

IVD. Human Uses



Breitenbush Hotel - 1920's

IV. SOCIAL DOMAIN

D. Human Uses

1. Characterization

- a) **What are the major human uses, including tribal uses and treaty rights? Where do they generally occur in the watershed (e.g. map the location of important human uses)?*

Breitenbush is one of the oldest recreational destinations in the North Santiam Basin on National Forest land due to the popular hot springs located on the Breitenbush River. Access to this area was established early. Essentially we use the same corridors today that American Indians used for thousands of years, although we have changed their character greatly. Campgrounds, resorts and trails were developed in areas where prehistoric and historic uses occurred. People have always been drawn to areas along water, meadows, unique topographical features and vista points, whether for recreation, sustenance or cultural values. Future use patterns will likely follow the same corridors as long as access is provided and management direction allows use to continue.

Kinds of use

Current recreation use is a result of user preference, as well as the types of settings and opportunities available within the landscape, as defined by management direction. With its many unique, attractive features, Breitenbush provides a favorable setting for various recreational activities including: developed and dispersed camping, hiking, fishing in the river and lakes, swimming, picnicking, sightseeing, berry picking, nature study, mountain biking, horseback riding, soaking in the Breitenbush hot springs, off-road vehicle use, and scenic driving. Seasonal activities include high cascade hunting for big game in the fall; rafting and kayaking during periods of high water; and cross-country skiing, snowmobiling and other snowplay activities during the winter months. Since the Flood of 1996, the Breitenbush River has been cleared of dangerous logs and has become a new favorite hot spot for class IV river runners during peak flows.

In addition, there are 72 recreation residences on the Breitenbush-Devils tract which provide seasonal occupancy for a variety of recreational endeavors, as well as, the Breitenbush Hot Springs Retreat and Conference Center, a privately-owned commercial resort offering various seminars and services promoting holistic health, well being and spiritual growth.

Other human uses of the Breitenbush include: domestic water source; power line corridor for lines belonging to both Bonneville Power Administration and Portland General Electric; public and commercial rock source (provided by nine developed rock quarries in the area); potential geothermal development; supply of various forest resources such as timber and firewood for both commercial and private use; and various special use events that occur occasionally such as concerts, educational workshops, motorcycle events, etc. Communities would like to see visitor opportunities developed to capture tourism business during winter and to expand the season into the spring and fall (*see figure IV-11*).

Tribal Uses: Prehistorically, inhabitants traveled along the ridgetops and valley floors to access areas for gathering food and medicinal herbs, quarrying obsidian and chert for tool manufacturing, hunting, and collecting cedar bark for making baskets, mats and clothing. Heavy snowfall in the Cascades suggests that human activities were confined to late spring, summer and early fall.

Historically, Native Americans from the Warm Springs reservation visited the Breitenbush Hot Springs area regularly, crossing over from east of the Cascades using the old Rapidan trail. The Warm Springs traditionally camped near the town of Detroit and fished for salmon and white fish near the confluence of the Breitenbush and North Santiam Rivers. It is highly likely that these areas within and adjacent to the Breitenbush watershed were occupied by humans annually for thousands of years during snow free months.

Currently, the Warm Springs tribes gather edible roots and huckleberries in the Breitenbush watershed, much as they have done in the past. Each year prior to digging the roots, a feast is held in honor of the end of winter and the beginning of spring. The roots traditionally, were the first fresh foods in the diet after the long winter. Prior to the feast, nobody is allowed to dig the edible roots. The Huckleberry Feast takes place in August. Prior to this feast, nobody is allowed to pick berries. These feasts are an integral part of their culture.

