3.12 Water Resources and Water Developments

Introduction

This section will first define and describe the water resources and the water resources developments related to the study segments. Then this section will discuss which streams in this study may be recommended for suitability in each alternative and then relate the affects of those recommendations to these stream related water resources and water developments.

The water resources of a stream segment will be described in terms of the type of flow, the water quality and beneficial uses of the water, if the stream is identified as a Drinking Water Source Protection Zone (DWSPZ). The water resources developments related to stream segments will be described in terms of existing and potential projects. Stream segments with existing and potential water developments are considered to be free-flowing; however the free-flowing condition of stream segments with potential water developments located upstream, immediately downstream of, or on the segment could be impacted if the potential projects were constructed.

Detailed information for the water resource portion of Section 3.12 was compiled from the 2006 303d lists of impaired waters for Utah, Wyoming, and Colorado, the 2006 305b lists of waters requiring a Total Maximum Daily Load (TMDL) studies for Utah, Wyoming, and Colorado from the each State's Division of Water Quality and Drinking Water Source Protection data and the Utah Division of Drinking Water. The data regarding the existing and potential water developments were compiled from Appendix A, Suitability Evaluation Reports, State and Basin Water Plans, scoping comments, the Bureau of Reclamation and the Central Utah Water Conservancy District.

Affected Environment

Water Resources

The 86 stream segments being studied are located on six National Forests in Utah. These river segments contain 840 miles of free-flowing rivers and streams. Variations in stream type and flow depend on the location of the stream within the State and associated climate, the size and position of the watersheds that these streams flow through, and the locations of the stream segments within their related drainage basin.

The characteristics of these streams vary widely, with 76 segments (715 miles of stream) with perennial flow, 3 segments (46 miles of stream) have perennial flow in the mainstem of the river with intermittent or ephemeral conditions in the headwater reaches, 5 segments (75 miles of stream) with intermittent flow, 1 segment (2 miles) has a combination of intermittent and ephemeral conditions, and 1 segment (2 miles) has ephemeral flow (see Table 3.12.1).

All of the streams on the Ashley, Uinta and Wasatch-Cache National Forests have perennial flow. The streams with intermittent flow are located the Dixie and the Manti-La Sal National Forests and the majority of the segments with combinations of flow regimes including perennial, intermittent, and ephemeral flow are located on the Dixie, and the Manti-La Sal National Forests. This pattern represents the climatic, geologic, and physiographic differences between the National Forests. Rivers with intermittent or non-perennial flows exist within the National System and may be representative of rivers within particular physiographic regions. For the purposes of this suitability study, the volume of flow is sufficient if it can sustain or complement the ORVs identified within the segment.

Table 3.12.1. Flow regimes of Wild and Scenic River segments (perennial, intermittent, or ephemeral). This information is from Appendix A, Suitability Evaluation Reports.

Eligible River Segment	Miles	Class.	Type of Stream Flow	Segment Found Suitable in Alternative
Ashley National Forest				
Ashley Gorge Creek	10	Wild	Perennial	4
Black Canyon	10	Wild	Perennial	3, 5
Cart Creek Proper	10	Scenic	Perennial	5
Carter Creek	16	Scenic	Perennial	5
East Fork Whiterocks River	4	Scenic	Perennial	5, 6
Fall Creek	6	Wild	Perennial	5
Garfield Creek	17	Wild	Perennial	5, 6
Green River	13	Scenic	Perennial	3, 5, 6
Lower Dry Fork Creek	7	Recreational	Perennial	4
Lower Main Sheep Creek	4	Recreational	Perennial	3, 5
Middle Main Sheep Creek	5	Recreational	Perennial	3, 5
Middle Whiterocks River	9	Wild	Perennial	6
Oweep Creek	20	Wild	Perennial	5
Pipe Creek	6	Scenic	Perennial	5
Reader Creek	6	Scenic	Perennial	3, 6
Shale Creek and Tributaries	10	Wild	Perennial	5, 6
South Fork Ashley Creek	15	Scenic	Perennial	*
Upper Lake Fork River, including Ottoson and East Basin Creeks	35	Wild	Perennial	5
Upper Rock Creek	21	Wild	Perennial	*
Upper Uinta River, including Gilbert Creek, Center Fork and Painter Draw	40	Wild	Perennial	3, 5, 6
Upper Whiterocks River and	4	Scenic	Perennial	5, 6
Upper Yellowstone Creek, including Milk Creek	33	Wild	Perennial	5, 6
West Fork Rock Creek, including Fish Creek	13	Wild	Perennial	5
West Fork Whiterocks River	11	Scenic	Perennial	5, 6
Dixie National Forest				
Death Hollow Creek	10	Wild	Perennial in mainstem, ephemeral at headwaters	3, 5, 6
East Fork Boulder Creek	3	Wild	Perennial	5
Mamie Creek	2	Wild	Ephemeral	3, 5
Moody Wash	5	Wild	Intermittent	3, 5, 6
North Fork Virgin River	1	Scenic	Perennial	3, 5, 6
Pine Creek	8	Wild	Perennial	3, 5
Cottonwood Canyon – (Located on Dixie NF, but administered by Fishlake NF)	6	Wild	Intermittent	*
Slickrock Canyon – (Located on Dixie NF, but administered by Fishlake NF)	2	Wild	Intermittent/ ephemeral	*
Steep Creek – (Located on Dixie NF, but administered by Fishlake NF)	7	Wild	Perennial	3
The Gulch – (Located on Dixie NF, but administered by Fishlake NF)	2	Recreational	Perennial	3
Fishlake National Forest				

Eligible River Segment	Miles	Class.	Type of Stream Flow	Segment Found Suitable in Alternative
Corn Creek	2	Scenic	Perennial	*
Fish Creek	15	Wild/Rec.	Perennial	3, 5
Manning Creek	4	Wild	Perennial	5, 6
Pine Creek / Bullion Falls	4	Wild	Perennial	5
Salina Creek	7	Wild	Perennial	5
Manti-La Sal National Forest				
Chippean and Allen Canyons	21	Scenic/ Rec.	Intermittent	*
Fish Creek and Gooseberry Creek	21	Scenic/ Rec.	Perennial	4, 6
Hammond Canyon	10	Scenic	Perennial in mainstem, intermittent at headwaters	3, 6
Huntington Creek	19	Recreational	Perennial	4, 6
Lower Dark Canyon, including Poison Canyon, Deadman Canyon, and Woodenshoe and Cherry Canyons	41	Wild	Intermittent	5, 6
Lower Left Fork of Huntington Creek	5	Scenic	Perennial	4, 6
Mill Creek Gorge	3	Wild	Perennial	5
Miners Basin (Placer Creek)	2	Recreational	Intermittent	*
Roc Creek	9	Wild	Perennial	3, 5
Upper Dark, Horse Pasture, Peavine & Kigalia Canyons in Upper Dark Canyon	26	Recreational	Perennial in mainstem, intermittent in headwaters	5, 6
Uinta National Forest				
Fifth Water Creek	8	Scenic	Perennial	3
Little Provo Deer Creek	3	Recreational	Perennial	3, 6
North Fork, Provo River	1	Wild/ Rec.	Perennial	4
South Fork, American Fork River	1	Wild/ Rec.	Perennial	5
Wasatch-Cache National Forest				
Beaver Creek	6	Recreational	Perennial	6
Beaver Creek (Logan)	3	Recreational	Perennial	4, 6
Blacks Fork	3	Recreational	Perennial	*
Boundary Creek	4	Wild	Perennial	6
Bunchgrass Creek	5	Scenic	Perennial	4, 6
East Fork Blacks Fork	10	Wild	Perennial	5
East Fork Smiths Fork	12	Wild	Perennial	3, 5
Hayden Fork	12	Recreational	Perennial	4, 6
Henry's Fork	8	Wild	Perennial	3, 5, 6
High Creek	7	Wild/ Rec.	Perennial	*
Left Fork South Fork Ogden River	5	Wild	Perennial	5
Left Hand Fork Blacksmiths Fork	15	Recreational	Perennial	*
Left, Right, and East Forks Bear River	13	Wild	Perennial	4, 6

Eligible River Segment	Miles	Class.	Type of Stream Flow	Segment Found Suitable in Alternative
Little Bear Creek	1	Scenic	Perennial	4, 6
Little Cottonwood Creek	8	Recreational	Perennial	4
Little East Fork	9	Wild	Perennial	4, 5
Logan River: Confluence with Beaver Creek to Bridge at Guinavah-Malibu Campground	19	Recreational	Perennial	4, 6
Logan River: Idaho State line to confluence with Beaver Creek	7	Scenic	Perennial	4, 6
Main Fork Weber River	6	Scenic	Perennial	*
Middle Fork Beaver Creek	11	Wild/ Scenic	Perennial	3, 5, 6
Middle Fork Weber River	6	Wild	Perennial	5
Ostler Fork	4	Wild	Perennial	4, 5, 6
Provo River	20	Recreational	Perennial	4, 6
Red Butte Creek	3	Scenic	Perennial	4
Spawn Creek	4	Scenic	Perennial	6
Stillwater Fork	14	Wild/ Scenic	Perennial	4, 6
Temple Fork	6	Scenic	Perennial	4, 6
Thompson Creek	5	Wild	Perennial	5
West Fork Beaver Creek	10	Wild/ Scenic	Perennial	3, 5, 6
West Fork Blacks Fork	12	Wild/ Scenic	Perennial	3, 5
West Fork Smiths Fork	14	Wild/ Scenic	Perennial	4
White Pine Creek	1	Scenic	Perennial	4, 6
Willard Creek	4	Scenic	Perennial	3, 5

*Only found in Alternatives 1 and 2.

Due to the variations in water resource characteristics across the six National Forests in Utah, the existing condition of water resources will be discussed in terms of water uses, water quality, and the concurrence of Drinking Water Source Protection Zones (DWSPZ) in the stream segment corridors. Analyzing these water resource factors will help describe the quality and importance of the available water resource value related to the 86 river segments. The protection of water quality and stream areas within a State designated DWSPZ would continue to be managed by the Forest Service to State and Federal standards through adherence to standard water quality monitoring directed by the Clean Water Act, EPA, Utah Code R309-605-7/8, and the Utah Division of Water Quality, the Safe Drinking Water Act (SDWA), Utah Code 19-4-101, and the Utah Safe Drinking Water Act.

Water Uses and Water Quality

The status of water quality for the river segments will be discussed generally in terms of the States of Utah, Wyoming, and Colorado's designated beneficial uses and whether the water quality of the stream is supporting these uses. The concurrence of State of Utah DWSPZ and river segment corridors were identified using GIS to describe areas that have high quality waters that are protected for drinking water supplies in municipalities and seasonal recreation sites.

Of the 86 stream segments, 84 of the stream segments considered in this analysis are located in one or more of Utah's ten Watershed Management Units that are administered by the Utah Water Quality Board, and include the Great Salt Lake Desert, Bear River, Weber River, Jordan River and Utah Lake, San Juan, Provo, Spanish Fork, Uinta Basin, Sevier River, Cedar/Beaver, Lower Colorado, Colorado River West, Colorado River Southeast basins. A small portion of Roc Creek (Manti-La Sal NF) is located in Utah and Colorado and flows within the Colorado River Southeast Management Unit of Utah, with the majority of

the segment within the Delores River Basin of Colorado. A portion of the West Fork Smiths Fork (Wasatch-Cache National Forest) is located in Utah and Wyoming, and flows into Wyoming within the Green River Basin.

Water Quality of Stream Segments in Utah

Water quality protection in Utah has been delegated by the Federal Environmental Protection Agency (EPA) to the State. The State enforces tenets of the Clean Water Act under Utah law, Title 19-5, Water Quality Act. This act defines water quality objectives as "to prevent, abate, and control the pollution of the waters of the state". The Water Quality Board categorizes waters of the state into classes so as to protect against controllable pollution the beneficial uses designated within each class as set forth. Water quality standards are distributed pursuant to Utah State Code, Sections 19-5-104 and 19-5-110 with Rule R317-2 that outlines the Standards of Quality for Waters of the State. This information was located at State of Utah Division of Administrative Rules, Standards for Quality of Waters for the State of Utah at http://www.rules.utah.gov/publicat/code/r317/r317-002.htm#T4.

All of the portions of the 86 stream segments that are located in Utah are classified as High Quality waters under Classes 1 and/or 2, Class 3 streams are protected for use by aquatic wildlife, and Class 4 streams are protected for agricultural uses. The designated beneficial uses identified for the 86 stream segments are: Class 1 (protected for use as a raw water source for domestic water systems); Class 1C (protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water); Class 2 (protected for recreational use and aesthetics); Class 2B (protected for secondary contact recreation such as boating, wading, or similar uses); Class 3A (protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain); Class 3C (protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain); Class 3D (protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, 3C, including the necessary aquatic organisms in their food chain); and Class 4(protected for agricultural uses including irrigation of crops and stock watering).

Water Quality of Stream Segments in Colorado

Water quality protection in Colorado has been delegated by the Federal Environmental Protection Agency (EPA) to the State. The State enforces tenets of the Clean Water Act under Colorado law, Title 25-8, The Colorado Water Quality Act administered by the Water Quality Control Commission. The designated Water Quality classifications for Roc Creek, the single segment in Colorado, are for Aquatic Life Cold Water 1, Recreation E, Water Supply, and Agriculture. This information was found at the Colorado Department of Health and Environment, Water Quality Control Commission Regulations (http://www.cdphe.state.co.us/regulations/wqccregs/index.html). Water uses in this stream fully support the water quality standards.

Water Quality of Stream Segments in Wyoming

Water quality protection in Wyoming has been delegated by the Federal Environmental Protection Agency (EPA) to the State. The State enforces tenets of the Clean Water Act under Wyoming law, Title 35-11, The Wyoming Environmental Quality Act and the Wyoming Water Quality Rules and Regulations. The advisory board sets the Wyoming Surface Water Quality Standards. The designated water use classifications for the portion of the West Fork Smiths Fork that is in Wyoming are Class 2AB and water quality standards are set to support Drinking Water, Other Aquatic Life, Game Fish, Recreation, Wildlife, Agriculture, Industry, and Scenic Value uses. Water quality for these water uses in this stream fully support the water quality standards (http://deq.state.wy.us/wqd/watershed/surfacestandards/Downloads/Standards/2-3648-doc.pdf).

Stream Segments with Impaired Water Quality

Pursuant to Section 303(d) of the Clean Water Act as amended, each State is required to identify those assessment units for which existing pollution controls are not stringent enough to implement state water quality standards. Thus, those waters or assessment units (i.e., lakes, reservoirs, rivers, and streams) that are not currently achieving or are not expected to achieve those standards are identified as water quality limited. An assessment unit is considered water quality limited when it is known that its water quality does not meet applicable water quality standards or is not expected to meet applicable water quality standards. Assessment units can be water quality limited due to point sources of pollutants, non point sources of pollutants or both. Examples of pollutants that can cause beneficial use impairment include chemicals for which there are numeric standards (e.g., ammonia, chlorine, organic compounds and trace elements), and pathogens (Utah Department of Environmental Quality, Department of Water Quality, 2006).

Each State prepares a 303(d) list, and is required to prioritize its assessment units for Total Maximum Daily Load (TMDL) development and to identify those assessment units that will be targeted for TMDL development within the next two years. None of the Wild and Scenic study streams were listed on the 2006 lists for Utah, Colorado or Wyoming. Streams that were impaired in the past and have had TMDL studies approved in the past include: Cottonwood Wash, which includes Hammond Canyon, Chippean and Allen Canyons, the Virgin River, which includes the North Fork Virgin River segment, the Upper Uinta River, which includes the Upper Uinta and Whiterocks River segments, and Little Cottonwood Canyon (http://www.waterquality.utah.gov/TMDL/index.htm#addinfo).

Each of these TMDLS has been approved and implementation strategies have been adopted for improving the impaired parameters within these drainages. The water quality issues for Little Cottonwood Canyon have been addressed through the Abandoned Mine Lands Initiative. In 1996, Salt Lake County began construction on a pilot project to build a constructed wetland for pollutant removal in Alta, Utah. This project utilized a fen for adsorption and bioaccumulation of metals, thereby reducing the metals load in Little Cottonwood Creek. In addition, the fen has been used to neutralize pH levels in the Creek. The fen has been in operation for the last nine years with repeated monitoring. Recently, the United States Geological Survey (USGS) has been contracted to create an OTEQ model to determine if the Fen has the capacity to treat the entire Columbus-Rexall Mine Drainage. In order to treat the entire discharge, the fen would be deepened to accommodate increased removal capacity. There is concern that designation would interfere with this project and impede the necessary increase in the capacity of the Fen Pilot Project (http://www.waterresources.slco.org/html/TMDLstudies/wqAltaFen.html).

Drinking Water Source Protection Zones

Some of the stream segments and stream corridors are within and recognized by the State of Utah as a DWSPZ. A DWSPZ is an area that is defined as the area where contaminants are limited from the surface and subsurface areas surrounding a surface source of drinking water supplying a public water system (PWS), over which or through which contaminants are reasonably likely to move toward and reach the source. Surface water means all water which is open to the atmosphere and subject to surface runoff, and subsurface water relates to any well, spring, tunnel, adit, or other underground opening from or through which ground-water flows or is pumped from subsurface water-bearing formations.

Table 3.12.2 lists the stream segments by Forest, where approximately 43 segments with 368 miles of the eligible 86 segments and 840 miles are within DWSPZs. The Ashley National Forest has 28 segments and 272 miles, the Fishlake National Forest has 1 segment and 1 mile, the Dixie National Forest has 1 segment and 1 mile, the Manti-La Sal National Forest has 3 segments and 39 miles, the Uinta National Forest has 3 segments and 5 miles, and the Wasatch-Cache National Forest has 7 segments and 49 miles. This data was provided from the Utah Department of Environmental Quality, Division of Drinking Water.

