might be said to have outstandingly remarkable

Table 2-4
Components of Fish ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			value is one that contains an exceptional diversity of native or significant fish species, or one that supports exceptionally high runs or population levels of such species, compared with others in the region of comparison.
Natural reproduction	Consider if rivers support extensive, self-sustaining, natural reproduction (i.e., wild stocks) of native or significant fish species, or if they are primarily artificially stocked.	Artificial or supplemental stocking operations—National and state fish hatcheries. Stocking information can be obtained from the National Fish Hatchery System and state wildlife agencies: https://www.fws.gov/Fisheries/nfhs/facilities/utah.html.	Rivers with extensive self-sustaining natural reproduction (i.e., wild stocks) are of higher value than those supported by artificial or supplemental stocking. An example of a segment where the component might be said to have outstandingly remarkable value is one containing only self-sustaining native or significant fisheries, or one where there is only very limited supplemental stocking of such species.
Cultural/ Historic Importance	Consider Native American cultural uses of the fishery or fisheries in the river corridor. Consider the size of historical runs of the fishery or fisheries.	• Significance to Native Americans—Receive description of areas through records of existing tribal consultation conducted in the specific Forest • Size of historical runs—Available primary data sources that would be available through the USFWS state offices, state fish and game agencies, or state	Rivers containing fisheries that have been traditionally used by Native Americans are of higher value, as are rivers with historical runs of exceptional size. The specific Forest would define what constitutes historical, in terms of evaluating this component. An example of a segment where the component might be said to

Table 2-4
Components of Fish ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
		or local historic preservation entities	have outstandingly remarkable value is one that contains fisheries that are traditionally important to Native Americans or one that has historically supported exceptionally large runs.

2.5 WILDLIFE

Forest Service Handbook Criteria

Wildlife values may be judged on the relative merits of either terrestrial or aquatic wildlife populations or habitat, or a combination of these conditions. (Fish are valued separately under the *Fish* section, above.)

Populations. The river, or area in the river corridor, contains nationally or regionally important populations of indigenous wildlife species. Of particular significance are species diversity, species considered to be unique, or populations of federally or state-listed or candidate threatened or endangered species, or species of conservation concern.

Habitat. The river, or area in the river corridor, provides uniquely diverse or high quality habitat for wildlife of national or regional significance. It also may provide unique habitat or a critical link in habitat conditions for federally or state-listed or candidate threatened or endangered species, or species of conservation concern. Contiguous habitat conditions are such that the biological needs of the species are met.

Region of Comparison

Environmental Protection Agency (EPA) ecoregions are areas where ecosystems are similar, including the type, quality, and quantity of environmental resource. They contain similarities in geology, physiography, vegetation, climate, soils, and hydrology. EPA Level III ecoregions are smaller divisions that enhance opportunities for regional environmental monitoring, assessment, reporting, and decision-making. The smaller size compared to other levels allows locally defining characteristics to be identified and more specifically oriented management strategies to be formulated (Commission for Environmental Cooperation 1997).[3] Thus EPA Level III ecoregions would provide a suitable region of comparison for most components of the wildlife ORV.[4]

For the cultural/historic component of the wildlife ORV, an administrative or political boundary, such as Forest Service or state boundary, would be more appropriate regions of comparison for wildlife values in Region 4. This is because many of the available data that would be used to evaluate this component, such as tribal consultations, would be applicable to such administrative boundaries. The decision to use such a region of comparison should be made during the specific Forest-level planning process. This is due to the administrative nature of the data sets used to analyze this component.

[3]Commission for Environmental Cooperation. 1997. Ecological regions of North America: toward a common perspective. Commission for Environmental Cooperation, Montreal, Quebec, Canada. 71p. Map (scale 1:12,500,000). Revised 2006.

[4]EPA Level III ecoregions available online: https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states.

Key Species

A representative suite of river-dependent key wildlife species, or key wildlife species with river-dependent aspects of life cycles or movements, should be identified at the outset of the evaluation process. The suite of key wildlife species will depend on species' ranges and available habitat in the Forest and region of comparison.

Key wildlife species should be identified by specialists from the Forest, along with planning partners from the USFWS state office, state wildlife agencies, and other local groups. Analysis of the following wildlife ORV components would focus on the suite of key species chosen for the Forest. This will ensure that wildlife values identified and analyzed in the region of comparison are truly river dependent.