Where use occurs

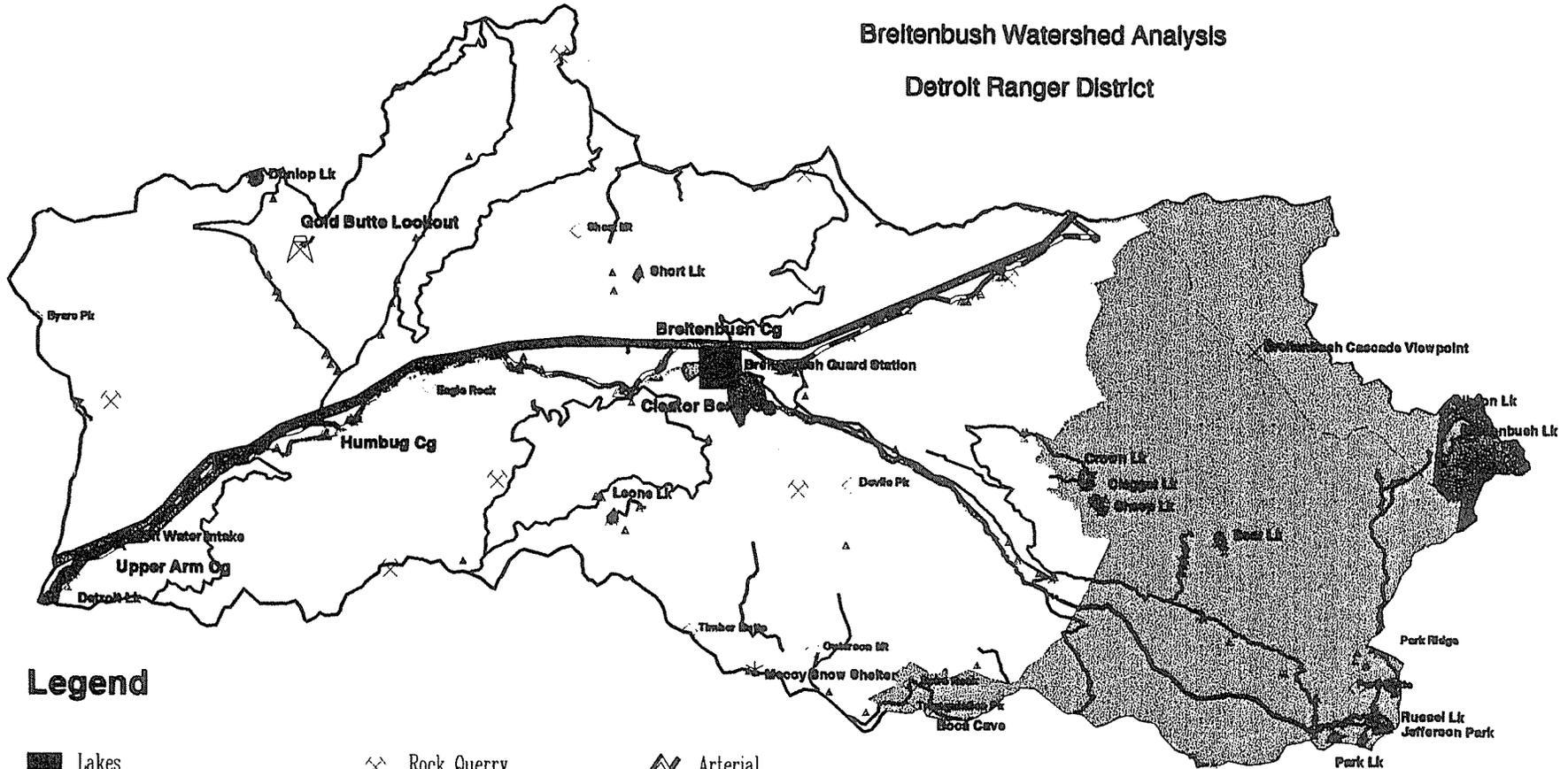
The Breitenbush road is the primary access route into the watershed and is an extensively traveled, scenic route between large population centers. Landform and topography are obvious influences on human use patterns, particularly the development of "human corridors." Due to the steep topography of this drainage, the greatest concentration of use is along the accessible portions of the Breitenbush River corridor (usually within the riparian reserves) and plateaus in the high cascades. Since a large percentage of use is confined to a smaller area, it makes this drainage unique from neighboring watersheds where use is relatively dispersed.

Besides the river corridor, intensive recreational use occurs in the Mt. Jefferson

Human Uses

Breitenbush Watershed Analysis

Detroit Ranger District



Legend

- | | | |
|--------------------------|-----------------------|------------------|
| Lakes | Rock Quarry | Arterial |
| Ollalie Lake Scenic Area | Campground | Collector |
| Wilderness | Lookout | Trail |
| Warm Springs | Peaks | Recreation River |
| Powerline | Snow Shelter | Scenic River |
| Breitenbush Permit Area | Other Special Sites | Wild River |
| Breitenbush Hot Springs | Dispersed Campgrounds | |
| Breitenbush Summer Homes | | |



Scale 1:140000

05/20/96
Request R1

ATTENTION
Features represented on this map may not be in an accurate geographic location. The Forest Service makes no expressed or implied warranty of this data nor of the appropriateness for any user's purposes. The Forest Service reserves the right to correct, update, modify, or replace the geospatial information on which this map is based without notification. For more information, contact Detroit Ranger District GIS shop (503) 854-3366.

