



United States
Department of
Agriculture

Forest
Service
March 2007



Environmental Assessment

Little Mill Campground Bridge Construction

Pleasant Grove Ranger District
Uinta National Forest
Utah County, Utah

SE $\frac{1}{4}$ Section 24, SW $\frac{1}{4}$ Section 24, NW $\frac{1}{4}$ Section 25,
NE $\frac{1}{4}$ Section 26 of Township 4 South, Range 2 East,
Salt Lake Meridian

For more information, contact: Larry Velarde
(801) 342-5245
lvelarde@fs.fed.us

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Table of Contents

Summary	i
Introduction	2
Document Structure	2
Background	2
Purpose and Need for Action	3
Proposed Action	6
Decision Framework	6
Public Involvement	6
Issues	7
Alternatives, including the Proposed Action	8
Alternatives	8
Comparison of Alternatives	10
Affected Environment/Environmental Consequences	12
Consultation and Coordination	25
References	27

SUMMARY

The Pleasant Grove Ranger District, Uinta National Forest, is proposing to construct a new bridge to connect North Mill Campground on the north side of American Fork River to Little Mill Campground on the south side of the river. This would serve as the entrance to Little Mill Campground. The Forest Service is also proposing to construct a new exit bridge close to the reconstructed campsites. The exit/east bridge was planned to be replaced with the campground reconstruction because of condition issues and restrictions the narrow bridge places on the flow of the river. If the exit bridge is constructed in the new location, the current exit/east bridge would be removed and not replaced.

Both bridges would be one-way, single-lane vehicle bridges with enough additional width to provide a pedestrian walkway. The bridge span would handle peak river flows, and abutments would be positioned out of the natural stream course. The bridge surface and approaches would be hot bituminous plant mix. North Mill and Little Mill campgrounds are located in the SE ¼ Section 24, SW ¼ Section 24, NW ¼ Section 25, NE ¼ Section 26 of Township 4 South, Range 2 East, Salt Lake Meridian.

In addition to the proposed action, the Forest Service also evaluated the No Action Alternative. Under that alternative, the existing bridges would continue to be utilized. The Forest Service would not install two new bridges in their new locations or remove the existing east/exit bridge.

Based upon the effects of the alternatives, the Responsible Official will decide:

- Whether to install a new one-lane vehicle entrance bridge to connect North Mill Campground to Little Mill Campground,
- Whether to install a new one-lane vehicle exit bridge closer to the reconstructed campground, and, if so,
- What mitigation and management requirements would be needed.

INTRODUCTION

Document Structure

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- *Introduction:* The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Comparison of Alternatives, including the Proposed Action:* This section provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Environmental Consequences:* This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by significant issue. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the other alternatives that follow.
- *Agencies and Persons Consulted:* This section provides a list of preparers and agencies consulted during the development of the environmental assessment.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project record located at the Pleasant Grove Ranger District Office in Pleasant Grove, Utah

Background

In 1998, the Pleasant Grove District Ranger signed a Decision Memo that approved the maintenance and repair of existing facilities, in-kind replacement of existing facilities, and other measures to control damage to soil and vegetation and address safety concerns. The Decision Memo covered several developed recreation sites within the Pleasant Grove Ranger District. The Little Mill and North Mill campgrounds were among the sites identified for improvements. Many of the planned improvements at other sites have already occurred.

In 2004, the Uinta National Forest successfully presented a proposal to the Intermountain Region to secure Capital Improvement Program (CIP) dollars for the reconstruction of Little Mill Campground. Because of the age of the environmental analysis documented in 1998, the Uinta National Forest completed a National Environmental Policy Act (NEPA) review to determine whether there was a need to correct, supplement or revise

the environmental documents or decision. Specialists' reports were prepared, as needed, to update the previous analysis and conclusions.

Based on the information gathered through that review, the Pleasant Grove District Ranger determined that the Decision Memo and associated analysis, with appropriate specialists' updates, were sufficient to proceed with reconstruction within the current disturbed area and footprint of the existing improved site. New disturbance not covered by the 1998 Decision Memo would be outside that decision and supporting analysis and would require further analysis.

Three key issues for the design plans of the campground reconstruction were:

- 1) Public safety concerns associated with rock-fall hazards;
- 2) Reconfiguration of the campground to meet current spur/pad length and accessibility standards; and
- 3) Streambank stabilization for public river access in the campground.

A number of concept design plans were reviewed for the construction of the campground. To mitigate rock-fall hazards and to meet the accessibility standards, the Little Mill Campground capacity must be reduced.

North Mill group site campground sits directly across the river from the Little Mill Campground. It has always been problematic that there is no transportation connection between Little Mill and North Mill campgrounds. The same campground host services both sites and must travel out on to SR 92 to gain access to the North Mill Campground. The Forest determined there was a need to relocate the bridges to address these issues; however, the Responsible Official felt that relocation of the bridges and the associated disturbance was beyond the scope of the previous decision memo.

In the current situation, Little Mill Campground is about 1 mile long with a one-lane vehicle entrance bridge on the west end and a one-lane vehicle exit bridge on the east end. The campground reconstruction design would install a new bridge between North Mill, which is on the north side of the river, to Little Mill, which is on the south of the river, thus connecting the two campgrounds.

During the early design phase, engineers thought they may be able to eliminate the east bridge by using the new bridge between North Mill and Little Mill campgrounds as both an entrance and exit. However, further ground verification determined that the canyon bottom where Little Mill Campground is located is too narrow to accommodate two-way traffic and leave room for camping facilities.

The east bridge, which serves as an exit to Little Mill Campground, would be removed and a new exit bridge would be constructed closer to the campground.

Purpose and Need for Action

The *Purpose and Need* is to provide vehicle and campground host access between North Mill and Little Mill campgrounds and to relocate the exit bridge to no longer restrict stream flow. The new bridges would help concentrate impacts within a smaller area and provide more efficient management of the campground facilities.

This action responds to the goals and objectives outlined in the 2003 Revised Uinta National Forest Plan and helps move the project area towards desired conditions described in that plan. The following sections from the Forest Plan are references relevant to the proposed action. Applicable Forest Plan direction, such as standards and guidelines, are not listed but would be applied as appropriate.

