

## Chapter 2 – Alternatives

### 2.1 Introduction

This chapter provides information about alternatives that were considered but eliminated from detailed study in this EA, details those alternatives which are carried forward into Chapter 3 for in-depth review, and summarizes the effects of implementing each of the alternatives.

### 2.2 Alternatives Considered and Eliminated from Detailed Study

During the public input process a number of alternatives were suggested which are not examined in detail. These potential alternatives and the rationale for setting them aside from detailed review are included below.

#### **1. Issue special use permits for continued recreation residence use, but do not require compliance with State, County, or City laws, regulations, or ordinances.**

Through various Federal laws, States and Counties have the authority and jurisdiction, to regulate and enforce requirements pertaining to drinking water and wastewater disposal systems on National Forest System lands. The requirement to comply with these conditions is specified in Forest Service regulations and is a part of each summer homeowner's permit. Specifically, clause IV.A of each current recreation residence special use permit states, "The holder, in exercising the privileges granted by this permit, shall comply with all present and future regulations of the Secretary of Agriculture and all present and future federal, state, county, and municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit." While the Forest Service does not enforce State and local government requirements, noncompliance can be cause for not renewing a permit.

#### **2. Issue special use permits for continued recreation residence use, but do not require compliance with maintenance and construction standards listed in the permit, FSH 2709.11 and the Administrative Guide.**

These requirements were developed to help assure that summer home use would be in compliance with Forest Plan standards and guidelines and other applicable Forest Service policies, laws, and regulations. As noted above consistency with Federal regulations is not discretionary and homeowner's use must be in compliance with their current permit before a new special use permit can be issued (FSH 2709.11, sec. 41.23(a)3).

#### **3. Issue special use permits for continued recreation residence use for terms less than 20 years.**

This alternative would not be consistent with agency policy (FSM 2347.1; FSM 2721.23e and FSH 2709.11, Sec. 41.23), which directs that summer home permits be issued with 20-year terms in most instances. In some circumstances, a one-year permit may be

available for those permit holders who are making progress towards compliance, but who need additional time.

## **2.3 Description of Alternatives Analyzed in Detail**

### **2.3.1 No Action**

Under this alternative, the term for all recreation residence permits in Mill Creek Canyon will expire on December 31, 2008 and the Forest Service would not issue replacement 20-year permits for any of the recreation residences. If the No Action Alternative were implemented, the land occupied by the recreation residence tracts would be managed for alternate public uses, primarily non-motorized recreation. Those homeowners who desire them would be issued 10-year permits at the end of which time all improvements would have to be removed from NFS lands at the expense of the owner (FSM 2721.13c). Restoration of some sites may need to be completed at government expense and permit holders billed for restoration costs.

Improvements that would be removed include structures, roads, utility lines, and buried tanks and containment systems. Permit holders would also pump and fill septic tanks and toilets with earth, and reshape the landscape to fill in structure foundations. The permit holder, with Forest Service guidance, would loosen and break up compacted soils in heavily used areas such as driveways and re-vegetate with native vegetation following residence removals.

Under the No Action Alternative and after the site restoration described above occurs, the land where the Firs, Elbow Fork, and Porter Fork tracts are located would be managed for dispersed, non-motorized recreation, including hiking, cross-country skiing, enjoying nature, and dog walking. Porter Fork Road would be converted to a four foot wide trail (part of the Porter Fork system trail) and maintained as such. Asphalt would be removed from the road and replaced with a trail that would consist of native soil. Some or all of the road culverts would be removed and replaced with small foot bridges. The Porter Fork spur road that extends to cabins 1A through 4A in lower Bowman Fork would also be converted to a four foot wide trail. Other roads and spurs in the three tracts would not be needed for trails and would be allowed to revert back to native vegetation.

### **2.3.2 Proposed Action**

Implementation of the Proposed Action would include authorizing continued recreation residence use of NFS lands on 70 lots at the Firs, Elbow Fork, Porter Fork tracts for 20-year terms, beginning in 2009. Under the Proposed Action, recreation residences would continue to be managed according to terms and conditions of the new special use permit, the Forest Plan, an Operations and Maintenance Plan developed for each lot, and the Wasatch-Cache Recreation Residence Administrative Guide.

Section 1.2.2 describes certain existing community improvements that would be authorized as part of the Proposed Action. This includes the following existing developments that would be authorized to the respective tract association:

**Firs Tract**

- Approximately 0.5 miles of tract road, including the main road and three spur roads, two stream crossings with culverts and two gates, and associated signs.
- Water system and associated foot trail.
- Several other short trail segments, sitting bench, and the group meeting area/sports court.

**Porter Fork Tract**

- About 1.8 miles of tract roads that include the main road and two spur roads, a bridge spanning Mill Creek, a gate, and ten stream crossings of Bowman Fork and Porter Fork with culverts.
- Community water system installed in the fall of 2006 under a short-term authorization.
- Two in-lieu lots in the lower portion of the Porter Fork tract that would be available only as replacements for lots and cabins from other locations in the tract, based on resource protection benefits.

The analysis in this EA for the Proposed Action assumes that all 70 recreation residence permit holders will bring their use into compliance with the terms and conditions of their current permit by December 31, 2008, and that their use will continue until at least December 31, 2029. However, cases may arise where a particular homeowner does not to comply with these requirements. If they have not remedied the deficiencies by the expiration of the current permit, but have made substantial progress they may be issued a one-year permit in order to bring their use into compliance. Those permit holders who have not corrected deficiencies at end of one year will be required to remove all structures from the land and re-vegetate and restore the lot to natural conditions.

Permit compliance includes the requirement to conform with applicable regulations and ordinances of State, County, and local government. During the past year the Salt Lake Valley Health Department has indicated that no summer home may have an outdoor, or vault toilet. Instead each cabin must have an indoor flush toilet with a holding tank that is regularly pumped. In total, this will mean that approximately ## homeowners in Mill Creek will need to modify cabins, excavate and install holding tanks and sewer lines, and fill and cap vault toilets. Outdoor toilet buildings may be approved for homeowner storage, but only if they have no existing shed or storage structure.

**2.4 Alternative Summary and Impact Comparison**

The section provides an overview of the varying impacts of the two alternatives. Chapter 3 contains a complete analysis of the alternatives with regard to the significant issues.

## **2.4.1 No Action**

### **Fish and Wildlife**

Since the area would continue to experience relatively heavy recreation use, there would be little noticeable effect compared to Proposed Action for wildlife. Fish and other aquatic life would benefit over the long term as structures and various developments in streamside areas are removed and the sites restored.

### **Soil and Water**

As areas disturbed by recreation use are rehabilitated, areas of bare and compacted soil would be re-vegetated. In addition, roads and other disturbed areas which currently contribute sediment to streams would be reduced and water quality would improve. In Porter Fork, the stream would be allowed to occupy its historic high flow channels. Though relatively small in overall terms, streamflow would increase somewhat without homeowner diversion and use.

### **Vegetation**

Over time, more natural vegetation would dominate lands currently occupied by summer homes and associated activities. The potential for introduction of invasive and non-native plant species would be reduced, though not eliminated since public recreation would still occur and seed sources are nearby.

### **Recreation, Wilderness, Scenery, and Historic Resources**

The opportunity for family-oriented recreation at 70 summer homes would be foregone. In some cases, these homes have been in the same family for several generations and were the place where important family memories were created. Their removal would be seen as a great loss by many. General public recreation would occur much as it does today. The removal of recreation residences in Porter Fork would be most notable, as hikers and cross-country skiers would be able to utilize a more natural appearing area. Under this alternative, a community water system would be removed in the Porter Fork tract. Since this would involve elimination of one spring diversion and about 600 feet of water line from Pole Canyon in the Mount Olympus Wilderness, there would be a benefit to the wilderness resource. Currently, it is believed that 14 and 16 cabins and associated structures in Porter Fork and Firs tracts, respectively, are eligible for nomination to the National Register of Historic Places. If the No Action Alternative was implemented, these structures would likely be removed. Prior to dismantling, consultation with State Historic Preservation Officer would be conducted and important information about the structures recorded.

## **2.4.1 Proposed Action**

### **Fish and Wildlife**

As homeowners remove in-stream structures and refrain from cutting riparian area vegetation to comply with their current permit, conditions for fish and aquatic life would improve, though not to same degree as under the No Action Alternative. Impacts to wildlife from recreation residence use would continue to occur, but it would be mostly

overshadowed by other recreation developments and intense public recreation in the canyon. With the transfer of as many as two cabins to in-lieu lots from streamside areas at some point in the future, impacts to aquatic resources could further reduced.

### **Soil and Water**

Recreation residence use would continue to create some small areas of bare or compacted soils that are prone to erosion and sedimentation. By authorizing two additional in-lieu lots located in lower Porter Fork, there is an opportunity to shift existing cabins and their associated use from a more sensitive resource location to an area that would provide better resource protection to the stream.

### **Vegetation**

Recreation residence use and altered vegetation would continue to occur on portions of the 24.5 acres occupied by the three tracts. Outside of riparian areas, understory vegetation would sometimes be cut to reduce the wildfire hazard and recreation use around the homes would trample natural vegetation. As homeowners bring their use into compliance with their current permits, several lawns would revert to more natural conditions and the introduction of non-native plantings would cease. However, homeowner use would still provide an unintended transport vector for noxious weeds to enter the area. The designation and possible future utilization of two in-lieu lots would create additional disturbance to vegetation, but this would be mostly offset by restoration of two lots elsewhere in the tract.

### **Recreation, Wilderness, Scenery, and Historic Resources**

Family recreation for the current permittees would continue as it has in the past at the 70 homes, providing an important connection for some to past generations. Public recreation in these areas would occur much as it does today, or under the No Action Alternative. The safety of pedestrians using the Porter Fork Road in the summer would continue to be a concern, given its narrow configuration and limited sight distances. The presence of the summer homes, their associated structures, and the power lines and roads serving the homes would continue to be a visual impact for visitors. Homes currently eligible for nomination to the National Register of Historic Places would continue to be managed to preserve their historic character. As time passes, other structures within the tracts would also become eligible and managed accordingly.

## **Chapter 3 - Affected Environment and Environmental Consequences**

### **3.1 Introduction**

Section 1.6.1 of Chapter 1, includes a list of issues developed by an interdisciplinary team of Forest Service biologists and resource specialists (IDT) for detailed analysis in the EA. The following sections of this chapter are formatted around the general resource areas for these issues. In each section, a description of the affected environment provides background and baseline information. Then an environmental consequences section follows which addresses each of the issues. The environmental consequences section discusses the direct, indirect and cumulative impacts for each alternative. Mitigation measures specific to each resource area are included at the end of this chapter.

The Proposed Action Alternative would allow continued recreation residence use for the 70 summer homes in Mill Creek Canyon for a 20-year term, beginning in 2009. In cases where a permit holder is not in compliance with their existing authorization, the holder could ultimately be required to remove their cabin and other improvements from the National Forest and rehabilitate the site. However, for the purpose of analysis, it is assumed each homeowner will take the necessary steps to comply and that all permits would be reissued. After these new permits are in place, the 70 Mill Creek Canyon summer homes would continue to be managed consistent with Forest Service regulations; policies; handbooks, including the 2008 Wasatch-Cache National Forest Recreation Residence Administrative Guide (Administrative Guide); and State and local government requirements. In addition to allowing continued summer home use, the Proposed Action would include authorizing a number of long-existing tract improvements and the designation of two in-lieu lots as described Chapters 1 and 2.

The No Action Alternative would involve allowing all current special use permits for summer homes in Mill Creek Canyon to expire on their term at the end of 2008 and dedicating the land to an alternate public uses, primarily non-motorized recreation. By policy, the Forest Service would then issue 10-year permits to all permit holders, during which time homeowners would be required to remove their cabins, access roads, and other improvements from public lands and rehabilitate the sites.

### **3.2 Wildlife Resources**

#### **3.2.1 Affected Environment**

For the purpose of this analysis, the area of influence for all wildlife species, except big game, is considered to be Mill Creek Canyon. For big game it is the Wasatch Mountains Hunt Unit (# 17).

The lower and mid-canyon sections of Mill Creek Canyon have fairly extensive developments that affect the area's wildlife habitat capability. Among these are 12

developed picnic areas, a large Boy Scout camp, and two restaurants. Mill Creek Canyon also has an extensive and well used non-motorized trail system.

Vegetation on south facing slopes consists mainly of mountain brush and juniper. North facing slopes supports mainly conifer and aspen vegetation.

### **3.2.1.1 General Wildlife**

#### **Big game**

Mill Creek Canyon is part of the Wasatch Mountains Hunt Unit (# 17) and supports a population of mule deer, elk, and moose. In general, the Utah Division of Wildlife Resources (UDWR) considers all elevations below 7,000 feet to be big game winter range. Slopes facing south and southwest are usually clear of snow or have less snow when compared to the northerly facing slopes and the canyon bottom. It is on these south and southwesterly facing slopes where big game spend most of the winter if they are higher in the canyon. Though recreation residences are located below 7,000 feet in elevation, the tracts are located on flat, shaded, or north-facing slopes that tend to hold enough snow that they receive little winter use by big game.

