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Environmental Assessment

Mill Hollow Campground Water System Reconstruction

**Heber Ranger District, Uinta National Forest
Wasatch County, Utah**

Township 4 South, Range 7 East, Section 12

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SUMMARY

The Uinta National Forest proposes to reconstruct the water system in the Mill Hollow Campground, including removal and replacement of the collection box, hypochlorinator, water storage tank, distribution lines, hydrants and the sump pads associated with the hydrants. The project area is located approximately 17 miles east of Heber City within the Upper Provo Management Area, Heber Ranger District, Uinta National Forest, Utah. This action is needed, because the current water system does not comply with Utah Public Drinking Water Rules or current Forest Service design criteria. The campground water is currently testing safe for human consumption, however, rodents have previously been found in the collection tank causing incidents of contamination. Continued access to the water system through the collection lines poses a health and safety problem.

The proposed action may affect the size and quality of the wetland immediately adjacent to the collection box.

In addition to the proposed action, the Forest Service considered four other alternatives.

Two alternatives were considered but eliminated from detailed study and are discussed in the Alternatives section. Alternatives carried forward for analysis, in addition to the proposed action include:

- *No Action*
- *Repair/ upgrade only the collection box and storage tank*

Based upon the short and long term effects of the alternatives and the cost of implementation, the responsible official will decide the best alternative to meet the purpose and need for this project.

Background

The Mill Hollow Campground is one of only two campgrounds within the Highway 35 corridor on the north end of the Heber Ranger District. Due to its location it provides a secluded camping experience within a fairly dense conifer forest as opposed to the other campgrounds on the Heber Ranger District which are in more open sagebrush and aspen areas. The Mill Hollow water system was originally constructed in 1953 and was followed by full campground construction in 1959. There are twenty-seven camping sites and one host site in the campground for a total available occupancy of 246 persons at one time (PAOT). The campground is normally open from mid to late June to mid October and is a popular destination with an estimated occupancy of 60% during the week and full occupancy on weekends as reported in the North Heber Ranger District Landscape Assessment issued in October 1999. Portions of the water system were upgraded in 1977, including the addition of the current water storage tank, hypochlorinator, a second collection line and the water hydrants. However, none of the other facilities have been upgraded making Mill Hollow more appropriate for tent or small RV camping since today's larger RV's cannot fit into the camping spurs. An estimated 60% of the users are campers either without self-contained units, or those with

very small water tanks that will not hold enough water to camp for an extended period, necessitating the need for a local source of safe drinking water. In addition, the adjacent Mill Hollow Reservoir is a popular day use fishing site with an estimated 2,000 visitor days per season based upon day use receipts reported by the concessionaire operating the site. Many of the day use visitors regularly use the campground water system to fill water bottles and canteens as the nearest other source of potable public drinking water is located at the Wolf Creek Campground, approximately ten miles away.

Purpose and Need for Action

The purpose of this action is to upgrade the current water system facilities and bring them into compliance with the recommendations of the Intermountain Region Sanitary/Water/Wastewater Engineer and the Utah Public Drinking Water rules. The need for the action is to provide a local source of safe drinking water for the high number of campers and day use recreationists in an area which has no other safe drinking water readily available.

An inspection completed by the Intermountain Region Sanitary/Water/Wastewater Engineer in 1997 found several items of concern with the water system. Specifically noted were the presence of decaying tree stumps within the collection area that provide habitat for rodents, a crack in the collection box with the presence of moss indicating a possible source of contamination and the lack of adequate daylighting and screening of all drain lines. In addition, a Sanitary Survey of the water system conducted on July 23, 2002 by the Utah Division of Drinking Water noted several deficiencies in the system, including: inadequate soil cover over the collection lines, spalling concrete on the collection box, no disinfection system, no gasket on the dry well hatch of the storage tank, the storage tank overflow float switch was not working, and the storage tank capacity was inadequate for the size of the campground. To date none of the listed items of concern from the 1997 inspection or the deficiencies noted in the 2002 Sanitary Survey have been corrected. Consequently the system is not in compliance with the Safe Drinking Water Act and the Utah Public Drinking Water Rules as enforced by the Utah Division of Drinking Water.

At a minimum, in order to bring the system into compliance woody debris must be removed from the collection area, the collection box must either be removed and replaced or repaired, all drain lines must be extended, properly daylighted and screened, cross connection valves must be installed, a minimum of ten feet of impervious soil cover or two feet of cover with an acceptable liner must be placed over the collection lines surrounding the collection box, a permanent flow measuring device must be installed, a hypochlorinator or other disinfection system must be installed and a larger capacity storage tank with proper gaskets and functioning overflow valve must be installed. Failure to upgrade the current facilities will eventually force the removal or closure of the water system due to concerns for the health and safety of the public and remove any local source of safe drinking water.

This area is allocated for developed recreation use, Management Prescription 4.5 in the Upper Provo Management Area as identified in the Uinta National Forest Land and

Resource Management Plan (Forest Plan). This action responds to the goals and objectives outlined in the Uinta Forest Plan, and helps move the project area towards desired conditions described in that plan. Specifically:

Forest Wide Goal No. 6 - Diverse and suitable recreational opportunities are provided responsive to public demand while maintaining ecosystem health and contributing to social and economic sustainability.

Sub-goal 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

Sub-goal 6-2 - Existing developed campgrounds are maintained in their current locations.

Forest Wide Goal No. 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.

Sub-goal 8-5 - Emphasis is placed on minimizing natural resource and water quality degradations resulting from maintenance activities. Safety and the preservation of capital investments are emphasized.

Sub-goal 8-7 - Critical infrastructure, such as roads and administrative and recreation sites, are protected.

Sub-goal 8-8 - Safe, adequate, and economical facilities support public and administrative uses of National Forest System lands.

Proposed Action

The action proposed by the Forest Service to meet the purpose and need is to reconstruct the water system in the Mill Hollow Campground. The proposed action would include the removal and replacement of the existing water system structures, including the collection box, water storage tank, hypochlorinator and enclosure, distribution lines, hydrants, sump pads and placement of an impermeable liner and two feet of soil over the collection lines.

Decision Framework

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

- Is there a need for a local source of safe drinking water in the area?
- If reconstruction of the water system is implemented, what level of reconstruction is appropriate?

Public Involvement

The proposal was listed in the Schedule of Proposed Actions Winter Edition 2003 which was sent to over 200 on the Uinta National Forest mailing list and posted on the Forest web page. The proposal was provided to the public and other agencies for comment during scoping January 3, 2003 – February 8, 2003. A scoping letter describing the proposal was sent to 115 contacts on January 3, 2003 and a request for comments was published in the Legal Notice section of the “*Provo Daily Herald*” on January 12, 2003. In response, three comment letters were received.

Using the comments received from internal Forest Service scoping, the public, and other agencies (see *Issues* section), the interdisciplinary team developed a list of issues to address.

In accordance with the 2003 Revised Notice, Comment and Appeal Procedures (36 CFR 215), a detailed description of the Proposed Action and alternatives was distributed on March 19, 2004 to those who commented on the January 3, 2004 scoping notice. A letter was sent to all others on the original scoping notice contact list informing them of the documents’ availability and requesting comments. A request for comments was published in the Legal Notice section of the “*Provo Daily Herald*” on March 24, 2003. In response, two comment letters were received.

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 non-significant issues and reasons regarding their categorization as non-significant are:

- **Fugitive Dust:** The Utah Department of Environmental Quality; Division of Air Quality identified fugitive dust resulting from the excavation phases of the project as a potential issue. Utah Air Conservation Rule R307-205-3 applies to any construction activities that disturb an area greater than ¼ acre in size. Any reconstruction activities that would take place on the Mill Hollow Water System would disturb less than ¼ acre of ground. Mitigation measures appropriate to all action alternatives would include steps to reduce fugitive dust to minimal levels.
- **Impacts to the natural setting of the campground:** Wildlaw and the Utah Environmental Congress identified impacts to the natural setting of the Mill Hollow Campground as a potential issue. Specifically, they asked that the project “be designed to render the Mill Creek Campground less attractive to RV and motorized recreation users”. This issue is outside the scope of this proposal as no reconstruction of the roads, camping spurs, and campsites to allow access by

larger recreational vehicles is being considered at this time. The only disturbance proposed in any of the action alternatives and which would occur in the campground itself would involve the water distribution lines, hydrants and sump pads. There would be no added amenities, all distribution lines, hydrants and sump pads would be replaced with like materials, although the hydrants would be upgraded to have automatic shut offs and made accessible for persons with disabilities. These proposed improvements would neither favor nor disfavor RV and motorized recreation use over other uses.

- **Impacts to cultural or historical resources:** The Interdisciplinary Team identified impacts to cultural or historical resources as a potential issue. However, a cultural resource survey was conducted on the project area and no sites of any kind were found, thus there will be No Historic Properties affected by the project. Concurrence on this project was received from the Utah State Historic Preservation Office on May 28, 2003. Mitigation measures appropriate to all action alternatives will include actions taken in the event any cultural or historic resources are discovered during implementation of the project.

As for significant issues, the Forest Service identified four topics raised during scoping.

These issues include:

Issue #1 - Wetlands: *What impact would implementation of this project have on the wetland adjacent to the collection box and collection lines?*

Wetland areas exist adjacent to the collection box and collection lines which would be disturbed during implementation of the project.

- A comparison of the alternatives includes a discussion of the short-term (while project is being implemented) and long-term effects on the quantity of wetland by type that is temporarily and/or permanently impacted and a description of the quality of wetland function.

Issue #2 – Threatened, Endangered and Sensitive Species: *What impact would implementation of this project have on any Threatened, Endangered or Sensitive Species?*

The potential effects of the project are evaluated for plant and animal species listed as Threatened, Endangered, Candidate, or Proposed under the Endangered Species Act and plant and animal species listed as Sensitive by the Intermountain Region of the Forest Service. In addition, potential effects were evaluated for Uinta National Forest Management Indicator Species (MIS) and the boreal toad, which is not listed under the Endangered Species Act or as Forest Service Sensitive but is classified as a Species of Concern by the state of Utah.

- A comparison of alternatives includes determination of the number of acres that would be impacted for any TES and MIS species that is associated with wetlands and known to occur in the project area. In addition, a qualitative determination is made for each TES species and MIS on the likely impact of project alternatives on individuals and habitat, population trend, and population viability.

Issue #3 – Recreational Opportunities: *What impact would implementation of this project have on the recreational opportunities in the area?*

As previously described in the Purpose and Need and Background sections of this document, the water system is an integral part of the developed camping opportunity provided in the Mill Hollow Campground.