Protection for Water Quality and DWSPZs

The protection of water quality and stream areas within a State designated DWSPZ would continue to be managed by the Forest Service to State and Federal standards through adherence to standard water quality monitoring directed by the Clean Water Act, EPA, Utah Code R309-605-7/8, and the Utah Division of Water Quality, the Safe Drinking Water Act (SDWA), Utah Code 19-4-101, and the Utah Safe Drinking Water Act. The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells (US EPA, Safe Drinking Water Act and Utah Safe Drinking Water Act).

Recommendation of stream segments would promote no change to the monitoring and management currently in place for water quality or DWSPZ across the Alternatives presented in this section. This analysis serves only to identify the stream areas that have identified water quality impairments and are Drinking Water Source Protection Zones to show areas if recommended would need to be addressed in the long term management plan for the segment.

Water Developments

Water is a limited and therefore very valuable resource in Utah. Utah is the second-driest state in the nation where there is only 13 inches of precipitation annually. The precipitation varies from 5 inches in the arid desert areas to 60 inches in some of the high mountain regions. The mountain watershed regions, located largely within National Forest System lands collect large amounts of precipitation in the form of snow, which in turn supply the state's natural and manmade water storage systems. The flows from these upper watershed areas are the major source of water used for irrigation, municipal and industrial supplies, power production, recreational activities, fish and wildlife habitat, and other uses. The construction of dams, reservoirs, and water systems has been essential for capturing and delivering the state's water. Agricultural, municipal, and industrial water uses rely heavily on spring runoff from mountain snowpacks stored in reservoirs to meet summer water needs. The majority of the existing and potential water development projects identified in this study that deliver surface water for municipal and agricultural uses are located on the Ashley, Manti-La Sal, Uinta, and the Wasatch-Cache National Forests.

Table 3.12.2. Segments that have Drinking Water Source Protection Zones (DWSPZ) by Alternative. This information is from the Utah Division of Drinking Water.

Eligible River Segment	DWSPZ Miles	Classification	Segment Found Suitable in Alternatives
Ashley National Forest			
Ashley Gorge Creek	10	Wild	4
Black Canyon	10	Wild	3, 5
Cart Creek Proper	10	Scenic	5
Carter Creek	16	Scenic	5
East Fork Whiterocks River	4	Scenic	5, 6
Garfield Creek	13	Wild	5, 6
Lower Dry Fork Creek	7	Recreational	4
Lower Main Sheep Creek	4	Recreational	3, 5
Middle Main Sheep Creek	5	Recreational	3, 5
Middle Whiterocks River	9	Wild	6
Reader Creek	6	Scenic	3, 5, 6
South Fork Ashley Creek	15	Scenic	*
Upper Lake Fork River including Ottoson and East Basin Creeks	34	Wild	5
Upper Rock Creek	9	Wild	5

Eligible River Segment	DWSPZ Miles	Classification	Segment Found Suitable in Alternatives
Fall Creek	6	Wild	5
Upper Uinta River including Gilbert Creek, Painter Draw, and Center Fork	40	Wild	3, 5, 6
Upper Whiterocks	4	Scenic	5, 6
Upper Yellowstone Creek	33	Wild	5, 6
West Fork Rock Creek including Fish Creek	25	Wild	5
West Fork Whiterocks River	11	Scenic	5, 6
Dixie National Forest			
North Fork Virgin River	1	Scenic	3, 5, 6
Fishlake National Forest			
Corn Creek	1	Scenic	*
Manti-La Sal National Forest			
Huntington Creek	19	Recreational	4, 6
Fish Creek and Gooseberry Creek	20	Scenic	4, 6
Left Fork of Huntington Creek	4	Scenic	4, 6
Uinta National Forest			
Little Provo Deer Creek	3	Recreational	3, 6
South Fork American Fork	1	Wild	5
North Fork Provo River	1	Wild	4, 6
Wasatch-Cache National Forest			
Beaver Creek (Weber)	6	Recreational	6
Provo River	20	Recreational	4, 6
Little Cottonwood Creek	8	Recreational	4
Weber River	6	Scenic	*
Boundary Creek	2	Wild	6
Thompson Creek	2	Wild	*
Middle Fork Weber River	6	Wild	*

*Only found in Alternatives 1 and 2.

Approximately 80% of the state's water is used for irrigation. As the state's population rises, however, municipal and industrial water use will increase and irrigation needs will decrease slightly. More than one-third of Utah's total public water is supplied from this snowmelt surface water. Over time, this percentage will probably increase as more water is diverted from surface courses and treated for municipal uses as communities continue to grow. Currently, groundwater supplies about a tenth of the total used statewide for irrigation (Utah State Water Plan, Division of Water Resources).

This section will describe the existing and reasonably foreseeable water resource development projects located on stream segments being studied. A water development by definition include: dams, diversions, and other modifications of the waterway (WSR Act 16b). The lists of existing and potential water resources development used in this analysis is based on the best available information from the Division of Water Resources, State Water Plans, personal communication, scoping comment letters, and is subject to change during this process. Changes will be made when more detailed information becomes available regarding the locations of projects, withdrawn lands, and the development of feasibility studies. These changes could result in additions to or omissions of water development projects that are currently being analyzed.

The location of water projects were located from references in the individual stream segment's Appendix A, Suitability Evaluation Reports, scoping letters, topographic maps, limited withdrawal data from the Bureau of Reclamation, the Narrows Project EIS, withdrawal reports from the Central Utah Water Conservancy District, the Wyoming State Water Plan, the Colorado State Water Plan, the Utah State Water Plans for each basin, and personal communication with water user groups. See Table 3.12.3 in the Existing Water Developments section for existing water developments and in the Potential Water Developments section where Table 3.12.4 lists the potential water developments and locations upstream, downstream, or within the segment.

Limits to Water Resource Development Analysis

Changes will likely occur as more specific information regarding the exact locations of existing and potential water developments becomes available and these changes would apply to the rivers listed in all of the Alternatives. These changes would include the omission of projects that are not located immediately upstream, immediately downstream, or on the segment. These changes could also include projects that are located on or adjacent to the segments and are considered to be reasonably foreseeable future water developments (those activities not yet undertaken, for which there are existing decisions, funding, or identified plans, or that have currently withdrawn lands for the project area). The Bureau of Reclamation requested that congressionally withdrawn lands for potential water development projects be evaluated in this process; the exact locations of these projects and associated withdrawn lands have been requested but not submitted to the Forest Service as of yet. At this time, none of these reasonably foreseeable indicators have been presented and the status of these requirements for each potential water projects is not known, except for the proposed Narrows Project on the Fish Creek and Gooseberry Creek. The project has been proposed, an EIS and SEIS completed, loans applied for, but no decision has been made at this time. This project would include construction of a dam on Gooseberry Creek to impound and store water and construction of a tunnel/pipeline to deliver water to irrigation and municipal water users in northern Sanpete County, Utah. The proposed 17,000 acre-foot Narrows Reservoir would support an annual release of 5,400 acre-feet of water to Sanpete County. This project would divert this quantity of water from the eligible segments.

Agencies that expressed concern about effects of designation on their water projects did not provide locations of their potential projects or withdrawn lands associated to their projects, except for the Utah Division of Water Resources, the Central Utah Conservancy District, and the Bureau of Reclamation, which provided information on some of their projects. Therefore, the locations of these water projects were approximated from references in the individual stream segment's Appendix A, Suitability Evaluation Reports, scoping letters, topographic maps, limited withdrawal data from the Bureau of Reclamation, the Ashley National Forest, and the Central Utah Water Conservancy District, the Narrows Project EIS, the Wyoming State Water Plan, the Colorado State Water Plan, the Utah State Water Plans for each basin and the Division of Water Resources, and personal communication with some agencies and water user groups.

Existing Water Developments

There are 49 stream segments that have existing water developments downstream, upstream, or on the segment. There are 529 miles of river with existing water resource developments of the 840 miles being studied. These segments were determined to be free-flowing and have at least one ORV with the current operation and management of these water resource projects. These existing water development projects are located on all of the six National Forests in Utah. Table 3.12.3 lists the segments with existing water developments by Forest and the location of those developments on the segments. The water developments are described as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage basin.

The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where

water flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage.

Table 3.12.3. Segments with Existing Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible River Segment	Miles	Classification	Water Developments Existing	Location of Water Dev.	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Ashley National Forest									
Ashley Gorge Creek	10	Wild	Reservoirs on Ashley Twin and Goose Lakes are in the upper watershed, a cross-drainage diversion from Oaks Park Reservoir flows into the eligible segment; BOR, CUP - Vernal and Jensen Units downstream	U, S, D	4	0	10	0	0
Black Canyon	10	Wild	BOR, CUP - Vernal and Jensen Units	D	3, 5	10	0	10	0
Carter Creek	16	Scenic	water developments upstream affect flows, BOR withdrawals for Flaming Gorge at end of segment	U, D	5	0	0	16	0
East Fork Whiterocks River	4	Scenic	Dams on headwaters lakes that store irrigation water (UWCD)	U	5, 6	0	0	4	4
Fall Creek	6	Wild	BOR withdrawal below segment for Upper Stillwater Reservoir	D	5	0	0	6	0
Garfield Creek	17	Wild	BOR, CUP- Bonneville Unit, High Lake Stabilization	U	5, 6	0	0	17	17
Green River	13	Scenic	Colorado River Storage Project - Flaming Gorge, BOR withdrawals along segment	U	3, 5, 6	13	0	13	13
Lower Dry Fork Creek	7	Recreational	BOR, CUP - Vernal and Jensen Units	D	4	0	7	0	0
Lower Main Sheep Creek	4	Recreational	Two small diversions upstream of segment, Main Fork Sheep Creek is completely diverted into Long Park Reservoir via Sheep Creek Canal	U	3,5	4	0	4	0
Middle Main Sheep Creek	5	Recreational	Existing diversions in the upstream watershed (out of the eligible segment) include the Lodgepole canal, which diverts water from the North and Middle Forks of Sheep Creek into Lodgepole canyon. This diversion is not always used or active (ANF). The Main Fork of Sheep Creek is completely diverted into Long Park Reservoir via the Sheep Creek canal (Sheep Creek Irrication Co.). Designation into the Wild and Scenic river system does not affect existing, valid water rights.	U	3, 5	5	0	5	0

Table 3.12.3. Segments with Existing Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible Segment	Miles	Class.	Water Developments Existing	Location of Water Dev.	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Ashley National Forest									
Middle Whiterocks River	9	Wild	Chepeta and Whiterocks Dams upstream of segment (UWCD)	D	6	0	0	0	9
Oweep Creek	20	Wild	BOR, Moon Lake Project	D	5	0	0	20	0
Shale Creek and Tributaries	10	Wild	Fox and Crescent Lakes provide water storage and controlled releases (Dry Gulch Irrig. Co.)	U	5, 6	0	0	10	10
South Fork Ashley Creek	15	Scenic	Reservoirs on Ashley Twin and Goose Lakes are within the watershed (upstream); BOR, CUP - Vernal and Jensen Units	U, D	0	0	0	0	0
Upper Lake Fork River, including Ottoson and East Basin Creeks	35	Wild	BOR, Moon Lake Project	D	5	0	0	35	0
Upper Rock Creek	21	Wild	BOR withdrawal below segment for Upper Stillwater Reservoir	D	5	0	0	21	0
Upper Uinta River, including Gilbert Creek, Center Fork and Painter Draw	40	Wild	CUWCD projects on upstream tributaries, Lake Atwood reservoir is not on any of these eligible segments, but Atwood Creek drains into the Upper Uinta River about 3 miles upstream from the wilderness boundary. Upper and Lower Chain Lake reservoirs drain down Krebs Creek to the mainstem Uinta River, but the confluence is at the lower boundary of the eligible segment. Fox and Crescent reservoirs are in the upstream headwaters of the Uinta River.	U	3, 5, 6	40	0	40	40
Upper Whiterocks River	4	Scenic	Whiterocks Dam upstream of segment (UWCD)	U	5, 6	0	0	4	4
Upper Yellowstone Creek, including Milk Creek	33	Wild	BOR, CUP- Bonneville Unit	D	5, 6	0	0	33	33
Total Miles	279		Total Miles by Alternative for the Ashley National Forest			72	17	238	130
Dixie National Forest									
East Fork Boulder Creek	3	Wild	Hydroelectic Project downstream of segment, pending new FERC license No.2219, Scoping comments from Garkane Energy Cooperative	D	5	0	0	3	0
Total Miles	3		Total Miles by Alternative for the Dixie National Forest			0	0	3	0

Table 3.12.3. Segments with Existing Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible Segment	Miles	Class.	Water Developments Existing	Location of Water Dev.	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Fishlake National Forest									
Manning Creek	7	Wild	Manning Meadow Reservoir upstream of segment, operated by Division of Wildlife Resources for fish	U	5, 6	0	0	7	7
Total Miles	7		Total Miles by Alternative for the Fishlake National Forest			0	0	7	7
Manti-La Sal National Forest									
Chippean and Allen Canyons	21	Scenic: Chippean Canyon Rec.: Allen Canyon	Two diversions, located approximately four miles from the headwaters of Allen Creek deliver water to inholdings and have capacity to dewater stream.	S	0	0	0	0	0
Fish Creek and Gooseberry Creek	21	Scenic/ Rec.	BOR, Emery Project	D	4, 6	0	21	0	21
Hammond Canyon	10	Scenic	The White Mesa Ute Tribe diverts water for agricultural and culinary purposes from the stream on Tribal Land.	S	3, 6	10	0	0	10
Huntington Creek	19	Recreational	BOR, Emery Project, Electric Lake (U), Huntington Power Plant (D), five private reservoirs impound water at the head of this drainage. Through a series of canals and diversions, water from the top of this drainage can be diverted to Carbon, Emery, or Sanpete Counties. Huntington Cleveland Irrigation Company has multiple diversions.	D, U	4, 6	0	19	0	19
Lower Left Fork of Huntington Creek	5	Scenic	BOR, Emery Project	D	4, 6	0	5	0	5
Mill Creek Gorge	3	Wild	Diversions upstream of segment	U	5	0	0	3	0
Miners Basin (Placer Creek)	2	Rec.	Earthen impoundment on segment	S	0	0	0	0	0
Roc Creek	9	Wild	Diversions upstream of segment	U	3, 5	9	0	9	0
Total Miles	90		Total Miles by Alternative for the Manti-La Sal National Forest			19	45	12	55

Table 3.12.3. Segments with Existing Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible Segment	Miles	Class.	Water Developments Existing	Location of Water Dev.	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Uinta National Forest									
Fifth Water Creek	8	Scenic	CUWCD, CUP Syar Tunnel maintenance (this project is adjacent to the segment and runs parallel down the length), DOI Withdrawal	ADJ	3	8	0	0	0
Little Provo Deer Creek	3	Recreational	BOR, Provo River CUP- Bonneville Unit	D	3, 6	3	0	0	3
North Fork, Provo River	1	Wild/ Rec.	BOR, Provo River CUP- Bonneville Unit	D	4, 6	0	1	0	1
Total Miles	12		Total Miles by Alternative for the Uinta National Forest			11	1	0	4
Wasatch-Cache National Forest S									
Beaver Creek: Source to Forest Boundary	6	Recreational	BOR, Provo River and Weber River Projects, water is diverted from the Provo Basin into Beaver Creek for storage in Echo Reservoir (Weber Basin)		6	0	0	0	6
Blacks Fork	3	Recreational	BOR, Lyman Project	D	0	0	0	0	0
East Fork Blacks Fork	10	Wild	BOR, Lyman Project	D	5	0	0	10	0
East Fork Smiths Fork	12	Wild	BOR, Lyman Project downstream	D	3, 5	12	0	12	0
Left Fork South Fork Ogden River	5	Wild	BOR, Weber Basin Project Causey Reservoir below segment	D	5	0	0	5	0

Table 3.12.3. Segments with Existing Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible Segment	Miles	Class.	Water Developments Existing	Location of Water Dev.	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Wasatch-Cache National Forest									
Little Bear Creek	1	Scenic	One small diversion for USU Forestry camp	U	4, 6	0	1	0	1
Little Cottonwood Creek	8	Recreational	Salt Lake City, Department of Public Utilities, Metropolitian Water District, and Sandy City operate upstream storage reservoirs include Cecret, White Pine, and Red Pine Lake, small diversions on segment for ski resorts, Murray Diversion downstream of segment	U, S, D	4	0	8	0	0
Little East Fork	9	Wild	BOR, Lyman Project	D	4, 5	0	9	9	0
Logan River (lower)	19	Recreational	Small diversions on segment, Dam 1, 2, 3 downstream	D	4, 6	0	19	0	19
Main Fork Weber River	6	Scenic	BOR, Provo River, Weber basin, Weber River Projects 4 small reservoirs with dams. Insignificant effect on stream flows.	D, U	0	0	0	0	
Middle Fork Beaver Creek	11	Wild/ Scenic	One small diversion downstream of segment	D	3, 5, 6	11	0	11	11
Middle Fork Weber River	6	Wild	BOR, Provo River, Weber basin, Weber River Projects	D	5	0	0	6	0
Provo River	20	Recreational	Provo River CUP- Bonneville Unit -Dams above segment, Duchesne Tunnel imports water into segment	U, S	4, 6	0	20	0	20
Red Butte Creek	3	Scenic	CUWCD, Red Butte Reservoir downstream of segment	D	0	0	0	0	0
Thompson Creek	5	Wild	Hoop Lake Reservoir, Diversion below segment	D	5	0	0	5	0
West Fork Beaver Creek	10	Wild/ Scenic	Irrigation diversions below Forest boundary	D	3, 5, 6	10	0	10	10
Willard Creek	4	Scenic	Diversions downstream of segment	D	3, 5	4	0	4	0
Total Miles	138		Total Miles by Alternative for the Wasatch-Cache National Forest			37	57	72	67
Forests Total Miles	529		Total Miles by Alternative			139	120	332	263

Table 3.12.3 shows that the Ashley National Forest has approximately 279 miles of stream that are related to existing water developments. There are approximately 141 miles of stream that have water developments downstream of the segment. There are approximately 44 miles of stream that have existing water developments on the segment. There are approximately 66 miles of stream that only have existing water developments upstream of the segment. There are approximately 31 miles of stream that has existing water developments upstream and downstream of the segment. There are approximately 10 miles with water developments upstream, downstream and on the stream segment.