The UDWR's deer herd objective for the Wasatch Mountain Unit is 40,800 animals with a Salt Lake County subpopulation of 2,000 (UDWR 2006). Because of firearms restrictions in Salt Lake County, UDWR uses an extended archery season to hold the population close to the objective. The elk herd objective is 5,050 animals, with a Salt Lake County subpopulation of 200 (UDWR 1998). There is no population objective or estimate for moose, but moose have a much larger winter range because they tolerate much deeper snow than deer or elk.

In northern Utah, fifty nine percent (638,248 acres) of the deer summer range and 21% (125,415 acres) of deer winter range occurs on National Forest System (NFS) lands (portions of the Ashley, Uinta, and Wasatch-Cache National Forests). For elk, 22% (2,356 acres) of yearlong range, 63% (485,340 acres) of summer range, and 27% (222,861 acres) of winter range are located on the same portions of the three National Forests.

#### **Small game**

Small game in Mill Creek Canyon includes blue grouse, ruffed grouse, and snowshoe hare.

#### **Small mammals**

Many species of small mammals are found in Mill Creek Canyon, and these include squirrels, chipmunks, skunk, porcupine, raccoon, and marmots. These small mammals have the capacity to hide and for the most part go undetected. Down woody debris, both naturally occurring and that around out buildings and woodpiles around summer homes creates habitat for small mammals.

### 3.2.1.2 Migratory Birds

There are many species of migratory birds that spend the summer breeding period in habitats provided in Mill Creek Canyon. Species composition would mirror the list obtained in the Brighton Bird Count that the Salt Lake Audubon Society has been conducting since 1968 (Audubon Society 2004). Table 3.1 lists bird species of concern that may be present in Mill Creek Canyon. This list has been compiled from Partners in Flight (PIF) species of concern and the U.S. Fish and Wildlife Service (FWS) birds of conservation concern for a larger geographic area in Utah.

<b>Species <sup>A</sup></b>	<b>Primary Breeding Habitat</b>	<b>Secondary Breeding Habitat</b>	<b>Winter Habitat <sup>B</sup></b>	<b>Nests</b>
Black-throated gray warbler *	Pinyon-Juniper	Mountain Shrub	Migrant	Trees
Brewer's sparrow *	Shrubsteppe	High Desert Shrub	Migrant	Sage
Broad-tailed hummingbird	Lowland Riparian	Mountain Riparian	Migrant	Trees
Gray Viero *	Pinyon-Juniper	Northern Oak	Migrant	Shrubs
Virginia's warbler *	Northern Oak	Pinyon-Juniper	Migrant	Ground
Williamson's sapsucker	Sub-Alpine Conifer	Aspen	Migrant	Trees
Yellow-billed cuckoo *	Lowland Riparian	Agriculture	Migrant	Trees/ Willows
Lewis' Woodpecker *	Ponderosa Pine	Lowland Riparian	Northern Oak	Trees
Loggerhead shrike	High Desert Scrub	Pinyon-Juniper	High Desert Scrub	Trees
Pinyon Jay	Pinyon-Juniper	Ponderosa Pine	Pinyon Juniper	Trees
Red-naped sapsucker	Aspen	Mixed Conifer	Mountain Riparian	Trees
Sage sparrow *	Shrubsteppe	High Desert Scrub	Low Desert Scrub	Sage/ Ground
Three-toed woodpecker	Sub-Alpine Conifer	Lodgepole Pine	Sub-Alpine Conifer	Trees

<sup>A</sup> Bold type = PIF list.  
 Regular type = BCC list.  
 \* = both lists.

<sup>B</sup> Some species are not migratory but are listed because they are on the PIF and/or BCC lists.

Species that would be expected in the vegetation types within the recreation residence tracts are the broad-tailed hummingbird, Williamson's sapsucker, red-naped sapsucker, and the three-toed woodpecker. All have been identified in the Brighton Bird Count.

### 3.2.1.3 Terrestrial Management Indicator Species (MIS)

Terrestrial MIS are identified in Appendix J of the Forest Plan Final Environmental Impact Statement and include beaver, goshawk, and snowshoe hare. Monitoring is

conducted according to the 2003 Revised Forest Plan monitoring plan (RFP, 2003, page 4-10 and 4-11). Forest management actions are evaluated for their effect on population trends. As data is collected on the species, an annual report is completed for the Wasatch-Cache National Forest which details monitoring protocols and summarizes the results of the results of the previous year's monitoring. The following summarizes the monitoring for the three terrestrial MIS for the Forest (WCNF, Version 2007-1, Nov 2007).

### **Beaver**

The Forest Service is in the process of collecting baseline information and uses UDWR data to aid in the assessment of historical beaver population trends for the Forest. The 1979-80 and 1998-1999 Furbearer Harvest Reports (Proven 1980 and Wolfe 1999, respectively) and the 1971-1982 Beaver Distribution, Habitat and Population Survey (Blackwell, 1993) provide relevant information on beaver. The 1979-80 Harvest and 1971-82 Survey Reports display beaver estimations by "units," while the 1998-1999 Harvest Report considers regions (Great Basin, Rocky Mtn., Uintah Basin, and Colorado Plateau). The Survey restates the trend from the 79-80' Report. These reports indicate the trend is static on most beaver units and increasing on some. On Unit 15, Southeast Salt Lake County, it is increasing.

There are 13 UDWR trapping units that include some NFS lands administered by the Wasatch-Cache National Forest. UDWR beaver units include all land ownerships. In the UDWR's 1993 document, three units were determined to be increasing and nine units were determined to be static.

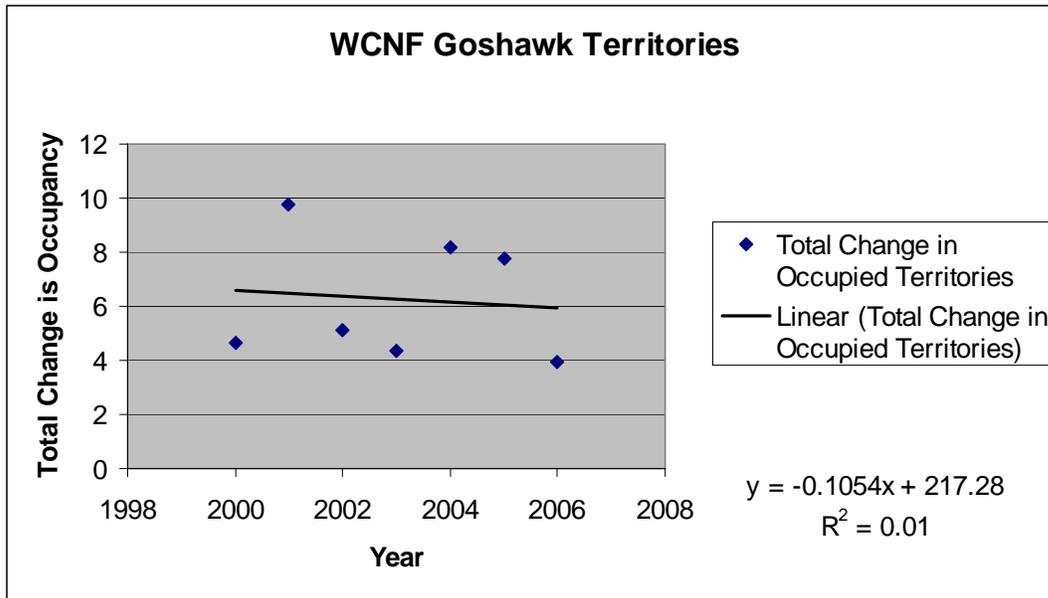
Based on the efforts described above, management activities across the Wasatch-Cache National Forest do not appear to have significantly affected suitable beaver habitat or population trends since 1980. While this is true on the broader scale, there are indications that several individual locations projects or activities have impacted beaver. With the exception of a few specific locations, Forest Service management of suitable beaver habitat within National Forest boundaries has not changed significantly from 1980 to the present.

As time goes on, Forest Service monitoring data will be used to augment UDRW information. On the Forest, beaver monitoring is conducted on systematically selected sections (1 square mile). None of these plots are located in sections of Mill Creek where summer homes are located. In visits to the tracts there is some evidence of beaver use in the past, but nothing in the recent past. Recreational residence tracts in Mill Creek Canyon will not affect population trends of beaver on the Forest.

### **Goshawk**

Figure 3.1 shows the territory occupancy for goshawks across the Wasatch-Cache National Forest from 1999 to 2004 (adjusted to 1999 occupied territories, based on the difference in numbers of territories monitored). The baseline used was the 1999 occupancy of 7 known occupied territories. Adjusting for the 1999 occupied territories, there has been a high in 2001 of 9.76 occupied territories and a low of 4.33 in 2003. These differences in years are not statistically significant, showing a static trend in the goshawk population Forest-wide.

**Figure 3.1 Total change in occupied territories on the WCNF, 1999-2006.**



Territory occupancy numbers from Figure 3.1 in table form.

Year	1999	2000	2001	2002	2003	2004	2005	2006
<b>Change in Occupied Territories<sup>1</sup></b>	7	4.66	9.76	5.09	4.33	8.18	7.775	3.97

<sup>1</sup>Sum of each Districts change in territory occupancy.

The monitoring plan calls for the monitoring of 50% of the goshawk territories on the Forest annually. At the present time this totals 25 territories. There have been no goshawk territories identified in the portion of Mill Creek Canyon where recreational residence tracts are located, although many tracts are adjacent to suitable habitat and some contain suitable habitat.

**Snowshoe Hare**

Snowshoe hare monitoring for the Forest Plan is divided into two populations areas (Uinta Mountains and Bear River/Wasatch Range) because of natural barriers that keep the populations from intermixing. Monitoring grids (5 transects with 10 points in each transect) were established in vegetation types that support snowshoe hare across the Bear River/Wasatch Range in 2003. From 2003 – 2005 hare numbers increased while there was a decrease in 2006. It is too early to tell if this decrease is part of a normal snowshoe hare cycle or not. Annual surveys will continue and evaluation of the data will take place at an appropriate time. At this time the trend appears to be stable across the Forest.

Recreational residence tracts do have snowshoe hare habitat, although none of the monitoring grids are located in the tracts. Snowshoe hares will use woodpiles and areas under porches as hiding cover, but there is no indication of decreases or increases within the tracts. With the length of time the tracts have been in place it is assumed that equilibrium has been reached with respect to their effect on current populations of snowshoe hare and their habitat.

### 3.2.1.4 Terrestrial Endangered, Threatened, and Sensitive Species

The U.S. Fish and Wildlife Service (FWS) Utah Field Office releases their list, “Federally Listed and Proposed (P) Endangered(E), Threatened (T), and Candidate (C) Species and Habitat in Utah by County” (FWS, 2006) on a periodic basis. Species listed as occurring or having habitat in Salt Lake County are shown below.

<b>Species/(Status)</b>	<b>Scientific Name</b>
Bald Eagle (T)	<i>Haliaeetus leucocephalus</i>
Canada lynx (T)	<i>Lynx canadensis</i>
Yellow-billed cuckoo (C)	<i>Coccyzus americanus</i>

#### **Bald eagle**

Except for eight nesting pairs of bald eagles, none of which are on the Wasatch-Cache National Forest, bald eagles are considered winter visitants in Utah (FWS 2006). Two basic habitat requirements, roost trees and open water for foraging, are lacking in Mill Creek Canyon. The area may receive some incidental use by bald eagles, but most activity is in the vicinity of the Great Salt Lake where prey is much more abundant.

#### **Yellow-billed Cuckoo**

Utah is on the outer edge of the range for yellow-billed cuckoos. The Bear River Range along with the Wasatch Range and the Uinta Mountains are an island of habitat occasionally used by the species. All reports in Salt Lake County are from areas below the Forest boundary, although all recreation residence tracts are generally within their elevation range. Willows and other shrubby vegetation are most likely the limiting factor in Mill Creek Canyon.

#### **Canada lynx**

Salt Lake County is considered linkage habitat for the lynx, connecting Wasatch and Utah Counties to the south and east to Summit and Morgan Counties to the north. In recent years it has been used by one known lynx that left Colorado where it had been transplanted, on its trip back towards Canada where it had been originally captured. In the Federal Register of Thursday, July 3, 2003, titled “Remanded Determination of Status for the Contiguous United States Population Segment of the Canada Lynx; Clarification of Findings; Final Rule,” the FWS states, “...There is no evidence of lynx reproduction in Utah. We conclude that lynx that occur in Utah are dispersers rather than residents...” No critical habitat for the Canada lynx has been identified in Utah (Federal Register 2006)

Forest Service sensitive species are those species identified by the Regional Forester as “[species] for which population viability is a concern as evidenced by ... significant current or predicted downward trends in population numbers or density... or significant or predicted downward trends in habitat capability that would reduce a species existing distribution” (FSM 2670.5). Forest Service sensitive terrestrial species for the Wasatch-Cache National Forest are shown in Table 3.3. The presence (Y) or absence (N) of

habitat for these sensitive species in or near the Mill Creek recreation residence tracts is indicated in this table.