- A comparison of the alternatives includes a discussion of the short-term (while project is being implemented) and long-term effects on the quality of developed camping and picnicking, the visual quality of the area and an assessment of the effect of providing accessible facilities.

Issue #4 – Public Health and Safety: *What impact would implementation of this project have on public health and the safety of the drinking water provided by this water system?*

Reports by the Intermountain Region Sanitary/Water/Wastewater Engineer and the Utah Division of Drinking Water have noted deficiencies in the water system which make it non-compliant with the Safe Drinking Water Act and the Utah Public Drinking Water Rules as enforced by the Utah Division of Drinking Water.

- A qualitative evaluation of each alternative's consistency with Safe Drinking Water Act requirements and the Utah Public Drinking Water Rules.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Mill Hollow Campground Water System Reconstruction 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 (i.e., replacement of the entire water system versus partial replacement or closure) and some of the information is based upon the environmental, social and economic effects of implementing each alternative.

Alternatives

This section identifies and compares a range of three alternatives, including the Proposed Action, the No-Action Alternative and an alternative authorizing repair/ upgrade of the collection box and storage tank only. This range of alternatives was developed in accordance with NEPA and Council of Environmental Quality (CEQ) regulations to provide decision-makers and the public a clear basis for choice. The alternatives are summarized below.

This section also discusses other alternative actions that were considered in the process of developing the alternatives analyzed in detail, but were eliminated from further evaluation, for reasons indicated in the discussions. A description of proposed mitigation

measures and a comparative summary of environmental consequences for each alternative are also included at the end of this chapter.

Alternatives Considered but Eliminated from Further Consideration

- *Effectively close the water system, removing the collection box and any exposed collection lines from the spring area, removing the storage tank and all hydrants and capping the distribution lines.* Closing and abandoning the water system in the Mill Hollow Campground would fail to address the purpose and need for this action. Closure of the system would remove the only local source of safe drinking water for the high number of campers and day use recreationists in the area which has no other safe drinking water readily available.
- *Reconstruct the water system, but do not cover the collection lines with the impermeable liner.* The Safe Drinking Water Act and the Utah Public Drinking Water Rules as enforced by the Utah Division of Drinking Water require collection lines to be covered with a minimum of ten feet of impervious soil cover, or two feet of soil cover with an acceptable liner. Covering the collection lines with ten feet of impervious soil would result in a larger impact to the wetland area than using the impermeable liner. Therefore, the Forest Service determined this would not be a viable alternative.

Alternatives Considered in Detail

Alternative 1

No Action

Under the No Action alternative, current management plans would continue to guide management of the project area. No reconstruction or decommission of facilities would be implemented to accomplish project goals. The campground would be operated using the current water system until either contamination of the system caused unacceptable water testing results, or the system was identified as unsafe by the Utah Division of Drinking Water. At that time, the campground would need to be evaluated and a determination made as to whether it would be in the best interest of the public to continue to operate the campground but not provide water, or to close the campground.

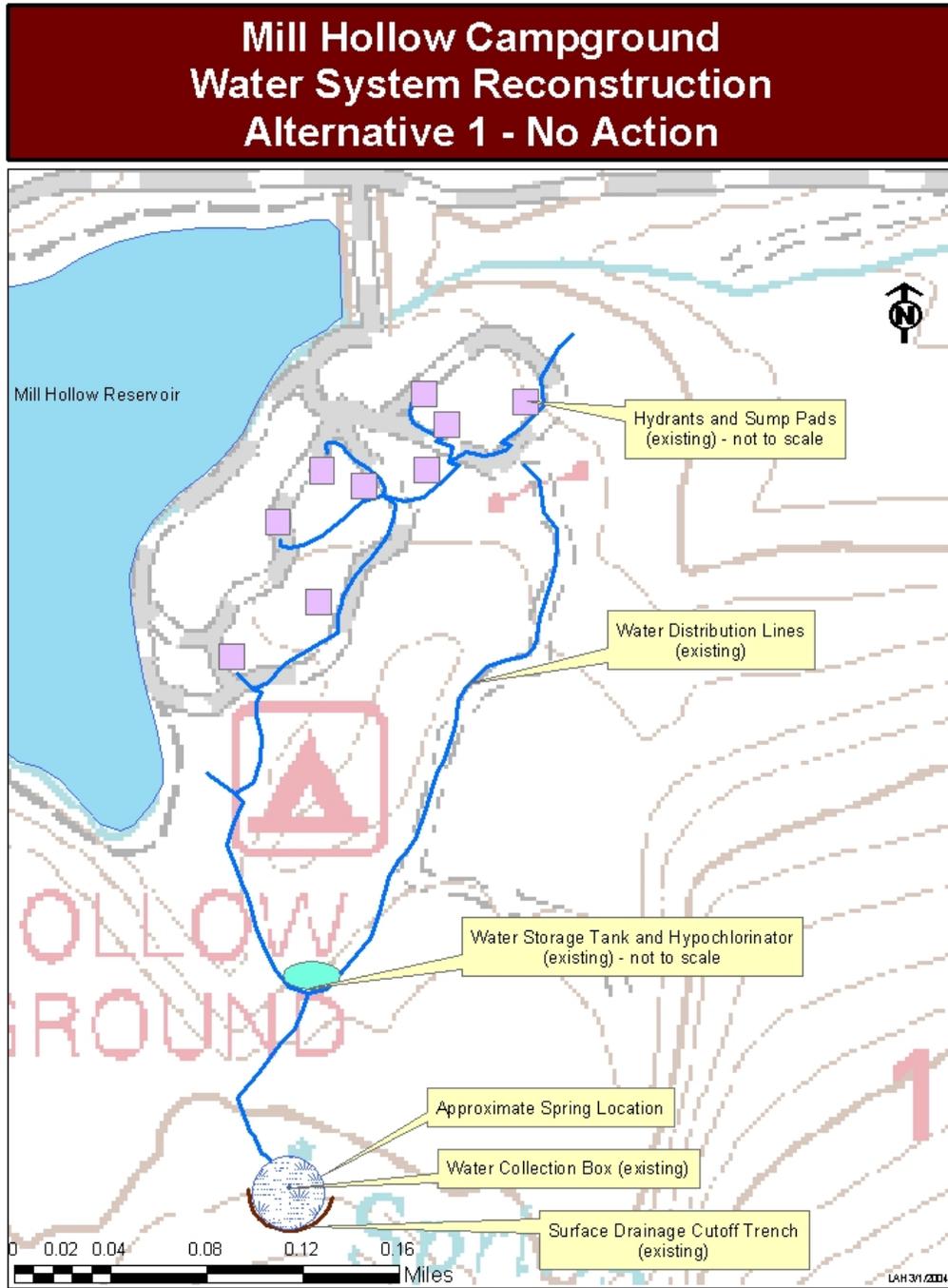


Figure 1. No Action.

Alternative 2

The Proposed Action

The proposed action would consist of the removal and replacement of the existing Mill Hollow Campground water system structures.

The existing concrete collection box, concrete water storage tank, hypochlorinator structure, distribution lines, hydrants and sump pads would be removed, disposed of and replaced, resulting in ground disturbance to less than two acres.

The existing concrete collection box would be replaced with a new collection box of approximately the same size and dimensions. The existing collection lines would remain in place and be connected to the new collection box. A protective impermeable liner would be placed on the surface of the ground surrounding the new collection box and would cover approximately 4,800 square feet of the collection area adjacent to the collection box. The liner would then be covered with the minimum required depth of two feet of mineral soil capped with top soil and seeded with a Forest Service approved certified weed free native seed mixture. Approximately 0.07 acres of wetland would be lost as a result. A surface drainage cutoff trench would be reconstructed to prevent surface water from flowing across the liner and fill area.

The existing water storage tank would be replaced with a larger storage tank including associated manways, lids, vents, water lines and source overflow. Water overflow from the new storage tank would be discharged into the adjacent wetland.

The existing concrete enclosure for a hypochlorinator unit would be removed and replaced with a new enclosure. A hypochlorinator, used to disinfect the water in the system, and permanent flow meter would be installed along with associated piping and valves.

Approximately 3,500 linear feet of distribution line and related valves would be removed and replaced with new pipe and valves in the existing location and at a minimum depth of about 48 inches.

Nine existing water hydrants would be removed and replaced with new automatic shut off hydrants meeting the guidelines of the American Disabilities Act.

Existing sump pads will be removed and replaced with pads constructed of decay resistant frame boxes filled with hardened crushed aggregate.

During reconstruction, vegetation including old stumps or woody debris, decaying matter and grasses would be removed. The area would be reseeded with an appropriate Forest Service approved certified weed free native seed mix.

Any portion of the enclosure fence around the collection area disturbed during reconstruction would be replaced or repaired.

The campground would be closed for up to 120 days during reconstruction.