Wilderness, Olallie Lake Scenic Area, and accessible lakes including Breitenbush, Short, Leone and Dunlap.

Recreation use is lineal in nature, as dispersion of use is dependent on access via roads and trails. Recreation occurs in primarily two landform types; gently sloped glaciated uplands where many lakes occur and river terraces. The diverse landscapes which compose the Breitenbush watershed vary in type and importance of available recreation settings. The Breitenbush drainage offers a number of opportunities for water-based recreation which are the highest in demand. They also provide outstanding opportunities for viewing scenery that are unique to each areas landscape characteristic. Few other landscapes within the watershed have features which draw recreation use like lakes, rivers and scenic topographical features. Some recreation use can be expected throughout the watershed, although the pattern of use is not tied to a specific landscape or destination. All open roads, for example, can have some recreation use by hunters or adventure seekers, although such use can be sporadic or opportunistic.

When use occurs

Due to limited access into the Breitenbush watershed during winter months, recreation use primarily occurs during spring, summer and fall with peaks during Memorial, Fourth of July and Labor Day weekends, and other holidays and weekends throughout the summer. The Breitenbush Road is plowed in the winter to access the Breitenbush Hot Springs Conference Center and Retreat which provides year round services.

Different areas and elevations of the watershed are used for different activities according to the season (i.e. kayaking, snowmobiling, hunting and swimming) Recreation use is weather dependant. Use peaks on those weekends and holidays that have favorable sunny and hot weather. A summer with poor weather results in dramatic decreases in use when compared with that of favorable weather.

Primary Users

Most frequent users of the Breitenbush watershed, approximately 85%, are from the mid-Willamette Valley, North Santiam Canyon and Portland Metropolitan area. Since these major population centers are located within a two-hour drive, this area serves as a "backyard destination" for many repeat visitors.

2. What values are associated with human recreational uses?

- a) Recreational use of National Forest lands is valued for the experiences associated with the activity, and the relaxation and enjoyment that it gives people. It refreshes people both mentally, physically and emotionally.

3. What are the highest priority issues or resource concerns associated with human recreational uses?
- a) There is more demand for recreational opportunities than supply available
 - Increasing demand has resulted in impacts to resources and user experiences such as social crowding, scenic quality, and user conflicts.

4. What are the management direction/activities, human uses or natural processes that affect human recreational uses?

a) *Current Conditions*

- i) **What are the current conditions and trends of the relevant human uses in the watershed?*

ROS demand and supply: The information on recreation demand that is reported in the Oregon State Comprehensive Outdoor Recreation Plan indicates a high and increasing demand for recreation settings featuring low levels of development and management activity, with relatively low levels of use, and where motorized access is not permitted (SCORP 1988). The 1994 SCORP goes on to state that there is a pronounced preference by the public for more semiprimitive and primitive settings, and that this issue requires greater examination and direction of efforts statewide to meet this demand. Thus, it is clear that settings catering to these recreational standards are especially valuable to the public.

The current roaded settings have the capacity to accommodate a large percentage of Recreation Visitor Day's (RVD's) in the watershed. However, with declining access due to road closures or decommissioning, the ability to accommodate projected use levels as indicated in the Forest Plan may not be met. Therefore, use levels can be expected to reach maximum capacity sooner than projected.

According to the Forest Plan as amended by the 1994 President's Plan, no new roads will be constructed in remaining portions of inventoried (RARE II) roadless areas, however, management activities may occur within those areas. Thus, any developments that occur in roadless areas will change the characteristic of the landscape and may remove potential semiprimitive opportunities that could otherwise be available.

ROS Trends: Total dispersed recreation capacity for the Forest exceeds projected total use levels through 2040 (Forest Plan 1990). This relationship, however, is not consistent among all Recreation Opportunity Spectrum (ROS) classes (*figure IV-12*). Even if existing inventories of semiprimitive opportunities were maintained, future demand is expected to exceed capacity by the year 2010. In addition, between 2010 and 2030, use within all Wilderness ROS classes will exceed inventory capacity. It is likely with future demands at Mt. Jefferson Wilderness, limits to daily entrances will be required. This will have implications on semiprimitive areas outside of the Wilderness, potentially displacing users to limited existing non-wilderness semiprimitive areas. Providing areas alternative to Wilderness will be needed to help alleviate pressure of increasing numbers of visitors desiring that setting and experience.