Table 3.12.3 shows that the Dixie National Forest has approximately 3 miles of stream have existing water developments downstream from the segment. This project is a hydroelectric project and is not on the segment, but has a new application in to FERC for license renewal.

Table 3.12.3 shows that the Fishlake National Forest has approximately 7 miles of stream have existing water developments upstream of the segment. There is a dam and reservoir upstream that is administered by the Division of Wildlife for fisheries.

Table 3.12.3 shows that the Manti-La Sal National Forest has approximately 90 miles of stream that are related to existing water developments. There are approximately 26 miles of stream that only have existing water developments downstream of the segment. There are approximately 19 miles of stream with existing water developments downstream and upstream of the segment. There are approximately 33 miles of stream with existing water developments on the segment. There are approximately 12 miles of stream with existing water developments upstream of the segment.

Table 3.12.3 shows that the Uinta National Forest has approximately 12 miles of stream that are related to existing water developments. There are 8 miles of stream that has an existing water development adjacent to segment (When Syar Tunnel is maintained water is diverted into Fifth Water for short periods of time). There are 4 miles of stream with an existing water development downstream of the segment.

Table 3.12.3 shows that the Wasatch-Cache National Forest has approximately 138 miles of stream that are related to existing water developments. There are approximately 97 miles of stream that have existing water developments downstream of the segment. There are 6 miles of stream that have existing water developments on the segment (low dams at headwaters lakes) and downstream of segment. There are approximately 6 miles of stream that have existing water developments on the segment (one diversion, one import). There are approximately 20 miles of stream that has an existing water developments on the segment (water is exported from the Duchesne River and imported into the Provo River), and (CUP dams and reservoirs) upstream of the segment. There are approximately 8 miles of stream that have existing water developments on the segment (water is added to flow from Wasatch Drain Tunnel and diverted for use at ski areas), and (dams reservoirs) upstream of the segment.

Potential Water Developments

Of the 86 segments, 20 have some type of potential water developments downstream, upstream, or on the segment. There are approximately 259 miles of river affected by potential water resource developments of the 840 miles being studied. These water development projects by definition include: dams, diversions, and other modifications of the waterway (WSR Act 16b). These potential water development projects are located on the Ashley, Manti-La Sal, and Wasatch-Cache National Forests. The Dixie, Fishlake, and Uinta National Forests do not have any potential water developments planned on Wild and Scenic River segments.

Table 3.12.4 lists the segments with potential water developments by Forest and the location of those developments on the segments. The water developments are described as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage

basin. The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where water flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage. To summarize the existing and potential water developments related to Wild and Scenic stream segments on the 6 National Forests in Utah: the Ashley National Forest has the most existing and potential water development sites of all of the Forests, the Wasatch-Cache is second, followed by the Manti-La Sal National Forest. The Dixie, Fishlake and Uinta National Forests do not have any potential water developments only existing ones.

Withdrawn Lands and Potential Water Developments

The term "withdrawal" means withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of Federal land, other than "property" governed by the Federal Property and Administrative Services Act, as amended (40 U.S.C. 472) from one department, bureau or agency to another department, bureau or agency (http://www.blm.gov/flpma/FLPMA.pdf).

The Bureau of Reclamation's general authority to withdraw lands comes from Section 3 of the Reclamation Act of 1902:

> *The Secretary of the Interior shall, before giving the public notice provided for in Section 4 of this act, withdraw from public entry the lands required for any irrigation works contemplated under the provisions of this act…*

Over the years, this authority has been clarified a number of times as noted in the Bureau of Reclamation's Blue Books which contain and explain all of the laws pertaining to Reclamation activities and related administrative decisions, court decisions, and the like. A 1909 decision states:

> *The discretion of the Secretary of the Interior in making first-form withdrawals of lands cannot be questioned, and no application to enter can be allowed on the ground that the land is not needed (Ernest Woodcock, 38 L.D. 349,; see BOR Blue Book, Vol. 1, p. 38 Note 2.)*

Particular guidance regarding National Forests is as follows:

> *Reclamation withdrawals within the national forests are dominant, but until needed by the Reclamation Service, the lands will remain for administrative and protection purposes under control and direction of the Forest Service (Departmental Decision, February 27, 1909; see BOR Blue Book Vol. 1, p. 46, Note 33).*

There are 23 segments that have been identified to have existing Bureau of Reclamation projects which are mostly upstream or downstream of the segments, however there are some in the Provo River drainage that are on the segment. There is one project with a Department of Interior withdrawal for a Central Utah Project, there are existing withdrawals for all of these existing water projects, however the extent and intent of these withdrawn project areas is not known. There is one instance of withdrawn lands associated with the proposed Narrows Project on the Manti-La Sal National Forest. These withdrawals are cited in Table 3.12.3 for the existing project withdrawals and Table 3.12.4 for the potential projects with withdrawn lands.

Table 3.12.4. Segments with Potential Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible River Segment	Miles	Class.	ORVa	Potential Water Developments	Reference	Location of WD	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Ashley Natonal Forest											
East Fork Whiterocks River	4	Scenic	Scenic	CUWCD, Chepeta Lake and all streatches of the Whiterocks River are being examined as part of the Uinta River Basin/Green River Water Development Project. The proposed water developments are below the segments. Water developments related to Chepeta Lake are upstream of the segment.	Scoping Comments from the Central Utah Water Conservancy District	U, D	5, 6	0	0	4	4
Lower Dry Fork Creek	7	Recreational	Geologic/ Hydrologic, Wildlife, Historic, Cultural	East Cottonwood, Blanchett Park Reservoir (Utah) East Cottonwood, T02S R19E Section 26, 70 ft high, 3,000 ac-ft capacity. This reservoir would be located on Dry Fork Creek at the south end of Brownie Canyon, east of Charley's Park. The reservoir would be used for flood control and summer irrigation storage.	Scoping Comments from the Utah Div. of Water Resources, A field geologic site analysis was conducted by the U.S. Natural Resources Conservation Service in the early 1930's.	U	4	0	7	0	0
				Blanchett Park Reservoir, T01S R18E Section 28, 72 ft height, 4,600 ac-ft capacity. This reservoir site is located on the main stem of Dry Fork Creek approximately 5 miles upstream of the Wild & Scenic river section. Although a larger reservoir could be filled, topography limits the practical size of the reservoir.	Scoping Comments from the Utah Div. of Water Resources, U.S. Natural Resources Conservation Service conducted a geologic investigation of this site.	U					
Middle Main Sheep Creek	5	Recreational	Scenic, Geologic/ Hydrologic, Wildlife	Hickerson Park, T02N R18E Section 19, Heights of 60 ft and 96 ft, with capacities of 4,000 ac-ft and 8,997 ac-ft respectively. Dam would be on Sheep Creek 6 miles above proposed W&S section. This proposed reservoir is located west of existing Long Park Reservoir and was investigated at the same time. The Long Park site was chosen over this site due to its larger capactiy of 14,300 ac-ft. This reservoir could be useful if leaks reappear in Long Park Reservoir.	Scoping Comments from the Utah Div. of Water Resources, Reference 3	U	3, 5	5	0	5	0
Middle Whiterocks	9	Wild	Scenic	A recommended reservoir is mentioned in the Utah State water Plan for the Uintah Basin (1999), but is near the town of Whiterocks, several miles downstream of the eligible segment	Utah State Water Plan	D	6	0	0	0	9
South Fork Ashley Creek	15	Scenic	Geologic/ Hydrologic, Wildlife	Dry Fork Twins, Reservoir T01S R18E Section 22, 49 ft high, 3,200 ac-ft capacity. Located on the Twin Lake Fork of Dry Fork Creek The U.S. Natural Resources Conservation Service conducted a geologic investigation of this site and cost estimate for the dam in 1965.	Scoping Comments from the Utah Div. of Water Resources (no references)	U	0	0	0	0	0
				Harmston Park, T01S R18E Section 23, 67 ft.high, 2,220 ac-ft capacity. This site is located near the Twin Lakes Fork of Dry Fork Creek, approximantelly 0.5 mile upstream from existing Dry Fork Twin Lakes and 1.0 mile down stream from proposed Reynolds Lake Reservoir. This reservoir would regulate a portion of the water that flows through the proposed South Fork Ashley Creek Wild and Scenic River segment.	Scoping Comments from the Utah Div. of Water Resources (no references)	U					
				Reynolds Lake Reservoir, T01S R18E Section 24, 48 ft. high 1,000 ac-ft capacity. This reservoir would regulate a portion of the water that flows through the proposed South Fork Ashley Creek Wild and Scenic River segment.	Scoping Comments from the Utah Div. of Water Resources (no references)	U					
				Trout Creek Reservoir T01S R19E Section 13, 116 ft.high, 14,400 ac-ft. On South Fork Ashley Creek Wild and Scenic River segment. Proposed in a 1975 study and revisited in 1988 by Bingham Engineering for the Dry Fork/Ashley Creek Flood Control Project, this reservoir would attenuate springtime flooding by storing high flows from Trout Creek and the North Fork of Ashley Creek. The reservoir would also retain water for the late summer irrigation demands for a protion of 17,000 acres of cropland. Located 25 miles northwest of Vernal at the confluence of the two creeks, the reservoir was originally proposed at a 25,000 ac-ft capacity by the Soil Conservation Service.	Scoping Comments from the Utah Div. of Water Resources (no references)	U					

Table 3.12.4. Segments with Potential Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible Segment	Miles	Class.	ORVa	Potential Water Developments	Reference	Location of WD	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Ashley Natonal Forest											
Upper Uinta River, including Gilbert Creek, Center Fork and Painter Draw	40	Wild	Geologic/ Hydrologic, Wildlife	The CUWCD is studying potential reservoirs within the Uinta River Basin as part of the Uinta River Basin/Green River Water Development Project in the Atwood Basin, Upper and Lower Chain Lakes, and Krebs Creek, and on the Uinta River near the Forest Boundary.	Scoping Comments from the Central Utah Water Conservancy District	U, S	3, 5, 6	40	0	40	40
Upper Whiterocks River	4	Scenic	Scenic, Recreation	CUWCD, Chepeta Lake and all stretches of the Whiterocks River are being examined as part of the Uinta River Basin/Green River Water Development Project. The proposed water developments are below the segments. Water developments related to Chepeta Lake are upstream of the segment.	Scoping Comments from the Central Utah Water Conservancy District	U, D	5, 6	0	0	4	4
Upper Yellowstone Creek, including Milk Creek	33	Wild	Scenic, Geologic/ Hydrologic, Wildlife	Upper Yellowstone B, T02N R04W Section 10, 134 ft height, 6,440 ac-ft capacity. This on-stream dam site is located 1.5 miles north of the Yellowstone Ranch. The dam was proposed to be constructed of roller compacted concrete or earthfill. Nine canals would furnish irrigation water for 13,100 acres of Indian land and 30,400 of non-Indian land. The reservoir would be located on Forsest Service land and would inundate the Pineview Campground.	Scoping Comments from the Utah Div. of Water Resources, Preliminary site geology was examined in the summer of 1993 by CH2M Hill/Horrocks.	D	5, 6	0	0	33	33
				Upper Yellowstone C, T02N R04W Section 15, 275 ft height, 61,350 ac-ft capacity. This on-stream dam site is located 0.75 miles north of the Yellowstone Ranch. The dam was proposed to be constructed of roller compacted concrete or earthfill. Nine canals would furnish irrigation water for 13,100 acres of Indian land and 30,400 of non-Indian land. The reservoir would be located on Forsest Service land and inundate both the Swift Creek and Riverview Campgrounds. This reservoir would be located entirely on federal land, backing water up into the proposed Wild and Scenic River section.	Scoping Comments from the Utah Div. of Water Resources, Preliminary site geology was examined in the summer of 1993 by CH2M Hill/Horrocks.	S					
				Upper Yellowstone E, T02N R04W Section 15, 330 ft height, 101,040 ac-ft capacity. This on-stream dam site is located 0.25 miles north of the Yellowstone Ranch. The dam was proposed to be constructed of roller compacted concrete or earthfill. Nine canals would furnish irrigation water for 13,700 acres of Indian land and 30,400 of non-Indian land. The reservoir would be located on Forsest Service land and inundate Swift Creek, Riverview and Reservoir Campgrounds. This proposed reservoir would be located entirely on federal land, backing water up into the proposed Wild and Scenic River section.	Scoping Comments from the Utah Div. of Water Resources, Preliminary site geology was examined in the summer of 1993 by CH2M Hill/Horrocks.	S					
Total Miles	118				Total Miles by Alternative for the Ashley National Forest			45	7	86	90
Manti-La Sal National Forest											
Fish Creek and Gooseberry Creek	21	Scenic/Rec.	Wildlife	Mammoth, T13S R06E Section 06, Two proposed dam heights; 115 ft high, and 180 ft high, capacities of 41,213 ac-ft and 75,624 ac-ft respectively. This reservoir was once built and failed, the site is on the upstream end of the proposed Fish Creek Wild and Scenic River segment. Still a viable site, reservoir was originally proposed in several more sizes (This site overlaps with the existing Lower Gooseberry Reservoir upstream of segment).	Scoping Comments from Utah Div. of Water Resources, Reference 2.	S	4, 6	0	21	0	21
				Gooseberry, T13S R06E Section 19, 100 ft high, 36,000 ac-ft capacity. On Gooseberry Creek upstream of proposed Fish Creek Wild and Scenic River section.	Scoping Comments from Utah Div. of Water Resources, Reference 2. also Bureau of reclamation Water Supply Paper 618, pg.155.	U					
				Narrows Dam and Reservoir, T13S R06E Sections 19, 25, 30, The proposed project would include construction of a dam on Gooseberry Creek to impound and store water and construction of a tunnel/pipeline to deliver Project water to irrigation and municipal water users in northern Sanpete County, Utah. The proposed 17,000 acre-foot Narrows Reservoir would support an annual release of 5,400 acre-feet of water to Sanpete County.	Narrows EIS (August 1993), Figure 2-1, Bureau of Reclamation	U					

Table 3.12.4. Segments with Potential Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible Segment	Miles	Class.	ORVs	Potential Water Developments	Reference	Location of WD	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Manti-La Sal National Forest											
Hammond Canyon	10	Scenic	Geologic, Scenic, Cultural	The White Mesa Ute Tribe diverts water for agricultural and culinary purposes and may wish to expand those diversions.	Manti-La Sal National Forest	S	3, 6	10	0	0	10
Huntington Creek	19	Recreational	Scenic, Recreational	Russell Site, T14S R06E Section 24, 121 ft high, 3,325 ac-ft capacity. This site is located downstream of Electric Lake on the proposed Huntington Creek Wild and Scenic River segement. Electric Lake has been leaking into the nearby coal mines and may have to be replaced or supplemented in the future if leaks cannot be plugged.	Scoping Comments from Utah Div. of Water Resources, Reference 2.	D	4, 6	0	19	0	19
				Millset Creek, T13S R06E Section 27, 69 ft high, 1,060 ac-ft capacity. USBR site just upstream of Electric Lake and the Huntington Creek Wild and Scenic River segment. The State Engineer performed prelinary design and cost estimates.	Scoping Comments from Utah Div. of Water Resources, Reference 2.	U					
Lower Left Fork Huntington Creek	5	Scenic	Scenic	An impoundment along Lower left Fork of Huntington Creek is actively being sought by Huntington Cleveland irrigation Company in order to control , distribute, preserve, and regulate water for its owners. Engineering studies have been completed on one reservoir site (Johnny Jensen Hollow Reservoir) and others are currently being looked at. Potential impoundment would likely be upstream or downstream of the segment.	Scoping Comments from Huntington Cleveland Irrigation Company, and Manti-La Sal National Forest	U, D	4, 6		5		5
Total Miles	55			Total Miles by Alternative for the Manti-La Sal National Forest				10	45	0	55
Wasatch-Cache National Forest											
Beaver Creek: South Boundary of State Land to Mouth	3	Recreational	Fish	Beaver Narrows, T15N R04E Section 32. Reservoir was proposed with height of 60 ft. and with a capacity of 1,000 acft;	Scoping Comments from the Utah Div. of Water Resources References 1 and 2.	S	4, 6	0	3	0	3
				Beaver Narrows (lower), T15N R04E Section 32. Reservoir was proposed at heights of 60 ft. and 130 ft., with capacities of 1,000 ac-ft and 4, 877 ac-ft respectively.	Scoping Comments from the Utah Div. of Water Resources, References 1, 2 and 3.	S					
Blacks Fork	3	Recreational	History	Old Headquarters, T03N R12E Section 27, 117 ft high, 14,080 ac-ft capacity. Located on proposed Black's Fork Wild and Scenic River segment.	Scoping Comments from Utah Div. of Water Resources, Reference 2. U.S.B.R. preliminary investigation by Debler 1938.	S	4	0	3	0	0
				Big Bend, T02N R12E Section 07, 100 ft, 14,000 af. , upstream of the proposed Black's Fork W&S river segment, would regulate water through the segment.	Scoping Comments from Utah Div. of Water Resources, Reference 2. USBR proposed (unknown report)	U					
				Blacks Fork (upper), T02N R11E Section 24, 44 ft high, 4,070 ac-ft capacity. Upstream of Black's Fork W&S segment, may also back water up into West Fork Black's Fork W&S segment.	Scoping Comments from Utah Div. of Water Resources, Originally proposed by the U.S.B.R. Reference 2.	U					
Hayden Fork	12	Recreational	Scenic, Ecology	Gold Hill, T01N R09E Section 14 or 23 (?), upstream of segment on a tributary stream	Wyoming State Water Plan, Bear River Basin Plan, Chapter 6, Figure 6-35, Banner and Associates 1958.	U	4, 6	0	12	0	12
Left Hand Fork Blacksmiths Fork	15	Recreational	Scenic	Forks, T10N R02E Section 03, 230 ft height and capacity of 47,000 ac-ft. Just downstream of W&S section, would back water up into the proposed river section.	Scoping Comments from Utah Div. of Water Resources, Reference 4.	S, D	0	0	0	0	0
				Forks, T10N R02E Section 03, 255 ft height and capacity of 35,000 ac-ft. Reference 2. Just downstream of W&S section, would back water up into the proposed river section.	Scoping Comments from Utah Div. of Water Resources, Reference 2.	S, D					

Table 3.12.4. Segments with Potential Water Developments (the locations of the water developments are indicated by a D, S, or U, signifying that the development is either downstream (D) of the segment, on (S) the segment, or upstream (U) of the segment).