Goals, Sub-goals and Objectives

- FW-Goal-1** Soil, air, and water resources provide for watershed health, public health and safety, long-term soil productivity, and ecosystem sustainability, and meet applicable laws and regulations. (p. 2-1)
- FW-Goal-2** Biologically diverse, sustainable ecosystems maintain or enhance habitats for native flora and fauna, forest and rangeland health, watershed health, and water quality. (p. 2-1)
- FW-Goal-6** Diverse and suitable recreational opportunities are provided responsive to public demand while maintaining ecosystem health and contributing to social and economic sustainability. (p. 2-1)
- FW-Goal-8** Forest infrastructure, including facilities and transportation systems, is safe and responsive to public needs and desires; has minimal adverse effects on ecological processes and ecosystem health, diversity, and productivity; and is in balance with needed management actions. (p. 2-1)
- Sub-goal-1-9 (G-1-9)** Watersheds and their associated stream processes, channel stability, riparian resources, and aquatic habitats are maintained or restored to a functional condition. (p. 2-2)
- Sub-goal-1-10 (G-1-10)** Management activities protect and maintain channel stability within the range of natural variability to the extent feasible and consistent with valid existing rights.
- When channel changes or alterations are necessary, mitigation measures restore the aquatic habitat to as near natural condition as practical.
 - Where water flows could move rechanneled bank materials, bank stabilization measures may be necessary. (p. 2-3)

- Sub-goal-1-11 (G-1-11)** All activities on the Forest comply with state and federal clean water standards and applicable permitting processes. To the extent practical through management of activities on the Forest:
- Water chemistry is maintained in all surface water where the alkalinity will not be reduced more than 10 percent of baseline, and
 - Management activities do not cause exceedances of State of Utah water quality standards (this monitoring is required by law) or increases in the listing of 303(d) streams. (p. 2-3)
- Sub-goal-1-15 (G-1-15)** Where practical, streams have access to their floodplains during spring runoff, on average, two out of every three years. Stream channel width to depth ratios, entrenchment ratios, and sinuosity are within expected norms for the appropriate channel type. (p. 2-3)
- Sub-goal-2-19 (G-2-19)** Streams are managed to provide self-sustaining fisheries by ensuring that sufficient habitat and water flow are available to support all life stages of native and desired non-native aquatic species. Where streams are managed to provide a recreational fishery, sufficient habitat is maintained to ensure that the stream's recreational values are maintained. (p. 2-7)
- Sub-goal-2-38 (G-2-38)** Healthy, self-sustaining riparian communities, habitat for viable populations of aquatic life, and conditions for natural stream dynamics exist on the Forest. (p. 2-11)
- Sub-goal-2-42 (G-2-42)** Recreation facilities (including trails and dispersed sites) are designed, constructed, and operated in a manner that does not retard or prevent attainment of aquatic Forest Plan management direction. (p. 2-11)
- Sub-goal-6-1 (G-6-1)** An increasing number of users are accommodated within the capability of the resource by maintaining and improving existing developed recreation sites and emphasizing management of dispersed recreation. (p. 2-18)
- Sub-goal-6-2 (G-6-2)** Existing developed campgrounds are maintained in their current locations. (p. 2-18)
- Objective-6-1 (O-6-1)** By 2010, reconstruct Timpooneke, Lodgepole, and Little Mill Campgrounds, and the Diamond Fork group sites. Mill Hollow, Mount Timpanogos, Blackhawk, Bear Canyon, and Currant Creek Campgrounds will be considered for reconstruction as needed to address deferred maintenance as funds become available. (p. 2-20)

Desired Future Condition

Timpooneke and Little Mill Campgrounds are reconstructed. (p. 5-19)

Proposed Action

The action proposed by the Forest Service to meet the purpose and need is to install a new bridge from North Mill Campground to Little Mill Campground. The bridge would join the two campgrounds. Installing an exit bridge closer to the campground would also meet the purpose and need by concentrating impacts within a smaller area.

The new bridges would be a precast-prestressed concrete superstructure with constructed cast-in-place concrete footings, abutments, and wingwalls. The bridge widths would be one lane and would include a pedestrian walkway. The bridge spans would accommodate peak river flows, and abutments would be positioned out of the natural stream course. The bridge surfaces and approaches would be hot bituminous plantmix.

Decision Framework

Given the purpose and need, the Responsible Official reviews the proposed action and the other alternatives in order to make the following decisions:

- Whether to install a new one-lane vehicle entrance bridge to connect North Mill Campground to Little Mill Campground,
- Whether to install a new one-lane vehicle exit bridge closer to the reconstructed campground, and, if so,
- What mitigation and management requirements would be needed.

Public Involvement

The proposal has been listed in the Forest's Schedule of Proposed Actions since the Summer 2006 edition. On April 26, 2006, a letter requesting comment on the proposal was sent to about 100 potentially interested individuals, organizations and agencies. A legal notice requesting comment on the proposed action was published in *The Daily Herald* on April 29, 2006. In response to the request for comments, one letter and one electronic comment were received.

The Forest design and feasibility team further refined the proposal based on fiscal restraints and to further reduce on-the-ground impacts. The design was modified; therefore, an additional opportunity to comment was provided. On November 17, 2006, a letter requesting comment on the proposal was again sent to about 100 potentially interested individuals, organizations and agencies. The legal notice requesting comments on the revised proposal was published in *The Daily Herald* on November 21, 2006. One letter was received.

Using the comments from the public and other agencies, the interdisciplinary team developed a list of issues to address.

Issues

The Forest Service separated the issues into two groups: significant and non-significant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..."

The Forest Service identified three issues internally and through the public involvement process relative to the proposal. These issues include:

- **Efficient Administration:** Currently there is no transportation connection between Little Mill and North Mill campgrounds. One campground host services both facilities. The host's campsite is in Little Mill, the larger of the two campgrounds. The host must travel out onto the highway to access the North Mill Campground, making maintenance and administration more difficult as well as increasing exposure to risks from traveling SR 92 numerous times per day. The reconstructed campground occupies about half the area of the current campground, making about 0.5 mile of road unnecessary.
- **River and Riparian Resources:** Installation of a new bridge may affect wetlands, riparian, and municipal watersheds and could impede the river's flow during peak water flows.
- **Aquatic Habitats:** Installation of a new bridge may affect aquatic habitats.

Comments regarding the dimensions of the bridge to allow for flow capacity were taken into consideration during the engineering and design phase of the project and a flood analysis was completed as part of the hydrologic analysis. A comment regarding the campground facilities was received; however, the campground facilities are beyond the scope of this analysis.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Little Mill Campground Bridge Construction project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental, social and economic effects of implementing each alternative.

Alternatives

No Action

Under the No Action alternative, no bridge would be installed to connect North Mill Campground to Little Mill Campground. Reconstruction of the Little Mill Campground would proceed using the current access from the bridge on the west end of the existing Little Mill Campground and the current exit/east bridge would be removed and replaced at the existing location.

The new bridge would be a precast/prestressed concrete superstructure with constructed cast-in-place concrete footings, abutments, and wingwalls. The bridge width would be one-vehicle lane with a pedestrian walkway. The bridge span would accommodate river peak flows, and abutments would be positioned out of natural stream course. The bridge surface and approaches would be hot bituminous plantmix.

Replacement of existing facilities was analyzed in the 2004 Decision Memo. No transportation connection between North Mill and Little Mill campgrounds would exist. Continued road maintenance would be needed for the entire existing length of road. (See Figure 1 below showing existing locations of bridges.)