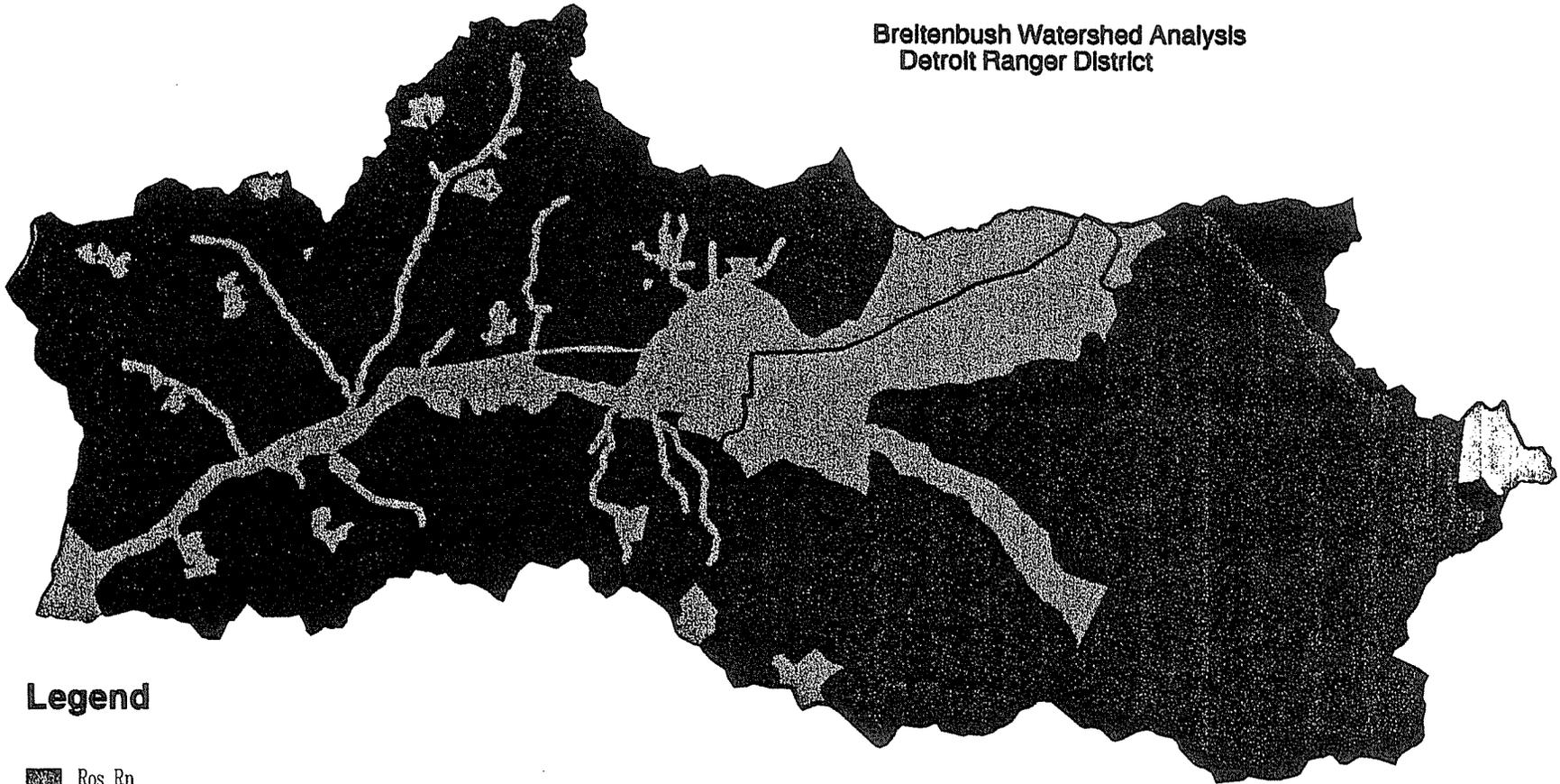
Late Successional Reserves may represent an opportunity to provide dispersed recreation settings. Given the conservation objectives and species viability concerns associated with the Reserves, it is likely these settings will result in additional protection, as well as an opportunity to provide a desired and demanded recreation setting. These areas will be important, given the high demand that exists in the region for dispersed recreation, especially Semiprimitive settings. They may provide an opportunity to achieve this setting, since there is a limited and potentially a declining supply that will be available. In addition, portions of the Mt. Jefferson North Roadless Area is still in an undeveloped state and can meet the minimum requirements for potential future Wilderness consideration by Congress.

