

# Wild and Scenic Rivers Review Eligibility Determination

United States Department of the Interior

Bureau of Land Management

Southern Nevada District

Las Vegas and Pahrump Field Offices

October, 2010



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**Las Vegas and Pahrump Field Offices**

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**WILD AND SCENIC RIVERS REVIEW  
 ELIGIBILITY DETERMINATION  
 SOUTHERN NEVADA DISTRICT OFFICE (SNDO)  
 LAS VEGAS FIELD OFFICE AND PAHRUMP FIELD OFFICES  
 BUREAU OF LAND MANAGEMENT**

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**Wild and Scenic Rivers Review  
Eligibility Determination  
Southern Nevada District Office,  
Las Vegas Field Office (LVFO) and Pahrump Field Office (PFO)  
Bureau of Land Management**

**I. Introduction –Wild and Scenic Rivers Act (WSRA)**

The Wild and Scenic Rivers Act, P.L. 90-542, became law on October 2, 1968. It preserves “certain selected rivers” that “possess outstandingly remarkable scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values... in their free-flowing condition... for the benefit and enjoyment of present and future generations.” Eight rivers or river segments were included as initial components in the National Wild and Scenic Rivers System (National System). Congress and /or the Secretary of the Interior have added 195 rivers or river segments to the National System since then.

Section 5(d)(1) of the Wild and Scenic Rivers Act directs federal agencies to consider the potential for national wild, scenic, and recreational river areas in all planning for the use and development of water and related resources. This eligibility review is being conducted for the Southern Nevada District Office, Las Vegas Field Office (LVFO) and Pahrump Field Office (PFO) as part of the Resource Management Plan Revision (RMP revision).

**II. Authorities and Guidelines**

The following documents were utilized in guiding the WSR planning process through the Eligibility/Tentative Classification phase:

- Interagency Wild and Scenic Rivers Coordination Council, 1982. Contains various technical papers relating to evaluation of Wild and Scenic Rivers. (See website at: <http://www.rivers.gov/publications.html>)
- *Wild and Scenic Rivers Act*, P.L. 90-542, as amended. Congressional legislative direction for Wild and Scenic River planning.
- *Wild and Scenic Rivers – Policy and Program Direction for Identification, Evaluation, and Management, Bureau of Land Management Manual – 8351*, 1992 and changes as of 1993. Establishes BLM policy, program direction, and procedural standards for fulfilling requirements of the Wild and Scenic Rivers Act.

**III. History of Wild and Scenic River Process – Southern Nevada District Office, Las Vegas and Pahrump Field Offices**

The Arizona Statewide Wild & Scenic Rivers Final Legislative Environmental Impact Statement (USDI BLM 1994), the Arizona Strip District Resource Management Plan/Environmental Impact Statement (USDI BLM 1990), and the Virgin River Habitat Management Plan (USDI BLM 1984) identified the Virgin River in Arizona as eligible and suitable for designation in the National Wild and Scenic System for possessing remarkable scenic, geologic, fisheries, and wildlife values. The Las Vegas Resource Management Plan and Final Environmental Impact Statement (October 1998), provided interim management protection for the Virgin River in Nevada, as an eligible river with a tentative classification of recreational. No further study has been completed to date in Nevada.

## IV. Eligibility Review by Interdisciplinary Team

### Summary of the Review Process

A team of specialists from the Southern Nevada District Office began the Wild and Scenic review process in April of 2010. Team members agreed to use the *Ecological Subregions* (USFS ECOMAP, 1993; as adapted from *Ecoregions of the United States*, R.G. Bailey, 1994). The data was organized according to 4<sup>th</sup> level of Hydrologic Unit Codes (HUC). The review was restricted to streams adjacent to BLM managed lands found on 1:100,000 scale maps with at least one mile of surface flows. (See Attachment A, Streams Having Less Than One Mile of Surface Flows)

Team members used the *Wild and Scenic Rivers – Policy and Program Direction for Identification, Evaluation, and Management, Bureau of Land Management Manual – 8351*, 1992 and changes as of 1993, to guide them through the eligibility process.

Streams were grouped by drainage within each HUC, and evaluated to see if they were free-flowing, or not. The next step was to analyze free-flowing drainages for significant river-related resource values or features. These values were compared with values present in similar streams within the Ecological Subregion/sections. Streams or portions of streams with the most significant values, and those with multiple significant values rated the highest for “outstandingly remarkable values” (ORVs). Free-flowing streams with ORVs were given a tentative classification based on the criteria listed on the Classification Table in Attachment B.