Table 2-5
Components of Wildlife ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Habitat Quality	Consider the presence, extent, and quality of a variety of habitats for key, river-dependent wildlife species, including denning or nesting habitat, winter range, summer range, transition zones, travel corridors, and calving areas. Consider the intactness and quality of wildlife habitats, such as disturbance history, departure from historical fire regimes, fragmentation from development or disturbance, and noxious weed or invasive species infestation. Consider unique habitats or critical links in habitat for rare species (those that are federally or state-listed, or sensitive species, or candidate species).	• Quality of available habitat—USFWS designated or proposed critical habitat Internet website: https://ecos.fws.gov/ecp/report/table/critical-habitat.html. • Quality of available habitat—For state-managed species, state fish and wildlife agencies generally can provide mapped year-long, summer, winter, calving, migration, transition, or linkage habitat. They can also provide data on the quality of these habitats. • Decreased habitat quality—The Forest will determine if acres of noxious weed infestations or the number of discrete infestations is appropriate; data are likely included in Forest-specific GIS. • Fire regime departure—Fire return interval departure, fire regime condition class, or similar data sets would be used to measure departure from historical fire regimes. Individual Forests would determine the most suitable data for evaluation, given local conditions and data availability.	Of higher value are segments containing proposed or designated critical habitat for listed species and segments containing high-quality mapped habitat for state-managed species. Segments containing fewer acres or populations of noxious weed infestations are of higher value, as are segments containing vegetation that shows no departure from historical fire or other disturbance regimes. Segments containing less fragmented habitat are of higher value, as are segments that have larger patches of suitable habitat for key river-dependent species. An example of a segment where the component might be said to have outstandingly remarkable value is one that provides exceptional habitat value to one or more key river-dependent wildlife species, and such habitat is minimally fragmented, has relatively large patches of suitable habitat, is not departed from historical fire or other disturbance regimes, contains minimal or no noxious weed

Table 2-5
Components of Wildlife ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
		• Degree of fragmentation—Levels of human disturbance would be an appropriate proxy to evaluate the amount of habitat fragmentation. Individual Forests would have discretion in evaluating human disturbance, given local conditions. Example data sets could include miles of roads, transmission lines, trails, or other linear developments, developed recreation facilities, or other types of infrastructure. • Degree of patchiness—SWReGAP or other regional or Forest-specific vegetation community database. Analyze the mean size of suitable habitat patches or specific vegetation community polygons. • Disturbance history—Individual Forests would provide datasets to measure departure from historical disturbance regimes other than fire that are important for habitat variation or quality. Such disturbance regimes could include flooding, wind events, or another Forest-specific regime; data are likely provided in Forest-specific GIS.	infestations, and is considered high quality by state wildlife agencies for managed game species. The segment may or may not be mapped as critical or suitable habitat for rare wildlife species, though this element may carry more weight in determining the presence of the ORV.

Table 2-5
Components of Wildlife ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Wildlife diversity and abundance	Consider the number of types of key river-dependent wildlife species and the population sizes of the species.	• Diversity of wildlife species—Occupied habitat for federally listed, state-listed, or candidate threatened or endangered wildlife species. Spatial data may be available from USFWS state offices and state fish and game agencies. • Diversity of wildlife species—Other species lists maintained by specific Forests, USFWS state offices, and state fish and game agencies, as applicable. • Diversity of nesting raptor species—Raptor nest locations, generally available from state fish and wildlife agencies or the USFWS state offices, could be limited to those species that forage in or otherwise have direct ties to rivers, such as osprey or bald eagle. • Diversity of wildlife species—Other data sets from USFWS state offices, specific Forests, and state wildlife agencies that indicate the presence of wildlife species, such as designated recovery areas. • Abundance of wildlife species—Generally, USFWS state office, Forest, or state fish and game	Rivers with the greatest diversity of key river-dependent wildlife species are of higher value. Forests will decide to evaluate this component, based on either the total count of species per river or the percentage in the region of comparison for each river. Rivers with the greatest populations of key river-dependent wildlife species are of higher value. Forests will decide how to best use available data when evaluating this component, for example, data on species diversity or abundance may need to be averaged by river mile to account for segment-specific conditions along a river. An example of a segment where the component might be said to have outstandingly remarkable value is a segment that contains an exceptional diversity of key river-dependent wildlife species, or one that supports the highest population numbers of these species in the region of comparison.