Eligible Segment	Miles	Class.	ORVs	Potential Water Developments	Reference	Location of WD	River Segment Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt. 6
Wasatch-Cache National Forest											
Left, Right, and East Fork Bear River	13	Wild	Scenic, Geology/ Hydrology, Ecology	East Fork Reservoir, sites 1,2,3, below segment, T01N R10E Section 26 or 27(?)	Scoping Comments Utah Div. of Water Resources; Wyoming State Water Plan, Bear River Basin Plan, Chapter 6, Figure 6-35, Banner and Associates 1958.	D	4, 6	0	13	0	13
Little Cottonwood Creek	8	Recreational	Scenic, Geology/ Hydrology, Ecology	Designation may limit Alta Fen Project (Water Quality Improvement Project within stream corridor to treat water from the Columbus-Rexall Mine) and impact operations of Salt Lake County Service Area #3 (these projects do not affect the free-flowing condition of the stream)	Scoping comments from Town of Alta, pers. comm. SLCo SA#3	C/S	4	0	8	0	0
Logan River: Confluence with Beaver Creek to Bridge at Guinavah-Malibu Campground	19	Recreational	Scenic, Recreational, Geology/ Hydrology, Fish, Ecology	Card Canyon, T12N R02E Section 24, 310 ft high, 35,000 ac-ft capacity (located on proposed Logan River segment);	Scoping Comments from the Utah Div. of Water Resources Reference 1 and 2, U.S.B.R. preliminary investigation by Green in 1924.	S	4, 6	0	19	0	19
				Dewitt, T12N R02E Section 27, 255 ft high, 35,000 ac-ft capacity (would back water up onto Logan River segment);	Scoping Comments from the Utah Div. of Water Resources Reference 1and 2, U.S.B.R. preliminary investigation by Green in 1924.	S					
				Logan River (Twin Bridge), T13N R03E Section 27, two heights; 285 ft, 170 ft, with capacities of 26,000 ac-ft and 5,000 ac-ft respectively (located on middle of the proposed Logan River segment).	Scoping Comments from the Utah Div. of Water Resources (no references)	S					
				Logan River No. 2A, T12N R02E Section 18, three heights; 250 ft, 200 ft, 150 ft, with capacities of 40,000 ac-ft, 24,000 ac-ft and 10,000 ac-ft resepectively.	Scoping Comments Utah Div. of Water Resources, Reference 2, U.S.D.A. Cache Valley, Fortier and McLaughlin 1921.	S					
				Logan River No. 3, T12N R03E Section 18, three heights; 250 ft, 200 ft, 150 ft, with capacities of 23,000 ac-ft, 16,100 ac-ft and 8,200 ac-ft respectively.	Scoping Comments Utah Div. of Water Resources, Reference 2, U.S.D.A. Cache valley, Fortier and McLaughlin 1921.	S					
				Logan River No. 4, T12N R03E Section 18, two heights; 250 ft, 200 ft, with capacities of 21,000 ac-ft and 13,000 ac-ft respectively.	Scoping Comments from the Utah Div. of Water Resources, Reference 2, U.S.D.A. Cache valley, Fortier and McLaughlin 1921.	S					
				Logan River No. 5, T12N R03E Section 07, two heights; 250 ft and 200 ft, with capacities of 22,000 ac-ft and 14,000 ac-ft respectively.	Scoping Comments from the Utah Div. of Water Resources, Reference 2, U.S.D.A. Cache Valley, Fortier and McLaughlin 1921.	S					
				Twin Creek, T13N R03E Section 23, four dam heights proposed; 322ft, 250ft, 200ft, 150ft, with capacities of 48,000 acft, 40,000 ac-ft, 22,000 ac-ft and 9,400 ac-ft respectively.	Scoping Comments from the Utah Div. of Water Resources, Reference 2, U.S.B.R. Cache Valley, Green 1924.	S					
Stillwater Fork	14	Wild/Scenic	Scenic, Ecology	Wyuta, T01N R10E Section 09, Two heights proposed; 130 ft and 170 ft, with capacities of 6,325 ac-ft and 146,000 acft respectively. These projects would be located on-stream in the middle of this proposed Wild and Scenic segment (UT); Stillwater Reservoir site (WY)	Scoping Comments Utah Div. of Water Resources; Wyoming State Water Plan, Bear River Basin Plan, Chapter 6, Figure 6-35, Banner and Associates 1958.	S	4, 6	0	14	0	14
Total Miles	87			Total Miles by Alternative for the Wasatch-Cache National Forest				0	72	0	61
Forests Total Miles	259				Total Miles by Altenative			55	124	86	206

References for the Utah Division of Water Resources potential water developments in Table 3.12.4

1. Existing and Potential Reservoirs, working paper for Bear River Basin Type IV Study, Idaho-Utah-Wyoming, Prepared by United States Department of Agriculture Soil Conservation Service-Economic Research Service-Forest Service in cooperation with Sates of Idaho, Utah, Wyoming, February 1976.

2. State of Utah Twenty-Second Biennial Report of the State Engineer to the Governor of Utah, For the Biennium July 1, 1938 to June 30, 1940, T.H. Humphreys, State Engineer, Salt Lake City, October 1940.

3. State of Utah Twenty-Fourth Biennial Report of the state Engineer to the Governor of Utah, For the Biennium July 1, 1942 to June 30, 1944, E.H. Watson, State Engineer, Salt Lake City, October 1944.

4. Bureau of Reclamation; June 1970; Bear River Investigations Status Report and Summary of Status Report.

Preliminary Geology and Environmental Evaluations of Potential Dam Sites and Reservoirs, CH_2MHill/Horrocks Engineers, August 1992.

Environmental Consequences

Impacts to the 86 Wild and Scenic study segments will be discussed in terms of which stream segments will be recommended as suitable and not suitable by alternative, the implications of managing those stream segments free-flowing and ORVs, and the expected impacts to those segments not found suitable by Alternative.

Classification of the stream segments describes the existing level of development within the stream corridor and also relates to how National Forest System lands within suitable stream corridors will be managed in the future. See Table 3.1.1 for restrictions to activities within stream corridors based on classification of suitable stream segments.

For Alternatives 1 through 6, each Alternative selects a different set of stream segments and has different implications for the future management of activities within the 86 Wild and Scenic study segment corridors. Refer to Table 3.1.2 for a list of basic assumptions about how each Alternative may influence Forest management and activities allowed within these stream corridors.

The effects analysis in Section 3.12 will address Issues 1, 4, and 6:

Issue 1—Designation of river segments in a National Wild and Scenic River System may affect reasonably foreseeable future water resources development projects. The measurement indicators for estimating these impacts are miles of river affecting existing and potential water resources projects, and social/economic impacts (see Section 3.10, Social and Economic analysis). The information used in this analysis is from Appendix A, Suitability Evaluation Reports, suitability factor 3, and the water development discussion. Tables 3.12.3 and 3.12.4 will be used to analyze these impacts by Alternative.

Issue 4—Designations offers long-term protection of resources values. The measurement indicator for the long-term protection of the free-flowing character, water quality, DWSPZ, and stream related ORVs is miles of river by Wild, Scenic, and Recreational classification. This measurement indicator will also be used to analyze the impacts of existing and potential water resource projects on the stream related ORVs that may result if streams are not recommended for suitability. The information used in this analysis is from Appendix A, Suitability Evaluation Reports, suitability factor 3, and the water development discussion. Table 3.12.5 will be used to analyze these impacts by Alternative.

Issue 6—Conflicts with state, county, and local government plans. The measurement indicator for consistency with Section 63-38d-401 of the Utah Code Annotated is miles of stream by Alternative that do not meet the Utah Code criteria for having water present and flowing at all times; therefore segments with intermittent or ephemeral conditions would not be suitable. The information used in this analysis is from Appendix A, Suitability Evaluation Reports, suitability factor 4, and the physical description of river segment section and is compiled in Table 3.12.1. Flow regimes of Wild and Scenic River segments (perennial, intermittent, or ephemeral).

General Environmental Impacts

Table 3.12.1 will be source information for tracking Issue 6. Tables 3.12.3 and 3.12.4 will be used to track Issues 1 and 4. Table 3.12.5 lists the miles of stream with existing and potential water developments by classification and will be used with 3.1.1 to describe what restrictions will apply to which stream. Table 3.12.6-9 list the stream segments with potential water developments found not suitable by Alternative.

Table 3.12.5. River miles by classification of segments that have existing and potential water developments (all mileage approximate).

	Class.	Miles Alt. 1 & 2	Miles Alt. 3	Miles Alt. 4	Miles Alt. 5	Miles Alt. 6
Existing Water Projects	Rec.	110	12	73	9	67
	Scenic	120	44	27	50	67
	Wild	299	86	20	270	129
Totals		529	142	120	329	263
Potential Water Projects	Class.	Miles Alt. 1 & 2	Miles Alt. 3	Miles Alt. 4	Miles Alt. 5	Miles Alt. 6
	Rec.	91	5	71	5	53
	Scenic	67	10	34	8	52
	Wild	101	40	19	73	101
Totals		259	55	124	86	206

The information in these tables listed above will be used in combination to discuss the impacts of Alternatives 3-6 on the free-flowing condition and on water developments. Stream segments selected in an alternative may be found suitable and managed to protect the ORVs or the free-flowing condition within the Wild and Scenic River system. Stream segments not selected in an alternative would be found not suitable and would not be managed to protect the ORVs or the free-flowing condition within the Wild and Scenic system. ORVs may be impacted by this lack of protection due to large-scale projects that change the landscape such as mining, road building, or water resource development projects. The impacts of these landscape changing activities are related to development within the stream corridor and can be managed to limit the impacts to the free-flowing condition and the river related ORVs, except for instance of water development projects. If a stream segment is not found suitable and designated under the Wild and Scenic River Act, there is no other protection available to protect the free-flowing condition of a stream. The free-flowing condition is crucial to sustain water quality, beneficial uses, and ORVs that depend on high quality water. Therefore, stream segments with that are not suitable, which are also identified as having potential water development projects related to them may be impacted by potential water projects. Stream segments that fall into this category will be listed in the following alternative discussions, please see Table 3.12.6-9 for the complete list of all the ORVs that may be impacted by potential water developments.

Alternative 1 – No action, maintain eligibility of all river segments.

In Alternative 1, all 840 miles would be protected by the Forest Service as eligible for inclusion into the Wild and Scenic River system to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2); free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant).

Choosing Alternative 1 would have no impact on the water resources related to the stream segments. There would have no negative impact on water quality or DWSPZs because there would be no change to current management in accordance with the Utah Water Quality Act and Utah Code R309-605-7/8 and EPA standards.

Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf).

In Alternative 1, as Table 3.12.3 and 3.12.4 show, all of the 529 miles of river with existing water developments and 259 miles with potential water developments would be protected as eligible for inclusion into the Wild and Scenic River system to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2). The stream segments with existing water developments would continue to be managed based on the classification criteria for 299 miles of Wild river, 120 miles of Scenic river and 110 miles of Recreational river. The stream segments with potential water developments would continue to be managed based on the classification criteria for 101 miles of Wild, 67 miles of Scenic, and 91 miles of Recreational river (see Table 3.12.5). For the implications of managing these miles by classification please refer to Table 3.1.1 and 3.1.2.

Under Alternative 1, there are a number of streams that do not meet the State of Utah's prerequisite of having water present and flowing at all times, but in the case of Alternative 1, where streams are not recommended as suitable, this requirement does not apply. This list of streams is compiled from Table 3.12.1 to illustrate which streams would not be suitable under Section 63-38d-401 of the Utah Code Annotated. These include ephemeral and intermittent streams named: Mamie Creek, Moody Wash, Cottonwood Canyon, Slickrock Canyon, Chippean and Allen Canyons, Lower Dark Canyon (including Poison canyon, Deadman Canyon, and Woodenshoe and Cherry Canyons), and Miners Basin. There are also several streams that have a combination of flow regimes which are mainly perennial, but do have sections of intermittent or ephemeral flows in the headwater portions of the segments. These streams include: Death Hollow Creek, Hammond Canyon, and Upper Dark Canyon (including Horse Pasture, Peavine, and Kigalia Canyons).

Alternative 2 – No rivers recommended.

In Alternative 2, all 840 miles would be not be recommended as suitable and protection of segments as eligible for inclusion into the Wild and Scenic River system to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2) would not longer be required.

This decision would have no impact on the water resources related to the stream segments, because management and protection of water quality and DWSPZs is required by the State and of Federal agencies regardless of this study as per Utah Water Quality Act and Utah Code R309-605-7/8. The construction of potential water developments may have localized impacts the water quality and standards

for project related segment. Beneficial uses and water quality standards may change to reflect drastic alterations to the flow of water through a segment if a stream was inundated by a reservoir or if water was diverted out of the segment. Under Alternative 2, 11 segments are related to potential water developments and contain DWSPZs (see Tables 3.12.2 and 3.12.4). In these cases, the construction of these water projects would have to be in accordance with State Law (Utah Code R309-605-7/8). These segments include East Fork Whiterocks River, Lower Dry Fork, Middle Main Sheep Creek, South Fork Ashley Creek, the Upper Uinta River segment, Upper Whiterocks River, the Upper Yellowstone Creek segment, Fish Creek (MLNF), Huntington Creek, Lower Left Fork Huntington Creek, and Little Cottonwood Canyon.

Under Alternative 2, there would be flexibility for managers of existing water projects on 529 miles of stream to make changes to the current management of flow through the segment. This means that reservoir managers could change the regulation of flow through the related stream segment by either reducing or increasing the flows from how they are currently managed. Table 3.12.3 describes the existing water developments as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage basin. The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where water flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage.

Table 3.12.4 shows that 19 eligible segments and 259 miles of stream would not longer be restricted by the Wild and Scenic River Act to potential water development projects; and there are 91 miles of Recreational stream, 67 miles of Scenic stream, and 101 miles of Wild stream would have their free-flowing condition and river related ORVs threatened by water projects upstream, on the segment, or downstream. This value represents a maximum effect and is subject to decrease when more specific information on project location and development potential is presented and verified. At this time, with the information available, we were unable to confidently determine which of potential water projects would be completed at what time and which would be contrary to suitability. Therefore it is only practical to analyze the effects as if all of the potential water developments were developed, including potential management changes for existing water projects that would possible increase the capacity of the project and further regulate flows within the segments.

Over time, without designation, the identified potential water projects could be approved for some segments, depending on area management standards. Under Alternative 2, the combined effect of existing and potential water projects if managed to change the free-flowing character of the streams would be to 69 segments, with a total of 788 miles of stream (see Tables 3.12.3 and 3.12.4). The tables describe the water developments as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage basin. The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where water flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage.

The issue of the streams meeting the requirements of Section 63-38d-401 of the Utah Code Annotated is not applicable to this Alternative since no streams would be recommended as suitable. For a list of streams that do not meet this requirement see the discussion in Section 3.12 Alternative 1.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

In Alternative 3, 212 miles of river with would be recommended as suitable for inclusion into the Wild and Scenic River system and the Forest Service would manage the streams to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2); and 628 miles would be found not suitable. The free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant). Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf).

This decision would have no impact on the water resources related to the stream segments, because management and protection of water quality and DWSPZs is required by the State and of Federal agencies regardless of this study as per Utah Water Quality Act and Utah Code R309-605-7/8 and EPA standards. However, construction of potential water developments may have localized impacts the water quality and standards for project related segment. Beneficial uses and water quality standards may change to reflect drastic alterations to the flow of water through a segment if a stream was inundated by a reservoir or if water was diverted out of the segment. Under Alternative 3, 40 miles of the Upper Uinta River segment are related to potential water developments and contain DWSPZs (see Tables 3.12.2 and 3.12.4). In these cases, the construction of these water projects would have to be in accordance with State Law (Utah Code R309-605-7/8).

In Alternative 3, Table 3.12.4 shows that 139 miles of river with existing water developments would be found suitable and 390 miles with existing water developments would be found not suitable. Segments recommended as suitable will be managed by the Forest Service based on classification of the segment for 86 miles of Wild, 44 miles of Scenic, and 12 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications). For the segments that have existing water developments that were not found suitable, there would be flexibility for managers of existing water projects to make changes to the current management that could change the regulation of flow through the related stream segment by either reducing or increasing the flows from how they are currently managed.

In Alternative 3, Table 3.12.4 shows that 55 miles of river with potential water developments would be found suitable and 204 miles with potential water developments would be found not suitable. Segments recommended as suitable will be managed based on classification of the segment for 101 miles of Wild, 67 miles of Scenic, and 91 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications). Therefore all of the reasonably foreseeable future water development projects would not be further restricted within these stream corridors by the Forest Service under the Wild and Scenic River Act. Table 3.12.6 lists the segments not found suitable and the related potential water projects. For the discussion of impacts to streams that are not found suitable, Tables 3.12.3 and 3.12.4 describe the existing and potential water developments as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage

basin. The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments

Table 3.12.6. River segments with potential water developments not suitable in Alternative 3 (all mileages are approximate).