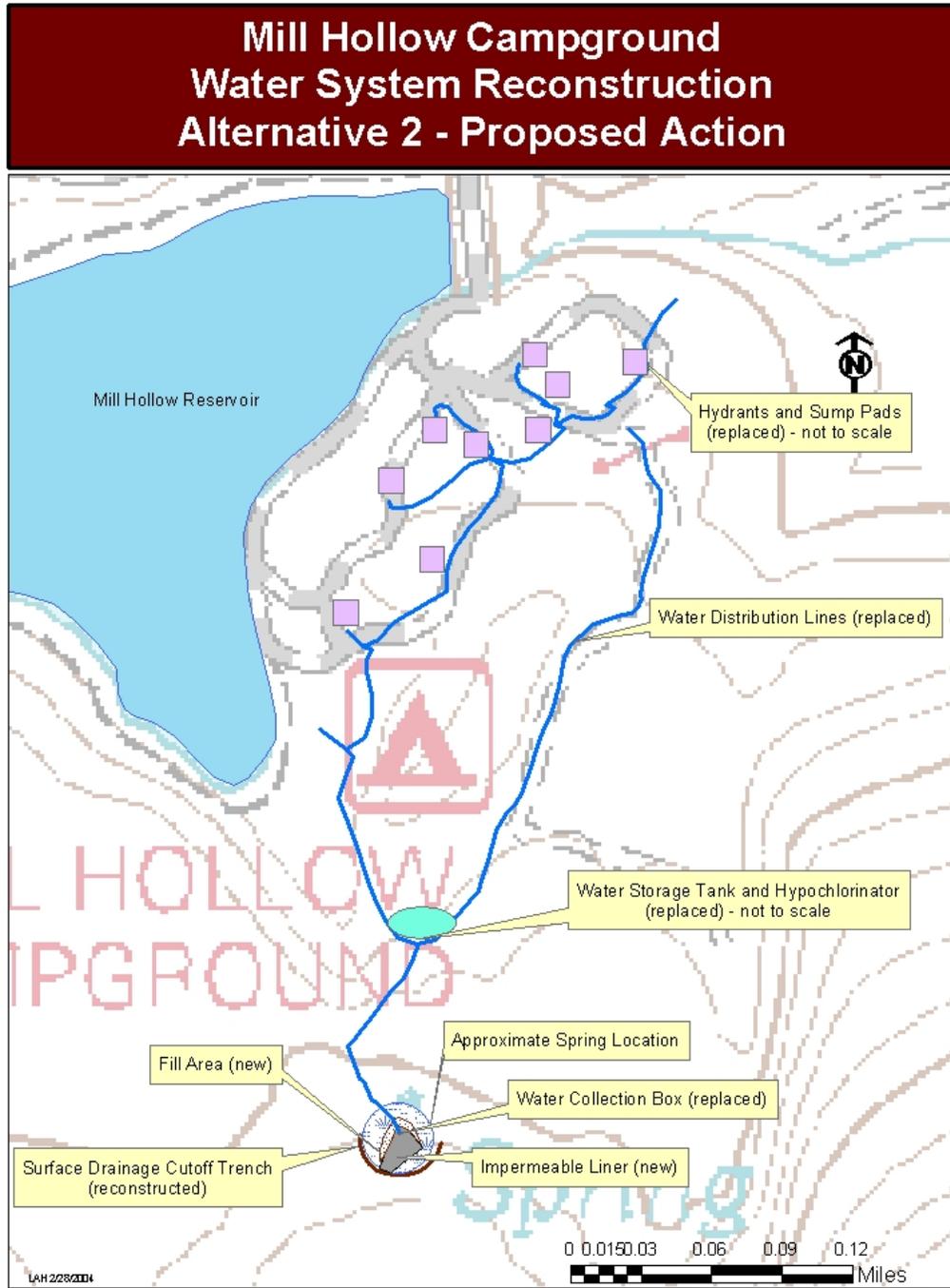


Figure 2. Proposed Action.

Alternative 3

Repair/ upgrade only the collection box, storage tank and hypochlorinator

This alternative would consist of the removal and replacement of the existing Mill Hollow Campground water collection box, storage tank and hypochlorinator.

The existing concrete collection box, concrete water storage tank and hypochlorinator structure would be removed, disposed of and replaced, resulting in less than 1.5 acres of ground disturbance.

The existing concrete collection box, storage tank and hypochlorinator would be replaced, vegetation in the spring area would be removed, the surface trench reconstructed and the enclosure fence would be either replaced or repaired as described in Alternative 2.

The campground could remain open but with reduced service because the water system would be closed for up to 120 days during reconstruction.

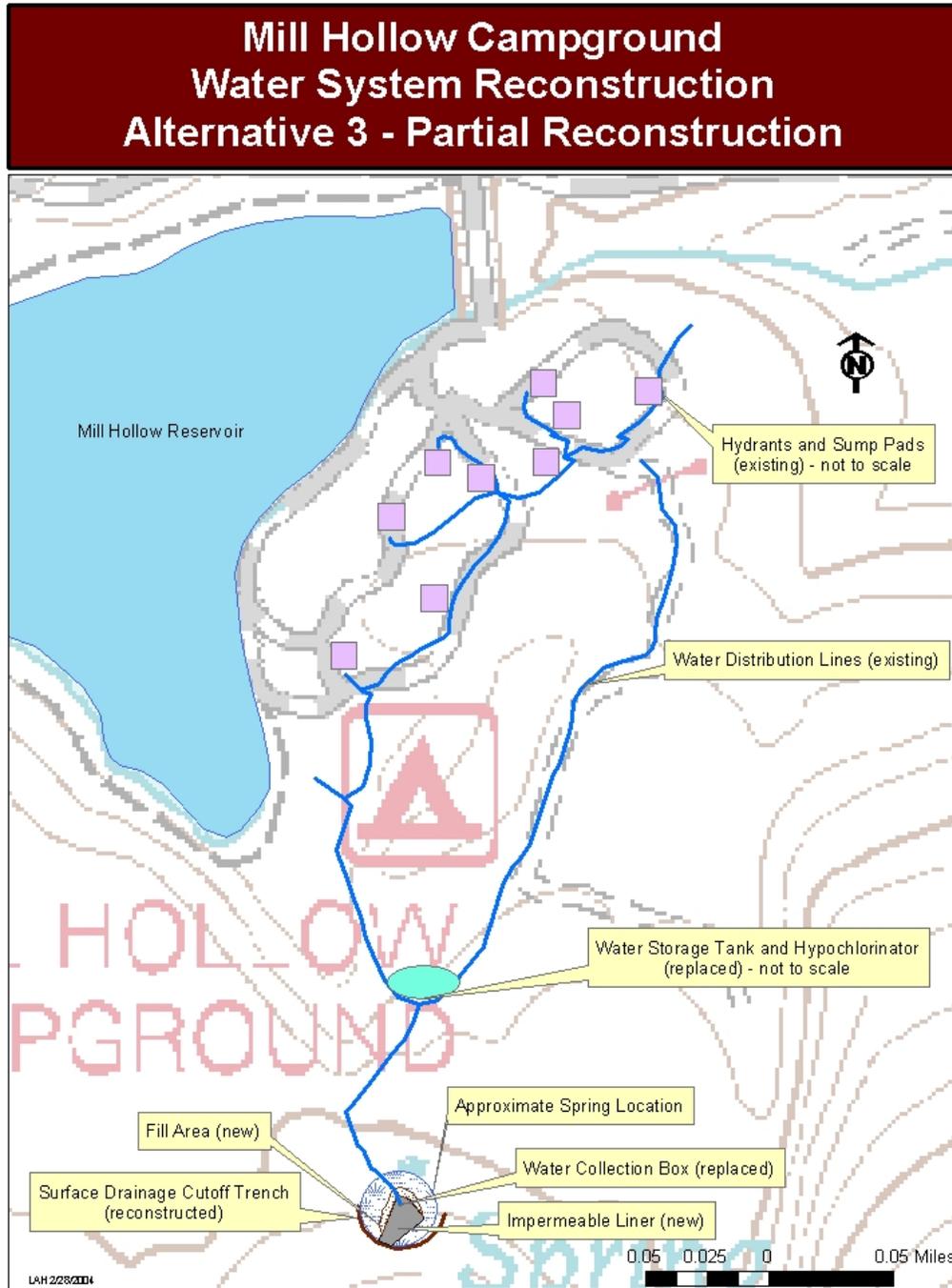


Figure 3. Partial Reconstruction.

Mitigation Common to All Alternatives

In response to public comments on the proposal, mitigation measures were developed to ease some of the potential impacts the various alternatives may cause. The mitigation measures may be applied to any of the action alternatives.

1. Reconstruction activities would take place during the summer camping season, but would be timed to have the least impact on recreationists.
2. Any ground disturbance associated with the project will be seeded with an approved certified weed-free native seed mix and mulched with certified weed-free material.
3. The pulling of tree/shrub stumps will be limited to the collection area and to the area directly above the water distribution lines.
4. Naturally recontour disturbed surface and install rolling grade dips to direct flow off of the road prism and prevent concentrated flow or runoff for segments of water delivery system that lies within the existing spring access road alignment.
5. If topography does not provide an adequate screen for the collection box, storage tank and hypochlorinator, shrubs or trees will be planted to diminish associated visual effect.
6. Where practical, any necessary access road or trail closure activity, etc. should use natural materials in lieu of steel gates, wire fences and other man-made structures. If any boulders are used as barriers, they should be partially buried and arranged so as to appear natural.
7. Any needed signage should be kept to an appropriate minimum in size, quantity, color and reflectivity and should fit within the context of the surrounding landscape.
8. Surfaces of any required man wells, covers, gates, fences, etc., should be of a color and finish so as not to reflect sunlight and to minimize visibility. In this case, a spruce green to blend with adjacent conifer cover is preferred.
9. Development should be the minimum functionally necessary. No material, obsolete or unneeded equipment should be stored on or near the site.
10. Fugitive dust will be minimized during reconstruction activities by watering as appropriate.
11. Appropriate warning signs will be installed to inform the public of any dangers or hazards present during reconstruction activities.
12. Options for providing interpretive information/signing for recreationists regarding the reconstruction activities will be considered and provided as appropriate.
13. The Forest Service and/or the campground concessionaire will monitor for the presence of noxious weeds; and if detected, weeds will be treated using standard methods as provided for in the Forest Plan (pages 3-15 through 17). In addition, standard language for pressure washing all construction equipment would be included in any contract issued for the project (Alternatives 2 & 3).

14. Standard Department of Agriculture Clause, 452.236-73 for protecting any cultural or historical resources discovered during reconstruction activities would be included in any contract issued for the project. If any sites are located during project implementation, measures will be taken to avoid impact to them. The Forest Archaeologist will be notified so the sites can be evaluated for eligibility to the National Register (Alternatives 2 & 3).
15. Any topsoil disturbed during excavation will be stockpiled and used in the restoration of disturbed areas.

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. Environmental Consequences Summary.

Issue	Alternative 1	Alternative 2	Alternative 3
Quality of Wetland	Continued decrease in water available for riparian maintenance during periods of high use may cause slight shifts in composition and distribution of wetland vegetation until water system is unusable. At this time, the full amount of water produced by the spring would be available for riparian maintenance. This may result in vegetative shifts toward hydrophytic species.	Continued decrease in water available for riparian maintenance during periods of high use may cause slight shifts in composition and distribution of wetland vegetation and upland species encroachment.	Continued decrease in water available for riparian maintenance during periods of high use may cause slight shifts in composition and distribution of wetland vegetation and upland species encroachment.
Quantity of Wetland	No additional loss of wetland would occur beyond existing conditions. Eventual closure of the campground water delivery system would make the full amount of water produced by the spring available for riparian maintenance.	0.07 acres of wetland will be permanently covered & filled to protect collection box and associated infrastructure. Wetland mitigation measures may be developed by US ACE during the 404 Permitting process.	0.07 acres of wetland will be permanently covered & filled to protect collection box and associated infrastructure. Wetland mitigation measures may be developed by US ACE during the 404 Permitting process.