Table 2-5
Components of Wildlife ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
		agencies may have wildlife data sets available. Population estimates would be particularly useful to evaluate this component and may be available from state fish and game agencies. If such data are not available for a specific Forest, the abundance aspect of the component would not be evaluated.	
Cultural/historic importance	Consider Native American cultural uses of key river-dependent species and wildlife habitat in the river corridor.	• Significance to Native Americans—Receive description of Native American cultural uses of key river-dependent species and wildlife habitat through records of tribal consultations conducted for the specific Forest.	Rivers with Native American cultural uses of key river-dependent species and wildlife habitat are of higher value. An example of a segment where the component might be said to have outstandingly remarkable value is one that contains high numbers of key river-dependent wildlife species that are culturally important to Native Americans in the river corridor.

2.6 HISTORIC AND CULTURAL VALUES

Forest Service Handbook Criteria

The river, or area in the river corridor, contains important evidence of historic or pre-historic occupation or use by humans. Sites may have national or regional importance for interpreting history or prehistory.

History. Sites or features are associated with a significant event, an important person, or a cultural activity of the past that is now rare or unique in the region. A historic site or feature, in most cases, is 50 years old or older.

Prehistory. Sites of prehistoric human use or occupation may have unique or rare characteristics or exemplary anthropological value, such as evidence of prehistoric human practices and modes of living. Areas in the river corridor may have been used for rare sacred purposes or may represent the origin or conflict of cultures.

In addition to the FSH criteria described above, cultural and historic values may also relate to sacred sites or areas and natural features that are significant to communities or peoples. These areas of tribal concern may not be readily identifiable as historic or prehistoric resources, as described above; however, they may have significance and protection under the American Indian Religious Freedom Act and the National Historic Preservation Act and may contribute to the cultural values of a given WSR.

The American Indian Religious Freedom Act preserves many cultural and religious rights of contemporary Native Americans; the National Historic Preservation Act also includes protection for traditional cultural properties and areas of significance to Native Americans. Under this act, cultural resources meeting the seven aspects of integrity are classified as historic properties. These are defined specifically as sites, buildings, structures, objects, and districts that are listed on, or eligible for listing on, the National Register of Historic Places (NRHP).

Region of Comparison

The region of comparison for historic and cultural values would vary, based on the nature and age of the resources: specifically, the older the resource, the broader the region of comparison. For example, archaeological sites related to the Early Archaic period—roughly 8,000 years ago—would require a broader region of comparison to best measure the sites' significance to a given watershed. This is because so little is known about the various cultures that constituted this period. Conversely, the relationship between a historic homestead and a river corridor may be best understood by focusing on more local settlement patterns. This is because there are many details related to western expansion and homesteading, including first-hand accounts and General Land Office (GLO) records. Individual Forests, based on their understanding of the resources, would make the final region of comparison determinations.

Table 2-6
Components of Historic and Cultural ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Significance	Consider the broad range of prehistoric and historic resources that have significant human interest value, or that are rare or represent an area where a culture was first identified or a historic group first settled. Rare, unique, or unusual sites or features, along with those of scientific or indigenous significance, in the region are of higher value. In addition, consider contemporary Native American sites identified as traditional cultural properties, sacred areas, or locations of tribal concern.	• State agency maintained data sets (https://gis.utah.gov/data/history/) • State-specific State Historic Preservation Officer (SHPO) data, including GIS shapefiles and site forms • Agency-specific GIS data and forms • Data from the National Park Service • Data from the GLO • Data from local historical societies • Data gained through tribal consultation	Of higher value are rivers with rare, unique, or unusual sites or features, or resources of scientific or indigenous significance that are directly river-related or owe their existence to the river. The greater the concentration per river mile, relative to other resources in the area, the higher the value; however, this would be determined at the Forest level. An example of significant river-related cultural resources is a grouping of Native American fish camps that were key to the development and survival of tribal peoples for thousands of years.
Site integrity	Consider the presence of exceptional prehistoric and historic archaeological sites, architecture, structures, objects, and other cultural resources from significant periods of the past; sites that are unmodified and retain their original character; sites that retain significant scientific or historic data potential; and resources that are exceptional examples in the region. River corridors that contain exceptional cultural resources in exceptional condition are of higher value.	• State agency maintained data sets (https://gis.utah.gov/data/history/) • State-specific SHPO data, including GIS data and site forms • Agency-specific GIS data and forms • Data gained through tribal consultation	Of higher value are rivers with prehistoric archaeological sites or historic features that contain high levels of preservation, that have not been modified, and that convey the seven aspects of integrity that are described in the National Historic Preservation Act. However, these resources must be directly river related or must owe their existence to the river. Further, the greater the concentration per river mile, relative to other resources in the area, the higher the value; this