Eligible River Segment	Miles	Class.	Outstandingly Remarkable Values	Possible Impacts to Free-flowing and ORVs (see Table 3.12.4 for more detailed information)
Ashley National Forest				
East Fork Whiterocks River	4	Scenic	Scenic	Improvements to Chepeta Lake Dam upstream could alter flows through the segment, developments below the segment would not likely impact flows or ORVs unless reservoir is built immediately below segment which could inundate the lower portion of the segment.
Middle Whiterocks River	9	Wild	Scenic	A reservoir is planned to be located miles downstream from segment therefore there would likely be no impacts to flows through segment or to the ORVs.
Lower Dry Fork Creek	7	Recreational	Geologic/Hydrologic, Wildlife, Historic, Cultural	Two reservoirs are planned upstream from this segment, the Blanchett Park project would store water upstream at the headwaters of the segment, and the East Cottonwood project would store water upstream at the headwaters of Brownie Canyon (a tributary), both of these developments combined would alter the flow through the segment.
South Fork Ashley Creek	15	Scenic	Geologic/Hydrologic, Wildlife, Scenic	Four reservoirs are planned upstream from this segment, the Trout Creek Reservoir project is planned on the segment and would inundate the segment and alter the flows, the Reynolds Lake, Dry Fork Twins, and Harmston Park projects would all regulate flows through the segment and impact ORVs.
Ashley Gorge Creek	10	Wild	Scenic, Geologic/ Hydrologic, Wildlife, Historic, Other Similar Values	This segment is downstream from the South Fork Ashley Creek segment, potential water projects upstream would also alter the flows and impact ORVs on this segment also.
Upper Yellowstone Creek, including Milk Creek	33	Wild	Scenic, Geologic/Hydrologic, Wildlife	Three Upper Yellowstone Reservoir sites are planned to be located immediately below the segment and would inundate the lower portion of the segment.
Manti-La Sal National Forest				
Huntington Creek	19	Recreational	Scenic, Recreational	The Millset Creek Reservoir site would store water upstream of the segment altering flows through the segment and may impact ORVs, the Russell site is on the segment and would inundate a portion of it which would alter the flow through the segment and may impact the ORVs.
Fish Creek and Gooseberry Creek	21	Scenic/ Recreational	Wildlife	The Mammoth Reservoir site is proposed on the Fish Creek section of the segment which would inundate the segment, alter flows and may impact ORVs, the Gooseberry and the Narrows Reservoir sites are upstream of the segment on Gooseberry Creek and would store water upstream of the segment, altering flows and my impact ORVs.
Lower Left Fork of Huntington Creek	5	Scenic	Scenic	Studies are looking at potential reservoir sites upstream and downstream of the segment. A reservoir storing water upstream of the segment may alter flows through the segment and may impact ORVs, a reservoir downstream of the segment may inundate water in the lower portion of the segment if immediately below the segment, if further downstream, impacts to flow are not likely.
Wasatch-Cache National Forest				
Blacks Fork	3	Recreational	History	The Old Headquarters Reservoir site is located on the segment and would inundate the stream altering the flow and may also impact ORVs (site is adjacent to ORV), the Big Bend site is upstream of the segment and may regulate flows through the segment, but is upstream of the ORV and would

Eligible River Segment	Miles	Class.	Outstandingly Remarkable Values	Possible Impacts to Free-flowing and ORVs (see Table 3.12.4 for more detailed information)
				not likely have any effect, the Blacks Fork site is upstream of the Blacks Fork segment, but may inundate water into the West Fork Blacks Fork segment which was found suitable in Alternative 3.
West Fork Blacks Fork **(suitable in Alternative 3, see right column)	12	Wild/ Scenic	Scenic, Ecology	**This segment is suitable in Alternative 3 but may be affected by potential water developments on the Blacks Fork segment downstream. The Blacks Fork Reservoir site may not be compatible for development since it would back water up into the lower portion of the suitable West Fork Blacks Fork segment.
Hayden Fork	12	Recreational	Scenic, Ecology	The Gold Hill Site is located upstream on a tributary to the segment; this project would store water upstream and could alter the flows in the segment and impact the ORVs.
Stillwater Fork	14	Wild /Scenic	Scenic, Ecology	Two potential reservoir sites would be located on the segment. These sites would impound water on the segment altering the flow and may cause impacts to the ORVs.
Left, Right, and East Forks Bear River	13	Wild	Scenic, Geology/ Hydrology, Ecology	Three potential sites have been identified downstream from this segment. If a project is located immediately downstream from the segment there could be impacts to flow within the segment and may be impacts to ORVs.
Left Hand Fork Blacksmiths Fork	15	Recreational	Scenic	The Forks Reservoir site is located immediately downstream from the segment and would inundate the lower section of this segment if built, which would impact the ORV.
Logan River (Lower)	19	Recreational	Scenic, Recreational, Geology/ Hydrology, Fish, Ecology	Eight potential reservoir sites are located on the segment that would inundate portions of the segment and alter the flow through the entire segment, and would also impact the ORVs.
Beaver Creek (Logan RD)	3	Recreational	Fish	Two reservoir locations are proposed upstream of the segment which would store water upstream and alter flows through the segment, which may impact ORVs.
Little Cottonwood Creek	8	Recreational	Scenic, Geology/ Hydrology, Ecology	Restrictions related to WSR management of this segment would not affect the completion of the Alta Fen Project or the operation of Salt Lake County Service Area #3.

that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where water flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage.

Under Alternative 3, there are a number of streams that do not meet the State of Utah's prerequisite of having water present and flowing at all times. This list of streams is compiled from Table 3.12.1 to illustrate which streams would not be suitable under Section 63-38d-401 of the Utah Code Annotated. Mamie Creek is ephemeral and Moody Wash is intermittent. There are also two streams that have a combination of flow regimes which are mainly perennial, but do have sections of intermittent or ephemeral flows in the headwater portions of the segments. These streams include: Death Hollow Creek and Hammond Canyon.

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

In Alternative 4, 203 miles of river with would be recommended as suitable for inclusion into the Wild and Scenic River system and managed by the Forest Service to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2); and 637 miles would be found not suitable. The free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant).

This decision would have no impact on the water resources related to the stream segments, because management and protection of water quality and DWSPZs is required by the State and of Federal agencies regardless of this study as per Utah Water Quality Act and Utah Code R309-605-7/8 and EPA standards. The construction of potential water developments may have localized impacts the water quality and standards for project related segment. Beneficial uses and water quality standards may change to reflect drastic alterations to the flow of water through a segment if a stream was inundated by a reservoir or if water was diverted out of the segment. Under Alternative 3, 58 miles are related to potential water developments and contain DWSPZs (see Tables 3.12.2 and 3.12.4). In these cases, the construction of these water projects would have to be in accordance with State Law (Utah Code R309-605-7/8). These segments include Lower Dry Fork, Fish and Gooseberry Creek, Huntington Creek, and Lower Left Fork Huntington Creek, and Little Cottonwood Canyon.

In Alternative 4, Table 3.12.4 shows that 120 miles of river with existing water developments would be found suitable and 409 miles with existing water developments would be found not suitable. Segments recommended as suitable will be managed based on classification of the segment for 20 miles of Wild, 27 miles of Scenic, and 73 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications).

Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf). For the segments that have existing water developments that were not found suitable, there would be flexibility for managers of existing water projects to make changes to the current management that could change the regulation of flow through the related stream segment by either reducing or increasing the flows from how they are currently managed.

In Alternative 4, Table 3.12.4 shows that 124 miles of river with potential water developments would be found suitable and 134 miles with potential water developments would be found not suitable. Segments recommended as suitable will be managed based on classification of the segment for 19 miles of Wild, 34 miles of Scenic, and 71 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications).

The free-flowing condition of rivers not found suitable would not be protected by the Forest Service under the Wild and Scenic River Act, therefore all of the reasonably foreseeable future water development projects would not be further restricted within these stream corridors. Table 3.12.7 lists the segments not found suitable and the related potential water projects. For the discussion of impacts to streams that are not found suitable, Tables 3.12.3 and 3.12.4 describe the existing and potential water developments as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage basin. The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where water

flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage.

Under Alternative 4, there are no streams that do not meet the State of Utah's prerequisite of having water present and flowing at all times.

Table 3.12.7. River segments with potential water developments not suitable in Alternative 4 (all mileages are approximate).

Eligible River Segment	Miles	Class.	Outstandingly Remarkable Values	Possible Impacts to Free-flowing and ORVs (see Table 3.12.4 for more detailed information)
Ashley National Forest				
Middle Main Sheep Creek	5	Recreational	Scenic, Geologic/ Hydrologic, Wildlife	The Hickerson Park reservoir site is located upstream from the segment on Sheep Creek, this project may alter flows through the segment and impact ORVs since the Long Park Reservoir already exists in the drainage.
Upper Whiterocks River and	4	Scenic	Scenic, Recreation	Improvements to Chepeta Lake Dam upstream could alter flows through the segment, developments below the segment would not likely impact flows or ORVs unless reservoir is built immediately below segment which could inundate the lower portion of the segment.
East Fork Whiterocks River	4	Scenic	Scenic	Improvements to Chepeta Lake Dam upstream could alter flows through the segment, developments below the segment would not likely impact flows or ORVs unless reservoir is built immediately below segment which could inundate the lower portion of the segment.
Middle Whiterocks River	9	Wild	Scenic	A reservoir is planned to be located miles downstream from segment therefore there would likely be no impacts to flows through segment or to the ORVs.
South Fork Ashley Creek	15	Scenic	Geologic/Hydrologic, Wildlife, Scenic	Four reservoirs are planned upstream from this segment, the Trout Creek Reservoir project is planned on the segment and would inundate the segment and alter the flows, the Reynolds Lake, Dry Fork Twins, and Harmston Park projects would all regulate flows through the segment and impact ORVs.
Ashley Gorge Creek	10	Wild	Scenic, Geologic/ Hydrologic, Wildlife, Historic, Other Similar Values	This segment is downstream from the South Fork Ashley Creek segment; potential water projects upstream would also alter the flows and impact ORVs on this segment also.
Upper Yellowstone Creek, including Milk Creek	33	Wild	Scenic, Geologic/Hydrologic, Wildlife	Three Upper Yellowstone Reservoir sites are planned to be located immediately below the segment and would inundate the lower portion of the segment.
Upper Uinta River, including Gilbert Creek, Center Fork and Painter Draw	40	Wild	Geologic/Hydrologic, Wildlife	Potential reservoirs in the Atwood Basin, Upper and Lower Chain Lakes, and Krebs Creek are upstream of the segment and may regulate flows and impact ORVs, the project on the Uinta River near the Wilderness Boundary is downstream of the segment and would may inundate the lower section of the segment.
Manti-La Sal National Forest				
Hammond Canyon	10	Scenic	Geologic, Scenic, Cultural	There is a diversion on the segment which may be improved in the future, thus altering the flow through the segment below the diversion which may impact the ORVs.
Wasatch-Cache National Forest				
Left Hand Fork Blacksmiths Fork: Source to Mouth	15	Recreational	Scenic	The Forks Reservoir site is located immediately downstream from the segment and would inundate the lower section of this segment if built, which would impact the ORV.

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

In Alternative 5, 530 miles of river with would be recommended as suitable for inclusion into the Wild and Scenic River system and managed by the Forest Service to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2); and 310 miles would be found not suitable. The free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant).

This decision would have no impact on the water resources related to the stream segments, because management and protection of water quality and DWSPZs is required by the State and of Federal agencies regardless of this study as per Utah Water Quality Act and Utah Code R309-605-7/8. The construction of potential water developments may have localized impacts the water quality and standards for project related segment. Beneficial uses and water quality standards may change to reflect drastic alterations to the flow of water through a segment if a stream was inundated by a reservoir or if water was diverted out of the segment. Under Alternative 3, 86 miles are related to potential water developments and contain DWSPZs (see Tables 3.12.2 and 3.12.4). In these cases, the construction of these water projects would have to be in accordance with State Law (Utah Code R309-605-7/8). These segments include East Fork Whiterocks, Middle Main Sheep Creek, Upper Uinta River segment, Upper Whiterocks, and the Upper Yellowstone Creek segment.

In Alternative 5, Table 3.12.4 shows that 332 miles of river with existing water developments would be found suitable and 197 miles with existing water developments would be found not suitable. Segments recommended as suitable will be managed based on classification of the segment for 270 miles of Wild, 50 miles of Scenic, and 9 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications). Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf). For the segments that have existing water developments that were not found suitable, there would be flexibility for managers of existing water projects to make changes to the current management that could change the regulation of flow through the related stream segment by either reducing or increasing the flows from how they are currently managed.

In Alternative 5, Table 3.12.4 shows that 86 miles of river with potential water developments would be found suitable and 173 miles with potential water developments would be found not suitable. Segments recommended as suitable will be managed by the Forest Service based on classification of the segment for 73 miles of Wild, 8 miles of Scenic, and 5 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications). The free-flowing condition of rivers not found suitable would not be protected by the Forest Service under the Wild and Scenic River Act, therefore all of the reasonably foreseeable future water development projects would not be further restricted within these stream corridors. Table 3.12.8 lists the segments not found suitable and the related potential water projects. For the discussion of impacts to streams that are not found suitable, Tables 3.12.3 and 3.12.4 describe the existing and potential water developments as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage

basin. The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where water flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage.

Under Alternative 5, there are a number of streams that do not meet the State of Utah's prerequisite of having water present and flowing at all times. This list of streams is compiled from Table 3.12.1 to illustrate which streams would not be suitable under Section 63-38d-401 of the Utah Code Annotated. Mamie Creek is ephemeral and Moody Wash is intermittent. There are also two streams that have a combination of flow regimes which are mainly perennial, but do have sections of intermittent or ephemeral flows in the headwater portions of the segments. These streams include: Death Hollow Creek and Upper Dark Canyon.

Under Alternative 5, there are no streams that do not meet the State of Utah's prerequisite of having water present and flowing at all times.

Table 3.12.8. River segments with potential water developments not suitable in Alternative 5 (all mileages are approximate).

Eligible River Segment	Miles	Class.	Outstandingly Remarkable Values	Possible Impacts to Free-flowing and ORVs (see Table 3.12.4 for more detailed information)
Ashley National Forest				
Middle Whiterocks River	9	Wild	Scenic	A reservoir is planned to be located miles downstream from segment therefore there would likely be no impacts to flows through segment or to the ORVs.
Lower Dry Fork Creek	7	Recreational	Geologic/Hydrologic, Wildlife, Historic, Cultural	Two reservoirs are planned upstream from this segment, the Blanchett Park project would store water upstream at the headwaters of the segment, and the East Cottonwood project would store water upstream at the headwaters of Brownie Canyon (a tributary), both of these developments combined would alter the flow through the segment.
South Fork Ashley Creek	15	Scenic	Geologic/Hydrologic, Wildlife, Scenic	Four reservoirs are planned upstream from this segment, the Trout Creek Reservoir project is planned on the segment and would inundate the segment and alter the flows, the Reynolds Lake, Dry Fork Twins, and Harmston Park projects would all regulate flows through the segment and impact ORVs.
Ashley Gorge Creek	10	Wild	Scenic, Geologic/ Hydrologic, Wildlife, Historic, Other Similar Values	This segment is downstream from the South Fork Ashley Creek segment, potential water projects upstream would also alter the flows and impact ORVs on this segment also.
Manti-La Sal National Forest				
Huntington Creek	19	Recreational	Scenic, Recreational	The Millset Creek Reservoir site would store water upstream of the segment altering flows through the segment and may impact ORVs, the Russell site is on the segment and would inundate a portion of it which would alter the flow through the segment and may impact the ORVs.
Fish Creek and Gooseberry Creek	21	Scenic/ Recreational	Wildlife	The Mammoth Reservoir site is proposed on the Fish Creek section of the segment which would inundate the segment, alter flows and may impact ORVs, the Gooseberry and the Narrows Reservoir sites are upstream of the segment on Gooseberry Creek and would store water upstream of the segment, altering flows and my impact ORVs.

Eligible River Segment	Miles	Class.	Outstandingly Remarkable Values	Possible Impacts to Free-flowing and ORVs (see Table 3.12.4 for more detailed information)
Lower Left Fork of Huntington Creek	5	Scenic	Scenic	Studies are looking at potential reservoir sites upstream and downstream of the segment. A reservoir storing water upstream of the segment may alter flows through the segment and may impact ORVs, a reservoir downstream of the segment may inundate water in the lower portion of the segment if immediately below the segment, if further downstream, impacts to flow are not likely.
Hammond Canyon	10	Scenic	Geologic, Scenic, Cultural	There is a diversion on the segment which may be improved in the future, thus altering the flow through the segment below the diversion which may impact the ORVs.
Wasatch-Cache National Forest				
Blacks Fork	3	Recreational	History	The Old Headquarters Reservoir site is located on the segment and would inundate the stream altering the flow and may also impact ORVs (site is adjacent to ORV), the Big Bend site is upstream of the segment and may regulate flows through the segment, but is upstream of the ORV and would not likely have any effect, the Blacks Fork site is upstream of the Blacks Fork segment, but may inundate water into the West Fork Blacks Fork segment which was found suitable in Alternative 5.
West Fork Blacks Fork **(suitable in Alternative 5, see right column)	12	Wild/ Scenic	Scenic, Ecology	**This segment is suitable in Alternative 5 but may be affected by potential water developments on the Blacks Fork segment downstream. The Blacks Fork Reservoir site may not be compatible for development since it would back water up into the lower portion of the suitable West Fork Blacks Fork segment.
Hayden Fork	12	Recreational	Scenic, Ecology	The Gold Hill Site is located upstream on a tributary to the segment; this project would store water upstream and could alter the flows in the segment and impact the ORVs.
Stillwater Fork	14	Wild/ Scenic	Scenic, Ecology	Two potential reservoir sites would be located on the segment. These sites would impound water on the segment altering the flow and may cause impacts to the ORVs.
Left, Right, and East Forks Bear River	13	Wild	Scenic, Geology/ Hydrology, Ecology	Three potential sites have been identified downstream from this segment. If a project is located immediately downstream from the segment there could be impacts to flow within the segment and may be impacts to ORVs.
Left Hand Fork Blacksmiths Fork	15	Recreational	Scenic	The Forks Reservoir site is located immediately downstream from the segment and would inundate the lower section of this segment if built, which would impact the ORV.
Logan River (Lower)	19	Recreational	Scenic, Recreational, Geology/ Hydrology, Fish, Ecology	Eight potential reservoir sites are located on the segment that would inundate portions of the segment and alter the flow through the entire segment, and would also impact the ORVs.
Beaver Creek (Logan RD)	3	Recreational	Fish	Two reservoir locations are proposed upstream of the segment which would store water upstream and alter flows through the segment, which may impact ORVs.
Little Cottonwood Creek	8	Recreational	Scenic, Geology/ Hydrology, Ecology	Restrictions related to WSR management of this segment would not affect the completion of the Alta Fen Project or the operation of Salt Lake County Service Area #3.