Recreational Access Trends: Increasingly roads will be closed for a variety of reasons or will naturally close themselves due to the absence of maintenance. With declining road maintenance budgets, and concerns related to watershed quality and wildlife habitat effectiveness, road decommissioning and obliteration will be common in the future. In addition, the Flood of 1996 has closed many roads due to extensive damage. The implications of this are twofold. Closed access will remove some roaded dispersed opportunities that presently exist. Increasingly as roads are closed, more pressure may be placed on roaded areas outside of closure, and former, accessible roaded dispersed areas will probably not receive the use that previously existed. "Established" users of an area may be displaced to other areas that remain accessible. Roads with the highest use will result with the most significant impact on users. The public perception of access is that they have grown accustomed to the current access and expect the same level of service.

In contrast, some of these areas may provide for additional semiprimitive motorized and nonmotorized opportunities over time. "Roads to trails" opportunities could arise for mountain biking, horseback riding or lowering standards for maintenance could provide opportunities for off-road vehicles use such as trail bikes or all-terrain

Forest Plan Recreation Opportunity Spectrum

Breitenbush Watershed Analysis
Detroit Ranger District



Legend

-  Ros Rn
-  Ros Rm
-  Ros Wrs
-  Ros Spm
-  Ros Spn
-  Ros Wssn
-  Ros Wssm
-  Lsr



Scale 1:140000
08/24/04

Rennett R1004

ATTENTION
Features represented on this map may not be in an accurate geographic location. The Forest Service makes no expressed or implied warranty of this data nor of the appropriateness for any user's purposes. The Forest Service reserves the right to correct, update, modify, or replace the geospatial information on which this map is based without notification. For more information, contact Detroit Ranger District GIS shop (503) 854-3366.

vehicles. Generally, there is a direct relationship between length of trails and the amount of use it receives. The further the trail, the lesser the use. If current roads or portions of roads to wilderness trail heads are closed and converted to trails, access to popular destinations would be more difficult which may have an overall positive affect on wilderness resources especially in high use, high impact areas.

Wilderness Trends: The trend is leaning toward more regulated and restricted measures at highly concentrated and impacted areas in order to meet the intent of wilderness management policies and direction. Although restrictions are resorted to as last level measures, the sheer numbers of visitors and the anticipated growth of use prompt these types of actions. As restrictions such as limited entry are implemented, increasing demand may affect other “alternative” areas as a result of potential displacement of visitors. With increased regulations and restrictions comes a need for additional administration, e.g. more wilderness patrols. Monitoring implemented regulations and restrictions will be required to determine effectiveness.

Based on the assumption that funding will be available to implement Wilderness Implementation Strategies and Forest Plan guidelines, the condition of wilderness resources and associated experiences are expected to improve in the future based on these developments. Efforts over the past few years to collect use data and monitor use patterns and campsite conditions are directed toward realizing field conditions that are consistent with current management direction. Extensive monitoring through the use of a wilderness use permit system and field surveys are providing new information for making onsite management decisions.

Currently, several outfitting and guiding operators have service days within the wilderness portion of the Breitenbush watershed. Outfitting and guiding permit requests are becoming more popular. A demand or needs assessment must be completed before approval of such a permit. Commercial use will be managed in accordance with standards outlined in the Forest Plan. Recreation use exceeds capacity in many areas of the wilderness. The plan identified areas such as Jefferson Park, as an “Area of Particular Concern.” Although there is a demand, new commercial permits will not be approved and existing commercial use will be reallocated or reduced in those areas.

Dispersed Recreation Trends: The primary recreation emphasis on the Forest is on the management of dispersed recreation opportunities. With road access decreasing, accessible, roaded opportunities will decline respectively.

With projections of increased population growth for the mid-Willamette Valley and Portland Metropolitan areas, increased recreation use of the Breitenbush watershed

can be expected for a wide range of dispersed recreation activities. For the period 1980-1989, the Forest experienced an average 2.7% yearly increase in all forms of dispersed recreation use. With projections of increased use of 1.7-4.9% for all the different forms of dispersed recreation found in the Breitenbush, an increased demand for dispersed activities is anticipated. Based on these factors and the general trends of past use, it seems appropriate to assume that future participation in dispersed activities in the Breitenbush will increase as long as opportunities are provided.

The watershed will continue to receive a high intensity of dispersed use within accessible riparian reserves resulting in further needed management actions to resolve resource and social impacts.

The potential demand may place additional pressure on the resources of the Breitenbush and amplify the need for intensive management of recreational use within the watershed. A response to future use may require new strategies for responding to situations where human use exceeds ROS standards for extended periods of the normal use season or if resource degradation becomes a concern. This may possibly include: a change to a management area with standards more closely aligned with the type of use taking place or altering kinds of use based on resource driven issues; or hardening or development of the area to better accommodate the type and level of use.