Table 2-6
Components of Historic and Cultural ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
			would be determined at the Forest level. An example of site integrity is a historic nineteenth-century mill with all river-related features intact and with original architectural fabric, no modern modifications, and a setting and feeling that evokes the related historic period and the significance of the river to early settlers.
Education/interpretation	Consider resources or areas that have regional or national importance for interpreting significant prehistoric or historic events, sites, or people. Also, consider areas with interpretive and educational opportunities; resources that clearly and graphically reveal an interesting or unique picture of the region during prehistory or history; and cultural resources that have the ability to attract visitors from outside the region. Of higher value are river corridors that represent textbook examples of a prehistoric or historic event or that provide the best example of an event or educational opportunity in the region.	• State agency maintained data sets (https://gis.utah.gov/data/history/) • State-specific SHPO data, including GIS shapefiles and site forms • Agency-specific GIS data and forms • Data from the National Park Service • Data from the GLO • Data from local historical societies • Data gained through tribal consultation	Of higher value are rivers with resources or areas that have regional or national importance for interpreting significant prehistoric or historic events, sites, or people and those that are directly river related or owe their existence to the river. The greater the concentration per river mile, relative to other resources in the area, the higher the value; however, this would be determined at the Forest level. An example is a series of historic camps with wagon ruts and other physical remains—along with documented first-hand accounts—near a key river crossing along the Santa Fe Trail.

Table 2-6
Components of Historic and Cultural ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Listing/eligibility	Consider areas with concentrated prehistoric or historic sites, architecture, objects, districts, and traditional cultural properties that are currently listed on, or are eligible for listing on, the NRHP. Also consider areas that have been designated as National Historic Landmarks (NHLs). Of higher value are rivers with such concentrations of NRHP-eligible or -listed historic properties and NHLs.	• State agency-maintained data sets (https://gis.utah.gov/data/history/) • State-specific SHPO data, including GIS shapefiles and site forms • Agency-specific GIS data and forms • NRHP and NHL data from the National Park Service • Data gained through tribal consultation	Of higher value are rivers with concentrated archaeological sites, architecture, NHLs, or other cultural resources that are currently listed on, or are eligible for listing on, the NRHP and are directly river-related or owe their existence to the river. Further, the greater the concentration of NRHP-eligible sites per river mile, relative to other resources in the area, the higher the value; this would be determined at the Forest level. Examples are exceptionally well-preserved and intensively used ancestral Puebloan (Anasazi) habitation sites near a river where the people collected water, fish, and game and practiced agriculture for hundreds of years. This grouping of sites would be listed on the NRHP individually and potentially as an archaeological district or NHL or both.

2.7 ECOLOGICAL

Forest Service Handbook Criteria

The criteria for this ORV are not provided in FSH 1909.12, Chapter 80. This is an optional ORV that will be considered if the river corridor constitutes an important element of a regional plan to conserve biological diversity or other specific ecological resources. Examples of important elements are rare communities or ecosystems, watersheds with special ecological values, or those that are the focus of special ecological management. Such resources are distinct from those evaluated under the fish, wildlife, and/or botanical ORVs because they cannot be expressed as a sole function of one of these values on their own.

Region of Comparison

EPA ecoregions are areas where ecosystems are similar, including the type, quality, and quantity of environmental resource. They contain similarities in geology, physiography, vegetation, climate, soils, and hydrology. EPA Level III ecoregions are smaller divisions that enhance opportunities for regional environmental monitoring, assessment, reporting, and decision-making. The smaller size compared to other levels allows locally defining characteristics to be identified and more specifically oriented management strategies to be formulated (Commission for Environmental Cooperation 1997).[5] Thus, the EPA Level III ecoregions would provide a suitable region of comparison for most components of the ecological ORV.[6]

[5]Commission for Environmental Cooperation. 1997. Ecological regions of North America: Toward a common perspective. Commission for Environmental Cooperation, Montreal, Quebec, Canada. Map scale: 1:12,500,000. Revised 2006.

[6]EPA Level III ecoregions available online: https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states.