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

In Alternative 6, 441 miles of river with would be recommended as suitable for inclusion into the Wild and Scenic River system and managed by the Forest Service to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2); and 399 miles would be found not suitable.

The free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant).

This decision would have no impact on the water resources related to the stream segments, because management and protection of water quality and DWSPZs is required by the State and of Federal agencies regardless of this study as per Utah Water Quality Act and Utah Code R309-605-7/8 and EPA standards. The construction of potential water developments may have localized impacts the water quality and standards for project related segment. Beneficial uses and water quality standards may change to reflect drastic alterations to the flow of water through a segment if a stream was inundated by a reservoir or if water was diverted out of the segment. Under Alternative 3, 133 miles are related to potential water developments and contain DWSPZs (see Tables 3.12.2 and 3.12.4). In these cases, the construction of these water projects would have to be in accordance with State Law (Utah Code R309-605-7/8). These segments include East Fork Whiterocks, Middle Whiterocks, Upper Uinta River segment, Upper Whiterocks, Upper Yellowstone Creek segment, Huntington Creek, Fish Creek and Gooseberry Creek, and Left Fork Huntington Creek.

In Alternative 6, Table 3.12.4 shows that 263 miles of river with existing water developments would be found suitable and 266 miles with existing water developments would be found not suitable. Segments recommended as suitable will be managed based on classification of the segment for 129 miles of Wild, 67 miles of Scenic, and 67 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications). Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf). For the segments that have existing water developments that were not found suitable, there would be flexibility for managers of existing water projects to make changes to the current management that could change the regulation of flow through the related stream segment by either reducing or increasing the flows from how they are currently managed.

In Alternative 6, Table 3.12.4 shows that 206 miles of river with potential water developments would be found suitable and 53 miles with potential water developments would be found not suitable. Segments recommended as suitable will be managed based on classification of the segment for 101 miles of Wild, 52 miles of Scenic, and 53 miles of Recreational river (see Tables 3.12.5 and 3.1.1 for the list of streams and the applicable management implications).

The free-flowing condition of rivers not found suitable would not be protected by the Forest Service under the Wild and Scenic River Act, therefore all of the reasonably foreseeable future water development projects would not be further restricted within these stream corridors. Table 3.12.9 lists the segments not found suitable and the related potential water projects. For the discussion of impacts to streams that are not found suitable, Tables 3.12.3 and 3.12.4 describe the existing and potential water developments as on the segment (S), upstream of the segment (U), downstream (D), or a combination of where there are multiple projects in the drainage basin. The developments on the segment (S) and upstream (U) are water developments that may divert water away, import water to, or control the release of flow through the segment. The water developments that are downstream (D) include dams and reservoirs that the segment may flow into, or may be located much further downstream, where water flowing through the segment is stored below. The reality of how each water development described in this section affects the stream segment is unique and is specific to the location, the stream, the flow, and

the time of year, and the operation of the water development. Therefore this discussion is general in that it shows the stream segments and the general location of the water developments within the drainage. Under Alternative 6, there are a number of streams that do not meet the State of Utah's prerequisite of having water present and flowing at all times. This list of streams is compiled from Table 3.12.1 to illustrate which streams would not be suitable under Section 63-38d-401 of the Utah Code Annotated. Moody Wash is intermittent. There are also streams that have a combination of flow regimes which are mainly perennial, but do have sections of intermittent or ephemeral flows in the headwater portions of the segments. These streams include: Death Hollow Creek, Upper Dark Canyon, and Hammond Canyon.

Table 3.12.9. River segments with potential water developments not suitable in Alternative 6 (all mileages are approximate).

Eligible River Segment	Miles	Class.	Outstandingly Remarkable Values	Possible Impacts to Free-flowing and ORVs (see Table 3.12.4 for more detailed information)
Ashley National Forest				
Middle Main Sheep Creek	5	Recreational	Scenic, Geologic/ Hydrologic, Wildlife	The Hickerson Park reservoir site is located upstream from the segment on Sheep Creek, this project may alter flows through the segment and impact ORVs since the Long Park Reservoir already exists in the drainage.
Lower Dry Fork Creek	7	Recreational	Geologic/Hydrologic, Wildlife, Historic, Cultural	Two reservoirs are planned upstream from this segment, the Blanchett Park project would store water upstream at the headwaters of the segment, and the East Cottonwood project would store water upstream at the headwaters of Brownie Canyon (a tributary), both of these developments combined would alter the flow through the segment.
South Fork Ashley Creek	15	Scenic	Geologic/Hydrologic, Wildlife, Scenic	Four reservoirs are planned upstream from this segment, the Trout Creek Reservoir project is planned on the segment and would inundate the segment and alter the flows, the Reynolds Lake, Dry Fork Twins, and Harmston Park projects would all regulate flows through the segment and impact ORVs.
Ashley Gorge Creek	10	Wild	Scenic, , Geologic/Hydrologic, Wildlife, Historic, Other Similar Value	This segment is downstream from the South Fork Ashley Creek segment, potential water projects upstream would also alter the flows and impact ORVs on this segment also.
Wasatch-Cache National Forest				
Blacks Fork	3	Recreational	History	The Old Headquarters Reservoir site is located on the segment and would inundate the stream altering the flow and may also impact ORVs (site is adjacent to ORV), the Big Bend site is upstream of the segment and may regulate flows through the segment, but is upstream of the ORV and would not likely have any effect, the Blacks Fork site is upstream of the Blacks Fork segment, but may inundate water into the West Fork Blacks Fork segment which was found suitable in Alternative 3.
West Fork Blacks Fork **(suitable in Alternative 3, see right column)	12	Wild/ Scenic	Scenic, Ecology	**This segment is suitable in Alternative 3 but may be affected by potential water developments on the Blacks Fork segment downstream. The Blacks Fork Reservoir site may not be compatible for development since it would back water up into the lower portion of the suitable West Fork Blacks Fork segment.
Left Hand Fork Blacksmiths Fork	15	Recreational	Scenic	The Forks Reservoir site is located immediately downstream from the segment and would inundate the lower section of this segment if built, which would impact the ORV.
Little Cottonwood Creek	8	Recreational	Scenic, Geology/ Hydrology, Ecology	Restrictions related to WSR management of this segment would not affect the completion of the Alta Fen Project or the operation of Salt Lake County Service Area #3.

3.13 Wildlife (Terrestrial) Resources

Introduction

River corridors are, in most cases, the most productive for terrestrial wildlife species. Depending on mobility, animals move in and out of these corridors at will. Species and species diversity depend on the vegetative community and in many instances the age class of the community in a given area.

Area of Influence

The area of influence is one quarter mile on each side of an identified stream segment.

General Wildlife

Big game species that exist in Utah include mule deer (*Odocoileus hemionus*), elk (*Cervis canidensis*), moose (*Alces alces*), pronghorn (*Antilocapra americana*), bighorn sheep (Rocky Mountain [*Ovis canadensis*], desert [*Ovis canadensis nelsoni] and California [Ovis Canadensis californiana]*), and mountain goats (*Oreamnos americanus*). White-tailed deer (*Odocoileus viginianus*) are moving into some areas in Northern Utah. These species can be expected along any stream segments in areas where the species exist.

Upland game species include pheasant (*Phasianus colchicus*), mourning dove (*Zenaida macroura*), band-tailed pigeon (*Columba fasciata*), chukar partridge (*Alectoris chukar*), sage grouse (*Centrocercus urophasianus*), forest grouse (ruffed [*Bonasa umbellus*]; blue grouse [*Dendragapus obscurus*]), California quail (*Callipepla californica*), Hungarian partridge (*Perdix perdix*), sharp-tailed grouse (*Tympanuchus phasianellus*), white-tailed ptarmigan (*Lagopus leucurus*), cottontail rabbit (*Sylvilagus nuttalli*), snowshoe hare (*Lepus americanus*), sandhill crane (*Grus canadensis*), and turkey (*Meleagris gallopavo*).

Other species that are hunted or trapped include black bear (*Ursus americanus*), cougar (*Felis concolor*), bobcat (*Lynx rufus*), and beaver (*Castor Canadensis*)

There are many other species of wildlife that are not hunted or trapped. Any of these species, and those listed as being hunted or trapped may occur within the area of influence on any stream segment depending on vegetation types and age classes of that vegetation that is present.

There are approximately 406 species of birds that are in the state for at least a portion of the year. Of these approximately 137 are summer residents and migrate out for the winter. The State of Utah has created their list of Partners in Flight species which are of concern in Utah. The U.S. Wildlife and Wildlife Service have created their list of Birds of Conservation Concern for Utah. These lists have been put together along with habitat associations in Table 3.13.1. The list contains 43 species, all of which are not migratory. Many of these birds are found in vegetation types and age classes contained in stream segments being considered in this document.

Table 3.13.1. Habitat associations for birds on the PIF and BCC lists in Utah.

	Utah Mountains	Basin and Range	Mojave Desert	Wyoming Basin	Colorado Plateau	Primary Breeding	Secondary Breeding	Winter Habitat
PIF[A] and FWS BCC[B] Priority Species[C]								

	Utah Mountains	Basin and Range	Mojave Desert	Wyoming Basin	Colorado Plateau	Primary Breeding	Secondary Breeding	Winter Habitat
Abert's Towhee			X			Lowland Riparian	Lowland Riparian	Lowland Riparian
American Avocet *		X		X	X	Wetland	Playa	Migrant
American White Pelican		X		X		Water	Wetland	Migrant
Bell's Vireo *			X			Lowland Riparian	Lowland Riparian	Migrant
Bendire's Thrasher		X	X		X	Low Desert Scrub	Low Desert Scrub	Migrant
Black Rosy Finch	X					Alpine	Alpine	Grassland
Black Swift *	X					Lowland Riparian	Cliff	Migrant
Black-chinned Sparrow		X	X		X	Low Desert Scrub	High Desert Scrub	Migrant
Black-necked Stilt		X				Wetland	Playa	Migrant
Black-throated Gray Warbler	X	X	X		X	Pinyon-Juniper	Mountain Shrub	Migrant
Bobolink		X				Wet Meadow	Agriculture	Migrant
Brewer's Sparrow	X	X	X	X	X	Shrubsteppe	High Desert Scrub	Migrant
Broad-tailed Hummingbird	X	X			X	Lowland Riparian	Mountain Riparian	Migrant
Crissal Thrasher			X			Low Desert Scrub	Lowland Riparian	Low Desert Scrub
Ferruginous Hawk		X		X	X	Pinyon-Juniper	Shrubsteppe	Grassland
Flammulated Owl	X	X			X	Ponderosa Pine	Sub-Alpine Conifer	Migrant
Gambel's Quail		X	X		X	Low Desert Scrub	Lowland Riparian	Low Desert Scrub
Golden Eagle	X	X	X	X	X	Cliff	High Desert Scrub	High Desert Scrub
Grace's Warbler	X	X			X	Ponderosa Pine	Mixed Conifer	Migrant
Gray Vireo	X	X	X		X	Pinyon-Juniper	Northern Oak	Migrant
Greater Sage-grouse	X	X		X	X	Shrubsteppe	Shrubsteppe	Shrubsteppe
Gunnison Sage-grouse					X	Shrubsteppe	Shrubsteppe	
La Conte's Thrasher			X			Low Desert Scrub	Low Desert Scrub	Low Desert Scrub
Lewis' Woodpecker *	X	X		X	X	Ponderosa Pine	Lowland Riparian	Northern Oak
Loggerhead Shrike	X	X	X	X	X	High Desert Scrub	Pinyon-Juniper	High Desert Scrub
Long-billed Curlew *		X		X	X	Grassland	Agriculture	Migrant
Lucy's Warbler			X			Lowland Riparian	Low Desert Scrub	Migrant
Mountain Plover					X	High Desert Scrub	High Desert Scrub	Migrant
Northern Harrier	X	X	X	X	X	Wet Meadow	High Desert Scrub	Agriculture
Peregrine Falcon	X	X	X		X	Cliff	Lowland Riparian	Wetland
Pinyon Jay	X	X	X	X	X	Pinyon-Juniper	Ponderosa Pine	Pinyon-Juniper
Prairie Falcon	X	X	X	X	X	Cliff	High Desert Scrub	Agriculture
Pygmy Nuthatch	X				X	Ponderosa Pine	Aspen	Ponderosa Pine
Red-naped	X	X	X	X	X	Aspen	Mixed Conifer	Mountain

	Utah Mountains	Basin and Range	Mojave Desert	Wyoming Basin	Colorado Plateau	Primary Breeding	Secondary Breeding	Winter Habitat
Sapsucker								Riparian
Sage Sparrow	X	X	X	X	X	Shrubsteppe	High Desert Scrub	Low Desert Scrub
Sharp-tailed Grouse	X	X				Shrubsteppe	Grassland	Grassland
Snowy Plover	X	X			X	Playa	Playa	Migrant
Swainson's Hawk	X	X		X	X	Agriculture	Aspen	Migrant
Three-toed Woodpecker	X					Sub-Alpine Conifer	Lodgepole Pine	Sub-Alpine Conifer
Virginia's Warbler	X	X	X		X	Northern Oak	Pinyon Juniper	Migrant
Williamson's Sapsucker	X	X			X	Sub-Alpine Conifer	Aspen	Migrant
Wilson's Phalarope		X		X		Wetland	Water	Migrant
Yellow-billed Cuckoo *	X	X	X		X	Lowland Riparian	Agriculture	Migrant

[A] PIF – Partners in Flight
[B] BCC – Birds of Conservation Concern (FWS)
[C] Bold = PIF
Regular = BCC
* = Both Lists
List provided by Diana Wittington, Utah Field Office, U.S. Wildlife and Wildlife Service

*The species listed in Table 3.13.1 have habitat within river corridors of at least one of the 86 eligible river segments. The species with an * are dependent on the river corridor for primary or secondary breeding, or winter habitat. Those species without an * are not river-dependent, i.e., they may use the river to obtain water, but are not dependent on it for part of their life cycle.

Management Indicator Species

Table 3.13.2 lists terrestrial Management Indicator Species (MIS) by forest.

Table 3.13.2. Management indicator species of the six National Forests of Utah.

Species	Ashley NF	Dixie NF	Fishlake NF	Manti-La Sal NF	Uinta NF	Wasatch-Cache NF
Golden eagle *Aquila chrysaetos*	x			x		
Northern goshawk *Accipiter gentilis*	x	x	x	x	x	x
White-tailed ptarmigan *Lagopus leucurus*	x					
Sage grouse *Centrocercus urophasianus*	x					
Wild turkey *Meleagris gallopavo*		x				
Warbling vireo * *Vireo gilvus*	x					
Lincoln sparrow *Melospiza lincolnii*	x		x			
Red-naped sapsucker *Sphyrapicus nuchalis*	x					
Northern flicker *Colaptes auratus*		x				
Hairy woodpecker *Picoides villosus*			x			

Species	Ashley NF	Dixie NF	Fishlake NF	Manti-La Sal NF	Uinta NF	Wasatch-Cache NF
Song sparrow *Melospiza melodia*	x		x			
Brewer's sparrow *Spizella breweri*			x			
Vesper sparrow *Pooecetes gramineus*			x			
Sage thrasher *Oreoscoptes montanus*			x			
Northern three-toed woodpecker *Picoides tridactylus*					x	
Western bluebird *Sialia mexicana*			x			
Mountain bluebird *Sialia currucoides*			x			
MacGillivray's warbler *Oporornis tolmiei*			x			
Yellow warbler * *Dendroica petechia*			x			
Elk *Cervus canadensis*	x	x	x	x		
Mule deer *Odocoileus hemionus*	x	x	x	x		
Abert squirrel *Sciurus aberti*				x		
Beaver * *Castor canadensis*					x	x
Snowshoe hare *Lepus americanus*						x

*The species listed in Table 3.13.1 have habitat within river corridors of at least one of the 86 eligible river segments. The species with an * are dependent on the river corridor for primary or secondary breeding, or winter habitat. Those species without an * are not river-dependent, i.e., they may use the river to obtain water, but are not dependent on it for part of their life cycle.

Endangered, Threatened, Proposed, Candidate, and Sensitive Species

Table 3.13.3 lists terrestrial endangered, threatened, and Forest Service sensitive species (TES) by forest. A complete listing of all TES by forest is contained in Appendix C.2

Table 3.13.3. Six National Forests in Utah proposed, endangered, threatened and sensitive terrestrial species (from regional list (12/03) (technical edits 7/04). Known/suspected distribution by forest.