Resource concerns occur throughout the watershed as a result of dispersed recreational activities. For example, many human ignited fires have occurred as a result of leaving campfires unattended, careless smoking and fireworks. Public education and fire prevention programs will always be a need as long as people use the forest.

Developed Recreation Trends: The historic rate of annual growth for general camping activities on the Forest is 3.4%. The Oregon State Comprehensive Outdoor Recreation Plan for Region 8 (Breitenbush is within this region) projects a 3.7% average annual increase in the demand for camping activities for the period of 1991-2010. Developed camping or day use at developed sites has a relatively flat trend due to full occupancy conditions on summer weekends. Camping and day use are simply limited by the available facilities. Visitors frequently mention their frustrations about the difficulty of getting a campsite, especially near Detroit Lake. Often visitors are displaced to dispersed sites in the Breitenbush and North Santiam Drainage. The Detroit Lake Composite Area Management Guide identified a need to develop 490 campsites by the year 2010 as a result of the market study. In addition, demand for developed day use facilities is greater than the existing supply. In the future, with growing population and increasing demands for camping and day

use facilities, there will be a need to develop more of these sites. Since Breitenbush Road is a designated National Scenic Byway and a potential Oregon State Tour Route, it will be marketed on various tourism maps which will promote and encourage use of the watershed. This may create a need to develop additional facilities in the future. Future development will be limited by suitable soils and slopes, primarily located in the eastern landform block and adjacent the Breitenbush Community.

Current capacity of campgrounds is sufficient to accommodate projected amounts of increased use during weekdays. However, it is insufficient to accommodate current peak weekends and holidays during the summer, and projected amounts of increased use. More visitors are recreating during the week, to vacation away from the growing weekend crowds.

Current capacity at McCoy snow shelter and Gold Butte Lookout is sufficient to accommodate projected amounts of increased use. However, it may be inadequate to accommodate projected demand during peak periods of weekend use. There is only a small amount of lookouts open to public overnight use so supply for this opportunity will be limited.

Although recreation homes, private club and organization sites are in high demand, current policy discourages issuing special use permits for new sites to private clubs and individuals. It is viewed as a private privilege and does not promote public use of the land.

User Conflict Trends: Future challenges will concern a wider range of customers who demand high quality experiences. Their diverse interests will cause conflicts among users and uses to increase.

- ii) ***How and where are current levels of recreation use impacting resources and user experience including, scenic quality, social encounters, and user conflicts?***

Wilderness: There has been a 12% increase in number of visits to the Mt. Jefferson Wilderness since 1991. Wilderness areas in the watershed are easily accessed by numerous roads to entry points, several less than one mile from the Wilderness boundary. The combination of easy access and close proximity to major population centers has resulted in high day and overnight use. Easy access to popular locations has led to intensive use that poses unique challenges to wilderness management. Intensive use has subsequently resulted in resource and social impacts that have impeded the attainment of wilderness management objectives.

In high impact wilderness areas, the standards for managing standing and down

woody debris are not being met. Consumption of limited campfire wood has far exceeded the rate of natural accumulation. The result has been the depletion of woody debris and snags needed for nutrient cycling and wildlife habitat.

A limits of acceptable change (LAC) campsite inventory of 115 sites was examined to assess site resource conditions and effects on user experience. Forest Plan standards and guidelines were used to assess whether campsites were meeting desired resource conditions. The inventory indicates 21% of campsites exceed acceptable standards for barren core area, and 36% of sites experience tree damage and loss in excess of the standard.

Furthermore, people have resorted to cutting down and damaging standing green trees for firewood. In 1995, a campfire ban was put into effect for the Jefferson Park area because the ecological function of these sensitive subalpine areas was being interrupted by the loss of decomposing wood and vegetation.

Most wilderness campsites occur within the riparian zone of lakes and streams. Virtually all riparian areas accessed by trails have been impacted by camping. Seventy-two percent of the campsites are located within 100 feet of a stream or lake and do not meet Forest Plan standards and guidelines. In addition, 19% of campsites are located within 100 feet of a trail, which also does not meet standards.

Impacts to campsites are rated as light, moderate, heavy and extreme which is summarized by WRS class in *figure IV-13*. Composite ratings for each campsite are dependent on several parameters and weighted based on site elevation. Parameters considered are directly a result of recreational-related use which include: vegetation loss, barren core area (compacted soil), total campsite area, tree damage, root exposure, fire ring or other developments, fire scar, cleanliness, social trail development to campsite, and number of other campsites within sight and sound.