<b>Tract</b>	<b>Spotted Bat</b>	<b>Wolverine</b>	<b>Big-eared Bat</b>	<b>Boreal Owl</b>	<b>Flam. Owl</b>	<b>Great Gray Owl</b>	<b>Goshawk</b>	<b>Peregrine</b>	<b>3-toed</b>	<b>Sharp-tail</b>	<b>Sage Grouse</b>	<b>Pygmy Rabbit</b>
Firs	N	N	N	Y	Y	Y	Y	N	Y	N	N	N
Porter Fork	N	N	N	Y	Y	Y	Y	N	Y	N	N	N
Elbow Fork	N	N	N	Y	Y	Y	Y	N	Y	N	N	N

These species include the Boreal owl (*Aegolius funereus*), flammulated owl (*Otus flammeolus*), great gray owl (*Strix nebulosa*), Northern goshawk (*Accipiter gentilis*), and Northern three-toed woodpecker (*Picoides tridactylus*) which have potential habitat in the area.

**Boreal owl**

Boreal owls are secondary cavity nesters that prefer northern coniferous forests, but will use mixed conifer-aspen, for nesting (DeGraaf et.al 1991). While there are several reports of boreal owls in northern Utah, none have been observed in Mill Creek Canyon.

**Flammulated Owl**

These owls prefer ponderosa pine forests, but will also use forests of spruce-fir, Douglas-fir, lodgepole pine, aspen, and pinyon-juniper (Degraaf, et.al 1991). On the Wasatch-Cache National Forest they use aspen more than other vegetation types. None have been identified in Mill Creek Canyon.

**Great horned Owl**

Great horned owl habitat is present in the coniferous stands in Mill Creek Canyon. The species is considered a winter vagrant in Utah and none have been found in Mill Creek Canyon.

**Northern goshawk**

Goshawk habitat is present in the coniferous and conifer-aspen stands in Mill Creek Canyon. Goshawks have not been found in any of the recreation residence tracts there.

**Northern Three-toed Woodpecker**

Three-toed woodpecker habitat is present in the coniferous and conifer-aspen stands in Mill Creek Canyon. Three-toed woodpeckers have not been found in any of the recreational residence tracts.

### **3.2.2 Environmental Consequences**

Based on public scoping and Interdisciplinary Team discussions, the following issues were identified as relevant to this analysis for Wildlife Resources:

- *How will continued recreation residence use affect wildlife, including threatened, endangered, and Forest Service sensitive species? What will be the impact to migratory bird species and Forest Service management indicator species?*

#### **3.2.2.1 Impacts Common To All Alternatives**

Under both alternatives, because of the small amount of acreage involved, there would be no change in big game, small game, small mammals, and neo-tropical migrants. Distribution and movements might be affected to a degree, but overall there will be no noticeable change. Trends on management indicator species populations would not be affected, nor would they be affected at the project level. There would be no effect on endangered, threatened, or candidate species and no impact on Forest Service sensitive species.

#### **3.2.2.2 Alternative 1 - No Action**

Under the No Action Alternative recreation residences, out buildings, roads, bridges and other improvements would be removed. Disturbed areas would be re-vegetated with native species or would return to native species through natural succession. The tract areas would provide more security for wildlife species and would tend to be used by a more diverse array of species because manmade improvements would be removed and historic habitat would be restored. This would be especially true if the areas were managed for vegetation and age classes that would more closely resemble historic landscape patterns. Under this alternative, the area formerly occupied by recreation residences would experience dispersed recreation use which would tend to have some displacement effects on wildlife.

#### **3.2.2.3 Alternative 2 - Proposed Action**

Under this alternative, recreation residence use would continue, as would use of associated improvements such as roads, bridges, out buildings, etc. In discussing terrestrial wildlife and the impacts of recreation residence tracts, it must be remembered that these tracts have been in place for several decades. As such, most impacts on wildlife occurred long ago when cabins and roads were first built. Wildlife species have long since grown accustomed to the development or have been displaced from the area. Salt blocks, feeders, and other activities will tend to attract some wildlife species that might avoid the area more without such attractants, but in general what is present now would remain. Following the Administrative Guide would help to keep natural vegetation in place to benefit the most diverse array of species possible. This vegetation would continue to favor species that prefer and use older age classes of vegetation.

With the designation of two in-lieu lots in Porter Fork and the possible future relocation of two cabins to these lots, there would be a minor short term impact to wildlife habitat. Over the long term, however, wildlife would benefit from use of the in-lieu lots because the in-lieu lots would be in less sensitive areas than the lots they would replace.

### **Migratory Birds**

In general, tree nesting birds have not been affected by the presence of recreational residence tracts. Some larger trees have been removed, but most are desired for shade and aesthetics and have been retained. Species that depend on willows, other shrubs, and the ground for foraging or nesting may have been affected with the removal of these types of vegetation either during initial construction or use by the permit holders around cabins. With the small size of the tracts in comparison to the amount of habitat available, birds may have been displaced from time to time, but the tracts have not threatened the existence of any species on the Forest.

### **Terrestrial Endangered, Threatened, and Sensitive Species**

#### **Bald Eagle**

Continuation of use of the recreational residence tracts would have no effect on bald eagles.

#### **Yellow-billed Cuckoo**

Continuation of these tracts will have no effect on the yellow-billed cuckoo.

#### **Lynx**

Continued recreation residence use in Mill Creek Canyon will have no effect on lynx.

#### **Boreal owl**

None have been observed in Mill Creek Canyon. Since the proposal involves virtually no habitat alteration, continued recreation residence use will have no impact on boreal owls.

#### **Flammulated Owl**

None have been identified in Mill Creek Canyon. Since the proposal involves almost no habitat alteration, continued recreation residence use will have no impact on flammulated owls.

#### **Great horned Owl**

None have been found in Mill Creek Canyon. Continued use of the tracts will have no impact on the owls or their habitat.

#### **Northern goshawk**

Goshawks have not been found in any of the recreation residence tracts there and since the proposal involves virtually no habitat alteration, continued recreation residence use will have no impact on goshawks.

### **Northern Three-toed Woodpecker**

Since three-toed woodpeckers have not been found in any of the recreational residence tracts and the proposal involves almost no habitat alteration, continued recreation residence use will have no impact on three-toed woodpeckers.

#### **3.2.2.4 Cumulative Effects**

All activities have the potential to affect different species. Some of these effects are positive for some species and negative on others. Wildland fires that set back vegetation to earlier successional stages will benefit species that prefer or need younger age classes and are detrimental to species that prefer or need older age classes. Human activities have a negative impact on species that require seclusion while not affecting those that do well around human activities.

Cumulative effects on wildlife are centered on wildfires and human activities such as developed recreation sites, dispersed recreation, roads and road use, maintenance of power and telephone lines and right-of-ways, maintenance and replacement of water lines. In general wildfires will be beneficial to wildlife. In setting back natural succession the area would move towards properly functioning condition with diverse age classes of vegetation that would provide habitat for the greatest number of species.

Road use on the County Road will likely increase as the population of the Salt Lake Valley increases. This will increase the possibilities of automobile wildlife collisions and reduce habitat effectiveness for some species that tend to naturally avoid actively used roads.

Replacement and maintenance of waterlines and power lines are short term disturbances that may displace wildlife.

### **3.3 Aquatic Resources**

#### **3.3.1 Affected Environment**

##### **3.3.1.1 Project Area Description**

The project area includes the three recreation residence tracts in Mill Creek Canyon. The 45-home Porter Fork Tract is located immediately adjacent to Porter Fork Creek and one of its tributaries, Bowman Fork. Approximately 1.4 miles further up the canyon, the single cabin Elbow Fork Tract is situated along Mill Creek and the County road. Finally, the 24-cabin Firs Tract is located 1.8 miles further up the canyon, and is also located along Mill Creek.

The broader analysis area is comprised of the Mill Creek Hydrologic Unit (HU), and includes all National Forest lands from the mouth of the canyon to surrounding ridgelines with Parley's and Lamb's Canyons, Summit County, and Big Cottonwood Creek. The Mill Creek HU is 13,908 acres in size and includes 40.9 miles of perennial and

intermittent streams. The streams within the HU that have perennial flows include Church Fork, Porter Fork, Bowman Fork, and Elbow Fork. There are also a number of named and unnamed tributaries that are believed to have intermittent flows.

### **3.2.1.2 Management Direction**

The Forest Plan provides the primary direction for managing activities and uses of NFS System lands. A large portion of the three tracts in this analysis are located in relatively close proximity to stream corridors in Mill Creek Canyon. Mill Creek is designated in the Forest Plan as Class I riparian area (Appendix VII, p.6), making it a high priority for maintaining or enhancing its values. With respect to Aquatic Resources, a number of terms are especially pertinent to the analysis in this EA. The definitions provided below are taken from the Forest Plan.

***Riparian Area** - Land areas that are directly influenced by water. They usually have visible vegetative or physical characteristics showing this water influence. Steamsides, lake borders, or marshes are typical of riparian areas. The ecosystems around or next to water areas that support unique vegetation and animal communities as a result of the influence of water.*

***Riparian Habitat Conservation Area (RHCA)** – An area that includes traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams, (2) providing root strength for channel stability, (3) shading the stream, and (4) protecting water quality. This designation still allows for a full range of activities but it emphasizes the achievement of riparian management objectives that are identified on a site-by-site basis. These objectives should include riparian vegetation and instream habitat condition.*

The RHCAs in Mill Creek Canyon extend on either side of streams ranging in distance from 100 to 300 feet upslope from the creek's edge. Thus, each RHCA is from 200 to 600 feet in total width. In total, only 10 of the 70 summer home lots in Mill Creek Canyon are completely outside of RHCAs. In Porter Fork Tract, this would include cabin/lot numbers 30 - 39. In the Firs Tract, only cabin/lot numbers 7, 8, and 24 are located outside of RHCAs. The remaining 53 cabins in the three tracts are located partially, or completely, within an RHCA and would be subject to the protection measures described below.

The Forest Service uses Riparian Management Objectives (RMOs) to provide specific, activity or project level guidance to help conserve riparian and aquatic values within RHCAs. In this case, a set of RMOs have been developed for the recreation residence program on the Wasatch-Cache National Forest and is included below as Table 1. These RMOs address not only the recreation residence itself, but also other improvements such as sheds, access roads, bridges, decks, patios, etc. A primary objective of the RMOs is to retain and improve vegetation in the RHCA in a way that helps to minimize

sedimentation, maintain woody debris, prevent pollution, and shade the creek to keep water temperatures low, while at the same time allowing recreation residence use, access, and wildfire protection.

<b>Table 1. Riparian Management Objectives for Recreation Residences – Wasatch-Cache National Forest.</b>
<b>In-stream and Streamside Structures</b>
<ul style="list-style-type: none"> <li>• Weirs, retaining walls, and similar structures are allowed if needed to protect a recreation residence. These must be approved by the District Ranger and the State Engineer.</li> <li>• Dams, pools, and similar structures are not allowed.</li> <li>• Only bridges necessary for summer home use will be permitted.</li> <li>• Painting and staining of bridges, decks, sheds, and summer homes is allowed but requires use of appropriate containment and absorption materials. Replacement with synthetic materials which do not require periodic painting and staining is recommended.</li> <li>• Sandbags may be used to protect individual summer homes and other outbuilding from flooding from November 1 to July 15. Sandbags must be removed from the Forest by July 15. Where sandbags were historically used to protect sections of road, retaining walls using native material should be considered and if desired constructed after approval by the District Ranger.</li> </ul>
<b>Improvements</b>
<ul style="list-style-type: none"> <li>• Expansion of the footprint of summer homes, decks, patios, walkways, sheds, and storage buildings is not allowed if any part of the improvement is located within the RHCA.</li> <li>• No new decks, patios, walkways, sheds, and storage buildings will be allowed if any part of the improvement would be located within the RHCA</li> <li>• If summer homes and associated structures located in RHCAs are destroyed by a natural event (e.g., wildfire), or become so structurally unsound that they must be demolished, additional environmental review will be required before they are allowed to be rebuilt. In some cases, the degree of impact to the riparian area from the summer home may not allow a summer home to be rebuilt on the lot. In those cases, a permit holder will be offered an in-lieu lot if one is available.</li> <li>• Play equipment, such as swing sets, and fireplaces and fire rings should be located more than 25 feet from the edge of the stream channel and within 25 feet of the structure.</li> <li>• Expansion of parking areas is not allowed.</li> <li>• Temporary parking is not allowed off the parking spur or roadway in the RHCA.</li> </ul>
<b>Vegetation Management and Wildfire Hazard Reduction</b>
<ul style="list-style-type: none"> <li>• Trees and brush along tract roads may be cleared up to 14 feet in height and 14 feet in overall width.</li> <li>• Standing trees greater than 5" in diameter which present a safety hazard may be cut down after receiving approval the Forest Service permit administrator.</li> <li>• Existing native riparian vegetation may not be converted to another vegetation type.</li> <li>• Large woody material may not be removed from the stream channel unless the permit administrator determines that it is a threat to life or property.</li> <li>• Larger trees (diameter 5 inches or greater) that have fallen to the ground or have been cut down should be retained on site for recruitment of coarse woody debris and not cut into short lengths. Such trees may be cut on the ground and moved aside only to the extent necessary to allow access to the summer home and other improvements on the lot.</li> <li>• Within 25 feet horizontally of the edge of the stream channel:             <ol style="list-style-type: none"> <li>1. Small trees and brush may be cut and the limbs on larger trees pruned if they are within 7 feet of cabins<sup>1</sup>, sheds, decks, patios, and other structures.</li> <li>2. Within 7 feet of structures noted above, grasses and forbs may be mowed or cut by other means down to 2 inches in height.</li> </ol> </li> </ul>