	Ashley NF	Dixie NF	Fishlake NF	Manti-La Sal NF	Uinta NF	Wasatch-Cache NF
ENDANGERED						
Birds						
Southwestern willow flycatcher * *Empidonas trallii extimus*		x	x	x		
THREATENED						
Mammals						
N. American lynx *Lynx canadensis*	?			?	?	?
Utah prairie dog *Cynomys parvidens*		x	x			
Birds						

	Ashley NF	Dixie NF	Fishlake NF	Manti-La Sal NF	Uinta NF	Wasatch-Cache NF
Mexican spotted owl Strix occidentalis lucida		x	x	x		
Reptiles/Amphibians						
Desert tortoise Gopherus agassizii		?				
CANDIDATE						
Birds						
Mountain plover *Charadrius montanus*	x					
FOREST SERVICE SENSITIVE						
Mammals						
Pygmy rabbit *Brachylagus idahoensis*		x	x		?	?
Spotted bat *Euderma maculatum*	x	x	x	x	x	x
N. American Wolverine *Gulo gulo*	?					?
Western big-eared bat *Corynorthinus townsendii pallescens*	x	x	x	x	x	x
Birds						
Bald eagle * *Haliaeetus leucocephalus*	x	x	x	x	x	x
Boreal owl *Aegolius funereus*	x					x
Greater sage grouse *Centrocercus urophasianus*	x	?	x	x	x	x
Peregrine falcon *Falco peregrinus anatum*	x	x	x	x	x	x
Flammulated owl *Otus flammeoulus*	x	x	x	x	x	x
Three-toed woodpecker *Picoides tridactylus*	x	x	x	x	x	x
Great gray owl *Strix nebulosa*	x					x
Columbia sharp-tail grouse *Tympanuchus phasianellus columbianus*						x
Northern goshawk Accipiter gentillis	x	x	x	x	x	x
Reptiles/Amphibians						
Columbia spotted frog * *Rana luteiuentris*	?			x	x	x

x = known distribution species and/or habitat
? = suspected or potential habitat
o = offsite impacts (e.g., downstream)

*The species listed in Table 3.13.1 have habitat within river corridors of at least one of the 86 eligible river segments. The species with an * are dependent on the river corridor for primary or secondary breeding, or winter habitat. Those species without an * are not river-dependent, i.e., they may use the river to obtain water, but are not dependent on it for part of their life cycle.

Environmental Consequences
Introduction

There are two factors that run consistently through a discussion of comparing alternatives to designate suitable segments of wild, scenic and recreational streams. These are:

1. There will be no ground disturbing activities in designating suitability.
2. Designation of a stream segment as wild, scenic or recreational is another layer of protection for that segment.

Appendix VIII in the W-C Forest Plan, "Protection Standards for Eligible Wild and Scenic River Segments," lists standards to be applied for each designation. These standards are essentially the same for all six National Forests. They are:

> Wild Rivers: No protection specifically for wildlife. Standards that regulate timber production, water supply, hydroelectric power, flood control, mining, road construction, agriculture, recreational development, structures, utilities and motorized travel all protect habitat and excessive intrusions into these river corridors.
>
> Scenic Rivers: No protection specifically for wildlife. Standards that regulate timber production, water supply, hydroelectric power, flood control, mining, road construction, agriculture, recreational development, structures, utilities and motorized travel are identified but are somewhat less restrictive than those for wild rivers.
>
> Recreational Rivers: Standards are less regulatory than with wild and scenic rivers but still somewhat restrictive. "Timber harvesting would be allowed under standard restrictions to protect the immediate river environment, water quality, scenic, wildlife and wildlife, and other values."

Discussion

The decision being made does not include any ground disturbing activities. Some alternatives and stream segment classifications allow ground disturbing activities, but when they come out in an official project proposal they will be subject to site specific NEPA.

Alternative 1 – No action, maintain eligibility of all river segments.

All 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, recommended classification, and ORVs (see Table 3.1.2 for description of interim management). All Alternative 1 would provide the most protection to wildlife since all 86 segments (840 miles) would be managed as "eligible."

Alternative 2 – No rivers recommended.

In this alternative, a determination would be made that all 86 segments (840 miles) are found not suitable and released from Wild and Scenic River interim protection. Protection of river values would continue to be managed by existing laws and regulations and standards provided in Forest Plans. Alternative 2 would provide the least protection to wildlife since no stream segment would be identified as suitable and all eligible designations would be dropped.

Effects Common to Alternatives 3-6

In descending order of protection come Alternatives 5 (50 segments, 530 miles), 6 (40 segments, 441 miles), 3 (24 segments, 212 miles), and 4 (22 segments, 203 miles).

All terrestrial species can be affected by successional stages and age class in a vegetation community. Any change in vegetation diversity, juxtaposition, or age class will be beneficial to some species and a detriment to others. Big game is affected the least because of mobility and how they use variations in vegetation (hiding cover, thermal cover, and foraging). Many species (game and non-game) have adapted, to some degree, in the same way. Migratory birds may be the least adapted. Ground nesting migratory birds prefer an abundance of grasses, forbs, and shrubs to help hide nests and make little use of areas without ground cover. Canopy nesting birds may pay little attention to ground cover but are tied to canopies, canopy cover and their height above the ground.

Management indicator species (MIS) are listed by Forest are found in Table 3.13.2 (terrestrial species only). With no ground disturbing activities there is no change expected in population trends for any terrestrial species. Aquatic species are discussed in Section 3.5, Fish and Other Aquatic Species and plant species is discussed in Section 3.4, Botanical Resources section of this document.

Federally listed species and Forest Service sensitive species are listed by Forest in Table 3.13.3 (terrestrial species only). It has been determined that there will be no effect/no impact on terrestrial TES species because there are no ground disturbing activities proposed in this action. Determinations for aquatic and botanical species will be discussed in their appropriate sections of this document. All will be covered in the biological evaluation and biological assessment.

Protection of an area from ground disturbing activities allows the area to proceed through natural successional stages and leads to mature and old age classes of vegetation favoring species that prefer mature and old age classes. Whether protected or not, catastrophic natural events such as fire, flood, wind, and disease can affect succession and age class diversity within vegetation types in all stages of succession.

3.14 Cumulative Effects Analysis

"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (§ 1508.7, CEQ Regulations).

Decisions as a result of this National Environmental Policy Act (NEPA) process could combine with other past, present, and reasonably foreseeable future actions to produce cumulative impacts to resources within the National Forests in Utah. During the eligibility process, Forests worked with other surrounding Federal agencies (where applicable). As the Forest Service moved forward into this NEPA process, the BLM and the State of Utah became cooperating agencies.

There are six Bureau of Land Management (BLM) Field Offices in the process of completing draft resource management plans that could or have found river segments eligible and/or suitable that could contribute to the cumulative impacts. All six plans are in a draft stage and subject to change. It is possible that when the BLM signs the final decision for each resource management plan that the Preferred Alternative may differ from what is presented in Appendix B. However, this is the best available data. Appendix B has a list of rivers considered by the Kanab, Moab, Monticello, Price, Richfield, and Vernal Field Offices.

In addition to the six BLM Field Offices that are in the process of completing resource management plans, the Grand Staircase-Escalante National Monument and the Dixie Resource Management Plans are complete. The Grand Staircase-Escalante National Monument (BLM) considered wild and scenic rivers

in the Grand Staircase-Escalante National Monument Management Plan (effective February 2000). The GSENM found five segments eligible and suitable on BLM land. At that time, eight stream segments on the Dixie National Forest were found eligible for a suitability analysis and potential recommendation by the interagency planning process that included the BLM (Grand Staircase Escalante National Monument) and the National Park Service (Glen Canyon National Recreation Area). The eligibility results of this process are found within the Grand Staircase Escalante National Monument Management Plan and Final Environmental Impact Statement, which can be found on the web at: http://www.ut.blm.gov/monument/planning-index.php.

In addition to the BLM, there are National Park Service (NPS) lands located in Utah that could find segments eligible and/or suitable.

Some of the Forest Service's eligible river segments are adjacent to or have State of Utah and Utah School and Institutional Trust Land Administration (SITLA) Lands in between eligible portions of segments. There are no rivers being recommended as eligible on these State lands.

The Nationwide Rivers Inventory (NRI) is a listing of more than 3,400 free-flowing river segments in the United States that are believed to possess one or more "outstandingly remarkable" natural or cultural values judged to be of more than local or regional significance. Under a 1979 Presidential Directive, and related Council on Environmental Quality procedures, all federal agencies must seek to avoid or mitigate actions that would adversely affect one or more NRI segments.

The Wild and Scenic Rivers Team reviewed the NRI list and made a table of river segments that are eligible and being studied in this NEPA process (see project record - Barker 2007). For the complete list, see the NRI website, available on the web at: http://www.nps.gov/ncrc/programs/rtca/nri/index.html.

The Wild and Scenic Rivers Team also reviewed the NRI list for Wyoming and Colorado for the Roc Creek (Montrose County, Colorado) and West Fork Smiths Fork (Uinta County, Wyoming) river segments. These were not on the NRI list and will not be discussed further under cumulative effects.

The Wild and Scenic Rivers Team reviewed the BLM tables in Appendix B of this document, GSENM information in the Grand Staircase-Escalante National Monument Management Plan (effective February 2000), Appendix A, Suitability Evaluation Reports of this document, and the National Rivers Inventory (Barker 2007) and developed Table 4.14.1. The table lists all segments determined to be eligible on National Forest System lands in Utah that may connect or lie adjacent to other public lands and whether or not they will be discussed further.

Table 4.14.1. Eligible river segments on National Forest System lands in Utah, which agency they connect or lie adjacent to, and whether they will be analyzed further in this section.

Eligible National Forest River Segment	River Mile Segment Description	BLM	NPS	Will these segments be discussed further?
Ashley NF				
Ashley Gorge Creek	• 0-9.09 Ashley NF • 9.09-10.16 BLM	Vernal FO - Not Eligible.	N/A.	No
Green River * Note – The Green River is considered eligible across multiple Federal boundaries (i.e., NPS, BLM) throughout the State of Utah, but only on the Ashley NF for this	• 0-5 Ashley NF • 5-7 DWR, State of Utah (south side of river) and Ashley NF (north side) • 7-12.6 BLM (south side) Ashley NF (north side)	Vernal FO - Eligible Upper Green River – Between Little Hole and Utah state line.	Multiple - Eligible.	Yes - State of Utah, BLM, NPS

Eligible National Forest River Segment	River Mile Segment Description	BLM	NPS	Will these segments be discussed further?
process.				
Lower Dry Fork	• 0-4.6 Ashley NF • 4.6-5.6 Private land • 5.6-7.35 BLM	Vernal FO - Not Eligible.	N/A.	No
Dixie NF				
Death Hollow Creek	0-9.6 Dixie NF (from headwaters to forest boundary). Segment flows from Dixie NF to GSENM.	GSENM - Eligible and Suitable.		Yes - BLM
Mamie Creek	0-2 Dixie NF (from headwaters to Forest boundary (Box-Death Hollow Wilderness Boundary)	GSENM - Eligible and Suitable.		Yes - BLM
North Fork Virgin River *Note East Fork Virgin River, North Fork Virgin River, and Virgin River being considered across multiple Federal boundaries (i.e., BLM, NPS) and in Arizona and Nevada.	0-9.6 Dixie NF (from headwaters to forest boundary).	Kanab FO - North Fork Virgin River • Segment 48-49 Section 31 - 33 (northeast of Zion NP)	Zion NP – Eligible.	Yes - BLM, NPS
Fishlake NF				
Cottonwood Canyon *Located on Dixie NF, but administered by Fishlake NF	0-6.3 *Dixie NF (flows from Dixie NF to GSENM)	GSENM - Eligible, but not Suitable.		No
Slickrock Canyon *Located on Dixie NF, but administered by Fishlake NF	0-1.6 *Dixie NF (flows from *Dixie NF to GSENM)	GSENM - Eligible and Suitable.		Yes - BLM
Steep Creek *Located on Dixie NF, but administered by Fishlake NF	• 0-5.3 *Dixie NF • 5.3-5.6 GSENM • 5.6-7.6 *Dixie NF	GSENM - Eligible and Suitable.		Yes - BLM
The Gulch *Located on Dixie NF, but administered by Fishlake NF	0-2.1 *Dixie NF (flows from *Dixie NF to GSENM)	GSENM - Eligible and Suitable.		Yes - BLM
Manti-La Sal NF				
Hammond Canyon	• 0-7.2 Manti-La Sal NF • 7.2-7.6 Tribal land • 7.6-8.2 Manti-La Sal NF • 8.2-8.3 Tribal land • 8.3-10.7 Manti-La Sal NF	Monticello FO - Not Eligible.		Yes - Tribal Land.
Huntington Creek	• 0-16.01 Manti-La Sal NF mixed with private land	16.01-18.34 BLM mixed with private land. The BLM Price Field Office has coordinated with the Manti-La Sal NF and agrees with their preliminary determination that Huntington Creek is eligible for Wild and Scenic River		No, In a meeting prior to establishing eligible rivers, the Manti-La Sal and Price Field Office agreed on an ending point for Huntington Creek. Since there was little BLM land involved, the BLM asked the Forest to analyze this segment. Nineteen miles of this segment, which includes BLM and

Eligible National Forest River Segment	River Mile Segment Description	BLM	NPS	Will these segments be discussed further?
		Designation. The BLM defers to the Forest Service for determinations of eligibility and suitability on these lands.		National Forest System lands has been analyzed in direct and indirect effects. Therefore, it won't be analyzed in the cumulative effects section.
Chippean Canyon & Allen Canyon	• 0-9.6 Manti-La Sal NF mixed with private land • 9.6-14.6 Private land • 14.6-14.7 BLM	Monticello FO - Not Eligible.		No
Lower Dark Canyon	0-41.2 Manti-La Sal NF	Monticello FO – Eligible.		Yes - BLM
Wasatch-Cache				
Beaver Creek: South boundary of State land to confluence with Logan River	• 0-2.5 Wasatch-Cache NF • 2.5-3.1 Utah State Land (SITLA)	¼ mile corridor on SITLA at beginning of segment.		Yes – State of Utah Land
Boundary Creek: source to confluence with East Fork Bear River	• 0-3.8 - Wasatch-Cache NF • 3.8-4.3 – Utah State land, administered by Boy Scouts of America			Yes – State of Utah Land
Logan River: Idaho state line to confluence with Beaver Creek	• 0-0.6 Wasatch-Cache NF • 0.6-1.7 Private Land • 1.7-5.6 Wasatch-Cache NF • 5.6-5.8 Utah State Land (SITLA) • 5.8-5.9 Wasatch-Cache NF • 5.9-6.2 Utah State Land (SITLA)	Some of the pieces listed as Utah State Land (SITLA) are now owned by the forest, per land exchange.		No
Temple Fork: source to confluence with Logan River	0-6.3 Wasatch-Cache NF * Utah State Land within ¼ mile buffer			Yes – State of Utah Land

Cumulative Effects Analysis Area

The cumulative effects analysis area is composed of the Forest Service's eligible river segments and those eligible and/or suitable segments being considered by other Federal agencies for designation that lie within the river segment or river corridor and connect directly to the eligible river segment. This section also briefly discusses the river segments that have Tribal or State of Utah lands within or adjacent to the Forest Service's eligible river segments.

The Green River and North Fork Virgin River National Park Service (NPS) eligible segments are outside of the cumulative effects analysis area, therefore, they will not be discussed further under the NPS context. They will be discussed where they connect directly to BLM segments.

Cumulative Effects to BLM River Segments

The Green River, Death Hollow Creek, Mamie Creek, North Fork Virgin River, Slickrock Canyon, Steep Creek, The Gulch, and Lower Dark Canyon are BLM river segments that connect to or lie adjacent or within eligible river segments being considered on National Forests in Utah. Table 4.14.2 displays a summary of mileage, classification, and ORV and which Forest Service action alternative they are currently in.

Table 4.14.2. A description of mileage, classification, ORVs, and alternatives for river segments eligible on both USFS and BLM lands.

River Segment	River Mile Segment Description	Miles	Classification	ORVs	County	Found Suitable in USFS Alternative
Green River (USFS Ashley NF)	• 0-5 Ashley NF • 5-7 Ashley NF (north side) • 7-12.6 BLM (south side) Ashley NF (north side)	13	Scenic	Scenic, Recreational, Fish, Wildlife, Historic, Cultural	Daggett	3, 5, 6
Green River (BLM - Vernal Field Office)	Upper Green River • Between Little Hole and Utah state line.	22	Scenic	Scenic, Recreational, Fish and Wildlife Habitat, Cultural	Uintah	
Death Hollow Creek (USFS Dixie NF)	0-9.6 Dixie NF (from headwaters to forest boundary). Segment flows from Dixie NF to GSENM.	10	Wild	Scenic, Recreational, Ecological	Garfield	3, 5, 6
Death Hollow Creek (BLM GSENM)	GSENM Boundary to (T34S, R3E, S3) to Mamie Creek (T34S, R3E, S36).	9.9	Wild	High scenic quality, part of ONA, southwestern willow flycatcher habitat, prehistoric sites, dinosaur tracks, and riparian areas.	Garfield	
Mamie Creek (USFS Dixie NF)	0-2 Dixie NF (from headwaters to Forest boundary (Box-Death Hollow Wilderness Boundary)	2	Wild	Scenic, Recreational, Geological, Ecological	Garfield	3, 5
Mamie Creek (BLM GSENM)	GSENM Boundary to (T34S, R3E, S16) to Escalante River (T35S, R4E, S10).	9.2	Wild	High scenic quality, part of ONA, high recreational use, natural bridge, fish and wildlife habitat, prehistoric and historic sites including an historic mail trail, and riparian area.	Garfield	
North Fork Virgin River (USFS Dixie NF)	0-9.6 Dixie NF (from headwaters to forest boundary).	1	Scenic	Scenic, Geologic, Recreational	Kane	3, 5, 6
North Fork Virgin River (BLM GSENM	Kanab FO - North Fork Virgin River	Kanab FO –	Wild	Scenic, Wildlife, Recreational	Kane	

River Segment	River Mile Segment Description	Miles	Classification	ORVs	County	Found Suitable in USFS Alternative
and Kanab Field Office)	• Segment 48-49 Section 31-33 (northeast of Zion NP)	2.2				
Slickrock Canyon (USFS Dixie NF) *Located on Dixie NF, but administered by Fishlake NF	0-1.6 *Dixie NF (flows from *Dixie NF to GSENM)	2	Wild	Scenic, Recreational, Cultural, Ecological	Garfield	5
Slickrock Canyon (BLM GSENM)	GSENM boundary (T33S, R5E, S22) to Deer Creek (T33S, R5E, S33)	2.8	Wild	High quality scenery, recreational values, prehistoric sites, and riparian areas.	Garfield	
Steep Creek (USFS Dixie NF) *Located on Dixie NF, but administered by Fishlake NF	• 0-5.3 *Dixie NF • 5.3-5.6 GSENM • 5.6-7.6 *Dixie NF	7	Wild	Scenic, Recreational, Ecological	Garfield	(4 miles Alt 3), 5
Steep Creek (BLM GSENM)	GSENM boundary (T33S, R5E, S24) to The Gulch (T34S, R5E, S12).	6.4	Wild	High quality scenery, recreational values, and riparian areas	Garfield	
The Gulch (USFS Dixie NF) *Located on Dixie NF, but administered by Fishlake NF	0-2.1 *Dixie NF (flows from *Dixie NF to GSENM)	2	Recreational	Scenic, Recreational, Cultural	Garfield	3, 5
The Gulch 1 (BLM GSENM)	GSENM boundary (T32S, R6E, S32) to Burr Trail Road (T34S, R5E, S13)	11	Wild	High quality scenery, outstanding recreation, natural arch, peregrine falcon habitat, riparian area, and petrified wood	Garfield	
The Gulch 2 (BLM GSENM)	Along Burr Trail Road to T34S, R5E, S13	0.6	Recreational	Same	Garfield	
The Gulch 3 (BLM GSENM)	Below Burr Trail Road to Escalante River (T35S, R5E, S36)	13	Wild	Same	Garfield	
Lower Dark Canyon (USFS Manti-La Sal NF)	0-41.2 Manti-La Sal NF	41	Wild	Cultural	San Juan	5, 6
(Lower) Dark Canyon (BLM Monticello FO)	Dark Canyon • Youngs Canyon to Glen Canyon National Recreation Area	6.4	Wild	Scenic, Recreation, Wildlife	San Juan	

Effects Common to All Alternatives

State or Tribal lands occur adjacent or within the following river corridors: the Green River, Hammond Canyon, Beaver Creek, Boundary Creek, and Temple Fork. Designation of a Wild, Scenic, and/or Recreational river could cumulatively impact State of Utah lands or Tribal Nation lands because designation of a Wild and Scenic River could lead to no surface occupancy or no leasing of Federal land for ¼ mile on each side of the center of the river segment. The inability to lease or develop Federal lands may make it unfeasible to lease or develop adjacent State or Tribal lands. However, other activities could continue of those lands, regardless of a Wild, Scenic, or Recreational designation on National Forest System lands thus leaving them relatively unaffected.