Figure IV-13. Composite Campsite Impact Ratings

Wilderness Resource Spectrum	# of Sites	Number of Sites Impacted by Rating				Percent of Sites Rated Heavy/Extreme	Average Rating
		Light <1.25	Moderate 1.25-1.74	Heavy 1.75-2.25	Extreme >2.25		
Pristine	8	5	3	0	0	0%	1.23
Primitive	6	3	1	1	1	33%	1.5
Semi-primitive	108	33	34	25	16	38%	1.66
Totals	122	41	38	26	17	35%	1.62

Based on 1987-88 LAC inventories.

In areas of intensive recreation use, 35% of the sites have impacts rated as “heavy to extreme.” Campsites within the semi-primitive class have the highest percentage. Thirty-eight of these sites are rated as heavy or extreme. Thirty-three percent of the sites within the Primitive class are rated as heavily or extremely impacted, and none of the Pristine campsites receive this kind of impact. Those areas with concentrated recreation use identified in the Wilderness Strategies Project Environmental Analysis are called “Key Impact Areas.” Key impact areas within the Breitenbush portion of Mt. Jefferson Wilderness are Jefferson Park and Crown Lake. These areas were based on overall composite ratings that ranged from heavy to extreme. These areas have priority for study and implementation of Wilderness Management Strategies including restoration, regulation and restrictions.

The inventory of wilderness campsites suggests that scenic quality and user experiences within most Wilderness Resource Spectrum settings have been affected by the conditions noted. While wilderness campsite conditions may diminish the intended user experience, effects to downstream water quality is unknown.

Wilderness Strategies implemented in 1995-96 including designating campsites and campfire bans within Jefferson Park are a step toward meeting Wilderness management objectives. However, in high elevation environments, the conditions noted for many of the wilderness campsites may require significant time for recovery of denuded riparian vegetation, consumed down woody debris and compacted soils.

Prior to 1995, Russell Lake had exceeded acceptable standards for camp solitude.

The area surrounding this subalpine lake is very open. Thus, camping out of sight and sound of others is more difficult than in lower elevation forested areas. Since the designation of campsites, campsite solitude should be closer to achieving the acceptable standard within the designated campsite zone. With increasing use, other sites outside this zone will be used or created, and potential for not meeting this standard may arise.

Jefferson Park currently exceeds acceptable encounter standards on both weekends and weekdays. With easy access into the Wilderness, day use trips are on the rise. Encounter rates on trails will increase since visitors are going up and down trails twice in one day.

Wilderness Implementation Strategies include designating campsites at Jefferson Park (Russell and Park Lakes), and prohibiting campfires at Jefferson Park were implemented in 1995-96. The measures should start moving those affected areas closer to current management direction and the intent of the Wilderness Act. The plan is to monitor these areas to see whether the actions are working. During this time, managers will determine if the changes are effective, and consider whether actions should be modified or expanded to other areas.

Dispersed Activities: Since the time the dispersed campsite inventory (outside of wilderness) was completed in 1988, and based on current knowledge and some field verification of several areas, actual condition of many sites has deteriorated due to increasing use and lack of traffic control within sites. The number of campsites has also increased. More evidence of "dry" camping, away from water is seen throughout the watershed, due to the limited of available campsites near water on peak use weekends. Approximately 72% of the campsites are located within a riparian reserve.

Dispersed campsites located away from riparian areas do not get the intensity of use or impact as those in riparian areas. These are generally located in the upper portions of the watershed, and are used by big game hunters for a short season during the fall. These sites are often located where existing developments have occurred such as a landing, turnout or end of a spur road. For the most part, frequency of use is from infrequent to moderate while impact from previous use is light to moderate. Many rock pits and storage areas receive intensive use and accommodate large groups but overall impact to the site is light since there are no resources to damage. These sites compose 35% of the total dispersed sites or 57 sites and their existence and location tends to fluctuate from year to year.

Those campsites that receive the most frequent use, subsequently, receive the most impact to resources ranging from moderate to extreme damage. Conditions of the

most heavily impacted dispersed camping sites within the Breitenbush include: soil compaction, erosion, vegetation loss and tree damage. Many hazard trees are created as a result of recreational related damage. Vehicular access to sites is not limited which attributes to some of the degradation of these sites. Another contributing factor to the condition they exhibit is the amount of use individual sites receive each season due to their popularity or proximity to specific areas of interest such as the Breitenbush River.

The inventory sample of dispersed campsite conditions suggests that scenic quality and user experiences at many sites is being affected by use patterns and behaviors that shape the size and condition of sites. The sample indicates that 36% of the sites experience substantial site degradation in excess of the norm. Since the time the dispersed campsite inventory was completed, it is suspected that this percentage has increased.