### Steps in the Eligibility Review Process:

#### **A. Identification of Potentially Eligible Rivers**

Rivers to consider were identified from the following sources:

- a. Nationwide Rivers Inventory (NRI) list, NPS 1995, (Utah modified Oct. 5, 2001) (listed the Virgin River, see Attachment C)
- b. No rivers were identified in public scoping during RMP process (February 2-28, 2010)
- c. Identified by Federal Agencies, State of Nevada, Indian Tribes, local governments, and professional specialists within the BLM Southern Nevada District Office (SNDO). The SNDO ID Team reviewed all streams with at least one mile of above ground flows found on 1:100,000 maps. A list of the streams reviewed is shown in Attachment D.

#### **B. Consideration of Free-flowing**

Five rivers in the Las Vegas and Pahrump Field Offices have been determined to be free-flowing. The five rivers are the Virgin River, the Muddy River, Meadow Valley Wash, Hiko Spring, and Carson Slough. Free-flowing is defined [in the Wild and Scenic Rivers Act Section 16(b)] “as applied to any river or section of a river, means 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 system shall not automatically bar its consideration for such inclusion: *Provided*, That this shall not be construed to authorize, intend, or encourage future construction of such structures within the components of the national wild and scenic rivers system.”

### C. Identification of Outstandingly Remarkable Values (ORVs)

For a river to be eligible for inclusion in the National System it must possess one or more Outstandingly Remarkable Values (ORVs). To be determined outstandingly remarkable, resources should be river-related and at least regional in significance. Rare, unique, or exemplary river-related resources are considered. Criteria to use are discussed in BLM Manual 8351 section .3, and can be summarized as follows:

**Scenery** – Diversity of view, Special Features, Seasonal Variations, Cultural Modifications

**Fish** – Habitat Quality, Diversity of Species, Value of Species, Abundance of fish, Natural Reproduction, Size and Vigor of Fish, Cultural/Historic Importance, Recreational Importance, Access

**Recreation – Water Oriented** – Length of Season, Diversity of Use, Flow, Character of Run, Scenery/Naturalness, Access, Level of Use, Associated Opportunities, and Attraction.

**Recreation – General** – Length of Season, Diversity of Use, Experience Quality, Scenery/Naturalness, Access, Level of Use, Associated Opportunities, Attraction, Sites and Facilities

**Wildlife** – Habitat Quality, Diversity of Species, Abundance of Species, Natural Reproduction, Size and Vigor of Species, Cultural/Historic Importance, Recreational Importance, Access

**Geologic** – Feature Abundance, Diversity of Features, Educational/Scientific

**Historic** – Significance, Site Integrity, Educational/Interpretation, Listing/Eligibility

**Cultural** – Significance, Current Uses, Number of Cultures, Site Integrity, Education/Interpretation, Listing/Eligibility

**Ecological** – Species Diversity, Ecological Function, Rare Communities, Education/Scientific

The Interdisciplinary (ID) Team subject matter specialists evaluated and found ORVs for all five free-flowing rivers. The portion of the Virgin River in Nevada with adjacent BLM lands was split into two segments making a total five rivers with six river segments having ORVs. Attachment E provides the specific ORV descriptions prepared by the ID team specialists for the seven eligible segments.

### D. Region of Comparison

To be determined outstandingly remarkable, resources should be at least regionally significant. The Basin and Range, and the Mojave Desert Regions were used as the regions of comparison for Southern Nevada. Each resource was compared by the interdisciplinary team to other such resources within the region of comparison, and considering the exemplary, rare or unique qualities of each resource, in order to determine regional (or national) significance. Those river segments deemed to have insufficient value were dropped from further consideration.

### E. Tentative Classification

A “Tentative Classification” of Wild, Scenic, or Recreational is determined for all eligible rivers/segments. Tentative classifications are based on the type and degree of human development associated with the river and adjacent land, as they exist at the time of the evaluation. The four key elements are:

1. Water Resources Development
2. Shoreline Development
3. Accessibility
4. Water Quality

Eligible rivers are classified Wild, Scenic, or Recreational based on man’s activities. A Wild river is free of impoundments, with shorelines or watersheds essentially primitive, and having unpolluted waters. A Scenic river may have some

development, and may be accessible in places by roads. A Recreational river is a river or segment of river accessible by road or railroad; it may have more extensive development along its shoreline, and may have undergone some impoundment or diversion in the past. (See Attachment B, *Classification Criteria for Wild, Scenic, and Recreational River Areas*)

**F. Eligibility of River(s)/Segments Evaluated**

The BLM Las Vegas and Pahrump Field Offices ID team found the Virgin River, the Muddy River, Meadow Valley Wash, Hiko Spring, and Carson Slough to be eligible for inclusion in the National System. The preliminary boundaries include ¼ mile from the ordinary high water mark on both sides of the rivers. The table below provides summary information about the river(s)/segments found to be eligible. They are illustrated on Map 1. Details of the Outstandingly Remarkable Values for these segments are in Attachment E, *Outstandingly Remarkable Values of Eligible Rivers*.