Issue	Alternative 1	Alternative 2	Alternative 3
Water Quality	The campground water system would be used until water testing results violate applicable standards or state agency deems system unpotable. No direct effects to surface water beyond current conditions.	The campground water system would be replaced, and comply with relevant state standards. Quality of water discharged from spring area may be negatively impacted during and for a short time after construction activity. No effect to water quality in Mill Hollow Reservoir.	The campground water system would be replaced, and comply with relevant state standards. Quality of water discharged from spring area may be negatively impacted during and for a short time after construction activity. No effect to water quality in Mill Hollow Reservoir.
Threatened, Endangered and Sensitive (TES) Plants, Fish and Wildlife	No disturbance to habitat for TES species potentially occurring in the project area.	Minor disturbance to habitat for TES species potentially occurring in project area. Disturbance would not affect population viability of any species analyzed.	Minor disturbance to habitat for TES species potentially occurring in project area. Disturbance would not affect population viability of any species analyzed.

Issue	Alternative 1	Alternative 2	Alternative 3
<p>Recreational Opportunities (PAOT = persons at one time)</p>	<p>The opportunity for camping and picnicking within developed sites would remain the same.</p>	<p>The opportunity for camping and picnicking within developed sites would decrease in the short term as a result of closing the campground for up to 120 days during reconstruction activities.</p>	<p>The opportunity for camping and picnicking within developed sites would remain the same.</p>
<p><i>Short term effects</i></p>	<p>There would be no short term effects on the quality or quantity of developed camping and picnicking. All 246 PAOT's would be available with full services provided.</p>	<p>There would be a short term loss of the quality and quantity of developed camping and picnicking as no PAOT's would be available in the developed site during the reconstruction. The quality of dispersed recreation in the area would also decrease because no water would be available.</p>	<p>There would be a short term effect to the quality of camping and picnicking resulting from the closure of the water system during reconstruction activities. All 246 PAOT's within the developed site would be available, but no water would be provided. The quality of dispersed recreation in the area would also decrease because no water would be available</p>
<p><i>Long term effects</i></p>	<p>Degradation and eventual closure of the water system would have a negative long term effect on the quality of developed camping and picnicking and on the availability of safe drinking water for dispersed recreationists. The 246 PAOT's available in the developed site would likely decrease in the long term, or be lost if the campground is closed.</p>	<p>Reconstruction as proposed in this alternative would increase the quality of camping and picnicking in the long term. No additional PAOT's are planned, so the quantity of camping and picknicking available would remain at 246 PAOT's.</p>	<p>Reconstruction as proposed in this alternative would increase the quality of camping and picnicking in the long term. No additional PAOT's are planned, so the quantity of camping and picknicking available would remain at 246 PAOT's.</p>
<p><i>Water Conservation</i></p>	<p>There would be no potential improvement in water conservation.</p>	<p>Long term water conservation would potentially increase with the installation of new automatic shut off water hydrants.</p>	<p>There would be no potential improvement in water conservation.</p>

Issue	Alternative 1	Alternative 2	Alternative 3
<i>Visual Quality</i>	There would be no effect to the visual quality of the area.	There would be some short term effect on the visual quality of the collection area, storage area and within the campground during reconstruction. Total ground disturbance would be less than two acres.	There would be some short term effect on the visual quality of the collection and storage areas during reconstruction, but there would be no change to existing visual quality within the campground. Total ground disturbance would be less than 1.5 acres.
<i>Accessibility</i>	There would be no effect on the accessibility of the hydrant and sump pad facilities. Current accessibility status of other facilities would remain the same.	The accessibility of facilities would be improved with the installation of nine accessible water hydrants and sump pads.	There would be no effect on the accessibility of the hydrant and sump pad facilities. Current accessibility status of other facilities would remain the same.
Public Health and Safety	Water system will continue to degrade, and will eventually not meet applicable drinking water standards.	Fully updated & operational water delivery system will meet applicable facility standards & drinking water rules.	Fully updated & operational water delivery system will meet applicable facility standards & drinking water rules.

ENVIRONMENTAL CONSEQUENCES

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

Wetlands

The project is located in the Mill Hollow – South Fork Provo River (6th order Hydrologic Unit Code) watershed. To determine the potential environmental changes to wetland resources, the analysis area will be defined as the Mill Hollow drainage basin (Upper Mill Hollow) above its confluence with Campbell Hollow, Shingle Mill Hollow, and East Fork of Mill Hollow in the SW ¼, SW ¼ of Section 6, T1N, R8E. Upper Mill Hollow drains approximately 1900 acres of National Forest System Lands. The project area includes 19 acre Mill Hollow Reservoir and approximately 130 acres of Riparian Habitat Conservation Area (RHCA) along 3.5 miles of upper Mill Hollow. According to the State of Utah Automated Geographic Reference Center (AGRC) & Uinta National Forest GIS archives, approximately 27 acres of riverine, lacustrine, and emergent wetlands

occur in the area. Soils information for the project area and most of the watershed is not available.

The isolated spring that serves as the groundwater source for the Mill Hollow Campground is located on a north-facing 15% hillslope approximately 160 feet above and 0.15 miles (~800 feet) south of the reservoir. Average elevation of the reservoir is approximately 8850 feet. The spring source supports approximately 0.33 acres of wetland habitat generally consisting of a wet to moist meadow holding a variety of native and seeded exotic vegetation. The spring currently produces and estimated 15 – 20 gallons of water per minute (0.03 cubic feet per second) with approximately 5 gallons per minute (0.01 cubic feet per second) diverted into the collection box for the campground water system. Surface water from the spring does not extend to the reservoir or tributaries. The surrounding area is dominated by spruce/fir interspersed with small grasslands and dry meadows.

Alternative 1 – No Action

The campground would be operated using the current water system until either contamination of the system caused unacceptable water testing results or the system is identified as unsafe by the Utah Department of Environmental Quality—Division of Drinking Water. At that time, the water system would be closed and drinking water would no longer be available at the site. The current water system does not comply with the Safe Drinking Water Act / Utah Public Drinking Water Rules or recommendations from the Intermountain Region Sanitary/Water/Wastewater Engineer.

No ground disturbance would occur, resulting in no new direct or indirect impacts to the quality or quantity of wetland beyond current conditions. Eventual closure of the campground water delivery system would make the full amount of water produced by the spring available for riparian maintenance.

Alternative 2 – Removal and replacement of all existing Mill Hollow Campground water system structures

Reconstruction of the water system as proposed in this alternative would bring the Mill Hollow Water System into compliance with Safe Drinking Water Act / Utah Public Drinking Water Rules and recommendations from the Intermountain Region Sanitary/Water/Wastewater Engineer.

The project as proposed in this alternative will involve less than two acres of ground disturbance. Nearly all the disturbance is associated with replacement of the concrete water storage tank, hypochlorinator, water distribution lines, water hydrants and sump pads. Mitigation measures and standard BMPs, as necessary, will be enacted to capture sediment during construction, minimize impact, and to revegetate disturbed areas.

Approximately 0.07 acres on the eastern extent of the wetland surrounding the collection box and collection lines would be disturbed during installation of the new collection box, impermeable liner, and permanently covered by a minimum of two feet of fill material. The fill and liner will inhibit groundwater / surface water interaction and will, consequently, support upland vegetation. Additional short-term disturbance in the form of removal of stumps or woody debris in the vicinity of the collection facility will be required.

Indirect and long term effects of Alternative 2 may include continued lowering of the water table at the spring source and reduction of the amount of surface water/runoff available for maintenance of the wetland system, especially during periods of elevated water use in the campground. The reduced amount of water may also result in a lowered water table, causing shifts in the wetland vegetative community from hydrophytic to less hydrophytic species.

Wetland mitigation measures may be developed by the US Army Corps of Engineers during the 404 Permitting process, and would be implemented during reconstruction.

Alternative 3 – Removal and replacement of the existing collection box, storage tank and hypochlorinator water system structures

Partial reconstruction of the water system, as proposed in this alternative, would bring the Mill Hollow Water System into compliance with Safe Drinking Water Act / Utah Public Drinking Water Rules and recommendations from the Intermountain Region Sanitary/Water/Wastewater Engineer.

The environmental affects to wetland resources would be consistent with those discussed in Alternative 2.

Cumulative Effects

The area analyzed for cumulative effects will include the entire Mill Hollow watershed above US Highway 35 and confluence with the South Fork Provo River. The Mill Hollow watershed includes 10.5 square miles of National Forest System lands. Major drainages in the Mill Hollow watershed include Campbell Hollow, East Fork Mill Hollow and Shingle Mill Hollow. These drainages all join Mill Hollow below the reservoir. According to AGRC & Uinta National Forest GIS archives, approximately 142 acres of riverine, lacustrine, and emergent wetlands occur in the area.

Historic uses occurring in the Mill Hollow watershed include both developed and dispersed recreation activities, timber sale activity and livestock grazing.

Developed recreation sites within the watershed include Mill Hollow Campground and the Mill Hollow Dam day use area. Dispersed recreation includes camping outside of developed campgrounds, picnicking, hiking, horse back riding, mountain biking, and other such uses.

Eleven timber sales occurred in the cumulative effects area from 1972 through 2003. Two timber sales are currently listed on the Five Year Timber Sale Plan that would take place within the watershed. The Shingle Mill Sale is tentatively scheduled for 2006, 2007 or 2008, and the East Mill Hollow Sale is tentatively scheduled for 2007, 2008 or 2009.

Seven grazing allotments occur within the project area, five are sheep allotments and two are cattle allotments.

These activities have had minor direct and indirect effects in terms of wetland quantity and quality. The proposed action will contribute negligible impact, affecting less than 0.01% (0.07 acres) of the existing wetlands in Mill Hollow watershed.

Water Quality

No rivers or streams in the project area are listed on the State of Utah 303(d) List of Impaired Waters. However, Mill Hollow Reservoir is included in the 2003 State of Utah 303(d) List due to elevated Total Phosphorus and pH. Mill Hollow Reservoir is approximately 19 acres in size.

Alternative 1 – No Action

The campground would be operated using the current water system until either contamination of the system caused unacceptable water testing results or the system is identified as unsafe by the Utah Department of Environmental Quality—Division of Drinking Water. At that time, the water system would be closed and drinking water would no longer be available at the site. The current water system does not comply with the Safe Drinking Water Act / Utah Public Drinking Water Rules or recommendations from the Intermountain Region Sanitary/Water/Wastewater Engineer.

There would be no direct or indirect effect to the quality of surface water under this alternative.