The Proposed Action

A new bridge would be installed from North Mill Campground to Little Mill Campground. The bridge would join the two campgrounds. The existing east/exit bridge would be removed and a new bridge would be installed closer to the campground to reduce the footprint of the campground and reduce the amount of road maintenance. The existing entrance bridge would remain to provide access to the former road for use as a trail and for winter cross-country skiing.

The new bridges would be a precast/prestressed concrete superstructure with constructed cast-in-place concrete footings, abutments, and wingwalls. The bridge width would be one-vehicle lane with a pedestrian walkway. The bridge span would accommodate river peak flows, and abutments would be positioned out of natural stream course. The bridge surface and approaches would be hot bituminous plantmix.

The following Best Management Practices from the “State of Utah, Nonpoint Source Management Plan for 1995 “State of Utah, Nonpoint Source Management Plan for Hydrologic Modification” addendum to the 1988 “Utah Nonpoint Source Management Plan” would be followed for the Little Mill Campground Bridge Construction Project.

- (1) Minimize disturbance in the channel by conducting only essential access and work in the stream area. Conduct staging activities, material/equipment storage well away from the stream. Use physical markers to delineate the area to be disturbed.
- (2) Minimize the length of time that stream-specific construction occurs. Consolidate channel work and complete the installation without interruption. Avoid conducting concurrent site activities that may delay channel work and increase exposure time of disturbance.
- (3) Conduct the construction activity in phases. Avoid area-wide clearance of the construction site. Disturb areas in small parcels and stabilize them before proceeding with the next phase.
- (4) Ensure that all needed materials, manpower, and equipment are available on-site prior to initiating any disturbance in the stream channel/floodplain and tributaries.
- (5) Dispose of excess material out of the stream channel/floodplain.
- (6) Prevent wet cement from entering the water. Ensure that all concrete used during construction is set before allowing contact with stream flow. Wash equipment used during concrete work at least 300 feet from perennial streams and 150 feet away from intermittent streams and out of the riparian area, wetland and floodplain.
- (7) Minimize stream fords for equipment. Stream bed alteration for fords should not be done. Limit crossing frequency to absolutely essential trips.
- (8) Do not conduct work below existing water level, except for essential footings or culvert beds. If the project involves excessive disturbance below the water level, use coffer dams and divert flows if possible.
- (9) Control runoff from disturbed areas using temporary ditches, berms, catch basins, and pitting.
- (10) Install temporary sediment control measures prior to initiating construction in the stream channel/floodplain.

In addition, the following required mitigation would be implemented:

The Little Mill No. 2 Bridge is eligible for the National Register of Historic Places, and its removal would be an adverse effect on its historic character. The Uinta National Forest will enter into a Memorandum of Agreement with the Utah State Historic Preservation Office. Mitigation measures will make up for the loss of the bridge. These measures will include further photographic documentation of the bridge and a written history of bridge construction on the Uinta National Forest that includes the history of timber bridges on the Forest.

A Forest Service biologist will survey the project area for western yellow-billed cuckoos (Candidate for listing under the Endangered Species Act) during the spring breeding season. If any western yellow-billed cuckoos are detected, the Forest Service will contact U.S. Fish and Wildlife Service to coordinate on protecting the birds from project-related disturbance. Second, a Forest Service biologist also will survey the cliffs adjacent to the Little Mill Campground for nesting peregrine falcons (Forest Service sensitive species) during the spring breeding season. If any nesting peregrine falcons are detected, the nest site will be monitored and protected from project-related disturbance.

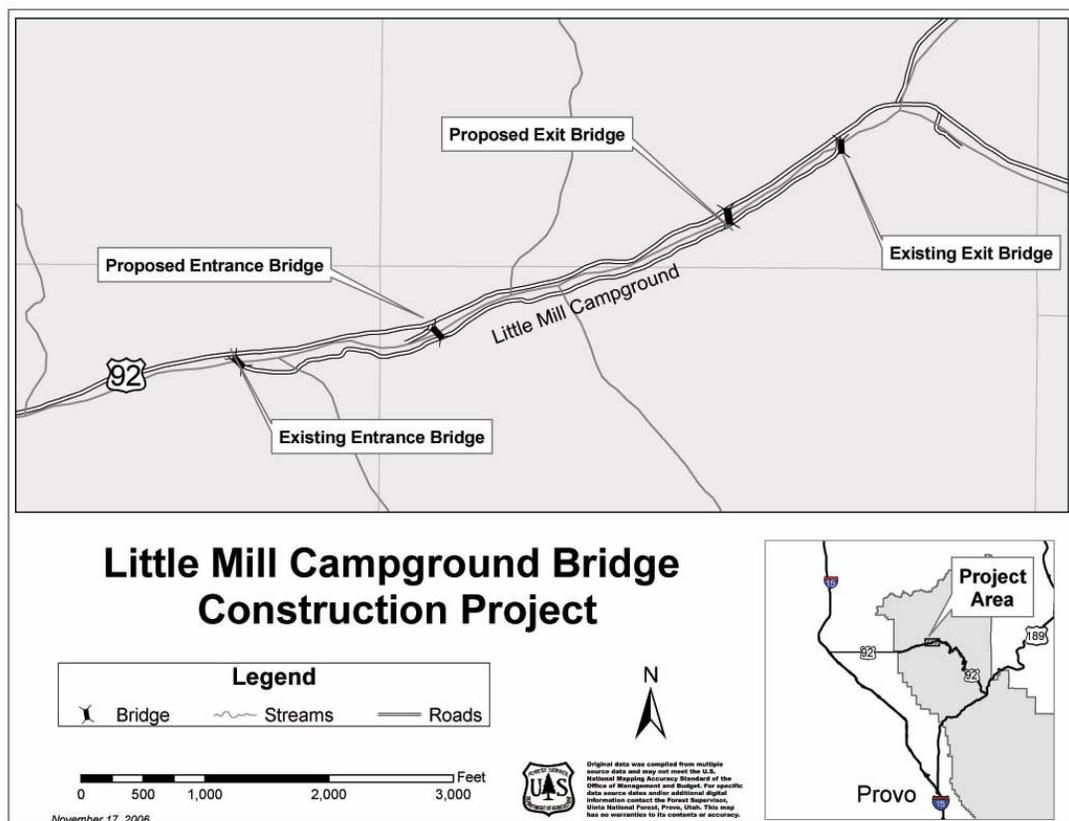


Figure 1. Current Situation and Proposed Action Map.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 1. Comparison of Alternatives.