<b>BLM Las Vegas and Pahrump Field Offices – Wild and Scenic Rivers Eligibility Determination (This study was restricted to BLM administered lands and related waters.)</b>		
<b>Watercourse, Segment Description and Approximate Length in Free-Flowing BLM River Miles (BLMRM), Total River Miles (TRM)*</b>	<b>Outstandingly Remarkable Values</b>	<b>Tentative Classification</b>
<p><b><u>Virgin River:</u></b> Segment 1 Arizona/Nevada Stateline (Mile 0) to the bridge at Riverside (Mile 14) <b>(BLMRM 10)(TRM 14)</b></p> <p>Segment 2 Riverside Bridge(Mile 14) to the Overton State Wildlife Management Area (Mile 24) <b>(BLMRM 5)(TRM 10)</b></p>	<p>Scenery, cultural, fish, wildlife</p> <p>Scenery, cultural, fish, wildlife</p>	<p>Recreational</p> <p>Recreational</p>
<p><b><u>Muddy River:</u></b> All portions of the Muddy River that are adjacent to BLM administered lands from Reed-Gardner power plant to private land just north of Logandale <b>(BLMRM 1.5 )(TRM 11 )</b></p>	<p>Wildlife, cultural, fish</p>	<p>Recreational</p>
<p><b><u>Meadow Valley Wash:</u></b> Stuart Ranch to Glendale <b>(BLMRM 6)(TRM 11)</b></p>	<p>Wildlife, cultural, fish</p>	<p>Scenic</p>
<p><b><u>Hiko Spring:</u></b> Segment begins where Highway 163 curves north in Section 12, to ¼ mile downstream from lower waterfall <b>(BLMRM 2) (TRM 2)</b></p>	<p>Wildlife, geology, cultural, scenery, recreation</p>	<p>Wild</p>

<b>Carson Slough:</b> Ash Meadows boundary to approximately 1 mile downstream <b>(BLMRM 1) (TRM 1)</b>	Wildlife, cultural	Wild
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**V. Input from Local Governments, Agencies, Tribes, Organizations, and the Public**

Preliminary eligibility findings for the Las Vegas and Pahrump Field Offices were made available for public review and comment in August and September, 2010. State and local governments, Native American Tribes, organizations, cooperating federal agencies, and members of the public were asked to review the preliminary findings, provide comments related to the findings, and to identify any potentially eligible rivers or information that had been overlooked.

All comments received were carefully reviewed. Documentation of the BLM response to comments is on file at the Southern Nevada District Office.

**VI. Suitability Study**

The six eligible segments will be further reviewed as to their suitability for congressional designation into the National System. This will be done within the framework of the ongoing planning process for the Las Vegas and Pahrump Field Office Resource Management Plan (RMP) revision, including the development of an Environmental Impact Statement.

**VII. Interface with Agencies with Contiguous Boundaries**

**A. Spring Mountains National Recreation Area, Humboldt-Toiyabe National Forest**

The Humboldt-Toiyabe National Forest did not find any eligible or suitable rivers or streams contiguous to the planning area. A copy of the Las Vegas and Pahrump Field Office’s eligibility findings has been provided to the Humboldt-Toiyabe National Forest.

**B. Red Rock Canyon and Sloan Canyon National Conservation Areas (NCA) – BLM**

Red Rock Canyon and Sloan Canyon NCAs have not completed eligibility or suitability studies at this time. A copy of the Las Vegas and Pahrump Field Office’s eligibility findings has been provided to Red Rock and Sloan NCAs.

**C. Arizona Strip Field Office – BLM**

The Arizona Statewide Wild & Scenic Rivers Final Legislative Environmental Impact Statement (USDI BLM 1994), the Arizona Strip District Resource Management Plan/Environmental Impact Statement (USDI BLM 1990), and the Virgin River Habitat Management Plan (USDI BLM 1984) identified the Virgin River in Arizona as eligible and suitable for designation in the National Wild and Scenic Rivers System for possessing remarkable scenic, geologic, fisheries, and wildlife values. Segments and classifications in Arizona are shown in the table below.

<b>Watercourse &amp; Segments Arizona Strip</b>	<b>Outstandingly Remarkable Values</b>	<b>Tentative Classification</b>
Virgin River: Segment 1 Utah state line to I-15	Scenery, Recreational, Wildlife, Fish, Geologic, Aquatic	Wild
Segment 2 I-15 to Virgin River Campground	Same as above	Scenic
Segment 3 Virgin River Campground to the mouth of the Virgin River Gorge	Same as above	Recreational
Segment 4 Mouth of the Virgin River Gorge to the Nevada Stateline	Same as above	Recreational

**D. Barstow Field Office – BLM**

In March of 2009, several segments of the Amargosa River in California were added to the National Wild and Scenic Rivers System. The designated segments of the Amargosa River in California are not contiguous with the Amargosa River in Nevada.

**E. Needles Field Office – BLM**

There have been no eligibility or suitability studies completed in the Needles Field Office. A copy of the Las Vegas and Pahrump Field Office's eligibility findings has been provided to Needles Field Office.