Alternative 2 – Removal and replacement of all existing Mill Hollow Campground water system structures

Reconstruction of the water system as proposed in this alternative would bring the Mill Hollow Water System into compliance with Safe Drinking Water Act / Utah Public Drinking Water Rules and recommendations from the Intermountain Region Sanitary/Water/Wastewater Engineer.

The quality of waters discharged from the spring source may be negatively impacted during and for a short time after construction activity. Impacts will likely include elevated turbidity and sedimentation and can be offset by mitigation measures. These impacts will not affect Mill Hollow Reservoir or any other water bodies, as surface flows from the spring terminate a short distance below the spring.

Alternative 3 – Removal and replacement of the existing collection box, storage tank and hypochlorinator water system structures

Environmental consequences of this alternative to water quality are consistent with those discussed in Alternative 2.

Cumulative Effects

The area analyzed for cumulative effects will include the entire Mill Hollow watershed above US Highway 35 and confluence with the South Fork Provo River. The Mill Hollow watershed includes 10.5 square miles of National Forest System lands. Major drainages in the Mill Hollow watershed include Campbell Hollow, East Fork Mill Hollow and Shingle Mill Hollow. These drainages all join Mill Hollow below the reservoir.

Mill Hollow Reservoir is included in the 2003 State of Utah 303(d) List of Impaired Waters due to elevated Total Phosphorus and pH. Elevated levels of phosphorous can generally be linked to delivery of sediment to streams and reservoirs. Historic uses occurring in the Mill Hollow watershed including developed and dispersed recreation

activities, timber sale activity, and livestock grazing can increase sediment delivery rates within a watershed. Cumulative effects of this project to water quality are negligible. The wetland being re-developed is isolated and will not affect the quality of other surface waters within the watershed.

Threatened, Endangered and Sensitive Species _____

The potential effects of the project were evaluated for the following wildlife species: 1) species listed as Threatened, Endangered, Candidate, or Proposed under the Endangered Species Act; 2) species listed as Sensitive by the Intermountain Region of the Forest Service; 3) species classified as Management Indicator Species (MIS); and 4) migratory birds and raptors. 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). Although the boreal owl is not listed as a Forest Service Sensitive species for the Uinta National Forest on the list of *Intermountain Region Proposed, Endangered, Threatened, and Sensitive Species*, it is considered in this NEPA document because a boreal nest was located in nearby Soapstone Basin in 2001. Potential effects also were evaluated for the boreal toad, which is not listed under the Endangered Species Act or as Forest Service Sensitive, but is classified as Sensitive (Wildlife Species of Concern) by the state of Utah. Indicators used to describe the potential effects of the proposed action and alternatives were: 1) acres of suitable habitat disturbed and 2) whether implementation of the proposed action would likely affect population viability for 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.

This NEPA document follows direction for streamlining biological evaluations provided in the letter to Forest Supervisors in Regions 1, 4, and 6 dated August 17, 1995. The streamlined process for doing biological evaluations for Sensitive species focused on two areas: 1) incorporating discussion of project effects on Sensitive species into the main body of the NEPA document (as opposed to separate, stand alone biological evaluations); and 2) providing a clear and concise summary of biological effects determinations for all Sensitive species. See the TES/MIS Table for a brief summary of the distribution and habitat associations of each species, whether suitable habitat is found within the project area, whether suitable habitat would be disturbed by the proposed action, and whether the species is likely to occur in the project area. See the BA Biological Effects Table for a summary of biological effects determinations for species listed under the Endangered Species Act, and see the BE Biological Effects Table for a summary of biological effects determinations for species listed as Sensitive by the Forest Service Intermountain Region.

Direct and Indirect Effects

Species Listed Under the Endangered Species Act

The **Ute ladies'-tresses** (*Spiranthes diluvialis*) is classified as Threatened under the Endangered Species Act. It is found in wet meadow communities with continually

saturated soils, below 6,800 feet elevation (Williams 1999). The project area was surveyed in July 2002 for rare plant species listed under the Endangered Species Act or as Sensitive by Forest Service and none was found. The project area is located at 9,000 feet elevation, well above the known elevation range for Ute ladies'-tresses.

Implementation of the proposed action or Alternative 3 would not affect population viability of Ute ladies'-tresses because the species is not known to occur in the project area, and the project area is outside of the known elevation range for this species.

The **bald eagle** (*Haliaeetus leucocephalus*) is classified as Threatened under the Endangered Species Act. Few bald eagles breed in Utah but many migrate to Utah for the winter. Migratory bald eagles are common at various sites on the Uinta National Forest during winter. Bald eagles typically occur near ice-free parts of rivers and lakes where they feed on fish or waterfowl. In northern Utah they are commonly seen perched in cottonwoods along rivers during the winter, generally below 7,000 feet elevation. They can also be found in other areas where prey or carrion is concentrated. Bald eagles are not known to occur in or near the project area. *Implementation of the proposed action or Alternative 3 would not affect population viability of bald eagles because this species is not known to occur in the project area, and the high-elevation project area does not provide suitable habitat.*

The **western yellow-billed cuckoo** (*Coccyzus americanus occidentalis*) is classified as a Candidate species for listing under the Endangered Species Act. Western yellow-billed cuckoos breed in low-elevation riparian forests, typically in cottonwood-dominated forests. The nearest location that this species has been found in recent years is along the Provo River below Jordanelle Reservoir at an elevation of approximately 6,000 feet. Western yellow-billed cuckoos are not known to occur in or near the project area. *Implementation of the proposed action or Alternative 3 would not affect population viability of yellow-billed cuckoos because this species is not known to occur in the project area, and the high-elevation project area does not provide suitable habitat.*

The **Canada lynx** (*Lynx canadensis*) is classified as Threatened under the Endangered Species Act. The project site is located within the Upper Provo Lynx Analysis Unit (LAU 2). A second Lynx Analysis Unit Area (LAU 1) occurs to the south and contiguous with LAU 2. Historical lynx records are known from this area, but there are no records from this area since 1982. Hair-snare surveys were conducted for lynx as part of the National Lynx Survey during 1999, 2000, and 2001 within these two LAUs, but no lynx was detected. Lynx inhabit high-elevation conifer forests in the Rocky Mountain region and feed on snowshoe hares, red squirrels, other small mammals, and grouse.

The Uinta National Forest recently revised its Forest Plan. In the revised Forest Plan, the Forest committed to incorporating the measures and intent of the Conservation Agreement, the Science Report, and the *Lynx Conservation Assessment and Strategy* (LCAS) at both planning and project levels. The revised Forest Plan incorporated standards and guidelines from the LCAS (USDA Forest Service 2003a:3-45 to 3-46), as well as many other resource protection measures that promote lynx conservation (letter from Henry Maddux of the U.S. Fish and Wildlife Service to Peter Karp dated March 3, 2003 regarding Section 7 Consultation for the Uinta National Forest Land and Resource Management Plan).

Although lynx are not known to currently occur in the vicinity of the project area, the project area provides a small amount of potential foraging habitat and no potential denning habitat. Average home range size for lynx in southern boreal forests is approximately 58 square miles (37,000 acres) for males and 28 square miles (18,000 acres) for females (Aubry et al. 2000). *Implementation of the proposed action or Alternative 3 would not affect population viability of Canada lynx because 1) this species is not known to occur in the project area, 2) the disturbance would occur in an already developed site, and 3) the area disturbed would be so small (<2 acres) relative to the average area used by individuals of this species.*

Sensitive Species

Barneby woody aster (*Aster kingii* var. *barnebyana*) is associated with rock outcrops, cliffs, and ledges. At lower elevations it is restricted to northern aspects. Its elevation range is 5,000-11,750 feet (Tuhy 1991). *Implementation of the proposed action or Alternative 3 would not affect population viability of Barneby woody aster because this plant is not known to occur in the project area, and the project area contains no suitable habitat.*

Dainty moonwort (*Botrychium crenulatum*) is associated with wet meadows, marshes, and bogs. In Utah, it is known only from Silver Meadows, which is located at an elevation of 9,400 feet approximately 5 miles northeast of the project area (Williams 1999). The small wet meadow located near the collection box provides suitable habitat for dainty moonwort, but no plants were found during a field survey conducted during July 2002. *Implementation of the proposed action or Alternative 3 would not affect population viability of dainty moonwort because this plant was not found to occur in the project area.*

Slender moonwort (*Botrychium lineare*) has been found at sea level in cool climates, but in Utah it is most likely to occur in mountains at higher elevations (about 1,500-3,000 m). Specific habitats where it has been found include meadows dominated by knee-high grass, shaded woods and woodlands, grassy horizontal ledges on a north-facing limestone cliff, and a flat upland section of a river valley (NatureServe 2004). There has been one documented population found on the Wasatch-Cache National Forest, but none has been found on the Uinta National Forest (UDWR 2003). The small wet meadow located near the collection box provides suitable habitat for slender moonwort, but no plants were found during a field survey conducted during July 2002. *Implementation of the proposed action or Alternative 3 would not affect population viability of slender moonwort because this plant was not found to occur in the project area.*

Garret bladderpod (*Lesquerella garrettii*) is associated with alpine, subalpine talus, and rock outcrops. It has been found in Davis, Salt Lake, Utah, and Wasatch Counties and has an elevation range of 8,900-11,400 feet (Tuhy 1991). *Implementation of the proposed action or Alternative 3 would not affect population viability of Garrett bladderpod because this plant is not known to occur in the project area, and the project area contains no suitable habitat.*

Rockcress draba (*Draba densifolia* var. *apiculata*) is associated with alpine tundra, meadows, and talus in rock stripes above timberline. It has been found in spruce-fir krummholz and moist soils near receding snowbanks. It has been found at elevations

from 9,420 to 11,450 feet in the Uintah Mountains and more rarely in the Wasatch Range (Salt Lake County) and Deep Creek Mountains (western Juab County) (Welsh et al. 1993). *Implementation of the proposed action or Alternative 3 would not affect population viability of rockcress draba because this plant is not known to occur in the project area, and the project area contains no suitable habitat.*

Wasatch jamesia (*Jamesia americana* var. *macrocalyx*) is associated with rock crevices and cliffs in mountain brush and spruce-fir vegetation types. It is found on northern aspects or shaded sites at lower elevations (Welsh et al. 1993). *Implementation of the proposed action or Alternative 3 would not affect population viability of Wasatch jamesia because this plant is not known to occur in the project area, and the project area contains no suitable habitat.*