<b>Vegetation Management and Wildfire Hazard Reduction (Continued)</b>
<ul style="list-style-type: none"> <li>• Greater than 25 feet of the edge of the stream channel, horizontally to the outer edge of the RHCA:               <ol style="list-style-type: none"> <li>1. Small trees and brush may be cut and the limbs on larger trees pruned around summer homes<sup>1</sup>, decks and patios for a distance of 25 feet and 7 feet around sheds.</li> <li>2. Grasses and forbs may be mowed or cut by other means down to 2 inches in height around summer homes, decks and patios for a distance of 25 feet and 7 feet around sheds and other structures.</li> <li>3. In areas beyond 25 feet of cabins and 7 feet of other structures, but also greater than 50 feet from the stream channel, trees larger than 5 inches in diameter may be pruned up to a vertical height of 10 feet, and smaller diameter trees may be cut in order to reduce ladder fuels.</li> </ol> </li> </ul> <p><sup>1</sup> - Exceptions may be allowed in those situations where an entire recreation residence is within 50 feet of the edge of the stream channel. Such exemptions must be described in an O&amp;M Plan and can include clearing distances greater than 25 feet from the home, but may not include converting existing riparian vegetation.</p>
<b>Operations and Maintenance</b>
<ul style="list-style-type: none"> <li>• Trails may be surfaced with wood chips or gravel to help control erosion.</li> <li>• Motorized equipment, such as chain saws, lawn mowers, etc., and their oil and fuel may be stored on site only from June 15 to September 30.</li> <li>• Herbicides may only be used when applied by a certified applicator and only when the product has been approved for use by the Forest Service and local government.</li> <li>• Fertilizer can only be used for restoration work within the RHCA.</li> <li>• Long-term (greater than 6 months) storage of paint, pesticides, and chemicals is not permitted.</li> <li>• Storage of firewood should be minimized and located within 25 feet of the recreation residents.</li> </ul>

### 3.2.1.3 Existing Conditions

Fish species which inhabit Mill Creek Canyon streams include the native Bonneville cutthroat trout and non-native brown and rainbow trout. Bonneville cutthroat trout are found downstream of Elbow Fork. In the Mill Creek HU, the cutthroat trout population is divided into two groups separated by an old hydroelectric dam just above the mouth of Porter Fork. There is also a man-made flow weir just above Elbow Fork and a natural barrier that precludes cutthroat trout from migrating above this area. Non-native fish have been stocked in the drainage and brown trout have developed a self-sustaining population.

Other species found in the drainage include the tiger salamander. It is also suspected that boreal and woodhouse toads are in the drainage, although no individuals have been found.

It is important to note that the following issues mostly apply to cabins and improvements in the Porter Fork area. Most of the homes in the three tracts being analyzed in this document have been built from the 1920s through the 1950s, during the same period that most of the picnic areas and other facilities in Mill Creek Canyon were constructed. Likely not recognizing the importance of environmental protection at the time, many of these facilities, including virtually all of the recreation residences, were built in riparian areas. More specific to the summer homes, over the years natural vegetation around the residences was altered as recreational resident owners constructed cabins, outbuildings

and roads, and installed recreational facilities around the lots. In some cases, larger trees have been removed for power lines and to reduce the hazard of falling trees. Often, dead and down trees were removed, rather than allowed to remain in the stream channel and provide aquatic benefits. In some instances, this was done for flood control purposes, while in others it was likely done for wildfire protection, aesthetic, or safety reasons. An Aquatics technical report has been prepared in support of this EA which provides additional detail of existing conditions in riparian areas near the three Mill Creek summer home tracts (Cowley 2006).

In the Porter Fork tract, sand bags have been used in a few locations for flood control. Unfortunately, these sand bags have sometimes been left along the stream banks well past the high flow period and the bags have deteriorated allowing sand to go directly into the stream channel. This increase in sand and fine silt, can smother spawned eggs and reduce habitat for young fish and aquatic insects.

Over the years, summer home construction and use has impacted channel conditions in ways that affect fish and other aquatic life. Removal of trees, shrubs, and other vegetation along streams has weakened banks and increased the potential for sloughing in some areas. In areas immediately near homes, larger trees that have fallen have been removed from the site or sawed into small sections, rather than allowed to become a part of the natural stream environment and provide habitat. In other instances, channels have been “bermed” to shift water flows away from homes and other uses on the lots. People’s natural attraction to water has resulted in pockets of compacted soils and loss of vegetation on some stream banks and streamside areas. Finally, in a few instances small weirs have been placed in the stream to create pools. While these can create habitat for small fish, these features also tend to restrict fish movement and raise water temperatures.

Residential use in locations near streams increases the risk of introducing contaminants into the water and damaging aquatic life. The type of impacts can range from elevated nutrient levels, to toxic contamination from chemicals so high as to kill fish and macroinvertebrates, or reduce the diversity of species. For example, gray water leach fields could seep into streams and sealed toilet vaults could become damaged and leak. Similarly, home and garden chemicals and improperly used paints and stains could inadvertently make their way into streams. There is no evidence currently of contamination from sanitation facilities and vaults have recently been inspected by the Salt Lake Valley Health Department (SLVHD).

Water withdrawals for summer home use have decreased flows available for aquatic life in Mill Creek Canyon streams to some degree. For example, the analysis of Porter Fork’s new water system indicates that 13,500 gallons/day, or less than 0.3 percent of the creek’s flow (Mill Creek) could be used by summer homes.

It should be noted that adverse impacts from summer homes are not equally distributed or common among the three tracts and that in the past several years, adoption of the Administrative Guide and steps taken by some homeowners have reduced impacts to the aquatic environment. For example, within the Porter Fork Tract the impacts are most

pronounced. There, the tract road system and a number of the homes are located immediately adjacent to drainages, providing little buffer for streams. However, in this same tract residents recently installed a community water system, which reduced stream impacts by minimizing the amount of water diverted for home use and by removing an extensive network of distribution pipes, much of which was laid in stream channels.

Approximately 1,307 acres of the Mill Creek HU is located within 300 feet of streams and water bodies and Mill Creek and its tributaries in the canyon. Recreation residence tracts overlay approximately 20.7 acres, or 1.6 percent, of this area.

### **3.3.2 Environmental Consequences**

This section presents the effects of recreation residence management on the following issues:

- *What will be the effect of continued recreation residence use on aquatic life, including threatened, endangered, and Forest Service sensitive species, such as the Bonneville Cutthroat trout? As a component of the aquatic ecosystem, how will continued summer home use affect Riparian Habitat Conservation Areas?*

#### **3.3.2.1 Alternative 1 - No Action**

Under the No Action Alternative the summer home special use permits would expire in 2008 and the facilities in the summer home tracts would be removed over a 10-year period. In all, 70 cabins and approximately 3 vehicle bridges and numerous culverts and foot bridges would be removed. Approximately 2.3 miles of internal tracts roads would also be removed and restored. As a part of the road removal process, the paved, 1.6-mile road through the Porter Fork tract which accesses the Mt. Olympus Wilderness would be converted to a trail. The surface of the former road would be reduced from 12 to 4 feet in width and would be converted from asphalt to a natural soil surface. Out buildings and outhouses would also be removed. With the removal of these facilities, it's likely that the areas where these tracts are located would see more recreation use of the type common to Mill Creek, especially hiking and biking.

The removal of all recreation residence improvements would have a short term adverse impact as cabins and other buildings are dismantled, bridges and culverts removed, and impacted areas are leveled and re-vegetated. These activities would create sedimentation that could adversely affect aquatic life until the rehabilitation becomes effective. The severity of the impact would be determined mainly by the effectiveness of erosion control measures and the extent of the removal activities in any given year.

If the summer home tracts were eliminated and the RHCA was restored to the natural vegetation, the overall impact of developments in the Mill Creek HU would drop from 6.6 percent to 5.0 percent, which is about a third less of the impact.

Under Alternative 1, non-native rainbow and brown trout would continue to exist in Mill Creek Canyon streams

### **3.3.2.2 Alternative 2 - Proposed Action**

Alternative 2 involves authorizing continued recreation residence use of the 70 homes in three tracts in Mill Creek Canyon. The cabins in Mill Creek would continue to be managed according to the Administrative Guide and other Forest Service and local government requirements. In addition, activities and developments within RHCAs would be conducted consistent with the RMOs which have been developed as a part of this environmental review. New improvements and remodeled facilities would be subject to an appropriate level of environmental review before they are approved. Two additional in-lieu lots would be authorized in the Porter Fork Tract that would be available only for replacement lots/cabins from the Porter Fork Tract, based on resource protection benefits.

Continued recreation residence use in the Mill Creek tracts would mean that summer homes and associated improvements would continue to exist over the next 20 years in areas within close proximity to streams in the canyon. As noted earlier, 1.6 percent of the total area in the Mill Creek HU that is within 300 feet of streams is affected by summer home use and this would continue to be the case under this alternative. In the sections below, the effects of continued recreation residence is summarized. It is important to note that these effects are based on the assumption that best management practices stipulated in the Administrative Guide will be employed and that the RMOs described earlier will be adhered to.

#### **Threatened, Endangered, and Sensitive Species**

A Biological Assessment/Evaluation has been prepared for this project to assess the impacts to Threatened, Endangered, and Forest Service Sensitive Species. The determination was made that there would be no impact to Federally listed aquatic species. For Forest Service sensitive aquatic species, it was determined that the proposal may impact individual Bonneville cutthroat trout or their habitat, but that it is not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

#### **Riparian Vegetation**

Vegetation around streams is a critical element in protecting the aquatic environment. Past vegetation removal and conversion to low-growing grasses and forbs has reduced habitat for fish and aquatic insects and allowed water temperatures to increase. As the RMOs and other best management practices (BMPs) are implemented and vegetation gets re-established, there should be improvement to vegetation in and around streamside areas. In places, riparian vegetation has been removed by construction of the cabins or other facilities, which has reduced hiding cover for fish and hatching structure for insects. These activities have largely already taken place and conformance with BMPs should eliminate or greatly reduce this type of impact in the future. The proximity of many homes, roads, and other improvements will have some long term adverse effect on vegetation important to aquatic species and their habitat.

### **Sedimentation**

Implementation of BMPs should help to eliminate much of the runoff related impacts to aquatic life. For instance, sandbags will only be allowed to be placed directly against the structures and would be removed each year after use. As heavily used areas adjacent to streams are allowed to re-vegetate, erosion will be reduced. However, compacted community use areas near streams and runoff and sedimentation from roads and driveways will continue to introduce some level of fine materials into streams even with proper erosion control and drainage.

### **Water Quality**

Implementation of BMPs will involve more restricted use and storage of chemicals, paints, and stains, which should help to reduce the chances of water quality contamination in the future.

Approximately 23 homes in the three tracts have toilet systems that do not comply with requirements of the SLVHD and are in varying stages of retrofitting their facilities with indoor flush and holding tank systems. While there is the possibility of runoff from these small disturbed areas reaching the stream, over the long-term the action will help to protect water quality and the aquatic environment in Mill Creek Canyon.

### **Channel Conditions**

Over time and with conformance with the RMOs, channel conditions will improve as regrowth occurs in streambank and streamside vegetation. The effects of historic berms have already occurred and no additional structures would be allowed to be installed. Small, instream structures will be removed to allow fish passage. Finally, larger trees that fall will be allowed to remain in the channel and become woody debris, given they do not create a flooding hazard. However, recreation residence use in the future will continue to affect channel conditions since the natural drainage network has been permanently altered to accommodate summer home use. As in-stream structures are removed, impediments to fish movement should be reduced.

### **In-Lieu Lots**

With the designation of two in-lieu lots in Porter Fork and the possible future relocation of two cabins to these lots, there would be a minor short term impact to aquatic resources as the original cabins are dismantled and the site revegetated. However, over the long term use of the in-lieu lots would be a benefit to riparian vegetation and water quality and channel conditions for aquatic species. While these in-lieu lots are within the RHCA, when exchanged with existing lots in the tract the homes and constructed features will be significantly farther away from the stream channel than they currently are. A further improvement is at least one bridge will be removed.

### **3.3.2.3 Cumulative Effects**

Cumulative effects to aquatic resources are those past, present, and reasonably foreseeable activities which would add to the direct and indirect impacts noted above.

There are 12 picnic areas in Mill Creek Canyon and a number of private day use camps in the canyon, all of which are extremely popular. There are approximately 1,007 acres of non-Federal land in the canyon which sees heavy use, with much of it occurring near streams. The “spill-over” of recreation use from these developed sites has resulted in compacted soils and denuded vegetation around some sections of streams. In addition, a number of trailheads and associated parking lots are within 300 feet of streams in the Mill Creek HU. Developed recreation uses, such as picnic and parking areas, trails, and Forest Roads impact 138.7 acres or 10.6% percent of the area within Mill Creek drainage that is within 300 feet of streams.