**F. Caliente Field Office - BLM**

There are no eligible rivers/segments between the Las Vegas and Caliente Field Offices. Meadow Valley Wash was found to be eligible during Caliente RMP 2008, but none of the eligible segments are contiguous with Las Vegas Field Office. A copy of the Las Vegas and Pahrump Field Office's eligibility findings has been provided to Caliente BLM.

**G. Tonapah Field Office – BLM**

There have been no eligibility or suitability studies completed in the Tonapah Field Office. A copy of the Las Vegas and Pahrump Field Office's eligibility findings has been provided to Tonapah Field Office.

**H. US Fish and Wildlife Service**

Desert National Wildlife Refuge and Ash Meadows have not completed eligibility or suitability studies. A copy of the Las Vegas and Pahrump Field Office's eligibility findings has been provided to the US Fish and Wildlife Service.

**I. National Park Service**

Wild and Scenic River studies have not been completed for Lake Mead National Recreation Area. Death Valley National Park did not identify any eligible or suitable rivers or streams adjacent to the planning area. A copy of the Las Vegas and

Pahrump Field Office's eligibility findings has been provided to Lake Mead National Recreation Area and Death Valley National Park.

**J. Valley of Fire State Park**

There have been no Wild and Scenic Rivers eligibility or suitability studies completed in the Valley of Fire State Park. A copy of the Las Vegas and Pahrump Field Office's eligibility findings has been provided to Valley of Fire State Park.

**K. State of Nevada Department of Wildlife**

Three miles of segment three (between river miles 24 and 30) of the Virgin River in Nevada is managed by Nevada Department of Wildlife (NDOW) as part of the Overton State Wildlife Management Area (WMA). Previous studies have found segment three to be eligible under the Wild and Scenic Rivers Act. NDOW has not done a study to date.

**VIII. ID Team**

<b>Southern Nevada District Office Interdisciplinary Team Members</b>		
<b>Name</b>	<b>Title</b>	<b>Team Responsibility</b>
Marilyn Peterson	Outdoor Recreation Planner	Team Coordinator
John Evans	Planning & Environmental Coordinator	Planning Coordinator
Susan Farkas	Planning & Environmental Coordinator	Planning Coordinator
Robert Dieli	Supervisory, Outdoor Recreation Planner	Scenery, Recreation
Chris Linehan	Outdoor Recreation Planner	Scenery, Recreation
Kathy August	Outdoor Recreation Planner	Scenery, Recreation
Lee Kirk	Outdoor Recreation Planner	Scenery, Recreation
Mark Sanchez	Outdoor Recreation Planner	Scenery, Recreation
Lauren Brown	Visual Resources Management	Scenery
George Varhalmi	Geologist	Geology
Evan Allen	Geologist	Geology
Fred Edwards	Botanist	Ecology, native plants, riparian
Sarah Peterson	Hydrologist	Hydrology, riparian
Meghan Magill	Hydrologist	Hydrology, riparian
Susanne Rowe	Archaeologist	Historic, Cultural
Nora Caplette	Invasives Specialist	Plants, Ecology
Jessie Stegmeier	Wildlife Biologist	Fish , Wildlife
Amelia Savage	Wildlife Biologist	Fish , Wildlife
Mark Slaughter	Wildlife Biologist	Fish , Wildlife
Carrie Ronning	MSHCP Coordinator	Endangered Species, ecology
Brenda Warner	Realty Specialist	Knowledge of Resource Area

## **IX. References**

BLM, State of Utah, *Wild and Scenic River Review in the State of Utah, Process and Criteria for Interagency Use*, July 1996

BLM. Wild and Scenic Rivers – *Policy and Program Direction for Identification, Evaluation, and Management* – 8351, updated Dec. 22 1993

Interagency Wild and Scenic Rivers Coordination Council, 1982 ([www.rivers.gov/publications.html](http://www.rivers.gov/publications.html))

*National Park Service*, National Rivers Inventory (NRI) List, 1995, (Utah list modified October 5, 2001)

# **ATTACHMENTS**

## **ATTACHMENT A: Streams Having Less Than One Mile of Surface Flows**

The study was restricted to streams with at least one mile of surface flows. The following list of streams was not included in the Wild and Scenic Eligibility Review. They are dry or have less than one contiguous mile of flow.