	No Action Alternative	Proposed Action Alternative
Efficient Administration	Campground host would access North Mill Campground from SR92. About 1 mile of campground road would be maintained.	Campground host would access North Mill Campground from Little Mill Campground across connecting bridge. About 0.5 mile of campground road would be maintained. Unnecessary road would be used as foot trail.
Riparian and River Resources	Maintain current hydrology/watershed condition. No streambank, floodplain, or in-stream disturbance would occur. Riparian Habitat Conservation Areas and wetlands would not be affected. Replacement of exit bridge in its current location would reduce channel entrenchment and floodplain disconnect in that section of river.	Minor impacts on hydrology/watershed condition. Less than 0.1 ton of sediment delivered to river. Sedimentation rates would return to pre-project status within 1-2 years. No net loss of Riparian Habitat Conservation Area.
Aquatic Habitats	Present management and operational constraints affecting fisheries and aquatic resources would continue.	Direct and indirect effects would be temporary and minimal. There would be no negative long-term impacts.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments resulting from implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in the chart above.

General Area Description

The project area is within the American Fork Management Area. American Fork Canyon is a dramatic, deeply incised canyon that transects the Wasatch Mountain Range in central Utah. North Mill and Little Mill campgrounds are located along the south side of the canyon floor.

The lower part of the canyon, including the reach containing North Mill and Little Mill campgrounds, is V-shaped and has been carved by downcutting of the American Fork River. The upper parts of several tributaries of the American Fork River were glaciated in Pleistocene time. These include Little Mill Canyon and South Fork of American Fork River. The area is characterized by high to extreme relief.

Rain makes up about 40 percent of the total precipitation at lower elevations of the management area. Precipitation at the highest elevations exceeds 60 inches per year, while the precipitation at the lowest elevations ranges from 16 to 20 inches per year. The majority of the area's winter precipitation results from frontal storms. High intensity thunderstorms are common from July through September.

The management area provides domestic, irrigation, municipal, and well water as well as stock water and water for power and storage. Municipal water is provided to American Fork, Pleasant Grove, Lehi, Alpine, the Bureau of Reclamation, and other smaller entities. There is currently a demand for the area to supply more culinary water for local municipalities. The drainage contributes approximately 83,500 acre-feet of water to streamflow, and supplies an additional unmeasured quantity of groundwater. Most of the water yield is from the higher elevations.

The American Fork Management Area is adjacent to rapidly growing urban areas in Utah Valley, and is just south of the Salt Lake Valley. This management area received approximately two million recreation visitor days in 1998. Most of these users come from the urban Utah and Salt Lake valleys.

Recreational activities include developed and dispersed camping, picnicking, fishing, hiking, mountain biking, bike touring, hunting, horseback riding, recreational gold panning, cross-country skiing, heli-skiing, snowmobiling, scenic driving, rock climbing, and photography. The area is a world-renowned rock-climbing destination.

Forest Service facilities consist of individual and group campgrounds, picnic areas, fishing sites, trailheads, foot and stock trails, all-terrain vehicle (ATV) trails, groomed snowmobile trails, and groomed cross-country ski trails.

Hydrologic and Soils Resources

The 38,510-acre American Fork Canyon watershed is a tributary to Utah Lake. Natural flow patterns do not exist within the lower portion of the watershed anymore. The watershed has a series of impoundments--the two major ones being the Tibble Fork Reservoir within the North Fork American Fork Canyon watershed and the Silver Lake Flat Reservoir in the Silver Creek watershed (a tributary to the North Fork).

There is also a small impoundment just downstream (about .2 miles) of the project area. This is associated with Pacificorp Hydropower facilities plant and is scheduled to be removed in the next two years. In addition to this impoundment, a diversion pipe used to take water out of the American Fork River at this point. This diversion was discontinued in 2005 when the pipe was damaged and was never repaired.

The American Fork River essentially dries up after it leaves the Forest boundary. The water is diverted for agricultural and municipal purposes in Utah and Salt Lake counties, and very little water actually reaches Utah Lake. The water that does reach Utah Lake then drains to the Jordan River, which eventually drains north before terminating at the Great Salt Lake.

No rivers or streams within the American Fork River watershed are listed on the 2006 State of Utah 303 (d) List. The North Fork of the American Fork River and its tributaries above Tibble Fork Reservoir were recently delisted from the State of Utah 303 (d) List for arsenic and high Ph. This listing resulted from years of mining operations.

The American Fork Canyon watershed is broken into two distinct sub-watersheds, the Upper American Fork Canyon watershed and the Middle American Fork Canyon watershed. The Upper American Fork Canyon watershed is 19,238 acres and contains all the land above Tibble Fork Reservoir. Named streams within this sub watershed include: Mill Canyon, Shaffer Fork, Baker Fork, Dry Fork, Mary Ellen Gulch, Major Evans Gulch, Porcupine Gulch, Silver Creek, Deer Creek, Tibble Fork and Wide Hollow.

The Middle American Fork Canyon watershed is the second sub-watershed in the American Fork Canyon watershed. The Middle Fork is 19,272 acres and contains all the land below Tibble Fork Reservoir to the National Forest System boundary. Named streams in this sub-watershed include: Swinging Bridge Creek, Tank Creek, South Fork American Fork, Pine Hollow, Bear Canyon, Burned Canyon, and Cattle Creek.

Elevations within the American Fork Canyon watershed range from 5,100 feet at the mouth of the watershed to 11,433 feet at Twin Peaks at the head of Mineral Basin.

The average annual precipitation in the Little Mill Campground Bridge Construction project cumulative watershed effects area ranges from 18 inches at the canyon mouth to 70 inches in the headwaters at Mineral Basin. Precipitation within the project area at the Little Mill and North Mill campground area is 28 inches. About 60 percent of the precipitation falls as snow from late October through late March/early April.

Stream flow begins to increase in late April/early May as the snow pack melts with warming spring temperatures. Stream flows typically peak in late May or June as the snow pack melts. Not all snowmelt or rainfall within the study area becomes surface runoff, at least not immediately. Some may infiltrate into the ground to become

groundwater that percolates downward in the soil and bedrock and resurfaces in wet areas, small ponds, and perennial and intermittent streams at various elevations below the point of infiltration. Slow release of groundwater provides stream base flow starting in mid July. A flood frequency analysis was conducted (Project Record).

Water Quality

The State of Utah has classified the waters within the American Fork Canyon watershed as 2B, 3A, and 4. Waters classified as 2B are protected for secondary contact recreation, such as boating, wading, or similar uses. Waters classified as 3A are protected for cold water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain. Waters classified as 4 waters are protected for agricultural uses, including irrigation of crops and stock watering.

Fifty-three historical water quality monitoring sites are located within the Little Mill Campground Bridge Construction project cumulative watershed effects area. As mentioned, all water bodies within the American Fork Canyon watershed are meeting beneficial uses for water quality.