The County road in Mill Creek HU extends approximately 8.7 miles from the mouth of the canyon to its terminus at Big Water Trailhead. Of this distance, approximately 5.3 miles is located on NFS land while the remainder is on property owned by others. Throughout virtually its entire extent the road is located within 300 feet of Mill Creek. Though paved, in some sections inadequate shoulder drainage causes sedimentation, adversely affecting aquatic species. There are also about 51 miles of system trails and many of these see heavy recreation use. Some of these trails are located near perennial and intermittently flowing streams and likely contribute sediment that could cumulatively affect aquatic life. In total, approximately 24.9 acres or 1.9% of the RHCA is impacted by roads and trails within RHCAs in the drainage. These trails and roads reduce vegetative cover and have an direct impact on aquatic environments through shade reduction, habitat loss and increased sedimentation.

Stream obstructions which are barriers to fish movement also play a role in cumulative effects in the Mill Creek HU. Among these is a flow weir across Mill Creek just above Elbow Fork and a very steep section of stream just below the weir. These prevent cutthroat trout from migrating above these structures. In Porter Fork Creek, an old hydroelectric dam just above the stream’s confluence with Mill Creek is also a barrier to migration. A manmade dam also exists just above the mouth of Porter Fork on Mill Creek. These barriers prevent the downstream group of fish from mixing with those above the barriers. This reduces the ability of the population to survive catastrophic events and maintains a lower population size. Over time this may affect the genetics of the local population.

Introduced species also represents a cumulative impact to fish in Mill Creek. Non-native rainbow and brown trout have been stocked in various places in the drainage and the later has developed a self-sustaining population. In addition, whirling disease has been detected in Mill Creek.

In the early 1990s extensive habitat rehabilitation work was started in Mill Creek adjacent to the picnic areas in Mill Creek. This included planting vegetation, restricting the stream channels, and installing rock weirs. A small fishing pond with a board walk was installed in 1993 across from the Mill Creek Guard Station. There is evidence that previous habitat improvement work has been done in the drainage using log weir structures around the Maple Grove Picnic Area. These projects have reduced the

sediment entering the stream from the higher use areas and has probably improved survival of eggs and juvenile fish naturally produced in the streams.

Despite these actions that contribute to threats to cutthroat trout populations and sport fisheries in Mill Creek and its tributaries, with the implementation of the Administrative Guide and other BMPs the additive effects from continued recreation residence use is minor and will not result in significant cumulative effects

### 3.4 Vegetation

#### 3.4.1 Affected Environment

Given that the summer homes in Mill Creek Canyon are a long-existing use and that they represent a relatively small impact to overall vegetation in the drainage (less than 0.2 percent of the area), this analysis focuses on the impact this use has on rare plants and the presence of invasive and non-native species.

##### 3.4.1.1 Threatened Endangered Species (TES)

The table below indicates TES plants that have known occurrences on the Salt Lake

<b>Table 3.4 Rare Plants on the Salt Lake Ranger District</b>	
<b>Common Name</b>	<b>Scientific Name</b>
<b>Federal Candidate Species</b>	
Slender moonwort	<i>Botrychium lineare</i>
<b>Forest Service Sensitive</b>	
Brownie ladyslipper	<i>Cypripedium fasciculatum</i>
Beavertip draba	<i>Draba globosa</i>
Fivepetal cliff bush	<i>Jamesia Americana var. macrocalyx</i>
Garrett bladderpod	<i>Lesquerella garrettii</i>
<b>Recommended Sensitive</b>	
Utah angelica	<i>Angelica wheeleri</i>
Tower rockcress	<i>Arabis glabra</i>
Sierra fumewort	<i>Corydalis caseana ssp . brachycarpa</i>
Lesser yellow lady’s slipper	<i>Cypripedium calceolus var.parviflorum</i>
Wasatch shooting star	<i>Dodecatheon dentatum var. utahense</i>
Shortstyle draba	<i>Draba brachystylis</i>
Sand fleabane	<i>Erigeron arenarioides</i>
Garretts fleabane	<i>Erigeron garrettii</i>
Utah mousetail	<i>Ivesia utahensis</i>
Alpine pepperweed	<i>Lepidium montanum var alpinum</i>
Broadleaf beardtongue	<i>Penstemon platyphyllus</i>

District and were targeted as having potential habitat in or around the Firs, Elbow Fork and Porter Fork recreation residences. In inventories conducted in 2006, no TES plant species individuals or populations were detected and very little potential habitat exists.

### **3.4.1.2 Noxious Weeds**

Although varying in size and degree of infestation, noxious weeds were identified in every tract. These are of concern because of their potential for spread and ability to alter the natural plant community. The weeds found were those typical of high human use areas, including Burdock, Hounds tongue, Canada and Bull thistle, Field bindweed, and Oxeye daisy. The later is probably an escape from a horticultural planting(s). While some of these weeds can be controlled manually by pulling, others can only be treated chemically because of their root structure and sprouting capability.

Bull thistle, Field bindweed, and White top, are noxious weeds that have been mapped in other parts of Mill Creek. These are weeds that were mapped in areas of high human use, campgrounds, trailheads, etc. These mapped locations are considered a seed source and have likelihood of being transported into any of the recreation residences tracts.

### **3.4.1.3 Non-Native, Invasive Species and Horticultural Plantings**

Horticultural and other non-native plantings are common in all of the recreation residence tracts. Poppies, Lilac, Iris, Daisies, Vinca (very aggressive), Lilly of the Valley, Arborvitae, Bishops weed, sedum sp. (non-native species), Yew (tree) are all horticultural species, typical of urban landscaping, and were identified in several residences in almost every tract.

### **3.4.2 Environmental Consequences**

This section presents the effects of recreation residence management on the main issues raised regarding vegetation:

- *How will continued recreation residence use affect vegetation, including threatened, endangered, and Forest Service sensitive plant species?*
- *To what extent will recreation residence use affect the spread of noxious and non-native invasive plant species?*

#### **3.4.2.1 Alternative 1 - No Action**

Using aerial photos, topographic maps and local knowledge, the area surrounding the recreation residence tracts was analyzed for habitat for the species listed in Table 3.4. Surveys were conducted and no TES species were found and very little potential habitat exists. Discontinuing recreation residence use would have no effect/no impact to threatened, endangered, or Forest Service sensitive plant species.

Relatively extensive ground disturbance associated with removal of summer homes, out buildings, roads, and other improvements would create a vector for the spread of noxious weeds already present in the tract and in the canyon. Without an aggressive program to control the spread, there would likely be a serious increase in the area impacted by invasive plant species in canyon.

### **3.4.2.2 Alternative 2 – Proposed Action**

Continued recreation residence use could allow already established invasive species to spread and for new species to be brought into the canyon on vehicle tires, shoes, and clothing.

With the designation of two in-lieu lots in Porter Fork and the possible future relocation of two cabins to these lots, there would be a short term impact to vegetation in the tract as the original cabins are dismantled, the site revegetated, and a new building site developed. Similarly, approximately 23 homes in the three tracts have toilet systems that do not comply with requirements of the SLVHD and are in the process of being retrofitted. As this work is completed, there will be a minor amount of additional disturbance to vegetation on the associated lots.

In general the vegetation surrounding the recreation residence tracts has been previously disturbed and altered by the permitted use. Continuing recreation residence use would have no effect/no impact to threatened, endangered, or Forest Service sensitive plant species.

The use of non-native species is restricted in the Administrative Guide. The implementation of this restriction should curtail the use of non-native species.

The full range of treatment options, including herbicides, will be allowed under the 2006 Record of Decision for Noxious Weed Treatment Program for the Wasatch-Cache National Forest. An aggressive program to control noxious weeds will be implemented. Herbicides will only be applied by State certified applicators or under their direct supervision, using products approved for use by local government.

### **3.4.2.3 Cumulative Effects**

Past, present, and reasonably foreseeable future actions that could cumulatively add to the impacts of continued recreation residence use are mostly associated with the intensive recreation use the canyon currently experiences and that likely will continue into the future. These impacts are associated with the potential for people to inadvertently bring weed seeds from other infested areas into Mill Creek on their vehicle and bike tires, clothing, shoes, and pet fur. Areas of bare soil or thin vegetation from human activities represent the most favorable sites for these seeds to become established. As such, the continued use in and around picnic areas, trails and trailheads, parking areas where people congregate are locations where noxious weeds have already been detected or at risk of becoming infested. Power lines in the canyon also are potential source of weed spread because right-of-way maintenance activities can create bare soil and bring in new weed seeds.

Future wildfires could affect the potential for spread of noxious weeds and invasive species in several ways. Typically, fires create bare soil conditions that offer a potential seedbed for noxious weeds that are already in the area. In addition, fire suppression

activities such as constructing firelines can create additional sites for weeds to become established and suppression personnel and their vehicles can bring new weed species into the area. However, the location and timing of future wildfires are too speculative to further analyze.

## **3.5 Soil and Water Resources**

### **3.5.1 Affected Environment**

Mill Creek is a sub-watershed located east of Salt Lake City, Utah. The distance from the canyon bottom to the headwaters is about 10 miles. The canyon hillsides are steep and only several very small lakes are found in the drainage. The main tributaries to Mill Creek are Church Fork, Porter Fork, and Elbow Fork. Mill Creek is an unregulated stream that flows into the Jordan River. The annual flow for Mill Creek is 10,760 acre-feet or about 14.8 cubic feet per second (Utah State of. 1997).

#### **Floodplains and Wetlands**

Because of the steepness of Mill Creek Canyon there are very few areas that would be considered a true floodplain in the sense that a floodplain is a relatively flat area on each side of a channel where flood flows spread out during high flow events. The channel along most of Mill Creek and its tributaries does not have a flat area adjacent to the channel and flood flows occupy the sloping channel bank and remain within the steep, confined stream channel. The descriptions below indicate where flood flows occupy the stream channel area and this area is called the floodplain. Wetlands are areas of land that are wet during part of the growing season and have wetland species indicative of wetlands such as willows and sedges.

In Mill Creek Canyon, Mill Creek flows down a relatively steep canyon and the floodplain width varies depending upon the slope gradient changes along the length of the channel. Along most of the Mill Creek channel the floodplain is from 10 to 20 feet wide and in a few areas the floodplain may become 50 feet wide where the slope gradient is lower.

At the Elbow Fork recreation residence, the Mill Creek stream gradient is about 10 % and the floodplain is about 5 feet wide on each side of the stream channel. A bridge spans the floodplain and the recreation residence there is not in a floodplain, or a wetland.

At the Firs recreation residence area, the stream gradient of Mill Creek is about 5% and the floodplain is about 10 to 20 feet wide on each side of the channel. The road accessing the Firs tract crosses Mill Creek at two locations which have culverts. No flood plains or wetlands occur in this recreation residence area.

At the Porter Fork recreation residence area, the stream gradient is about 6% near the bottom and increases to 25% at the upper part of the recreation residence area. Since the stream gradient is relatively steep, the area where Porter Fork floods is next to the channel and may extend to a width of about 10 feet from the stream edge. Porter Fork

stream flows through eight lots and Bowman Fork stream flows through two lots. Bowman Fork stream is about one-foot wide and the water flow does not vary much since the source is from a spring and the volume flowing near the recreation residences is small. The total amount of stream and floodplain area that is within the lots of Porter Fork recreation residence tract is 0.5 acres based on a floodplain and stream width of 20 feet. No homes are in the floodplain area.

The developments in Porter Fork Canyon have caused some restriction in the ability of the stream channel to flow where it used to prior to development. Before the summer homes were constructed, high flow water would extend out of the stream channel and form new channels. This is indicated by several dry channels that are present on the fan at the bottom of the canyon. The paved road and road culverts that cross the stream have confined Porter Fork stream channel to its present location. Some of the recreation residences have retaining walls, log structures, and rip-rap to keep stream banks from eroding and some have structures such as stone stairs leading to the stream edge. At the lower end of Porter Fork Creek, there is a concrete diversion structure near the stream which is a remnant of an old pipeline that once existed.

### **Water Quality**

Mill Creek is located within Salt Lake City's municipal watershed, but is not considered part of its "protected watershed" since its waters are not currently used for culinary purposes.

The State of Utah has designated the streams draining into Mill Creek above the National Forest boundary as Antidegradation Segments. This indicates that the existing water quality is better than the established standards for the designated beneficial uses. Water quality is required by state regulation to be maintained at this level. The beneficial uses of streams within these watersheds, as designated by the Utah Department of Environmental Quality, Division of Water Quality, are:

- Class 2B – protected for recreation
- Class 3A – protected for cold water species of game fish and other cold water aquatic species
- Class 4 – protected for agricultural uses.

The numeric water quality standards can be found in Section R317-2, Utah Administrative Code, *Standards of Quality of Waters of the State* (Utah, State of. 2006a).

The Utah Division of Water Quality collects water samples at various places in Utah including Mill Creek and analyzes these water samples for chemical parameters, nutrients, and metals. The most current review of the water quality information by the State Division of Water Resources shows that the water in Mill Creek meets all of its water quality beneficial uses (Utah, State of. 2006b).

The current sanitation systems at the Mill Creek recreational residences are mostly vault toilets that contain waste and are pumped at regular intervals. Over the past several years, these facilities have been inspected by the SLVHD and have been determined to be properly functioning. Soil characteristics within the Mill Creek recreation residence tract

are not well suited for septic systems. However, neither leach field septic systems, nor pit toilets, are allowed under local government ordinances. Some homes utilize gray water leach fields for disposal of water used in the household. There is no evidence to date suggesting that the methods currently employed for sewage and wastewater management contribute to nutrient enrichment or deterioration in water quality in Mill Creek Canyon. However, 23 summer homes in Mill Creek Canyon are in the process of coming into compliance with SLVHD requirements and are installing indoor flush toilets with holding tanks.