Table 2-7
Components of Ecological ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Ecological function	Consider the presence of unique habitats, vegetation, or other elements that provide important ecological services and functions that are limited in the region of comparison. Elements do not have to necessarily be considered rare to provide unique ecological services and functions.	Ecological function—Forest-wide or other regional vegetation community databases or other applicable data set.	River corridors containing unique habitats, vegetation, or other elements that provide important ecological services and functions are of higher value. An example of a segment where the component might be said to have outstandingly remarkable value is a segment that contains a unique wetland complex, in fully functioning condition, and that provides ecological functions by improving water quality or providing habitat for aquatic wildlife species.
Rare communities	Consider the presence of rare or sensitive vegetation communities identified by federal or state agency management plans.	Presence of rare communities—Spatial data for rare or sensitive vegetation communities from Forest-specific data, USFWS state offices, and state agencies. State natural heritage programs, such as the Utah Natural Heritage Program, often catalog and track rare or sensitive communities.	River corridors supporting vegetation communities that are rare in the region of comparison are of higher value. An example of a segment where the component might be said to have outstandingly remarkable value is a segment that contains the largest intact example of a certain rare vegetation community in the region of comparison.

Table 2-7
Components of Ecological ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Ecological special areas	Consider the presence of officially or administratively designated special areas established for preserving, studying, enhancing, or otherwise advancing ecological values.	Presence of special areas—Forest-specific lists of officially or administratively designated special areas, such as botanical areas, research natural areas, significant caves, or other areas with inherent ecological value.	River corridors containing special Areas are of higher value. An example of a segment where the component might be said to have outstandingly remarkable value is one that contains a research natural area that provides ecological research opportunities.

2.8 BOTANICAL

Forest Service Handbook Criteria

Criteria for this ORV are not provided in FSH 1909.12, Chapter 80. This is an optional ORV that would be considered if the river corridor were to constitute an important element of a regional plan or other specific resource. Examples of important elements are rare plant species (federally listed, candidate threatened or endangered species, state-listed species, Forest Service-tracked species, species of conservation concern, or those that are considered at risk or are tracked by a state natural heritage organization).

Region of Comparison

EPA ecoregions are areas where ecosystems are similar, including the type, quality, and quantity of environmental resource. They contain similarities in geology, physiography, vegetation, climate, soils, and hydrology. EPA Level III ecoregions are smaller divisions that enhance opportunities for regional environmental monitoring, assessment and reporting, and decision-making. The smaller size compared to other levels allows locally defining characteristics to be identified and more specifically oriented management strategies to be formulated (Commission for Environmental Cooperation 1997).[7] Thus, EPA Level III ecoregions would provide a suitable region of comparison for most components of the botanical ORV.[8]

[7]Commission for Environmental Cooperation. 1997. Ecological regions of North America: Toward a common perspective. Commission for Environmental Cooperation, Montreal, Quebec, Canada. Map scale: 1:12,500,000. Revised 2006.

[8]EPA Level III ecoregions available online: https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states.

Table 2-8
Components of Botanical ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
Rare plant populations	Consider the presence of rare plant species (federally listed, candidate threatened or endangered species, state-listed species, Forest Service-tracked species, species of conservation concern, or those that are considered at-risk or are tracked by a state natural heritage organization). Consider the presence of proposed or designated critical habitat for federally listed plant species.	• Presence of rare plant species—Spatial data for rare plant species maintained in Forest-specific databases, by USFWS state offices and by state agencies, such as the Utah Natural Heritage Program. • Presence of critical habitat—USFWS-designated or -proposed critical habitat is mapped in the river corridor. This data set is available from the USFWS, at https://ecos.fws.gov/ecp/report/table/critical-habitat.html.	River segments containing rare plant populations or USFWS-designated or -proposed critical habitat are of higher value. An example of a segment where the component might be said to have outstandingly remarkable value is one that contains documented populations of a rare plant species or that contains USFWS-designated or -proposed critical habitat for a federally listed rare plant species.
Botanical diversity and abundance	Consider the number of types of rare plant species and the population sizes.	• Diversity of rare plant species—Occupied habitat for federally listed, state-listed, or candidate threatened or endangered plant species, Forest Service-tracked species; or those tracked by a state natural heritage organization. Spatial data may be available from USFWS state offices, Forest-specific GIS, state fish and game agencies, or natural heritage organizations. • Abundance of rare plant species—Size of rare plant populations. Generally, USFWS state office, Forest, state fish	Rivers with the greatest diversity and abundance of rare plant species are of higher value. Forests will decide to evaluate this component, based on either the total count of species per river or the percentage in the region of comparison for each river. Rivers with the greatest populations of rare plant species are of higher value. Forests will decide how to best use available data when evaluating this component, for example, data on species diversity or abundance may need to be averaged by river mile to account for segment-