Even though the watershed is not on the 303(d) List, concerns are still present. The stream is regulated by Tibble Fork Reservoir and the minor diversions in the main stem Middle Fork. The stream below Tibble Fork is characterized by narrow, incised channels, limited floodplain access, and narrow riparian areas. This is the area where the Little Mill and North Mill campgrounds occur on the south side of the stream channel and SR 92 occurs on the north side of the channel.

Wetlands

Wetlands are areas that contain sufficient amounts of surface or ground water to support vegetation adapted for life in saturated soil conditions. Wetlands include such areas as marshes, bogs, seeps, and springs. Field reconnaissance, aerial photography, and the U.S. Fish and Wildlife Service wetland database estimate that about 17.7 acres of wetlands are present within the cumulative watershed effects area. There are, however, no wetlands within the actual project area. The only wetland in proximity to the Little Mill Campground Bridge Construction project area is about .2 miles downstream. This is a impoundment associated with Pacificorp Hydropower facilities and is scheduled to be removed in 2007.

Riparian Areas

About 126.8 acres of Class I Riparian Habitat Conservation Areas (RHCA), 37.1 acres of Class II RHCA, and 104.1 acres of Class III RHCA are within the watershed.

Downcutting of the stream channel over time has reduced the historical size of riparian areas within the Little Mill Campground Bridge Construction project area. This downcutting is a result of the encroachment of SR 92 from the north, as well as the campground on the south side of the stream.

In addition, flow regulations from Tibble Fork Reservoir have reduced the size of the channel, impacted the riparian area, and timing and occurrence of flooding. Riparian area sizes in the project area are a fraction of what they once were when the stream channels were at Properly Functioning Condition (PFC). Due to past impacts on RHCA areas, it is important to protect the remaining RHCA areas.

In 1981, the Uinta National Forest published a soils report for the Pleasant Grove Ranger District. The landtype Order 3 survey covers 136,000 acres of National Forest System lands and private lands that includes the American Fork Canyon area. Soils are classified according to the landtype association. Little Mill and North Mill campgrounds lie within two landtype survey inventory units—SC1 and SC7. Both are associated with stream canyons.

The SC1 landtype varies considerably from coarse-textured, fragmented soils to fine-textured materials with few, if any, coarse fragments. However, most SC1 soils have a high percentage of coarse fragments in the soil profile. The SC7 landtype consists mainly of very steep stream canyon sidewalls of rock outcrops, cliffs, rock rubble areas, and scree and talus slopes. Vegetation is mostly sparse and in isolated pockets, on benches, or at the bottom of colluvial slopes.

The lower half of Little Mill Campground consists primarily of SC1 soils, with the upper portion of the campground in SC7 soils. Soils have been impacted significantly by human activities (e.g., campgrounds, road construction, irrigation diversion structures).

The **proposed action**, construction of two bridges, would have minor impacts to the hydrology/watershed condition in the project area. The new bridges have been designed to pass the 100-year flood event, which is between 866 cfs to 946 cfs. This design would also pass bedload and LWD, thus protecting stream channel geometry (stream gradient, width depth ratio, etc.) and sediment transport through the project area. Further, floodplain integrity would be protected at each of the bridge locations as bridge footings would be placed out of the flood zone. This would ensure that when floods occur, the bridges would not impede floodwaters from spreading out on the floodplain to propagate riparian reproduction.

Heavy equipment would be used in the stream for the placement of bridge footings for the two new bridges and the removal of bridge footings for the current exit bridge. This activity would stir-up sediment temporarily. These activities are expected to produce less than 0.1 tons of sediment to the stream (see below). The channel through the reach is fairly armored with predominately cobble and boulder substrate. This fact, along with the implementation of Best Management Practices (BMPs), would ensure that stream channel geometry would be protected and in-stream disturbance would be minor.

About 0.1 acres of RHCA would be removed with construction of the new entrance and exit bridges. In contrast, the same amount of RHCA (0.1 acres) would be restored with the removal of the current exit bridge. This equates to no net loss of RHCA within the project area.

It is estimated from WEPP that less than 0.1 tons of sediment would be delivered to the American Fork River from construction of the two bridges, as well as the removal and rehabilitation activity of the current exit bridge. This estimate includes both in-stream and out-of-stream work. Implementation of BMPs would reduce this even further.

Sedimentation rates would return to pre-project status within 1-2 years. This increase in sedimentation to the American Fork River is essentially undetectable and would not impact overall water quality in the system.

No wetlands would be impacted by project implementation as the nearest wetland is 1,100 feet downstream of the project area.

As stated, all construction activity for the Proposed Action would implement bridge design criteria, State of Utah Best Management Practices, and the Forest Plan requirements, thus reducing the already minor impacts to the hydrology/watershed resources in the project area.

The **no action alternative** would maintain the current hydrology/watershed condition. No streambank, floodplain, or in stream disturbance would occur from the construction of the new entrance bridge and the relocated exit bridge. RHCAs and wetlands would be protected under the no action alternative.

With the no action alternative, the current exit bridge would be replaced in the same location. The existing bridge impacts floodplain and channel processes by causing an “hour glass” effect during high flows. This has caused channel entrenchment and floodplain disconnect in this section of the American Fork River in the past. If the no action alternative is implemented, the exit bridge would be reconstructed and as previously analyzed, would meet the same design criteria as the bridge construction in the proposed action alternative.

Fisheries and Aquatic Habitats

Aquatic habitats are managed to maintain cool, clear water to meet the physiological needs of aquatic and semi-aquatic species. Well-vegetated stream banks are maintained for cover and bank stability to provide undercut bank cover, reduce erosion and sedimentation to maintain clean spawning gravels, maintain floodplain function for rearing habitat, and provide velocity refugia.

The value of riparian habitat areas is recognized and protected. Natural stream processes are emphasized, and artificial channel maintenance activities are minimized. The value of in-stream cover and habitat diversity and complexity are recognized and maintained through the recruitment and incorporation of channel stabilization and forming materials such as native riparian vegetation, logs, root wads, and boulders. Natural reproduction of native fish, amphibian, and aquatic invertebrate populations is maintained through minimizing sedimentation to maintain clean spawning gravels and floodplain function for rearing habitat, and to provide velocity refugia. Riparian habitats are managed to prevent unacceptable impacts from resource management activities and public uses.

The value of instream flows for aquatic and semi-aquatic species are recognized and protected to meet the physiological and physical habitat requirements of aquatic and semi-aquatic species. Instream flows are adequate to protect aquatic habitat attributes necessary for the continued persistence and viability of native fish, amphibian, and aquatic invertebrate populations.

The values of springs and wetlands are recognized and protected. Recreation facilities, roads, and trails are constructed and maintained to facilitate recreational use while protecting water quality, wetlands, and stream/riparian habitat. Marshy edges of ponds, lakes, and springs are protected to allow for the development of in-water and riparian vegetation. Soils around waterbodies are not compacted to allow for burrowing and over-

wintering of amphibians. Water developments for improved management of livestock grazing are designed to protect existing riparian and amphibian habitat. Stream and lakeshore habitat restoration projects address and incorporate components that emphasize amphibian habitat needs.