Alternative 1 – No action, maintain eligibility of all river segments.

Under the No Action Alternative, all 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, recommended classification, and ORVs. This would include those eight segments in the cumulative effects analysis area: Green River, Death Hollow Creek, Mamie Creek, North Fork Virgin River, Slickrock Canyon, Steep Creek, The Gulch, and Lower Dark Canyon. Refer to Table 3.1.2 for a description of interim management. Management would continue to be in accordance with existing laws and regulations and Forest Plans. If Alternative 1 is selected, regardless of future BLM decisions, the eligible river segments on National Forest System lands will continue to be protected and managed by the Forest Service.

In this alternative, no Comprehensive River Management Plan would be created to protect ORVs, so coordination between agencies would not necessarily occur.

On approximately 10 miles of segments classified as Wild not in a designated Wilderness area, mineral leasing and claims would continue as there would be no withdrawal from mineral entry. For most segments there are no Bureau of Reclamation Withdrawals and there would be no dramatic change in ecological resources, as this resource would be managed as per Forest Plan standards. For Huntington Creek and the Green River where there are existing BOR withdrawals, the potential for dam enlargement and other water projects continues to exist. These projects could dramatically change the ability to protect river values.

Alternative 2 – No rivers recommended.

Under this alternative, a determination is made that all 86 river segments (840 miles) are not suitable and released from Wild and Scenic River interim protection, including those eight segments in the cumulative effects analysis area: Green River, Death Hollow Creek, Mamie Creek, North Fork Virgin River, Slickrock Canyon, Steep Creek, The Gulch, and Lower Dark Canyon. Protection of river values would revert to the direction provided in the underlying Forest Plans for the area, and existing laws and regulations. Choosing this alternative would not in itself initiate any changes to river segments nor would it provide any additional protection.

Over time, without designation, dams and other water projects could be approved for some segments, depending on area management standards, possibly resulting in the creation of reservoirs and associated facilities. If reservoirs are developed on some of the main rivers such as Huntington Creek, the change would be dramatic. The change could be from a moving river and associated canyon and riparian areas, to a flat water reservoir. Values associated with rivers would be greatly affected, as would the values on adjoining river segments managed by the BLM.

Seventeen segments (52 miles) will not be affected by water development projects or other activities. Segments would be managed as per land management plan objectives and existing laws and regulations. Segments without water resource development potential, or in extremely rugged, inaccessible areas, may remain undeveloped. Additionally, approximately 400 miles of eligible river segments are located in Wilderness and Research Natural Areas will generally remain unaffected.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

Under this alternative, the Forest Service would find suitable all segments listed in Chapter 2, Table 2.2.1. Direct and indirect effects to that list of rivers have been analyzed by resource area in Chapter 3. Alternative 3 would include the following six river segments in the cumulative effects analysis area: Green River, Death Hollow Creek, Mamie Creek, North Fork Virgin River, Steep Creek (4 miles only), and The Gulch. On all segments under this alternative, Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, recommended classification, and ORVs, and require that a comprehensive river management plan within three years of designation.

The **Green River** is currently eligible and classified as Scenic by the BLM and USFS. If the USFS and BLM find the Green River suitable, it would protect 35 miles (13 miles USFS and 22 miles BLM). It would also protect the following ORVs: Scenic, Recreational, Fish, Wildlife, Historic, Cultural (USFS) and Scenic, Recreational, Fish and Wildlife Habitat, Cultural (BLM). This river segment would be located in both Daggett (USFS) and Uintah (BLM) Counties, and essentially stretch from near its headwaters on the Ashley NF below Flaming Gorge Dam to the Utah State line.

The Green River has one road right of way and other right of ways (see Section 3.9). Although the Green River has an existing BOR withdrawal, there are no reasonably foreseeable future water resources projects or activities that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 35 miles of the ORVs listed in the previous paragraph. In addition, both agencies would continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

The Green River is considered eligible across multiple Federal boundaries (i.e., NPS, BLM) throughout the State of Utah, but the segment is only being analyzed on the Ashley National Forest. The Green River has a total of 565 additional miles (outside the cumulative effects analysis area) being considered in the State of Utah. If both the BLM and the Forest Service find this segment suitable, it could possibly result in one of the larger river segment systems in the State of Utah.

Death Hollow Creek is currently eligible and classified as Wild and by both the USFS and the BLM. The BLM has also determined it is suitable. If the USFS and BLM find Death Hollow Creek suitable, it would protect 19.9 miles (10 miles USFS and 9.9 miles BLM). It would also protect the following ORVs: Recreational, Cultural, Wildlife, Paleontological, Ecological (USFS) and High scenic quality, part of ONA, southwestern willow flycatcher habitat, prehistoric sites, dinosaur tracks, and riparian areas (BLM). It is located in Garfield County and would stretch from its headwaters on the Dixie NF to Mamie Creek (T34S, R3E, S36) on the GSENM.

There are no reasonably foreseeable future water resources projects, mineral activities, or rights of ways that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 19.9 miles of the ORVs listed in the previous paragraph. In addition, both agencies would

continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

Mamie Creek is currently eligible and classified as Wild by the BLM and USFS. The BLM has also determined it is suitable. If the USFS and BLM find Mamie Creek suitable, it would protect 11.2 miles (2 miles USFS and 9.2 miles BLM). It would also protect the following ORVs: Scenic, Recreational, Geological, Fish, Wildlife, Cultural, Ecological, Historical (USFS) and High scenic quality, part of ONA, high recreational use, natural bridge, fish and wildlife habitat, prehistoric and historic sites including an historic mail trail, and riparian area (BLM). It is located in Garfield County and would stretch from its headwaters on the Dixie NF to the Escalante River (T35S, R4E, S10) on the GSENM.

There are no reasonably foreseeable future water resources projects, mineral activities, or rights of ways that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 11.2 miles of the ORVs listed in the previous paragraph. In addition, both agencies would continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

North Fork Virgin River is currently eligible and classified as Wild by the BLM and Scenic by the USFS. If the USFS and BLM find North Fork Virgin River suitable, it would protect 3.2 miles (1 mile USFS and 2.2 miles BLM). It would also protect the following ORVs: Scenic, Geologic, Recreational (USFS) and Scenic, Wildlife, Recreational (BLM). It is located in Kane County and would stretch from its headwaters on the Dixie NF to the Forest boundary and include Segment 48-49 Section 31-33 (northeast of Zion NP) located on the BLM (Kanab Field Office).

There is a potential coal reserve on the North Fork Virgin River. There are no reasonably foreseeable future water resources projects or rights of ways that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 3.2 miles of the ORVs listed in the previous paragraph. In addition, both agencies would continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

The East Fork Virgin River, North Fork Virgin River, and Virgin River are being considered across multiple Federal boundaries (i.e., BLM, NPS) and in Arizona and Nevada. The Virgin River (including North and East Forks) has an additional 104 miles outside of the cumulative effects analysis area being considered in Utah. The Virgin River is also being considered in Arizona and 106 miles in Nevada. If Congress decides to add this to the National Wild and Scenic River System, it could quite possibly result in one of the larger river segments in the State of Utah.

Steep Creek is currently eligible and classified as Wild by the BLM and the USFS. The BLM has also determined it is suitable. If the USFS and BLM find Steep Creek suitable, it would protect 10.4 miles (4 miles only for this alternative USFS and 6.4 miles BLM). It would also protect the following ORVs: Scenic, Recreational, Ecological (USFS) and High quality scenery, recreational values, and riparian areas (BLM). It is located in Garfield County and would include segments on the Dixie NF and a segment from the GSENM boundary (T33S, R5E, S24) to The Gulch (T34S, R5E, S12).

There are no reasonably foreseeable future water resources projects, mineral activities, or rights of ways that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 10.4 miles of the ORVs listed in the previous paragraph. In addition, both agencies would continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

The Gulch is currently eligible and classified as Wild and Recreational by the BLM and Recreational by the USFS. The BLM has also determined it is suitable. If the USFS and BLM find The Gulch suitable, it would protect 26.6 miles (2 miles USFS and 24.6 miles BLM). It would also protect the following ORVs: Scenic, Recreational, Cultural (USFS) and High quality scenery, outstanding recreation, natural arch, peregrine falcon habitat, riparian area, and petrified wood (BLM). It is located in Garfield County and would stretch from (T32S, R6E, S28) on the Dixie NF to the GSENM boundary (T33S, R6E, S32) and include The Gulch 1, 2, and 3 segments from to Escalante River (T35S, R5E, S36).

There are no reasonably foreseeable future water resources projects, mineral activities, or rights of ways that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 26.6 miles of the ORVs listed in the previous paragraph. In addition, both agencies would continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

Segments not found suitable would be released from Wild and Scenic River interim protection and effects similar to Alternative 2 may occur.

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

In a meeting prior to establishing eligible rivers, the Manti-La Sal and Price Field Office agreed on an ending point for Huntington Creek. Since there was little BLM land involved, the BLM asked the Forest to analyze this segment. Nineteen miles of Huntington Creek, which includes BLM and National Forest System lands has been analyzed in direct and indirect effects. Therefore, it won't be analyzed in the cumulative effects section.

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

Under this alternative, the forest would find suitable all segments listed in Table 2.2.3. Direct and indirect effects to that list of rivers has been analyzed by resource are in Chapter 3. This would include eight segments in the cumulative effects analysis area, including: Green River, Death Hollow Creek, Mamie Creek, North Fork Virgin River, and The Gulch (see analysis under Alternative 3), and Slickrock Canyon, Steep Creek, and Lower Dark Canyon. On all segments under this alternative, Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, recommended classification, and ORVs, and require that a comprehensive river management plan within three years of designation.

Steep Creek is currently eligible and classified as Wild by the BLM and the USFS. The BLM has also determined it is suitable. If the USFS and BLM find Steep Creek suitable, it would protect 13.4 miles (7 miles USFS and 6.4 miles BLM). It would also protect the following ORVs: Scenic, Recreational, Ecological (USFS) and High quality scenery, recreational values, and riparian areas (BLM). It is located in Garfield County and would include segments on the Dixie NF and a segment from the GSENM boundary (T33S, R5E, S24) to The Gulch (T34S, R5E, S12).

There are no reasonably foreseeable future water resources projects, mineral activities, or rights of ways that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 13.4 miles of the ORVs listed in the previous paragraph. In addition, both agencies would

continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

Slickrock Canyon is currently eligible and classified as Wild by the BLM and the USFS. The BLM has also determined it is suitable. If the USFS also finds Steep Creek suitable, it would protect 4.8 miles (2 miles USFS and 2.8 miles BLM). It would also protect the following ORVs: Scenic, Recreational, Cultural, Ecological (USFS) and High quality scenery, recreational values, prehistoric sites, and riparian areas (BLM). It is located in Garfield County and would stretch from (T33S, R5E, S9) on the Dixie NF to Deer Creek on the GSENM (T33S, R5E, S33).

There are no reasonably foreseeable future water resources projects, mineral activities, or rights of ways that would impact the river segment. If both the BLM and Forest Service found this segment suitable, it would protect 4.8 miles of the ORVs listed in the previous paragraph. In addition, both agencies would continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

Lower Dark Canyon is currently eligible and classified as Wild by the BLM and the USFS. If the USFS and BLM find Lower Dark Canyon suitable, it would protect 47.4 miles (41 miles USFS and 6.4 miles BLM). It would also protect the following ORVs: Cultural (USFS) and Scenic, Recreation, Wildlife (BLM). It is located in San Juan County and would include a segment on the Manti-La Sal NF and the Youngs Canyon to Glen Canyon National Recreation Area on the BLM.

There are no reasonably foreseeable future water resources projects, mineral activities, or rights of ways that would impact the river segments. If both the BLM and Forest Service found this segment suitable, it would protect 47.4 miles of the ORVs listed in the previous paragraph. In addition, both agencies would continue to protect free-flow and water quality which could result in long-term beneficial impacts to plants, wildlife, and aquatic species.

Segments not found suitable would be released from Wild and Scenic River interim protection and effects similar to Alternative 2 may occur.

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

Under this alternative, the forest would find suitable all segments listed in Chapter 2, Table 2.2.4. Direct and indirect effects to that list of rivers has been analyzed by resource are in Chapter 3. This would include four segments in the cumulative effects analysis area, including: Green River, Death Hollow Creek, North Fork Virgin River (see cumulative effects analysis under Alternative 3), and Lower Dark Canyon.

See cumulative effects analysis under Alternative 5.

Segments not found suitable would be released from Wild and Scenic River interim protection and effects similar to Alternative 2 may occur.

3.15 Short-term Uses and Long-term Productivity

NEPA requires consideration of "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity" (40 CFR 1502.16). As declared by the Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain

conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

Forest management, practiced under either federal or state standards, ensures that short-term resource activities do not significantly impair the land's long-term productivity. However, in some cases, implementation of the alternatives could impede short-term resource yields, such as water developments, and oil and gas.

3.16 Unavoidable Adverse Effects

None of the alternatives result in use or modification of a resource (ground disturbance); therefore, there would be no unavoidable adverse effects. If a river segment is designated, individual comprehensive river management plans would address mitigation actions to reduce any environmental problems along the recommended rivers.

3.17 Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. None of the alternatives result in use or modification of a resource; therefore, there would be no irreversible commitment of resources. Designation of a river segment could protect threatened, endangered, or sensitive fish, wildlife, and plants and eligible or listed historic properties from becoming irreversibly lost due to dam construction.

Irretrievable commitments are those that are lost for a period of time such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line rights-of-way or a road. Implementation of the alternatives may eliminate or reduce the management of some resources, while increasing management opportunities of others.

In four action alternatives, there is the potential for some level of irretrievable loss of future water development for those rivers recommended for designation. Designation of a river clearly precludes future dam construction. Several of the rivers have been identified in the past for potential projects at specific sites. Alternatives 1, 2, and 3 would have the least impact to the irretrievable loss of future options for water development. Alternative 3 would have a moderate impact and Alternative 5 would have a slight impact on the irretrievable loss of future options for water development. Alternatives 4 and 6 would have the most impact.

The withdrawal of lands from mineral entry for Wild rivers is an irretrievable commitment (subject to valid existing rights) if a given river is recommended and classified as Wild. Alternatives 1 and 2 would have no irretrievable commitment of resources because no Wild rivers are recommended. Alternative 5 would have the largest irretrievable commitment because the highest number of Wild rivers are recommended, followed by Alternative 6, 3, and then 4.

3.18 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Departmental Regulation 5600-2 direct federal agencies to integrate environmental justice considerations into federal programs and activities. Environmental justice means that, to the greatest extent practicable and permitted by law, all populations are provided the opportunity to comment before decisions are rendered on, are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by, government programs and

activities affecting human health or the environment. Implementation of any of the alternatives will be consistent with this Order and will not have a discernible effect on minorities, American Indians, women, or the civil rights of any United States Citizen. Nor will it have a disproportionate adverse impact on minorities or low-income individuals. No civil liberties will be affected. Public involvement and comment was sought and incorporated into this document. The Forest Service has considered all public input from individuals or groups regardless of age, race, income status, gender, or other social/economic characteristics. (See project record – scoping letters).

Executive Order 12898 also directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish or wildlife. While the decision resulting from this analysis may alter the amount of access in the project area provided by the National Forests in Utah, the decision would not alter opportunities for subsistence hunting by Native American tribes. Native American tribes holding treaty rights for hunting and fishing on the National Forests in Utah were provided an opportunity to comment on the proposal. (See project record – scoping letters)

Based on experience with similar projects, none of the alternatives would substantially affect minority or low-income individuals, women, or civil rights.