<b><u>Stream Name</u></b>	<b><u>HUC Number and Name</u></b>
Amargosa River Grapevine Springs	18090202 Amargosa River
Willow Creek Cold Creek	16060014 Cold Creek
Trout Canyon Lovell Wash Carpenter Canyon Wheeler Wash	16060015 Trout Canyon
Red Rock Spring (Mud Wash) Red Bluff Spring (Mud Wash) Nichol Creek Juanita spring Cabon Creek	15010005 Red Rock Spring

**ATTACHMENT B: Classification Criteria for Wild, Scenic, and Recreational River Areas**

<b>ATTRIBUTE</b>	<b>WILD</b>	<b>SCENIC</b>	<b>RECREATIONAL</b>
Water Resources Development	Free of impoundment.	Free of impoundment.	Some existing impoundment or diversion.  The existence of low dams, diversions, or other modifications of the waterway is acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline Development	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	Generally inaccessible except by trail.  No roads, railroads or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the river area is 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 as well as bridge crossings and other river access points is acceptable.
Water Quality	Meets or exceeds federal criteria for federally approved state standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming), except where exceeded by natural conditions.	No criteria prescribed by the 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 recreational 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.	

**Attachment C: River Lists Considered in Wild and Scenic Rivers**  
**Eligibility Review**

**Bureau of Land Management, Southern Nevada District Office**  
**Las Vegas Field Office and Pahrump Field Office**

Source	River	Segment Description	Total River Miles	Recommended Classification	Outstandingly Remarkable Values (ORVs)
<b>Nationwide Rivers Inventory List</b>	Virgin River	Arizona-Nevada State border to Lake Mead	30	Recreational	Scenery, Geology, Fish, Wildlife
<b>American Whitewater Affiliation Nationwide Whitewater Inventory</b>	None	None in Southern Nevada District	N/A	N/A	N/A

**ATTACHMENT D: Major Streams Reviewed, Las Vegas and Pahrump Field Offices**

<b><u>Stream Name</u></b>	<b><u>HUC Number and Name</u></b>
Carson Slough	18090202 Amargosa River
Hiko Springs	15030101 Hiko Springs
Meadow Valley Wash Muddy River	15010012 & 15010013 Meadow Valley Wash and Muddy River
Virgin River (segments 1-3 in Nevada) Mile 0-14 Mile 14-24 Mile 24-30 this segment dropped. It has no adjacent BLM lands.	15010016 Virgin River

**ATTACHMENT E: OUTSTANDINGLY REMARKABLE VALUES OF ELIGIBLE RIVERS**

River/Segment Name and Other Information	Description Of Values Present
<p><b>Virgin River:</b>  <u>Segment (1)</u> Arizona/Nevada Stateline (Mile 0) to the bridge at Riverside (Mile 14)</p> <p><u>Tentative Classification:</u>            Segment (1): Recreational</p> <p><u>Reason for Tentative Classification:</u>            Segment (1): Substantial evidence of human activity, houses, roads, farm and ranch development present.</p> <p><u>BLM Free-flowing River Miles:</u>            Segment (1): 10</p> <p><u>Reason for Free-flowing Determination:</u>            Segment (1): Natural Flow</p>	<p><b>Scenery</b>            The Virgin River provides stark visual contrast with the surrounding desert landscape. Since water is a scarce resource, this large flowing river provides unique scenic values. Lush riparian vegetation provides many shades of green which contrast with the browns, yellows, and grays of surrounding desert vegetation. Riparian plants also create a contrast in form and texture with the surrounding vegetation, providing vertical structure which differs from the low desert shrubs. The motion of flowing water is known to contribute to the visual complexity or a landscape. Highly complex landscapes are generally perceived as more visually appealing by humans. The meandering nature of sections of the river also creates interesting patterns that add complexity to the landscape.</p> <p><b>Wildlife</b>            The Virgin River provides a variety of habitat for many types of wildlife species, both avian and terrestrial. Large mammals, such as desert bighorn sheep, rely on the river for water during drought and winter months. The Virgin River is important habitat for Southwestern willow flycatcher, Yuma clapper rail and other BLM sensitive species. Critical habitat for Southwestern willow flycatcher is located along the Virgin River. Many raptors utilize this river and rocky outcrops associated with it, during winter and breeding seasons. Shorebirds and songbirds, such as the phainopepla also depend on the river for habitat and forage.</p> <p><b>Fish</b>            This segment of the river is also home to two federally listed fish species, Virgin River chub and woundfin. A BLM sensitive species, the Virgin River spinedace, also historically inhabited this segment. Within the Mojave Desert, river habitats are uncommon and extremely important to the ecosystem.</p> <p><b>Cultural</b>            The remains of numerous pithouses and pueblos are found on both sides of the Virgin River. The Basketmaker and Anasazi peoples lived on the river terraces and farmed the floodplain. No important studies have been conducted since the late 1980s.</p>
<p><b>Virgin River:</b>  <u>Segment (2)</u> Riverside Bridge(Mile 14) to the Overton State Wildlife Management Area (Mile 24)</p>	<p><b>Scenery</b>            The Virgin River provides stark visual contrast with the surrounding desert landscape. Since water is a scarce resource, this large flowing river provides unique scenic values. Lush riparian vegetation provides many shades of green which contrast with the browns, yellows, and grays of surrounding desert vegetation. Riparian plants also create a contrast in form and texture with the</p>