In the American Fork drainage, Bonneville Cutthroat Trout (BCT), a Uinta National Forest Management Indicator Species, are known to occupy 9.7 km, which is about half of the estimated suitable stream habitat in the basin. All suitable habitat is within American Fork Canyon. The American Fork River becomes channelized and is diverted as it nears the mouth of American Fork Canyon. There is currently no potential habitat for BCT in the American Fork River through the Provo Valley. (USDI Fish and Wildlife Service 2001)

In addition to BCT, other native fish species believed to be present within the American Fork River include mottled sculpin (*Cottus bairdi*) and mountain sucker (*Catostomus platyrhynchus*) (Sigler and Sigler 1996). Non-native fish species include German brown trout (*Salmo Trutta*) and rainbow trout (*Oncorhynchus mykiss*). These non-native species present a risk to the recovery and future viability of cutthroat trout populations within the American Fork River and throughout the American Fork drainage. Additional information relative to the life history and distribution of fish populations on the Uinta National Forest is contained in *Fishes of the Uinta National Forest* (Smith 2005a).

Amphibians

The distribution of amphibian species within the American Fork River drainage has been documented through surveys conducted by the USFS and UDWR. Results from the Utah GAP Analysis (USDI National Biological Service 1997) indicate that the American Fork Management Area contains high value habitat for northern leopard frog (*Rana pipiens brachycephala*) and substantial value habitat for tiger salamander (*Ambystoma tigrinum*), Great Basin spadefoot toad (*Spea intermontana*), boreal toad (*Bufo boreas boreas*), boreal chorus frog (*Pseudacris maculate*), Woodhouse's toad (*Bufo woodhousii*), and Great Plains toad (*Bufo cognatus*).

Boreal toads have been recorded in the American Fork Canyon historically but have not been observed during recent surveys (UDNR 2000b). Additional information relative to the life history and distribution of amphibian populations on the Uinta National Forest is contained in *Native Amphibian Species of the Uinta National Forest* (Smith 2005b).

Rare Aquatic Invertebrates

Two species of aquatic macroinvertebrates considered by the UDWR to be rare or imperiled, coarse rams-horn (*Planorbella binneyi*) and creeping ancyliid (*Ferrissia rivularis*), have been documented on the Forest or in waters immediately adjacent to the Forest, and it is believed that they may be present within the American Fork Management Area. Additional information relative to aquatic invertebrates on the Uinta National Forest is presented in *Aquatic Invertebrate Report for Samples Collected by the Uinta National Forest 2002* (Vinson 2005).

Threatened, Endangered, and Sensitive (TES) Species

Bonneville cutthroat trout is the only TES aquatic species known to currently inhabit the American Fork River. Although the American Fork River is located within the historic

range of the Utah valvata snail (*Valvata utahensis*), the species is believed to have been extirpated from Utah and does not occur within the drainage (NatureServe 2005). The project area is also outside the historic range of Colorado River cutthroat trout (*Oncorhynchus pleuriticus*) and June sucker (*Chasmistes liorus*); these species are not currently found in the area.

Population data, using the abundance of BCT in the American Fork River, show no change in the overall abundance of cutthroat trout during the period between 2003 and 2006. Estimates of cutthroat trout densities in the drainage have historically averaged 0.01 fish/m and range from no individuals being observed during 2003 and 2004 to 0.04 fish/m during 2005. (Smith 2006b) Additional information used in this review relative to the life history and status of BCT populations on the Uinta National Forest is available in *Bonneville Cutthroat Trout Populations of the Uinta National Forest* (Smith 2006a).

Aquatic Habitat

After review of the available habitat survey information, it is concluded that aquatic habitat in the American Fork River is sufficient to support existing populations of fish and other aquatic species at their present levels. Additional information used in this review relative to the life history and habitat requirements of cutthroat trout and aquatic habitat conditions on the Uinta National Forest is available in *Bonneville Cutthroat Trout Populations of the Uinta National Forest* (Smith 2006).

Following review of the **proposed action** and potential effects of project implementation, it was determined that the greatest risk to fisheries and aquatic resources within the project area would result from displacement and mortality of individual aquatic organisms, physical habitat disruption, and increased turbidity and sedimentation during project implementation. These effects would be temporary and extend through the end of active project implementation.

Following the recommended conservation measures and applicable Uinta National Forest Plan standards and guidelines for aquatic and riparian habitat management, it is anticipated that implementation of the proposed project within the identified project - specific operational guidelines and mitigation measures would not result in any long-term detrimental effects to existing aquatic resources.

It is determined that the **direct** and **indirect effects** of this project would be temporary and minimal and that there would be **no negative long-term impacts** to aquatic species or their habitat resulting from implementation of the proposed project. Additional information relative to the direct and indirect effects of the proposed action relative to fisheries and aquatic resources is included in *Fisheries and Aquatic Resources of the American fork River, Utah* (Smith 2006b).

Under the **No Action alternative**, no bridge would be installed to connect North Mill Campground to Little Mill Campground. Long-term impacts to fisheries and aquatic resources would continue as under the present management and operational constraints.

Biological Resources

A field survey of the proposed project area was conducted on August 30, 2004. Potential effects were evaluated for the following wildlife species:

- Threatened, Endangered, Candidate, or Proposed under the Endangered Species Act;
- Sensitive Species listed by the Intermountain Region of the Forest Service;
- Management Indicator Species (MIS) listed in the 2003 Uinta National Forest Revised Forest Plan;
- Migratory birds and raptors;
- Boreal toad classified as Sensitive (Wildlife Species of Concern) by the State of Utah

Forest Service sensitive species evaluated were those listed for the Uinta National Forest in the recently revised list of *Intermountain Region Proposed, Endangered, Threatened, and Sensitive Species* (USDA Forest Service 2003a).

Assessment of potential project impacts on wildlife species focused on determining whether the proposed action would likely impact population trend or population viability of each species evaluated. Population viability is discussed in the 1982 National Forest Management Act (NFMA) implementing regulations: “For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area (36 CFR 219.19).” The planning area is defined as the national forest.

Threatened, Endangered, Candidate Wildlife Species

The following table summarizes the biological effects determinations for wildlife species listed under the Endangered Species Act.

Species	No Action Alternative	Proposed Action
Bald eagle (T)	No Effect	No Effect
Western yellow-billed cuckoo (C)	No Effect	No Effect
Canada lynx (T)	No Effect	No Effect

Sensitive Species

The following table summarizes the biological effects determinations for wildlife species listed as Sensitive by Intermountain Region (R4) of the U.S. Forest Service.