Bonneville cutthroat trout (*Oncorhynchus clarki utah*) is classified as Forest Service Sensitive and as a Management Indicator Species on the Uinta National Forest. The range of Bonneville cutthroat trout is defined by the Snake River basin on the north, the Colorado River basin on the east and south, and the Nevada desert lands and drainages on the west. It is estimated that Bonneville cutthroat trout are presently found in about 5 percent of their historic habitat (May 2000). Electrofishing surveys conducted in 1995 and 1996 found that remnant populations of Bonneville cutthroat trout are common in several streams in upper reaches of the Provo River drainage, but none of these populations occurs within or adjacent to the project area. *Implementation of the proposed action or Alternative 3 would not affect population viability of Bonneville cutthroat trout because this fish is not known to occur in or adjacent to the project area. In addition, the proposed action or Alternative 3 would not impact water quality, quantity, or fish habitat.*

Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*) is classified as Forest Service Sensitive and as a Management Indicator Species on the Uinta National Forest. The project area occurs outside of the Colorado River Basin and is thus outside of the range of this fish. *Implementation of the proposed action or Alternative 3 would not affect population viability of Colorado River cutthroat trout because the project area is outside of the range of this fish.*

In Utah, populations of **Columbia spotted frog** (*Rana luteiventris*) have been located only within the Bonneville Basin in the Wasatch Range and in the West Desert. Known Columbia spotted frog populations in Utah occur below about 8,000 feet. Mill Hollow Creek flows into the South Fork of the Provo River, so it is within the Bonneville Basin, but the project area is located at 9,000 feet, above the known elevation range for this species in Utah. Columbia spotted frogs breed in ponds and lakes, or other aquatic sites with slow-moving water. No such potential breeding habitat is present in the project area; there are only springs and a small creek. Two field surveys of the project area were conducted by the wildlife biologist from the Heber Ranger District. One was conducted on 28 May 2003, and one was conducted on 13 June 2003. No Columbia spotted frogs were observed. *Implementation of the proposed action or Alternative 3 would not affect population viability of Columbia spotted frogs because this species is not known to occur in the project area, and the project area does not provide suitable breeding habitat.*

The **boreal toad** (*Bufo boreas boreas*), a subspecies of the western toad, is not listed under the Endangered Species Act or classified as Sensitive by the Forest Service, but is

found on the Utah Sensitive Species List. Ross et al. (1995) documented an apparent decline in the distribution of boreal toads in Utah, but the current distribution of this species in Utah is poorly documented. Boreal toads in Wyoming, Colorado, and New Mexico are identified as a distinct population segment by the U.S. Fish and Wildlife Service and are listed as a Candidate species for listing under the Endangered Species Act. Historical records show that boreal toads were widely distributed across the Uinta National Forest, but the only populations that have been found on the Forest in recent years are near Strawberry Reservoir. Boreal toads breed in ponds and lakes, or other aquatic sites with slow-moving water. No such potential breeding habitat is present at the project site; there are only springs and a small creek. Field surveys were conducted in the project area for boreal toads on 28 May 2003 and 13 June 2003. None was found. *Implementation of the proposed action or Alternative 3 would not affect population viability of boreal toads because this species is not known to occur in the project area, and the project area does not provide suitable breeding habitat.*

The **northern goshawk** (*Accipiter gentilis*) is classified as Sensitive by the Forest Service and as a Management Indicator Species on the Uinta National Forest. This species is widely distributed across the Uinta National Forest. It nests in dense, mature aspen, conifer, and mixed aspen/conifer forest stands and preys on a wide variety of birds and small mammals. No goshawk nests have been found in the immediate vicinity (<1/2-mile radius) of the project area, but goshawk territories likely occur in the general area (USDA Forest Service 2003). The project area contains a small amount of potential goshawk foraging habitat. Home ranges of goshawks during nesting season vary from 235 to 8,645 acres (Squires and Reynolds 1997). *Implementation of the proposed action or Alternative 3 would not affect population viability of northern goshawks because the area disturbed would be so small (<2 acres) relative to the average area used by individuals of this species, and the disturbance would not substantially alter foraging or nesting habitat.*

The **peregrine falcon** (*Falco peregrinus*) nests on cliffs, typically below 6,000, near streams, rivers, lakes and reservoirs where concentrations of their avian prey are found. Neither concentrations of avian prey nor cliff nesting habitat occur in the vicinity of the project area, and there are no known records of peregrine falcons occurring near the project area. *Implementation of the proposed action or Alternative 3 would not affect population viability of peregrine falcons because this species is not known to occur in the project area, and the high-elevation project area does not provide suitable foraging or nesting habitat.*

The **greater sage-grouse** (*Centrocercus urophasianus*) has been petitioned for listing under the Endangered Species Act. It is classified as Sensitive (Wildlife Species of Concern) by the state of Utah, a Priority Species by Utah Partners in Flight, and was recently added to the U.S. Forest Service Intermountain Region's list of Sensitive Species. Greater sage-grouse is a sagebrush-obligate species. *Implementation of the proposed action or Alternative 3 would not affect population viability of greater sage-grouse because this species is not known to occur in the project area, and the project area does not provide suitable sagebrush habitat.*

The **flamulated owl** (*Otus flammeolus*) is a Neotropical migrant that primarily preys on insects. This species is primarily associated with open forest structures in the western

U.S. such as ponderosa pine forests. On the Uinta National Forest, it has been primarily detected in aspen and mixed aspen/conifer forests. Nest sites that have been found on the Forest have primarily occurred in cavities in aspen trees. The project area is surrounded by relatively dense spruce-fir forest with no aspen. Flammulated owls occupy home ranges with average areas of approximately 26 to 35 acres (McCallum 1994:pages 22 to 23). There are no known flammulated owl nest sites in or near the project area.

Implementation of the proposed action or Alternative 3 would not affect population viability of flammulated owls because suitable open forest habitat does not occur in or adjacent to the project area, the area disturbed would be so small (<2 acres) relative to the average area used by individuals of this species, and the disturbance would not substantially alter foraging or nesting habitat.

The **boreal owl** (*Aegolius funereus*) is a northern forest owl species. The published ranges of this species and the great gray owl (*Strix nebulosa*) do not include Utah (National Geographic 2002, Sibley 2000). However, a boreal owl nest was found in Soapstone Basin on the Uinta National Forest in 2001. This species likely occurs only at a very low density on the Forest. Boreal owls primarily prey on small mammals such as voles and mice. The project area would be considered potential foraging habitat for boreal owls. Boreal owls occupy home ranges with average areas of approximately 2,930 to 3,590 acres (Hayward 1994:page 97). There are no known boreal owl nest sites within the project area. *Implementation of the proposed action or Alternative 3 would not affect population viability of boreal owls because the area impacted would be so small (<2 acres) relative to the average areas used by individuals of this species, and the disturbance would unlikely substantially alter foraging habitat.*

The **American three-toed woodpecker** (*Picoides dorsalis*), formerly known as three-toed woodpecker [*Picoides tridactylus*], is classified as Sensitive by the Forest Service and Utah Division of Wildlife Resources (Wildlife Species of Concern), a Priority Species by Utah Partners in Flight, and as a Management Indicator Species on the Uinta National Forest. On the Uinta National Forest, it occurs in conifer forests, generally above 8,000 feet in spruce-fir forests. This species preys on wood-boring beetles and caterpillars that attack dead or dying conifers. *Implementation of the proposed action or Alternative 3 would not affect population viability of three-toed woodpeckers because suitable foraging or nesting habitat (i.e., dead or dying conifer trees) would not be impacted by the project.*

The **spotted bat** (*Euderma maculatum*) and **Townsend's big-eared bat** (*Corynorhinus townsendii*) feed on flying insects, often along streams, above ponds or wet meadows, and in other riparian habitats. The spotted bat typically roosts in rock crevices or under loose rocks or boulders. It occupies a wide variety of habitats, but has been collected most frequently in dry, desert terrain. In Utah, Townsend's big-eared bat typically roosts in mines or caves below about 9,000 feet elevation. No records of either species are known within the general area of the project site. Spotted bats have been documented to forage 3.7 to 6.2 miles from day roosts each night (NatureServe 2003). For Townsend's big-eared bats, research has shown that centers of foraging activity averaged approximately 0.8 miles from day roost sites for males and 2.0 miles from day roost sites for females (NatureServe 2003). *Implementation of the proposed action or Alternative 3 would not affect population viability of spotted bats or Townsend's big-eared bats*

because the area disturbed would be so small (<2 acres), and the disturbance would not substantially alter foraging or roosting habitat.

The **fisher** (*Martes pennanti*) is unlikely to occur anywhere near the project area. Utah Division of Wildlife Resources (UDWR) considers the fisher to be extirpated from the state (UDWR 2003b). *Implementation of the proposed action or Alternative 3 would not affect population viability of fishers because this species likely does not occur anywhere near the project area.*

Management Indicator Species

Management Indicator Species on the Uinta National Forest are Bonneville cutthroat trout, Colorado River cutthroat trout, northern goshawk, three-toed woodpecker, and American beaver. Each of these species except the beaver is also classified as Forest Service Sensitive and was 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, however, 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. The beaver is a riparian obligate species, although it inhabits a wide variety of riparian habitats as long as there is sufficient permanent water and food. On the Uinta National Forest, primary food sources are various aquatic and riparian herbaceous plants, willow, aspen, and in lower-elevation riparian forests, cottonwood. Field surveys (28 May 2003 and 13 June 2003) showed that beavers do not occur in or near the project area. *Implementation of the proposed action or Alternative 3 would not affect population viability of beavers because this species does not occur in the project area, and suitable beaver habitat does not occur in the project area.*

Migratory Birds and Raptors

Migratory and non-migratory bird species that were detected within and adjacent to the project area during field surveys conducted in May and June of 2003, as well as species likely to occur in this habitat include: brown creeper, red-breasted nuthatch, mountain chickadee, ruby-crowned kinglet, Stellar's jay, American robin, Townsend's solitaire, yellow-rumped warbler, Cassin's finch, pine siskin, chipping sparrow, and dark-eyed junco. No raptor nests were observed within or adjacent to the project area during field surveys in 2003. *Implementation of the proposed action or Alternative 3 would not affect population viability of migratory or non-migratory bird species that occur in the project area because the area disturbed would be so small (<2 acres), and the disturbance would not substantially alter foraging or nesting/roosting habitat for bird species.*

Cumulative Effects

The cumulative effects analysis area is defined as the Upper Provo Management Area (USDA Forest Service 2003b:pages 5-145 to 5-155).

Historic uses occurring in the watershed include both developed and dispersed recreation activities, timber sale activity and livestock grazing.