**Water Use**

The Firs and Porter Fork recreation residence tracts have their own water systems. The Firs Tract has an actual water right, while the Porter Fork Tract obtains its water through a contract with Salt Lake City Department of Public Utilities. At the current time, it's believed that the Elbow Fork recreation residence has neither a water right, nor a contract with another entity for use of water, even though water is being diverted for summer home use. The estimated amount of water use at the recreation residence tracts in Mill Creek Canyon is shown in Table 3.5. The estimated amount of use per recreation residence for Porter Fork is 300 gallons per day (gpd) and for Firs is 400 gpd, based on amount of water allowed in their water rights or contracts. Since the homes are occupied only intermittently during the summer and see little or no use in winter, these tend to be conservative estimates of water use. The total amount of water use in the Porter Fork recreation residence tract is estimated to be 13,500 gpd or 9.4 gallons per minute. The estimated amount of use at the Elbow Fork recreation residence is 300 gallons per day (gpd). The estimated use or (gpd) per recreation residence, multiplied by the number of recreation residences per tract, will give the total use (gpd) for that tract. The use per day is based on 75 gallons of water per day per person for four people as described in Forest Service Handbook (USDA Forest Service 1981). The total water use from the recreation residences in Mill Creek Canyon is estimated to be 23,400 gpd (0.04 cubic feet per second or 16.25 gallons per minute).

<b>Table 3.5 - Estimated water use at Forest Service Recreation Residence Tracts in Mill Creek.</b>					
<b>Tract</b>	<b>Number of Permits</b>	<b>Water Use</b>			
		<b>Per Residence</b>	<b>Total (gpd)<sup>1</sup></b>	<b>Total (cfs)<sup>1</sup></b>	<b>Total (gpm)<sup>1</sup></b>
Firs	24	400	9,600	0.0149	6.67
Elbow Fork	1	300	300	0.0005	0.21
Porter Fork	45	300	13,500	0.0209	9.38
Totals	70		23,400	0.0362	16.25

<sup>1</sup> gpd –gallons per day, cfs – cubic feet per second, gpm – gallons per minute.

**Soil Quality** – Soil types found within each summer home tract, and selected characteristics, are shown in Table 3.6.

<b>Table 3.6 - Soil Types and Selected Properties at Forest Service Recreation Residence Tracts in Mill Creek (USDA Soil Conservation Service, 1975.)</b>				
<b>Soil Type</b>	<b>Firs</b>	<b>Elbow Fork</b>	<b>Porter Fork</b>	
	<b>PSG</b>	<b>NJH</b>	<b>NJH</b>	<b>NZC</b>
Erosion Hazard <sup>1</sup>	slight	slight	slight	slight
Erosion Hazard <sup>2</sup>	very high	very high	very high	moderate
Runoff	medium	medium	medium	slow-medium
Permeability	mod slow	moderate	moderate	moderate
Watertable Depth	> 60 inches	20-40 inches <sup>3</sup>	20-40 inches <sup>3</sup>	20-40 inches
Flood Hazard	none	none	none	seasonal
Drainage	well	well	well	s.poor-mod well

<sup>1</sup> - Under natural vegetation, <sup>2</sup> - bare soil conditions, <sup>3</sup> - depth to bedrock

Within the Porter Fork tract, the NZC soil type is associated with the lots immediately adjacent to Porter Fork Creek and downstream of the confluence with Yellow Jacket Gulch. Suitability of this soil type for many recreation residence related uses (septic systems, shallow excavations, dwellings without basements) is limited due to seasonally shallow water tables and the potential for seasonal flooding. All other lots within the Porter Fork and Elbow Fork Tracts are found on the NJH soil type. Suitability of this soil type for many recreation residence related uses (septic systems, shallow excavations, dwellings without basements) is limited due to either steep slopes, or a shallow depth to bedrock. All lots within the Firs Tract are found on the PSG soil type. Suitability of this soil type for many recreation residence related uses (septic systems, shallow excavations, dwellings without basements) is limited due to either steep slopes, or a moderately slow permeability.

Most of the lands within the summer home tracts are forested with native vegetation and the existing soil quality is largely unaffected by summer home uses in these areas. Soil physical, chemical, and biologic properties have been harmfully disturbed only where lot and tract improvements such as roads, driveways, parking areas, homes and outbuildings have been constructed. These improvements make up a very small portion of the tracts as a whole. An estimated 15 to 20% percent of the total land area within the residential tracts currently consists of impermeable surfaces such as roofs, concrete, or other forms of bare and compacted ground.

Field monitoring of the summer home tracts in Mill Creek Canyon was conducted to determine if tract and lot development were having an indirect effect on soil quality of the adjacent undisturbed forest lands. Soil stability in the Elbow Fork and Porter Fork Tracts is quite good and there were no areas of soil erosion or slumping noted in these areas (Flood 2005a.)

### 3.5.2 Environmental Consequences

Based on the results of public scoping and Interdisciplinary Team review a number of issues were identified for detailed study relative to soil and water resources. They include the following:

- *How will recreation residence use affect water quality and quantity? What will be the effects on stream, floodplains, and wetland function?*
- *To what extent will continued recreation residence use affect soils, including the effects of bare soil conditions created by vehicle and pedestrian traffic within each tract?*
- *Will recreation residence permit holders be in compliance with State and local government requirements for water use and stream and spring diversions?*

The differing impacts relative to these three issues for each alternative are detailed in the following sections.

#### 3.5.2.1 Alternative 1 - No Action

Under this alternative, the 70 recreation residences in the three tracts would be removed over a 10-year period and summer home use beyond that point eliminated in Mill Creek Canyon. These permits would have the same terms, conditions, and BMPs as the current authorizations do. In order to address erosion and sedimentation impacts as cabins and other facilities are removed, additional BMPs would be developed. Practices relating to structure removal include an erosion control plan to minimize/prevent sediment from entering the stream. In addition to this, a spill prevention and a control and countermeasure (SPCC) plan to minimize potential contamination of soil from accidental spills while facilities are being removed from the recreation residence tract would be developed. These plans will be prepared prior to the removal of any improvements. The plans must receive review and approval by the appropriate state and Federal agencies before work begins. The BMPs would be monitored to ensure that they are implemented as designed and that they are effective.

Once the permit holders have removed their improvements, disturbed areas would be rehabilitated by treating soil compaction, restoring natural drainage patterns, and planting of native vegetation where needed. Appropriate site specific BMPs to minimize or eliminate potential sedimentation to the stream, resulting from these activities, would be developed, implemented and monitored for effectiveness by the Forest Service.

#### **Floodplains and Wetlands**

In the short- and long-term, the effects of the removal of the recreation residences will be that the stream channel will be able to move and not be restricted to the current location by the road. Removal of a few other small structures currently located next to the stream, such as stone stairs, log structures, and rip-rap that are in place to keep stream banks from eroding, would allow the stream, at times, to move outside of its current restricted channel.

### **Water Quality**

In the short-term, the direct effects of removal of the recreation residences could be increases in erosion and sedimentation and some modification of the floodplain from landscaping the land after removal of the homes, culverts, and roads. In the long-term, only minor effects are expected to occur from the removal of the homes, culverts, and roads because the riparian area is expected to return to a natural condition and erosion and sedimentation should be very low.

### **Water Use**

In the short- and long-term, the effects of removal of recreation residences would be the increase of 0.04 cfs of water for Mill Creek which represents about 0.3 percent of the water that flows in Mill Creek. The effects to water resources of not using the water at the recreation residences is unlikely to be measurable because of the small amount of water that is used compared to the large amount of water that flows in Mill Creek.

### **Soil Quality and Stability**

During the period from 2008 through 2018, the direct and indirect impacts of Alternative 1 will be very similar to those associated with the Proposed Action. Individual cabin owners may opt to remove their facilities prior to 2018 and there would likely be a short term impact to soil quality and stability on individual lots. With application of BMPs and site rehabilitation, most soils related impacts would have occurred by the first several years after 2018.

In general, existing improvements to tracts and lots such as roads, driveways, parking areas, homes and outbuildings make up a small portion of the tracts as a whole. Removal of these improvements would therefore result in a small improvement in soil quality as the areas were stabilized and restored to native vegetation. In the short-term, the direct effects of removal of these improvements could be short-term increases in erosion.

### **State and Local Government Requirements**

Any water agreement contract with the City and/or water right with the State would revert back to that entity upon removal of the recreation residence tracts.

#### **3.5.2.2 Alternative 2 – Proposed Action**

The direct and indirect effects to soil and water resources for Alternative 2 will be very similar to what is currently occurring and what is described in the Affected Environment section above. As various measures in the Administrative Guide are implemented, the adverse impacts soils and water can be reduced. In addition, BMPs will be implemented to mitigate potential impacts to soil quality resulting from on-going land disturbing activities within the residence tracts. The objective of the BMPs is to protect the soil quality of undisturbed lands adjacent to the summer home lots from runoff and erosion that might result from activities that are under permit. Specifically, soil stability of the native forest lands adjacent to some of the lots and access roads in the Firs tract will be

improved when recommended mitigation measures are implemented and soil erosion is controlled.

### **Floodplains and Wetlands**

In the short and long-term, the direct and indirect effects to will be similar to that which now exists, which is that natural flowing characteristics of the stream channel will be restricted. Roads and small structures will continue to keep the stream in its present location and keep the stream channel from jumping out of its banks during all but very high flows. The direct effect to floodplains is a continuation of the current floodplain which is immediately adjacent to the stream. No direct or indirect effects to wetlands are expected because current uses of the recreation residences are not expected to change very much.

### **Water Quality**

Currently, water in Mill Creek Canyon meets its beneficial uses and is expected to continue to do so. The direct and indirect effects of Alternative 2 are expected to be the continuation of high quality water from Mill Creek Canyon that meets State water quality standards. Further, it is expected that there would be no changes in management of the recreation residence tracts that would adversely affect water quality and that application of the Administrative Guide would protect water quality.

### **Water Use**

The continuation of the use of Porter Fork and Mill Creek water at the recreation residence tracts for cabin use would be the same amount as shown on Table 3.5. The direct and indirect effects of this use would be a small amount of water withdrawn from the stream channel and it is expected that this amount of withdrawal will leave enough water in the Porter Fork and Mill Creek channels to maintain aquatic habitat.

### **Soil Quality and Stability**

There will be few, if any, additional effects on soil quality, beyond those described in the “Soil/Water Resource Features and Conditions” above, associated with continued recreation residence use. In general, recreation residence improvements such as roads, driveways, parking areas, homes and outbuildings already make up only a small portion of the tracts as a whole. No additional access roads, driveways, or parking areas are being proposed under this action. Work has been done to eliminate unnecessary driveways and to pave some roads within the tracts in Mill Creek Canyon. However, some areas remain that have not been properly maintained and/or drained and are contributing to excessive surface runoff and accelerated soil erosion. Within the Firs Tract, access roads to lots 1 through 5 and lots 6 through 8 are both rutted and are actively eroding. The driveway and parking area for lot 19 is in a similar condition as well. Sediment generated from heavy rainfall on these areas could be delivered into Mill Creek and have an indirect effect on water quality. These conditions could be corrected by implementation of the following BMPs:

1. Clean and maintain existing waterbars on the tract access road to lots #6-8. Install at least 5 more waterbars on this road above the driveway to lot #6.

2. Install at least 4 more waterbars on the tract access road to lots #1-5.
3. Prohibit any further vegetation clearing within the streamside buffer area between the cabin on lot #1 and Mill Creek.
4. Improve drainage and sediment detention within the parking area for lot #19.  
Restore ground cover downslope of this parking area.

The Administrative Guide limits the footprint of cabins to no more than 1500 square feet and the combined area for attached decks and patios/courts to 500 square feet. For those lots with current cabin/deck sizes that are smaller than the limits above and expansion is allowed, expansions could result in further harmful disturbance to soil physical, chemical, and biologic properties as a consequence of enlargement of either cabins or decks.

The Administrative Guide also limits the number of associated outbuildings to one. Under the Proposed Action, effects on soil quality are expected to decrease slightly as individual lots are brought into compliance by the removal of unauthorized structures and other improvements. Soil quality will be improved when these disturbed areas are restored and stabilized with vegetation.

The present footprint of summer homes, sheds, driveways and other improvements represent a permanent loss of soil productivity as these uses are extended into the future in the new permit. Where allowed under the Administrative Guide, expansion of lot improvements would expand this loss. However, these types of expansions are expected to be relatively small.

Continuation of existing recreation residence use in Mill Creek would result in very few additional (cumulative) adverse impacts on soil quality. Very little construction related damage to soils is anticipated under the Proposed Action. No additional access roads, driveways, or parking areas are being proposed and few of the existing residences can be expanded beyond their present footprints. Incorporating standard terms of use into the permits that benefit soil quality, and the implementation of site specific BMPs to mitigate existing and potential soil erosion, would help limit further detrimental soil disturbance and maintain the overall physical, chemical, and biological health of the soil resource. Existing degraded soils will be restored where unauthorized improvements and structures are removed as a result of implementing this alternative. The long-term cumulative effects of implementing the Proposed Action will be beneficial to the terrestrial, riparian, and aquatic environment of the Mill Creek watershed.