Species	No Action Alternative	Proposed Action
Columbia spotted frog	No Impact	No Impact
Northern goshawk	No Impact	No Impact
Peregrine falcon	No Impact	No Impact
Greater sage-grouse	No Impact	No Impact
Flammulated owl	No Impact	No Impact
Three-toed woodpecker	No Impact	No Impact
Spotted bat	No Impact	No Impact
Townsend’s big-eared bat	No Impact	No Impact
Fisher	No Impact	No Impact

Management Indicator Species

Terrestrial wildlife Management Indicator Species on the Uinta National Forest are northern goshawk, three-toed woodpecker, and American beaver. Northern goshawks and three-toed woodpeckers are also classified as Forest Service sensitive species and were discussed above.

American beavers (*Castor canadensis*) were widely distributed across Alaska, Canada, and the continental U.S. prior to 1800. They were trapped out quickly, and by the mid 1800s many beaver populations had been eliminated or dramatically reduced. Populations have become re-established throughout much of the U.S. and Canada and are increasing range-wide. There are no beaver colonies within the project area. Therefore, project implementation would not affect beaver population trend or viability.

Migratory Birds and Raptors

Low-elevation riparian forests similar to the forest within the project area provide habitat for more bird species than any other habitat in Utah (Parrish and Norvell 2002). Implementation of the Little Mill Campground Bridge Construction project would not alter migratory bird habitat because vegetation disturbance would be minimal. There are no known raptor nest sites within the project area.

Neither implementation of the **proposed action** or the **no action alternative** would affect population trend or viability of any of the wildlife species analyzed in this document.

Threatened, Endangered, and Sensitive Plants Species

The Little Mill Campground is a long, narrow site located between the south bank of the American Fork River and a cliff band, and is at an elevation of about 6000 feet. The only plants with known habitats suitable within the project area are the Barneby woody aster and the Wasatch jamesia.

The Barneby woody aster is found on rock outcrops in mountain mahogany-oak communities between about 5,000 to 7,610 feet elevation (Tuhy 1991). Populations are known in the Mount Nebo area and American Fork Canyon. Wasatch jamesia occurs in mountain brush and spruce-fir communities on cliffs and rocky places between 5,600 and 10,500 feet elevation (Welch et al., 1993).

The project area was surveyed in 2004. No species were found within the project area. In addition, both plants that have potential habitat are found in rocky outcrops and cliffs. Therefore, **neither alternative** would impact these plants. The 2004 Biological Assessment determined that the campground may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species because the cliffs form a boundary to the campground. The bridges are well within the campground boundary and construction activities associated with the bridges would not impact the cliff-dwelling species.

Heritage Resources

A complete cultural resources inventory of the North and Little Mill campgrounds was completed in 2004. Although both areas are highly disturbed, care was taken to identify

both ancient American Indian and early European American artifacts and sites. No archaeological sites from either time period were found.

The only historic resources within the campground areas are the Little Mill Footbridge Abutments (UN-551) and the Little Mill No. 2 Bridge (UN-552). The footbridge abutments are concrete and were built some time between 1945 and 1951. They are not eligible for the National Register of Historic Places.

The Little Mill Campground exit bridge (Little Mill No. 2) was built in 1956 and has flat, horizontal, treated timber abutments, with a longitudinal, laminated, treated timber deck (with asphalt). The abutments reflect a particular style of lumber construction that was heavily promoted in the Forest Service Intermountain Region during the 1950s. This style is distinctive of many Forest Service bridges of this era and reflects the agency's centralized engineering program. As a result, the Little Mill No. 2 Bridge is eligible for the National Register of Historic Places, and its removal would be an adverse effect.

The types of plants that might be collected by American Indians within the project area are primarily willow. Considerable willow is available elsewhere in the canyon and would meet the needs of any future willow collection. No known American Indian plant collection or traditional use areas are currently known in the project area.

As part of the **no action** and **proposed action**, adverse effects to Little Mill No. 2 Bridge would be resolved through a standard Memorandum of Agreement with the Utah State Historic Preservation Office. Lumber bridges have a recognized limited life span, and this type of bridge is particularly vulnerable to rotting because its supporting members are buried into the stream banks behind the fronts of the abutments. Consequently, it would be extremely difficult to move the abutments or to preserve them in place. Therefore, the primary long-term historic value of the bridge is in the history of its style, not in the bridge itself.

There are no known American Indian plant collection or traditional use areas currently known within the project area; therefore, neither alternative would impact these values.

Recreation

Little Mill and North Mill campgrounds provide day use and camping opportunities in American Fork Canyon. They are managed for the Forest Service by a concessionaire, through a special use permit. The host of Little Mill Campground also manages North Mill Campground.

The **Proposed Action** would construct a new bridge to connect North Mill and Little Mill campgrounds and relocate the exit. This would alleviate the distance required to manage both campgrounds and the safety issues associated with the host having to travel on SR-92 to access North Mill campground. The proposed action would meet the purpose and need by reducing the campground road to .5 miles of pavement, thus reducing natural resource impacts and road maintenance and providing a connector between North Mill and Little Mill campgrounds for more efficient and safe management.

The **No Action Alternative** would not relocate the exit bridge and nor would the bridge to connect the two campgrounds be constructed. Campground management would still

require the campground host to travel onto SR 92 to access North Mill Campground. Road maintenance would still be required on about one mile of existing pavement.

Other Resources

There are **wild and scenic river** segments within the American Fork drainage; however, these segments are upstream of the project area and would not be affected. (UNF Forest Plan). The Lone Peak **Wilderness** is on the north side of SR 92; project activities would not occur within the Wilderness (UNF Forest Plan). The Little Mill Campground is bordered by **inventoried roadless area #418032** (Mount Timpanogos IRA); activities would be confined to the campground.

Neither alternative would affect these resources.

CUMULATIVE EFFECTS

The cumulative effects analysis area for fisheries, hydrologic and soils resources is the American Fork watershed. The cumulative effects analysis area for all other resources is the campground boundary.

Past Activity

Records indicate that timber harvest has not taken place in the cumulative watershed effects area since the 1940s. Major road construction most likely occurred with the onset of mining and timber harvest in the early part of the twentieth century. Road reconstruction, maintenance, and closure/obliteration have been ongoing since that time. There are currently 20.5 miles of road within the cumulative watershed effects area. This equates to a road density of 0.3 miles/square mile. In addition to road construction, approximately 24.2 miles of trail have been constructed as well.

Fire suppression activities over the last 100+ years have almost completely eliminated the effects of fire from the ecosystem. There have not been any wildfires in the area for the past six years, and these were very small spot fires.

Two small fuels reduction projects have occurred in the past couple years. One was located in the Silver Lake and Tibble Fork summer home areas, and the other along the Alpine Loop Road.

Sheep grazing occurred in the project area for much of the twentieth century. Restrictions on grazing use because of rapid rates of soil loss and degradation of rangeland started in the 1920s. Grazing ended in the area in 2001.