**ATTACHMENT E: OUTSTANDINGLY REMARKABLE VALUES OF ELIGIBLE RIVERS**

<b>River/Segment Name and Other Information</b>	<b>Description Of Values Present</b>
<p><u>Tentative Classification:</u> Segment (2): Recreational</p> <p><u>Reason for Tentative Classification:</u> Segment (2): Substantial evidence of human activity, houses, roads, farm and ranch development present.</p> <p><u>BLM Free-flowing River Miles:</u> Segment (2): 5</p> <p><u>Reason for Free-flowing Determination:</u> Segment (2): Natural Flow</p>	<p>surrounding vegetation, providing vertical structure which differs from the low desert shrubs. The motion of flowing water is known to contribute to the visual complexity or a landscape. Highly complex landscapes are generally perceived as more visually appealing by humans. The meandering nature of sections of the river also creates interesting patterns that add complexity to the landscape.</p> <p><b>Wildlife</b> The Virgin River provides a variety of habitat for many types of wildlife species, both avian and terrestrial. Large mammals, such as desert bighorn sheep, rely on the river for water during drought and winter months. The Virgin River is important habitat for Southwestern willow flycatcher, Yuma clapper rail and other BLM sensitive species. Critical habitat for Southwestern willow flycatcher is located along the Virgin River. Many raptors utilize this river and rocky outcrops associated with it, during winter and breeding seasons. Shorebirds and songbirds, such as the phainopepla also depend on the river for habitat and forage.</p> <p><b>Fish</b> This segment of the river is also home to two federally listed fish species, Virgin River chub and woundfin. A BLM sensitive species, the Virgin River spinedace, also historically inhabited this segment. Within the Mojave Desert, river habitats are uncommon and extremely important to the ecosystem.</p> <p><b>Cultural</b> The remains of numerous pithouses and pueblos are found on both sides of the Virgin River. The Basketmaker and Anasazi peoples lived on the river terraces and farmed the floodplain. No important studies have been conducted since the late 1980s.</p>
<p><b>Meadow Valley Wash:</b> <u>Segment (1)</u> Stuart Ranch to Glendale</p> <p><u>Tentative Classification:</u> Segment (1): Scenic</p> <p><u>Reason for Tentative Classification:</u> Segment (1): Road near portions of stream, and minor ranching development are present.</p>	<p><b>Wildlife</b> Meadow Valley wash is a richly riparian system that supports a network of beaver ponds, which create habitat for many other species of wildlife. Shorebirds and songbirds, such as the phainopepla, also depend on the wash for habitat and forage. Ducks and other waterbirds depend on high spring flows for stopping points during migration. Raptors utilize rocky outcrops associated with this wash, during winter and breeding seasons.</p> <p><b>Fish</b> Meadow Valley wash was historically habitat for BLM sensitive fish including Meadow Valley Wash desert sucker and Meadow Valley speckled dace.</p> <p><b>Cultural</b> Petroglyphs line both sides of the canyon near Stuart Ranch. Lithics and milling equipment are often found as well as enigmatic rock alignments. The Huntsman</p>

**ATTACHMENT E: OUTSTANDINGLY REMARKABLE VALUES OF ELIGIBLE RIVERS**

<b>River/Segment Name and Other Information</b>	<b>Description Of Values Present</b>
<p><u>BLM Free-flowing River Miles:</u> Segment (1): 6</p> <p><u>Reason for Free-flowing Determination:</u> Segment (1 ): Natural Flow</p>	<p>Cabin, which dates to the late 1800s, is located on the ranch. Located to the south midway between Stuart Ranch and Glendale is Stuart Rockshelter. Although the shelter is on private land it is an important cultural site in southern Nevada. The shelter was excavated in the 1960s and artifacts document prehistoric use and occupation from the Paleoindians to the Paiutes.</p>
<p><b>Muddy River:</b> <u>Segment (1)</u> All portions of the Muddy River in Nevada adjacent to BLM managed lands.</p> <p><u>Tentative Classification:</u> Segment (1): Recreational</p> <p><u>Reason for Tentative Classification:</u> Segment (1): Substantial evidence of human activity is present. This includes structures, roads, and fish barriers.</p> <p><u>BLM Free-flowing River Miles:</u> Segment (1): 1.5</p> <p><u>Reason for Free-flowing Determination:</u> Segment ( 1): Natural Flow</p>	<p><b>Wildlife</b> The Muddy River provides a variety of habitat for many types of wildlife species, both avian and terrestrial. Large mammals, such as desert bighorn sheep, rely on the river for water during drought and winter months. The Muddy River is important habitat for Southwestern willow flycatcher, Yuma clapper rail and other BLM sensitive species. Shorebirds and songbirds, such as the phainopepla, also depend on the river for habitat and forage.</p> <p><b>Fish</b> This segment of the river is also important habitat for federally listed Moapa dace and BLM sensitive Moapa speckled dace and the Muddy River population of the Virgin River chub. The Muddy River is habitat for rare invertebrate species. Within the Mojave Desert, river habitats are uncommon and extremely important to the ecosystem.</p> <p><b>Cultural</b> The remains of numerous prehistoric pithouses and pueblos are found on both sides of the Muddy River. The Basketmaker and Anasazi people lived on the river terraces and farmed the floodplain. Black Dog Mesa Archaeological Complex, which includes Black Dog Cave, is eligible for listing on the National Register of Historic Places. The mesa contains the remains of more than 20 pithouses—some have been excavated—and researchers have documented occupation as early as A.D. 90.</p>
<p><b>Hiko Spring:</b> <u>Segment (1)</u> Segment begins where Hwy 163 curves north in Section 12, to ¼ mile downstream from lower waterfall.</p>	<p><b>Wildlife</b> Hiko Spring provides a variety of habitat for many types of wildlife species, both avian and terrestrial. Hiko Spring has dense riparian vegetation at the headwaters. This is important habitat for many migratory bird species. Steep canyon walls may also be important habitat for breeding and wintering raptors. Rocky habitat surrounding Hiko Spring is also important habitat for large mammals, such as desert bighorn sheep. Amphibians also utilize portions of</p>