### **In-Lieu Lots**

With the designation of two in-lieu lots in Porter Fork and the possible future relocation of two cabins to these lots, there would be a short term impact to soils and water quality when the original cabins are dismantled, the site revegetated, and a new building site developed. However, over the long term utilization of the two in-lieu lots that are more removed from streamside areas should help to minimize impacts, especially those related sedimentation.

### **State and Local Government Requirements**

Currently, the Firs and Porter Fork recreation residences have their own water systems. The Firs Tract has its own right to the water and the Porter Fork recreation residences have a contract with Salt Lake City to use water. The single home in the Elbow Fork Tract would need to obtain either a water right or a contract with Salt Lake City before a new recreation residence permit can be approved. Approximately 23 homes in the three tracts have toilet systems that do not comply with requirements of SLVHD. While some have been retrofitted, others will require the addition of an indoor toilet to the cabin and excavation and placement of holding tank. There will be a temporary increase in disturbed soils associated with this work, but over the long-term the action will help to protect water quality in Mill Creek Canyon.

### **3.5.3 Cumulative Effects**

Past, present, and reasonably foreseeable future activities and projects that could cumulatively add to effects of continued recreation residence use in Mill Creek Canyon are summarized below.

### **Soil Quality and Stability**

The cumulative effects analysis area for soil resources is the portion of the Mill Creek watershed containing the individual summer home tract boundary and encompasses all the lots and improvements on them, in addition to the access roads and other infrastructure features developed solely for the tract. The area is meant to include the riparian and wetland areas between the tract boundary and the ordinary high water mark of the adjacent stream. This area is chosen because the effects of erosion and other forms of detrimental disturbance on the soil resource that may occur within the tract from the proposed action are limited to this area.

The other activities that may cause a cumulative effect to this resource are clearing of vegetation in conjunction with the Rocky Mountain Power transmission line right-of-way that services the three tracts, and use and maintenance of the Porter Fork and Bowman Fork system hiking trails in the Porter Fork tract. Maintenance of the power line ROW would be accomplished with mechanical type equipment such as chippers and boom trucks, using existing roads and driveways within the tracts. Maintenance of the hiking trail would entail brushing and removal of fallen trees by hand crews. As such, no additional soil disturbance would occur from these activities.

### **Water Resources**

The water resources cumulative effects analysis area is the Mill Creek drainage from the mouth of Mill Creek canyon to the headwaters. This area is chosen because it represents water conditions within the canyon before it is affected by the Salt Lake valley urban area.

The Utah Division of Water Quality assesses water quality conditions of waters in Utah and writes an integrated report that presents the results of the assessment (Utah, State of. 2006b). This report noted that while historically Mill Creek had been impacted by

habitat alteration and nonpoint bacteria and sedimentation, it had been removed from the State's 303(d) list because of actions taken to lessen the human impact in the area. The water quality in Mill Creek Canyon is currently meeting Utah standards and is not listed as impaired.

Actions in the past that do not have an effect on floodplains, wetlands, water quality, or water use are: Fish stocking in Mill Creek; past hydropower development in Porter Fork because it occurred very long ago and the stream channel has stabilized; riparian restoration work in the early 1990's on Mill Creek at picnic sites near Terraces because the stream bank is stabilized and not eroding now, grooming of the ski trail; and the Mill Creek gate.

Other present or ongoing actions that have relatively minor effects on floodplains, wetlands, water quality, or water use are include: operation and maintenance of developed recreation facilities; maintenance of Rocky Mountain Power transmission line right-of-way; use and maintenance of hiking trails; motorized and non-motorized recreation use; and fire suppression. Although those actions have controls upon them to protect water quality from the associated decision documents allowing these activities, there is likely to be some surface erosion that has lead to sedimentation of water from these actions. The only other action that has had an effect on water in Mill Creek is the movement of gravel that is along the road ditch that is moved into Mill Creek by summer rain storms. Considering these many activities State water quality standards are being met.

The incremental effect of the proposed action, in addition to these other actions, is expected to result in very little cumulative effect on water quality, wetlands, or water use. This is because the recreation residences and associated structures and roads would contribute a minor additive impact on floodplains or wetland functions, and water quality.

## **3.6 Recreation and Wilderness**

### **3.6.1 Affected Environment**

Mill Creek Canyon is an extremely popular day-use recreation area, in large part because it is so easily accessible to Salt Lake Valley's population. In addition, Mill Creek Canyon's abundant shade in the summer, streams, large number of picnic areas (12), and 51.8 miles of trails add to its popularity. The Mill Creek Canyon area is currently managed mostly as a developed recreation area with picnic areas, a fishing area, and several trails and trailheads. Picnic areas include Church Fork, Box Elder, South Box Elder, Upper Box Elder, Terraces, Maple Grove, White Bridge, Evergreen, Fir Crest, and Clover Springs. System trails include Rattlesnake Gulch, Pipeline, Burch Hollow, Grandeur Peak, Thaynes Canyon, Porter Fork, Bowman Fork, Mount Aire, Terraces Elbow Fork, Alexander Basin, Little Water, Big Water, Old Red Pine Road, and the Great Western. In addition, the Mill Creek County road is closed and used as a groomed cross-country ski trail above the Maple Grove Picnic Area during the winter.

Because of high levels of use, inadequate maintenance, and the deteriorating condition of facilities, Salt Lake County and the Forest Service entered into a partnership in the early 1990s. Under this cooperative endeavor, Salt Lake County Parks and Recreation Department charges a per-vehicle fee for motorized vehicles using the County road and uses the receipts to reimburse the Forest Service for maintenance work and some capital improvements.

Summer use in Mill Creek Canyon includes hiking, biking, fishing, and picnicking. Some picnic sites have group areas, which are popular for family gatherings. In addition, people visit Mill Creek Canyon for functions at the two restaurants and a Boy Scout Camp located on private land. Winter activities primarily include snow play, skiing, snowshoeing and walking. There is a yurt for winter overnight use located at the end of the road at Upper Big Water Gulch. Access to this yurt is by skiing or snowshoeing.

Recreation residence use at the 70 cabins in Mill Creek Canyon is also an important part of the recreation opportunities there. As noted in Chapter 1, the recreation residence program was established to encourage family-oriented recreation on National Forests. Aspects of the program are particularly relevant to this analysis and are outlined below.

The recreation residence program is static in that no new tracts or lots can be constructed on the Wasatch-Cache National Forest. The summer homes and associated sheds and other improvements are privately owned, even though they are located on Federal land. In total, recreation residence lots comprise about 0.2 percent (25 acres) of the land base in the Mill Creek Canyon drainage. The majority of the summer home permittees reside in communities along the Wasatch Front, though a few are from out-of-state. Recreation residence permittees pay the Forest Service an annual fee based on the appraised value of the land used and the amenities (such as roads and water systems) the Forest Service provides. In Mill Creek Canyon, annual fees paid to the U.S. Treasury permittee ranged from \$735 to \$973 and totaled approximately \$62,000 in 2006. Summer homeowners also pay local property taxes based on the value of homes. In addition, maintenance and remodeling of summer homes adds revenue to the local economy.

Occupancy of the cabins varies widely, with some families occupying the residences much of the summer, while others are used only on occasional weekends. An estimated ninety percent of the summer home use occurs from May through October 31. Permits require a minimum amount of use of 15 days per year. Permanent residence of the cabins is not allowed. A few homes in the three tracts are utilized in winter. Snow usually limits access to tracts by early November and typically lasts into June. During low snow years, vehicle access may be available in early May.

The Firs and Elbow Fork Tracts are located along the Mill Creek Canyon County road, which sees relatively heavy vehicle and bicycle traffic from July 1<sup>st</sup> to November 1<sup>st</sup>, when the gate at Maple Grove is closed for the winter season. Though these two tracts are located near several trailheads and picnic areas, there is no actual interface with other recreation uses. The homes in the Porter Fork tract are located along Forest Service road 018, a paved facility that is closed year-long to public motorized use. From a trailhead on

the County road, this road also serves as hiking trail and provides access to the Mount Olympus Wilderness Area.

Though most recreation residence permittees use their homes only in the summer, a small but growing number homeowners use snowmobiles or snowcats to access their cabins in the winter. First homeowners typically make arrangements for snowmobile access with the Forest Service Mill Creek manager who oversees the groomed ski trail that is the route to the tract. In Porter Fork, a number of permit holders use Porter Fork road for winter motorized access. The increasing use of these vehicles creates both a maintenance issue for grooming and the potential for an accident involving a skier or snowshoer. There is no requirement for the Forest Service to authorize winter motorized access to summer homes in an area that is administratively closed to this use.

The 15,300-acre Mount Olympus Wilderness surrounds much of the Porter Fork tract. In fact, the boundaries of this designated wilderness were “cherry-stemmed” to accommodate this use. The horizontal distance from lots in Porter Fork to the wilderness boundary ranges from approximately 200 to 1,000 feet. Via Forest Road 018, the wilderness boundary is located 1.4 miles from the County road. Compared to other trails in the Twin Peaks and Mount Olympus Wilderness Areas, the trail extending up Porter Fork Creek and Pole Canyon sees low to moderate levels of use.

### **3.6.2 Environmental Consequences**

This section presents the direct and indirect effects of recreation residence management on the main issues raised for recreation resources. Based on the results of public scoping and Interdisciplinary Team review, two specific issues were identified for detailed analysis in this EA:

- *How will summer home use affect access and the recreation experience and safety for other visitors to Mill Creek Canyon?*
- *How will the adjacent Mount Olympus Wilderness Area be affected by continued recreation residence use of the Porter Fork Tract?*

#### **3.6.2.1 Alternative 1 - No Action**

Under Alternative 1, recreation residence use would not be continued in Mill Creek Canyon and the summer homes and associated improvements would be removed from the National Forest over a period of years. After removal, the sites would be restored and revegetated. In Porter Fork, the existing tract road would be converted into a trail and would continue to provide access to the Mount Olympus Wilderness Area.

In the short term, as recreation residence facilities are being removed, there will be increased noise and general disturbance caused by demolition and heavy truck. This will temporarily detract from the quality of the recreation experience in the area. The Porter Fork Road would be converted to a four foot wide trail (part of the Porter Fork system trail) and maintained as such. Asphalt would be removed from the road and

replaced with a trail that would consist of native soil. Some or all road culverts may be removed and replaced with small foot bridges. The Porter Fork spur road that goes to cabins 1A to 4A would also be converted to a four foot wide trail (part of the Porter Fork-Bowman Fork link system trail). Other roads and spurs in the three tracts would not be needed for trails and would be allowed to revert back to native vegetation.

Over the long term, discontinuing recreation residence use would not significantly change the recreation experience for visitors to Mill Creek Canyon. Recreation residence special use permits do not allow for exclusive use of public land and a great deal recreation occurs in close proximity to homes and no new trails or picnic sites would be created if the summer homes were removed. For those hiking, driving, or biking on the County road, removal of the cabins at Firs and the single cabin at Elbow Fork would make the surrounding landscape appear more natural and may be viewed as an improvement by some recreationists. On the other hand, the structures in these two tracts are not visually dominant and many would probably not notice their absence. The change in Porter Fork would be more apparent, since the tract road and the trail into Mount Olympus Wilderness Area are one and the same for approximately 1.4 miles. This route winds through most of the tract and past many of the homes in Porter Fork and probably appears to hikers as if it were private property. If the homes were removed, the area would appear more a part of the natural environment and likely add to the enjoyment for some visitors.

Safety is an issue more pertinent to the Porter Fork Tract than to the Elbow Fork or Firs Tracts and is primarily a concern about the interface between hikers and bikers on a shared roadway. While there have been several collisions in recent years involving bikes and cars or trucks driven by others on the County road, recreation residence homeowners comprise a small part of the summer vehicle traffic. In addition, homeowners tend to be familiar with the situation and aware of the hazard. In Porter Fork, the narrow, winding tract road represents a somewhat different hazard. Dense vegetation along the roadway tends to limit sight distances for motorists, hikers, and bikers. Since this road is closed year-long to public motorized use, recreation residence traffic constitutes virtually all of the vehicle use on the road. Because of the nature of Porter Fork Road, vehicle speeds tend to be much slower than on the County road in Mill Creek Canyon, which mitigates the concern to some degree. Discontinuation of recreation residence use in Mill Creek Canyon would reduce the potential for a collision of a recreationist with a vehicle between Maple Grove and the Firs tract. In the case of Porter Fork, the chance of a vehicle collision with a hiker, or skier or snowshoer, in the winter would be eliminated because the road would be converted to a non-motorized trail.

There would be little effect to the Mount Olympus Wilderness as a result of implementing the No Action Alternative. Though they are nearby, none of the Porter Fork summer homes are located within the designated wilderness. A short section of Porter Fork's water system is just inside the wilderness boundary, but these facilities are not apparent to most visitors and are provided for in 1980 Utah Wilderness Bill and one section would remain in place to serve Terraces Picnic Area. Removal of the Porter Fork summer homes may be viewed by some as making the hiking experience from the

County road up to the current wilderness boundary more “wilderness-like.” However, from a legal and policy perspective, wilderness areas do not have a buffer and it is entirely appropriate that developed facilities be located adjacent to designated wilderness.