Developed recreations sites within the watershed include Mill Hollow Campground, Mill Hollow Dam day use area, four day use parking areas along the Highway 35 corridor and

the Wolf Creek Campground. Dispersed recreation includes camping outside of developed campgrounds, picnicking, hiking, horse back riding, mountain biking and other such uses.

Nineteen timber sales have occurred in the watershed since 1971. However, the only timber sale to occur directly adjacent to the project area was the Mill Hollow Blowdown Sale in 1978. Two timber sales are currently listed on the Five Year Timber Sale Plan that would take place within the watershed. The Shingle Mill Sale is tentatively scheduled for 2006, 2007 or 2008, and the East Mill Hollow Sale is tentatively scheduled for 2007, 2008 or 2009.

Twelve grazing allotments occur within the watershed, ten are sheep allotments and two are cattle allotments.

No new campgrounds or expansions of existing developed campgrounds are planned on the Uinta National Forest. No water system reconstruction is planned for the water system at the only other campground in the area, the nearby Wolf Creek Campground. The project area is fenced to exclude livestock from the wet meadow habitat at the water system collection area. Small wet meadows associated with springs like this one are common and widely distributed within the Upper Provo Management Area and elsewhere on the Uinta National Forest. Implementation of the proposed action or Alternative 3 would not measurably add to cumulative impacts of other past, present, and reasonably foreseeable actions within the Upper Provo Management Area because the area of disturbance 1) would be so small in spatial scale, 2) would be confined to areas that have been previously disturbed or developed, and 3) is not known to be occupied by any TES species that would be vulnerable to small-scale soil disturbance.

Recreation Opportunities

The project area, defined as the spring source and associated drainage, collection lines, storage tank with hypochlorinator, water distribution lines and the Mill Hollow Campground administrative site, will serve as the analysis area for the Recreation Opportunities portion of the Mill Hollow Water System Reconstruction Project.

The project area is within an area assigned the Visual Quality Objective (VQO) of Partial Retention as identified in the Forest Plan.

Direct and Indirect Effects

The project area is not located within any roadless areas, and no new road construction will take place in the implementation of this project. Consequently, none of the alternatives would effect roadless areas.

Alternative 1 – No Action

The campground would be operated using the current water system until either contamination of the system caused unacceptable water testing results or the system is identified as unsafe by the Utah Department of Environmental Quality—Division of Drinking Water. The current water system tests are acceptable and safe drinking water is being provided at this time. However, the system does not comply with the Safe

Drinking Water Act / Utah Public Drinking Water Rules or recommendations from the Intermountain Region Sanitary/Water/Wastewater Engineer.

No new direct or indirect impacts to recreation opportunities, visual quality or facility accessibility would occur under this alternative.

However, closure of the water system and reduction in use of the campground as a result would have long term effects upon both the quality of developed camping and picnicking in the project area, and would eliminate a local source of drinking water for dispersed recreationists within and adjacent to the project area. In addition, should there be a determination to close the campground entirely, there would be a loss of the 246 PAOT's associated with the campground. In either case, eventual closure of the campground or even just loss of the water will likely displace some of the current users of Mill Hollow Campground to other developed sites. This will increase crowding and user-related impacts to those sites, and likely slightly impact the quality of recreation experience. On holidays and key weekends, this might result in a loss of developed camping opportunity, because most/all recreation sites on the Forest and surrounding Forests are typically at or near capacity

Alternative 2 – Removal and replacement of all existing Mill Hollow Campground water system structures

Reconstruction of the water system structures, as proposed, would bring the water system into compliance with applicable facility standards and drinking water rules. There would be no change in services offered at the campground, with the exception that the hydrants and sump pads will be more accessible.

Implementation of this alternative would have direct short term effects on recreational opportunities and visual quality of the project area.

Recreational opportunities for camping and picnicking within the developed site would be eliminated due to closure of the campground during reconstruction activities for up to 120 days, resulting in a temporary loss of availability of all 246 PAOT's. Dispersed recreation opportunities would be diminished due to lack of availability of a local source of safe drinking water and the quality of some dispersed opportunities may be reduced due to noise and increased traffic associated with the reconstruction.

The visual quality of the project area would be reduced by the disturbance along the water distribution lines, removal of vegetation, ground disturbance associated with replacement of the storage tank and hypochlorinator and by the fill placed at the spring source. These impacts would be evident on less than two acres for a time and would not be dominant for an unreasonably extended term if successfully re-vegetated so as to blend naturally into the surrounding landscape.

Implementation of this alternative would have long term effects on the quality of recreation within the project area by providing a reliable local source of safe drinking water to campers, picnickers and dispersed recreationists. In addition, replacement of older less functional and/or leaking hydrants with automatic shut off hydrants will reduce the amount of water wasted by the current system, leading to improved water conservation.

Replacement of existing hydrants and sump pads with facilities designed to meet accessibility standards will improve the long term accessibility of the Mill Hollow Campground facility.

Alternative 3 – Removal and replacement of the existing collection box, storage tank and hypochlorinator water system structures

Reconstruction of the water system structures, as proposed by this alternative, would bring the water system into compliance with applicable facility standards and drinking water rules. There would be no change in services offered at the campground.

Implementation of this alternative would have direct short term effects on recreational opportunities and visual quality of the project area.

Recreational opportunities for camping and picnicking within the developed site and dispersed recreation activities in the project area would be diminished due to closure of the water system during reconstruction activities, although all recreation opportunities could still occur with all 246 PAOT's available. In addition, the quality of the recreation opportunities would be reduced due to noise and increased traffic associated with the reconstruction. Since no reconstruction activities would occur directly within the campground, construction related impacts would be slightly less than under Alternative 2.

The visual quality of the project area would be reduced by ground disturbance associated with replacement of the storage tank and hypochlorinator and by the fill placed at the spring source, but no ground disturbance would occur within the campground. These impacts would be evident on less than 1.5 acres for a time and would not be dominant for an unreasonably extended term if successfully re-vegetated so as to blend naturally into the surrounding landscape. Since no reconstruction activities would occur directly within the campground, construction related impacts would be slightly less than under Alternative 2.

Implementation of alternative 3 would have long term effects on the quality of recreation within the project area by providing a local source of safe drinking water to campers, picnickers and dispersed recreationists. However, because replacement of older less functional and/or leaking hydrants would not occur, there would be no reduction in the amount of water wasted by the current system, and no improvement in water conservation.

The long term accessibility of the Mill Hollow Campground would remain as it is currently, because no new facilities designed to meet accessibility standards would be installed.

Cumulative Effects

Historic uses occurring in the project area include both developed and dispersed recreation activities, timber sale activity and livestock grazing.

Developed recreation sites within the project area include the Mill Hollow Campground and Mill Hollow Dam day use area. Dispersed recreation consists of hiking in the area.

The Mill Hollow Blowdown Sale is the only timber sale having occurred within the project area, and harvesting was completed in 1978. There are no timber sales planned within the project area.

The project area is entirely within the Upper Little South Fork sheep allotment.

These past, present and reasonably foreseeable activities will not have a substantial cumulative effect on the recreation opportunities in the area when combined with either of the action alternatives previously described. Outside of the Mill Hollow Campground, developed and dispersed recreation opportunities within the project area would remain the same. The effect of implementation of the no action alternative would be a potential loss of the 246 PAOT's associated with the campground and a reduction in the quality of the dispersed recreation, but taken cumulatively would have little effect on the other resource uses in the project area. No other water system closures are anticipated in the general area (e.g. at Wolf Creek Campground), and no other campground closures are anticipated in the cumulative effects analysis area or on the Heber RD. The loss of 246 PAOTs would constitute a 62% reduction in developed recreation site capacity within the Mill Hollow – South Fork Provo River Watershed.

Public Health and Safety

The project area, defined as the spring source and associated drainage, collection lines, storage tank with hypochlorinator, water distribution lines and the Mill Hollow Campground administrative site, will serve as the analysis area for the Public Health and Safety portion of the Mill Hollow Water System Reconstruction Project.

Direct and Indirect Effects

Alternative 1 – No Action

The current water system does not comply with Utah Public Drinking Water Rules or current Forest Service design criteria. The campground water is currently testing safe for human consumption, however, rodents have previously been found in the collection tank causing incidents of contamination. Continued access, to the water system by rodents entering through the collection lines could occur with this alternative and poses a health and safety problem and would cause short term, until the system could be manually disinfected, but reoccurring effects to public health and safety.

Implementation of this alternative would result in the long term effect of eventual closing of the water system thus removing the local source of safe drinking water provided for both developed and dispersed recreationists.

Alternative 2 – Removal and replacement of all existing Mill Hollow Campground water system structures

Reconstruction as proposed in this alternative would have short term effects on public health and safety limited to additional traffic on the adjacent forest system road, but the entire project area would be closed to the public during reconstruction.

In the long term, public health and safety would be enhanced by providing a water system which would be free from contamination by rodents through collection lines or through improperly fitting gaskets and tank lids. The water system would be continually disinfected by the hypochlorinator and properly designed to eliminate cross connection contamination caused by back flow into the system from trailers hooking up to hydrants.

Alternative 3 – Removal and replacement of the existing collection box, storage tank and hypochlorinator water system structures

Partial reconstruction as proposed in this alternative would have some short term effects on public health and safety, as the campground and day use areas would remain open to the public during reconstruction, but no water would be provided. The public would be exposed to increased traffic and noise caused by heavy equipment and workers associated with the reconstruction project.

In the long term, public health and safety would be as described in Alternative 2. However, the health and safety level associated with the existing distribution lines, hydrants and sump pads would remain the same.

Cumulative Effects

Historic uses occurring in the project area include both developed and dispersed recreation activities, timber sale activity and livestock grazing and are the same as those described under the cumulative effects for recreation opportunities.

These past, present and reasonably foreseeable activities will not have a substantial cumulative effect on the public health and safety in the area when combined with either of the action alternatives previously described. Public health and safety within the project area would not be adversely impacted by implementation of either of the action alternatives. The effect of implementation of the no action alternative would potentially adversely impact public health and safety within the project area, but would have little effect on the other resource uses.