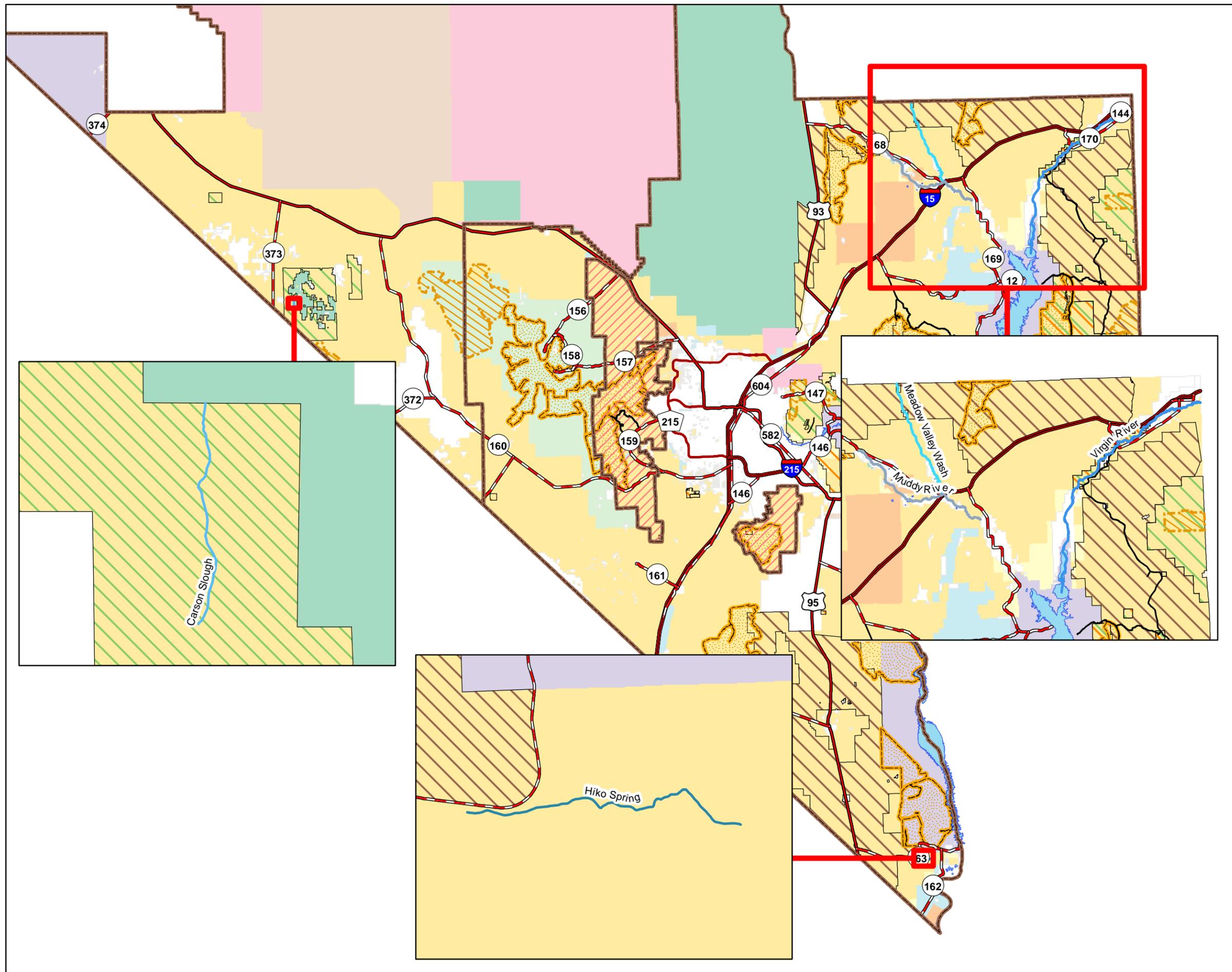
**ATTACHMENT E: OUTSTANDINGLY REMARKABLE VALUES OF ELIGIBLE RIVERS**

<b>River/Segment Name and Other Information</b>	<b>Description Of Values Present</b>
<p><u>Tentative Classification:</u> Segment (1): Wild</p> <p><u>Reason for Tentative Classification:</u> Segment (1): No evidence of human development present on this stretch.</p> <p><u>BLM Free-flowing River Miles:</u> Segment (1): 2</p> <p><u>Reason for Free-flowing Determination:</u> Segment (1): Natural Flow</p>	<p>the spring and associated flow.</p> <p><b>Geology</b> Hiko Spring has exceptional and unique outcroppings of geologic structures. On the eastern side of the canyon dikes ranging from 2 to 3 feet wide can be seen. These dikes are nearly vertical, have a sharp color contrast, can be seen on both sides of the canyon, and are an excellent example of this type of geologic structure. In the middle of the canyon, impressive, textbook examples of angular xenoliths (inclusions) can easily be found in the floor and walls of the canyon (see picture below). Through the length of the canyon, hydrologic conditions and differential erosion have carved several small waterfalls. The fine grained rock that makes up the bottom of the canyon has been polished smooth by the flowing water. This polished texture furthers the spectator's view of the geologic structures present in Hiko Canyon.</p>  <p><b>Cultural</b> Petroglyph panels occur adjacent to the springs and are also found on both sides of the canyon. In addition, the remnants of an historic settlement are located close to the upper (westernmost) spring.</p> <p><b>Scenery</b> The entire length of flow from Hiko Spring possesses outstanding scenic values. On the eastern end where the source spring is located, dense riparian vegetation including large Cottonwood trees, contribute greatly to the visual attributes of the area. Many shades of green provide stark visual contrast with</p>

**ATTACHMENT E: OUTSTANDINGLY REMARKABLE VALUES OF ELIGIBLE RIVERS**

<b>River/Segment Name and Other Information</b>	<b>Description Of Values Present</b>