### **3.6.2.2 Alternative 2 – Proposed Action**

Implementing this alternative would involve continued use of the existing summer homes under provisions of the Administrative Guide. Though this alternative would be quite different than Alternative 1 in terms of not requiring removal of numerous structures, the impacts would actually be relatively similar.

From the perspective of the change in recreation experience for other visitors to Mill Creek Canyon, there would be little difference if the Elbow Fork and Firs Tracts remained, since these facilities are not readily apparent to many visitors and do not directly overlap with any trail or picnic area. In Porter Fork, the difference between the two alternatives would be most noticeable, since a popular trail extends through much of the tract. In spite of that, most hikers have grown accustomed to the presence of the summer homes and route would still be available to them.

As compared to the No Action Alternative, the Proposed Action would present some increased potential for a collision between a vehicle and a hiker or biker in Mill Creek Canyon. Though the overall risk is probably quite low, it is of a somewhat greater concern in the Porter Fork tract because of the narrow and winding nature of the road and its restricted sight distances. In winter, motorized access by homeowners would continue to present some risk of accident, particularly for skiers who tend to move at higher speeds on Porter Fork road's fairly steep grades. As use increases, it is uncertain whether motorized access can continue to be allowed.

Impacts to the Mount Olympus Wilderness, located adjacent to the Porter Fork Tract would be essentially the same as under the No Action Alternative and a short extension of the tract's water system into the wilderness would remain.

Utilization of two in-lieu lots would change the impact slightly for those hiking or skiing in Porter Fork, since the two new lots would be located nearer the mouth of Porter Fork Creek where more recreationists tend to pass by.

### **3.6.3 Cumulative Effects**

A number of past, present, and reasonably foreseeable future activities in Mill Creek Canyon would interact cumulatively with the effects of continued recreation residence use. Obviously, much of the main corridor extending up Mill Creek Canyon has a high level of development in terms of recreation facilities, such as picnic areas, trails, and roads. While these are a means of access or a destination for many, other visitors may see them as detracting from the natural experience. Similarly, vehicle traffic on the County road associated with hiking, biking, and nature viewing, is relatively heavy. Though summer home traffic is likely a small component of the overall level of traffic,

the two are additive in terms of the effect on the recreation experience and safety considerations. In the lower canyon, vehicle traffic associated with customers visiting the two restaurants and use of the Boy Scout Camp are additive to recreation residence traffic, but again the latter is a relatively small component of the overall traffic volume in the lower canyon.

Several management actions also affect the nature of recreation in Mill Creek Canyon and interacts cumulatively with recreation residence use. For example, the County entrance fee program has helped greatly in providing funds for maintaining facilities in the canyon and has probably dissuaded some from visiting Mill Creek and instead shifted their use to other canyons. Conversely, the closure of the other canyons to dogs for watershed protection purposes and the County's alternating odd/even day system for allowing dogs off- and on-leash in Mill Creek Canyon has made it a popular place for Salt Valley dog owners.

Public recreation use is predicted to continue to increase in Mill Creek, because of its proximity to the Salt Lake Valley metropolitan area. However, total use is somewhat limited by available and legal vehicle parking. Developed recreation sites in the area often reach their visitor capacities during the operational season, especially on weekends and often during summer weekday evenings. It is possible that use restrictions or increased fees could also affect Mill Creek canyon use at sometime in the future.

### **3.7 Visual Resources**

#### **3.7.1 Affected Environment**

The affected environment is within the Forest Plan's Central Wasatch Management Area and is defined by 4.5 management prescription category (MPC) that follows Mill Creek Canyon and into Porter Fork. The Mill Creek Canyon area consists primarily of a permanent stream and its tributaries, riparian habitat with deciduous trees, oak/maple/grass on south facing slopes, mixed conifer on north facing slopes and developed recreation areas. The main drainages are Mill Creek and Porter Fork which flows into Mill Creek.

#### **Project Landscape Character Themes:**

The landscape character theme (LCT) within the 4.5 MPC area is Develop Natural Appearing with a "High" scenic integrity objective (SIO).

#### **Developed Natural Appearing**

This landscape character theme is characteristic of National, National Forest and State scenic byways with developed recreation facilities, concentrated use areas and undeveloped recreation impacts within the foreground of the viewshed (1/2 mile). In these areas, the roadway, recreation amenities, and development are anticipated features in the landscape. For users these amenities are part of the valued natural appearing landscape. Users of these amenities are attracted to the natural appearing landscape, but desire a moderate to easy interaction with the landscape through the use of these

amenities. This landscape character is adjacent to Natural Evolving and Natural Appearing landscape character themes and should draw from, complement and harmonize with these themes.

### **Project Scenic Integrity Objectives:**

#### **High Scenic Integrity Level**

Landscapes, where the valued landscape character "appears" intact (*in relationship to the surrounding viewed landscape and its built environment that has a positive cultural connotation to the public at large*). Deviations may be present but must repeat the form, line color, texture, and pattern common to the landscape character so completely, and at such scale, that they are not evident.

#### **Built Environment with potential positive connotation**

Land Form: Dams with vegetated faces. Roads where the geometry of road in cuts and fills would not be evident but would appear to be part of the landscape.

Vegetation: Mechanical treatment mimics natural appearing lines, forms and edges found in the existing landscape. Fire use mimics natural appearing lines, forms and edges found in the existing landscape. Fuel breaks are mitigated to mimic natural appearing lines, forms and edges found in the existing landscape. Duration of impact before ground cover and understory are established 1 year. Parking lots with more than 20 spaces should have minimum of 10% of the interior parking area landscaped. Interior landscape area should be of such a size that the vegetation could sustain itself without irrigation. Landscape areas should be dispersed throughout the parking area to effectively break up the expanse of the parking lot.

Water Form: Reservoirs that have minimum water levels maintained for conservation pools and canals that mimic natural appearing lines, forms and edges found in the existing landscape. Stock ponds that mimic natural appearing lines, forms and edges found in the existing landscape.

Cultural Features: Campgrounds, organization camps, picnic areas and dispersed recreation sites, historic sites and cabins, recreation cabins, organizational sites with strong architectural themes, roads, trails, bridges, fences. Dam spillway and outlet works and emergency spillways constructed from native stone or mimic natural appearing lines, forms and edges found in the existing landscape. Architecture for parking lots, trailheads, restrooms is thematic and borrows from the form, line, color and texture of the surrounding landscape. Parking lots, roads, and other amenities appear to be part of the natural appearing landscape by eliminating the geometry of the built feature upon the landscape. For example road cuts do not slice through the landscape, but are shaped, contoured and constructed so that the landscape is only interrupted by the track of road.

### **3.7.2 Environmental Consequences**

This section presents the direct and indirect effects of recreation residence management on the main issue raised for visual resources. Based on the results of public scoping and Interdisciplinary Team review, the following issue was identified for detailed analysis in this EA:

- *How will visual resources in Mill Creek Canyon be affected by continued recreation residence use?*

#### **3.7.2.1 Alternative 1 - No Action**

Removal of the recreation residence structures could substantially change the cultural character of Mill Creek and Porter Fork. Over the ten year period after the special use permits are not re-issued and structures are removed, there may be a short term effect of undesirable views of structures being torn down. But once vegetation is re-established within 2 to 5 years of the structures removal there would appear to be no effect to the natural appearing landscape.

#### **3.7.2.2 Alternative 2 - Proposed Action**

There is no effect because the existing recreation cabins are considered to be part of the cultural image of the canyons and a continuation of recreation residence use would not change the cultural image as long as Forest direction is complied with.

Utilization of two in-lieu lots would change the impact slightly for those hiking or skiing in Porter Fork, since the two new lots would be located nearer the mouth of Porter Fork Creek where cabins and associated improvements would be somewhat more visible.

#### **3.7.2.3 Cumulative Effects**

The No Action Alternative would have the effect of reducing the cultural image within the Mill Creek Canyon when all of the recreation residence are removed and would reduce the amount of built environment found in the canyon.

Past, present, are reasonably foreseeable future actions that interact cumulatively with continued recreation use with respect to visual resources include the extensive developments already in place in Mill Creek Canyon. These include the Boy Scout Camp facilities, two restaurants, numerous picnic areas and developed trailheads, and County road itself.

## **3.8 Cultural Resources**

### **3.8.1 Affected Environment**

The analysis area includes those recreation residence structures and various associated improvements that are located in the Mill Creek Canyon recreation residence tracts that may be eligible for review under the National Historic Preservation Act. Those identified historic structures and improvements must have enough physical integrity (in terms of location, design, setting, materials, workmanship, feeling, and association) to convey that significance, and be over 50 years of age. Currently, it is believed that 14 and 16 cabins and associated structures in Porter Fork and Firs tracts, respectively, are eligible for nomination to the National Register of Historic Places.

### **3.8.2 Environmental Consequences**

This section presents the direct and indirect effects of recreation residence management on the main issue raised for cultural resources. Based on the results of public scoping and Interdisciplinary Team review, the following issue was identified for detailed analysis in this EA:

- *What will be the effect on homes and other improvements that are eligible for National Register of Historic Places, including those which are located in riparian areas?*

Compliance with National Historic Preservation Act (NHPA) compliance is set in motion when a proposed undertaking involves ground-disturbing activities, removal or alteration of historic buildings or structures, or may cause potential effects to historic properties including the historic setting and integrity of a property.

#### **3.8.2.1 Alternative 1 - No Action**

Since cabins and structures would be removed under this alternative, NHPA compliance would be required. Prior to doing this, sites would be analyzed and documented for historical values. Documentation of the structure will include a historic report, photos, and plans. This information will be used for the Forest Service to make its determinations about how to address the structures and to consult with the State Historic Preservation Officer (SHPO) and the National Advisory Council on Historic Preservation for those cabins that are eligible for the National Register. Once consultation is complete, the mitigation measures that were agreed upon would be enacted.

#### **3.8.2.2 Alternative 2 - Proposed Action**

This alternative would allow continued recreation residence use for the 70 summer homes in Mill Creek Canyon, so long as each permit holder is in compliance with the terms and conditions of their existing authorization.

Compliance with NHPA will continue to be addressed in the course of regular permit administration as remodeling, alterations, new improvements or activities are proposed that could have the potential to affect historic properties. The Forest Archaeologist will review all proposals that could affect historic structures, consult with SHPO, review the Forest Plan for consistency and provide any mitigation measures that may be needed in order for the Authorized Officer to make a decision on a proposal.

The process outlined above in section 3.8.2.2 would be triggered if utilization of an in-lieu lot involves dismantling any structure that is eligible for the National Register of Historic Places. These would be handled on a case-by-case basis.

### **3.8.2.3 Cumulative Effects**

There are no known other past, present, or reasonably foreseeable future activities that would contribute cumulatively to effects on the historic integrity of the summer homes and associated improvements.

## **3.9 Mitigation**

The measures listed below would be implemented to avoid or reduce adverse effects to the environment.

- Before new, 20-year special use permits are issued, ensure that the structures and other improvements on the lot complies with all Forest Service requirements, including the Administrative Guide and Riparian Management Objectives for summer homes.
- Prior to granting new long term authorizations, ensure that summer home permittees comply with all applicable State and local laws and ordinances. This includes requirements of Salt Lake City Department of Public Utilities for water use and the Salt Lake Valley Health Department for sewage and septic systems.
- Recreation residence owners who do not comply with Forest Service, State, and local government requirements will not be approved for 20-year special use permits will be required to remove their facilities and restore the site to a condition acceptable to the Forest Service.
- All recreation residence permittees will be provided a copy of the Administrative Guide upon being issued a new permit.
- In some cases summer homes and appurtenant facilities such as decks, patios, walk-ways, and storage sheds may be expanded or rebuilt, up to the limits established in the Administrative Guide. However, the decision whether to allow expansion up to these limits will be based on a case-by-case assessment of factors on each lot. For example, when facilities are located in riparian zones or other sensitive areas, they will be limited to the footprint of the current facilities.
- Improvements listed as "conditionally accepted" on the new special use permits may be required to be removed when the structure is destroyed, substantially damaged, significant repairs are needed, or upon a change in ownership. In other

cases, it may be possible to modify the improvement in order to comply with the Administrative Guide. In that event, the permit will be amended accordingly.

- Provide signs warning hikers and bikers about homeowner vehicle traffic on roads.
- Operation and Maintenance Plans (O&M Plans) will be developed by the Forest Service permit administrator and each permit holder. The O&M Plan will cover individual lot improvements and winter access, if determined appropriate. These O&M Plans will require each permittee to: (a) comply with the Administrative Guide; (b) follow requirements noted in Forest Service lot inspections and complete corrective action by scheduled completion dates; and (c) ensure that all current and future improvements be approved by the Forest Service in writing in advance.
- O&M Plans will also be developed for the various tract improvements that currently are, or will be authorized, as a part of this decision. These authorizations and O&M Plans will be issued to the respective tract association and signed by a responsible representative.
- All O&M Plans, both for individual lots and for tract improvements, will include the requirement to use native grass and forb seed mixes for re-vegetation of all disturbed areas within tracts. The use of non-native vegetation will not be approved.
- In the Firs Tract, road and parking area drainage work will be completed in the area around lots 1 – 8, and 19. Further vegetation cutting below lot 1 will be not allowed.
- During on-site inspections, or annual summer home association meetings, or upon request from a permit holder, the permit administrator will discuss and provide fire hazard mitigation and prevention information.