Extensive mining activity occurred in the North Forth American Fork drainage in the twentieth century, as well. Mine reclamation on forest land in Mineral Basin occurred in 2003, while reclamation on private lands occurred in the North Fork in 2006.

Present/Ongoing Activity

Present/ongoing activities within the cumulative watershed effects area are focused on recreational use. These include: off highway vehicles (OHVs) and general recreation (camping, fishing, hiking, picnicking, mountain biking, rock climbing, horseback riding, etc).

Future Activity

Several future projects are planned for the Middle American Fork Canyon sub-watershed. No projects are planned above Tibble Fork Reservoir (Upper American Fork Sub Watershed).

Echo and Grey Cliffs picnic sites below Tibble Fork are to be reconstructed as funding becomes available. This work is expected to be completed in the next 1-3 years.

Other projects to be completed include removal of Pacificorp Hydropower facilities (dam and pipeline), reconstruction of North Mill and Little Mill campgrounds, and on-going in-stream fisheries habitat improvements (rocks and logs) throughout the Middle Fork below Tibble Fork Reservoir.

The general recreational activities listed in the Present/Ongoing Activity Section will occur into the future as well. It is estimated that these activities will remain stable or slightly increase.

Road and trail maintenance activity is ongoing and will occur at present rates.

Hydrology

Less than 0.1 tons of sediment annually is expected to be added to the American Fork River with implementation of the Little Mill Campground Bridge Construction project. This rate includes the period during construction, as well as 1-2 years after construction. This amount, when added to other activity in the watershed, is insignificant in terms of cumulative effects and is within the natural erosion and sedimentation rates for the area. Water quality is expected to be protected.

No net loss of RHCAs is expected with implementation of the Little Mill Campground Bridge Construction project. No net loss means that no cumulative effects to riparian resources would be realized. No net loss of wetlands is expected with implementation of the Little Mill Campground Bridge Construction project. As with the RHCAs, no net loss means that no cumulative effects to wetlands would be realized.

Floodplain and stream channel function and integrity would be protected with implementation of the Little Mill Campground Bridge Construction project. The bridges would allow for passage of floodwaters, bedload, and LWD. Bridge design would allow floodwaters to access the active floodplain, thus protecting floodplain function. No cumulative effects would occur to the American Fork River stream channel and floodplain areas from the project.

Overall, the Little Mill Campground Bridge Construction project would not produce cumulative effects to the American Fork River watershed.

Fisheries and Aquatic Habitat

Following review of the past, present, and foreseeable future activities for the American Fork watershed, as well as the recommended conservation measures and applicable Uinta National Forest Plan standards and guidelines for aquatic and riparian habitat management, it is anticipated that implementation of the proposed project would not result in any long-term detrimental effects to existing aquatic resources.

The overall cumulative impact of this project would have no effect on fisheries and aquatic resources, and that there would be no negative long-term impacts to aquatic species or their habitat resulting from implementation of the proposed project.

Other Resources

There are no direct or indirect effects to the other resources; therefore, there are no cumulative effects.

Consultation and Coordination

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

ID TEAM MEMBERS:

Pam Gardner	District Ranger, Responsible Official
Pam Jarnecke	Environmental Coordinator
Larry Velarde	Recreation
Renee Flanagan	Engineer
Charmaine Thompson	Archaeologist
Bernadette Barthelenghi	Landscape Architect
Jeffrey Waters	Wildlife Biologist
Karen Hartman	Wildlife Biologist
Ron Smith	Fisheries Biologist
Robert Davidson	Soils Scientist
Chad Hermandorfer	Hydrologist
Denise VanKeuren	Ecologist

FEDERAL, STATE, AND LOCAL AGENCIES:

Senator Robert F. Bennett	
Senator Orin Hatch	Utah County Fire Marshall
Congressman Jim Matheson	Utah County Search and Rescue
Congressman Chris Cannon	Wasatch County Council
Congressman Rob Bishop	Wasatch County Public Lands
Federal Energy Regulatory	Committee
Commission	Mountainland Association of
US Army Corp of Engineers	Governments
US Fish and Wildlife Service	Utah Valley Convention and Visitors
USDI Bureau of Reclamation	Bureau
USDI National Park Service	Mayor, Alpine City
Utah Lake State Park	Mayor, American Fork City
Utah Department of Transportation	Mayor, City of Cedar Hills
Utah Division of Wildlife Resources	Mayor, Highland City
Utah Division of Forestry, Fire and	Mayor, Lehi City
State Lands	Mayor, Lindon City
Utah Bureau of Environmental Health	Mayor, Pleasant Grove City
Services	Mayor, Provo City
Utah Department of Natural Resources	Mayor, Salt Lake County
Utah Department of Environmental	Mayor, Springville City
Quality	Provo City Division of Water
Utah Department of Natural Resources	Resources
Wasatch Mountain State Park	Provo City Parks and Recreation
Utah County Public Works	
Utah County Commission	<i>TRIBES:</i>
Utah County Parks and Recreation	Skull Valley Band of Goshute Indians
Utah County Planner	

Northwestern Band of Shoshone
Nations
Ute Indian Tribe

OTHERS:

Back Country Horsemen of Utah
Mutual Dell Organization Camp
North Fork Preservation Alliance
North Fork Special Service District
North Utah County Water
Conservancy
PacifiCorp
Public Lands Equal Access Alliance

Save Our Canyons
Sierra Club
Star Trails ATV Riders Association
Sundance
Timpanogos Emergency Response
Team
Trout Unlimited
Utah Environmental Congress
Utah Four-Wheel Drive Association
Utah Snowmobile Association
Wasatch Mountain Club
Wild Utah Project

REFERENCES

Council on Environmental Quality. 2005. Memorandum. Guidance on the Consideration of Past Actions in Cumulative Effects Analysis.

Davidson, Robert. 2006. Soils Report.

Hartman, Karen, 2006. Wildlife Review

Hermendorfer, Chad. 2006. Hydrology Report

Jarnecke, Jeremy. 2004. Hydrology Report

Smith, Ron. 2006. Fisheries Report and Biological Evaluation.

Flanagan, Renee 2006. Project Engineering Report.

Thompson, Charmaine. 2006. Heritage Report.

USDA. Forest Service. 2003. Final Environmental Impact Statement for the Land and Resource Management Plan, Uinta National Forest. Uinta National Forest, 88 West 100 North, Provo, Utah.

USDA. Forest Service. 2003. Land and Resource Management Plan, Uinta National Forest. Uinta National Forest, 88 West 100 North, Provo, Utah.

1998 Decision Memo

Section 18 review

Valarde, Larry, 2007. Recreation Report.

VanKeuren, Denise. 2004.

Waters, Jeffery, 2006. Wildlife Report