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:

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Kevin Draper, Landscape Architect

FEDERAL, STATE, AND LOCAL AGENCIES:

Army Corps of Engineers

Utah Department of Natural Resources; Division of Wildlife Resources

U.S. Fish and Wildlife Service

Utah Department of Environmental Quality; Division of Air Quality

OTHERS:

Those who provided written responses to the January 2003 and March 2004 scoping were:

Utah Department of Environmental Quality; Division of Air Quality

Utah Department of Natural Resources; Division of Wildlife Resources

Wildlaw Southwest Office

Utah Environmental Congress

U.S. Fish and Wildlife Service

REFERENCES

- Aubry, K. B., G. M. Koehler, and J. R. Squires. 2000. Ecology of Canada lynx in southern boreal forests. Pages 373 – 396 *in* L. F. Ruggiero, K. B. Aubry, S. W. Buskirk, G. M. Koehler, C. J. Krebs, K. S. McKelvey, and J. R. Squires, editors, Ecology and conservation of lynx in the United States. University of Colorado Press, Boulder.
- Hayward, G. D. 1994. Review of technical knowledge: boreal owls. Pages 92 – 127 *in* G. D. Hayward, and J. Verner, technical editors, Flammulated, boreal, and great gray owls in the United States: a technical conservation assessment. U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station and Rocky Mountain Region. General Technical Report RM-253.
- May, B. 2000. Personal communication between Ron Smith, Fisheries Biologist, Uinta National Forest, and B. May regarding the status and distribution of Bonneville and Colorado River cutthroat trout. 12 April 2000.
- McCallum, D. A. 1994. Review of technical knowledge: flammulated owls. Pages 14 – 46 *in* G. D. Hayward, and J. Verner, technical editors, Flammulated, boreal, and great gray owls in the United States: a technical conservation assessment. U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. General Technical Report RM-253.
- National Geographic Society. 2002. Field guide to the birds of North America. Fourth Edition. National Geographic Society, Washington, D.C.
- NatureServe. 2004a. NatureServe Explorer: An online encyclopedia of life [web application]. Version 1.8. Comprehensive report for slender moonwort. NatureServe, Arlington, Virginia. Available [http: www.natureserve.org/explorer](http://www.natureserve.org/explorer). (Printed on January 8, 2004).
- NatureServe. 2004b. NatureServe Explorer: An online encyclopedia of life [web application]. Version 3.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed May 10, 2004). Comprehensive report for spotted bat.
- NatureServe. 2004b. NatureServe Explorer: An online encyclopedia of life [web application]. Version 3.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed May 10, 2004). Comprehensive report for Townsend's big-eared bat.

- Ross, D. A., T. C. Esque, R. A. Fridell, and P. Hovingh. 1995. Historical distribution, current status, and range extension of *Bufo boreas* in Utah. *Herpetological Review* 26:187-189.
- Sibley, D. A. 2000. *The Sibley guide to birds*. Knopf Publishers.
- Squires, J. R., and R. T. Reynolds. 1997. Northern goshawk (*Accipiter gentilis*). In A. Poole, and F. Gill, editors, *The Birds of North America*, No. 298. The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C. 32 pp.
- Tuhy, J. S. 1991. *Aster kingii (King aster) and Lesquerella garrettii (Garrett bladderpod) on the Uinta and Wasatch-Cache National Forests*. Final report for challenge cost share agreements with the Uinta and Wasatch-Cache National Forests. Utah Natural Heritage Program. Salt Lake City, Utah.
- UDWR. 2003a. Natural Heritage Program GIS database. Utah Department of Natural Resources, Division of Wildlife Resources, Salt Lake City. *Botrychium lineare* entries. <http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm>
- UDWR. 2003b. Utah Sensitive Species List. Department of Natural Resources, Division of Wildlife Resources, Salt Lake City, Utah. Available at: http://www.wildlife.utah.gov/pdf/utsoclist_complete.pdf
- USDA Forest Service. 2003a. Intermountain Region Proposed, Endangered, Threatened, and Sensitive Species (12/03) Known/Suspected Distribution by Forest. Available from any Forest Service office within the Intermountain Region.
- USDA Forest Service. 2003b. 2003 Land and Resource Management Plan: Uinta National Forest. Uinta National Forest, Provo, Utah.
- USDA Forest Service. 2003c. Uinta National Forest 2003 Goshawk Survey Results. USDA Forest Service, Uinta National Forest, Provo, Utah.
- Welsh, S. L. et al. 1993. *A Utah Flora*, 2nd Edition. Brigham Young University. Provo, Utah. Pages 298 and 637.
- Williams, R. 1999. *Endangered, Threatened, and Sensitive Species of the Ashley, Uinta and Wasatch-Cache National Forests (Northern Utah Ecoregion)*. Unpublished. On file at the Uinta N. F. Supervisor's Office, Provo, Utah.

Appendices

TES/MIS Table

Threatened, Endangered, and Sensitive (TES) and Management Indicator Species (MIS) fish and wildlife species considered in analysis of Mill Hollow Campground Reconstruction project. More detailed discussion is found in the Environmental Consequences section of the NEPA document.

Species	Species Status ¹			Suitable Habitat in Project Area	Habitat Disturbed by Project	Probable Occurrence in Project Area ²	Distribution/Habitat Association
	USFWS	USFS	UDWR				
Bonneville cutthroat trout		S, MIS	CA	No	No	No	No populations known to occur in or adjacent to project area.
Colorado River cutthroat trout		S, MIS	CA	No	No	No	Project area outside of range of this fish.
Columbia spotted frog		S	CA	No	No	No	Breeds in ponds. None found on field surveys, and project area does not have suitable breeding habitat.
boreal toad			S	No	No	No	Breeds in ponds. None found on field surveys, and project area does not have suitable breeding habitat.
bald eagle	T			No	No	No	Winter resident along ice-free rivers and lakes.
northern goshawk		S, MIS	CA	Yes	No	No	Forages and nests in aspen, conifer, and aspen/conifer forests. No known nest areas in vicinity of project area.

Species	Species Status ¹			Suitable Habitat in Project Area	Habitat Disturbed by Project	Probable Occurrence in Project Area ²	Distribution/Habitat Association
	USFWS	USFS	UDWR				
peregrine falcon		S		No	No	No	Nests primarily on cliffs near concentrations of avian prey.
greater sage-grouse		S	S	No	No	No	Sagebrush obligate species. No suitable habitat in project area.
western yellow-billed cuckoo	C			No	No	No	Associated w/ low-elevation riparian forests/woodlands.
flammulated owl		S		No	No	No	Associated w/ open conifer stands and aspen, not spruce-fir.
three-toed woodpecker		S, MIS	S	Yes	No	?	Associated w/ spruce-fir forest. Suitable habitat occurs surrounding wet meadow, in campground, and along distribution lines.
spotted bat		S	S	Yes?	No	?	Presence in project area and vicinity unknown.
Townsend's big-eared bat		S	S	Yes?	No	?	Presence in project area and vicinity unknown.
fisher		S	X	Yes	No	No	Considered extirpated in Utah by UDWR.
Canada lynx	T			Yes	No	No	Presence in Utah uncertain.
American beaver		MIS		No	No	No	No suitable habitat in project area.

¹USFWS (U.S. Fish and Wildlife Service): E = Endangered, T = Threatened, C = Candidate, P = Proposed under the Endangered Species Act. USFS (U.S. Forest Service): S = Intermountain Region (R4) Sensitive, MIS = Management Indicator Species. UDWR (Utah Division of Wildlife Resources): X = Extirpated, S = Wildlife Species of Concern, CA = Conservation Agreement Species.

²Probable occurrence in project area was qualitatively determined by wildlife biologist based on variety of possible factors including direct observations, survey results, UDWR Natural Heritage GIS database records, and scientific literature documenting habitat associations and current distribution of species.

BE Effects Determinations Table

Biological effects determinations for Forest Service Intermountain Region Sensitive Species for Mill Hollow Campground Water System Reconstruction Project.

Species ¹	No Action	Proposed Action	
	Alternative 1	Alternative 2	Alternative 3
Plants			
Barneby woody aster	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
dainty moonwort	<i>No Impact</i>	<i>May Impact</i>	<i>May Impact</i>
slender moonwort	<i>No Impact</i>	<i>May Impact</i>	<i>May Impact</i>
rockcress draba	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
Wasatch jamesia	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
Garrett bladderpod	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
Fish			
Bonneville cutthroat trout	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
Colorado River cutthroat trout	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
Wildlife			
Columbia spotted frog	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
northern goshawk	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
peregrine falcon	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
greater sage-grouse	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
flamulated owl	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
three-toed woodpecker	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
spotted bat	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
Townsend's big-eared bat	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>
fisher	<i>No Impact</i>	<i>No Impact</i>	<i>No Impact</i>

¹Intermountain Region (R4) Forest Service Sensitive Species analyzed on the Uinta National Forest. Rationale for determination is provided in Environmental Consequences section of NEPA document, TES/MIS Table, Biological Evaluation for Plants, and Rare Plants Specialist Report. Potential effects determinations are:

No Impact = "No Impact";

May Impact = "May Impact Individuals or Habitat, but Will Not Likely Contribute to a Trend Towards Federal Listing or Loss of Viability to the Population or Species";

Will Impact = "Will Impact Individuals or Habitat with a Consequence that the Action May Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species";

Beneficial Impact = "Beneficial Impact."

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Approved by: /s/ *R W Smith*
Fisheries Biologist

/s/ *Jeff Waters*
Wildlife Biologist

Date Approved: 7 May 2004

5 May 2004

BA Effects Determinations Table

Biological effects determinations on species listed under the Endangered Species Act for Mill Hollow Campground Water System Reconstruction Project.

Species ¹	No Action	Proposed Action	Alternative 3
	Alternative 1	Alternative 2	
Ute ladies'-tresses <i>Threatened</i>	<i>No Effect</i>	<i>No Effect</i>	<i>No Effect</i>
bald eagle <i>Threatened</i>	<i>No Effect</i>	<i>No Effect</i>	<i>No Effect</i>
western yellow-billed cuckoo <i>Candidate</i>	<i>No Effect</i>	<i>No Effect</i>	<i>No Effect</i>
Canada lynx <i>Threatened</i>	<i>No Effect</i>	<i>No Effect</i>	<i>No Effect</i>

¹Federally listed and Proposed, Endangered, Threatened, and Candidate species identified by U.S. Fish and Wildlife Service for Wasatch County, Utah. Rationale for determination is provided in Environmental Consequences section of NEPA document and Rare Plants Specialist Report. Potential effects determinations are:

No Effect = “No Effect”;

NLAA = “May Affect – Not Likely to Adversely Affect”;

LAA = “May Affect – Likely to Adversely Affect”;

Beneficial Effect = “Beneficial Effect.”

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Approved by: /s/ *Jeff Waters*

Wildlife Biologist

Date Approved: 5 May 2004