Table 2-8
Components of Botanical ORV

Component	Component Definition	Data Sets to be Evaluated	Assumptions and Application
		and game agencies, or natural heritage organizations may have population data sets available.	specific conditions along a river. An example of a segment where the component might be said to have outstandingly remarkable value is a segment that contains an exceptional diversity of rare plant species, or one that supports the highest population numbers of these species in the region of comparison.
Cultural Importance	Consider Native American cultural uses of important plant species in the river corridor.	• Significance to Native Americans—Receive description of important plant species and uses through records of existing tribal consultation conducted in the Forest.	River segments containing important plant species to Native American cultural or traditional use are of higher value. The specific Forest would define what constitutes historical, in terms of evaluating this component. An example of a segment where the component might be said to have outstandingly remarkable value is one that contains Native American culturally or traditionally important plant species.

2.9 OTHER SIMILAR RIVER-RELATED VALUES

Forest Service Handbook Criteria

While no specific national evaluation guidelines have been developed for this category, determinations consistent with the preceding guidance and Section 82.73 of FSH 1909.12, Chapter 80, may be developed for other values that may be outstandingly remarkable. This includes hydrologic, paleontological, scientific, and heritage values. If other similar values are identified, the evaluation criteria, including components and data sets, will be determined by the Forest in advance of conducting the eligibility analysis to encourage unbiased assessment.

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SECTION 3
METHODS FOR ASSIGNING PRELIMINARY CLASSIFICATION

In accordance with FSH 1909.12, Chapter 80, Section 82.8, each river found to be eligible must be assigned a preliminary classification. This is based on the condition of the river and the development level of adjacent lands as they exist at the time of the study. Section 2(b) of the WSR Act specifies and defines three classification categories for eligible rivers: wild, scenic, and recreational.

Eligible rivers may be divided into segments having differing classifications when the levels of human use and activity create different degrees of development win the study area. In cases where a river has one or more classification, each river segment identified should be of sufficient length to warrant its own unique management.

Table 3-1, Classification Criteria for Wild, Scenic, and Recreational River Areas, provides the guidelines for assigning classification. A final classification will be assigned during the comprehensive river management planning process required by the WSR Act, if the river is designated by Congress.

Table 3-1
Classification Criteria for Wild, Scenic, and Recreational River Areas

Attribute	Wild	Scenic	Recreational
Water resource development Sources: • Aerial imagery, NHD, state data • Utah Automated Geographic Reference Center (dams, diversion points): https://gis.utah.gov/#data	Free of impoundment	Free of impoundment	Some impoundment or diversion. Low dams, diversions, or other modifications of the waterway are acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline development Sources: • Aerial imagery • Livestock grazing allotment data • Developed recreation site data • Timber harvest data • Rights-of-way data	Essentially primitive; little or no evidence of human activity. The presence of a few inconspicuous structures, particularly those of historic or cultural value, is acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production, or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Accessibility Sources: • Roads and trails data • Rights-of-way data • Boat ramp data	Generally inaccessible except by trail. No roads, railroads, or other provisions for vehicular travel in the river area. a few roads leading to the boundary of the area are acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks; bridge crossings; and other river access points is acceptable.

Table 3-1
Classification Criteria for Wild, Scenic, and Recreational River Areas

Attribute	Wild	Scenic	Recreational
Water quality Source: • State 303(d) list	Meets or exceeds criteria or federally approved state standards for aesthetics, for propagation of fish, and for wildlife normally adapted to the habitat of the river and for primary contact recreation (swimming), except where exceeded by natural conditions.	No criteria are prescribed by the WSR Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all Waters of the United States be made fishable and swimmable; therefore, rivers will not be precluded from scenic or recreation classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed, in compliance with applicable federal and state laws.	

Source: Modified from FSH 1909.12 – Land Management Planning Handbook, Chapter 80 – Wild and Scenic Rivers, 82.8 – Exhibit 01.

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