	<p>the surrounding browns and beiges of the desert landscape. Rock outcroppings covered in petroglyphs provide unique and interesting shapes. The flow travels west through a visually unique rocky canyon. The canyon walls provide high relief and rich color combinations, especially when combined with the riparian ribbon in the canyon bottom. The area supports a diversity of vegetation types, resulting in interesting patterns, textures, color and contrast. The flow terminates in a small cascading waterfall down a steep outcrop of boulders. A small pool at the bottom creates an interesting contrast in color and texture when compared to the rugged and narrow canyon surrounding it.</p> <p><b>Recreation</b> Hiko canyon provides outstanding recreation opportunities including; hiking, sightseeing, and bird watching. The waterfall is a favorite destination for hikers. Some hikers choose to climb up the waterfall and continue exploring upstream. The geologic and scenic values listed above continue to the springs upstream. This canyon is as spectacular as the canyons in Red Rock Canyon NCA.</p>
<p><b>Carson Slough:</b> <u>Segment (1)</u> Ash Meadows boundary to approximately 1 mile downstream</p> <p><u>Tentative Classification:</u> Segment (1): Wild</p> <p><u>Reason for Tentative Classification:</u> Segment (1): No evidence of human development on this segment.</p> <p><u>BLM Free-flowing River Miles:</u> Segment : 1</p> <p><u>Reason for Free-flowing Determination:</u> Natural Flow</p>	<p><b>Wildlife</b> Carson Slough is a meadow system with a braided channel which is rare for the Mojave Desert. During wet years and spring months this wash is important habitat for migratory bird species. This marsh system is also important habitat for many amphibian species.</p> <p><b>Cultural</b> Although inventories have not been conducted adjacent to the slough, prehistoric sites have been documented on private lands along the northern half of the slough. It is anticipated that site density will be high; paleoenvironmental studies have documented lush growth and plentiful water in the past.</p>

# Wild and Scenic River Eligibility Determination



## Legend

- Southern Nevada District Office
- Wild & Scenic River**
- Carson Slough
- Hiko Spring
- Meadow Valley Wash
- Muddy River
- Virgin River
- Wilderness Area**
- Designated Wilderness Area
- Wilderness Study Area
- ACEC**
- Biological ACEC
- Cultural ACEC
- Cultural/Biological ACEC
- Desert Tortoise ACEC
- Desert Tortoise/Cultural ACEC
- Land Status**
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- City of Las Vegas
- Clark County, Nevada
- Department of Defense
- Department of Energy
- Fish and Wildlife Service
- Forest Service
- National Park Service
- Nevada State
- Private



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