Popular locations often lead to concentrated campsites within a confined area which leads to campsites located within sight and sound of each other. Approximately 43% of campsites are located within sight and sound of other campsites.

The Breitenbush watershed attracts more large groups than neighboring watersheds. Many of the large sites that have a cluster of campsites are often occupied by large groups. "Remote" group camping is an activity that is increasing within the watershed. Many of these groups tend to be young in age and want to be "left alone" to party. A level of rowdyism and other undesirable behaviors occur in many of these situations, and conflicts arise with adjacent visitors who are trying to enjoy their visit. Other groups such as multi-family groups or organizations also use some of the larger sites for dispersed camping. Generally, campsites occupied by large groups have more resource impacts to the site than small groups which have been apparent at some of the sites.

Until recently, Upper Arm Campground has been a dispersed camping area that exhibits signs of overuse including resource damage, vandalism, and sanitation problems. This area has been occupied by over 200 people on many weekends during the summer. The area became an administrative problem due to the sheer numbers of people, and the difficulty of controlling large crowds; and undesirable behaviors such as harassment to other visitors, drug and alcohol parties, excessive noise, fighting, discharging firearms and criminal activity. Increasingly this area, as well as some other "free of charge" dispersed campsites, attract homeless people to live for extended periods of time. At the time of this writing, Upper Arm has undergone drastic administrative changes including designating and improving six campsites and converting the remainder of the areas to day use.

Dispersed site conditions within the watershed exhibit other characteristics that are a function of visitor behavior. It is common to find human waste proximal to dispersed sites. In addition, often waste associated with the camping experience; product containers, cigarette butts, discarded hygiene products, retired camping equipment and furniture, and other assorted goods, are left behind at the site. Also, personal garbage from people's homes have been dumped in many areas.

This residue left by dispersed users is a concern in terms of public health and safety, particularly during periods of peak concentrated use. During this period the presence of human waste and other debris around dispersed camp areas may pose a threat to the health and safety of the users present. While visitation is of relative short duration and seasonal nature, effects to downstream water quality is unknown. Dunlap Lake warrants additional discussion. A microorganism indicative of sewage pollution has been previously identified at this lake. Camping at this popular spot occurs uphill from the lake. An old vault toilet exists but is deteriorating and doesn't always get used.

The presence of human waste and debris, tree damage and loss, denuded and compacted camp areas, suggests that both the scenic quality and the intended recreation experience opportunity have been diminished for a significant number of sites within the watershed.

User Conflicts: More people sharing a "static" resource is leading to increasing user conflicts. These conflicts arise from sheer numbers, different perceptions of what is an appropriate setting, user etiquette and user impacts on the recreation resource. Most of the conflicts occur between users near and on Detroit Lake. Occasionally jet skiers will disregard the five mile per hour rule in the Breitenbush arm and upset those that are fishing from boats or shore. Conflicts exist when young groups of people exhibit disruptive and disrespectful behavior to others and the resources.

There may be incidental conflicts between cross-country skiers and snowmobilers.

Horse use and non-horse use has long been a traditional conflict between these user groups within a wilderness setting. At both ends of the continuum, members of each user group would like an experience void of the other group's presence. Horse groups have expressed the desire to have trails designated for the sole purpose of horseback riding only. Some hikers feel that horseback riding is not an appropriate activity within the wilderness setting, and have at times made hostile comments to horse users. Hikers object to the horse manure on trails or presence of confined animals near water and view areas.

Increasingly, campsites at campgrounds are used for day-use picnicking which

causes conflict with those who want to camp. Day use facilities are limited and short in supply.

Disruptive behaviors that causes conflicts between users occur in several areas in the watershed primarily in the Breitenbush Corridor. These include loud parties, fireworks, nuisance ORV use, and discharging of firearms in areas in close vicinity of other visitors.

Other conflicts that occur are those that violate wilderness regulations and detract from user experiences, including mountain bike use and group sizes exceeding the maximum of 12 people per group. Large groups, by their nature, have a disproportionately negative impact on opportunities for solitude in wilderness.

iii) What are the current recreational demands? How can the watershed best provide diverse opportunities that reflect the current and future needs and demands of forest visitors within the capacity of the land and its resources?

There is more demand placed on the watershed than what is being supplied. Demand for recreation opportunities within the Breitenbush is expected to increase due to the growing population. There is room for additional development within the drainage and some opportunities have been identified.

The Breitenbush currently provides a wide range of recreation opportunities. Although new recreation activities may emerge in the future, it is expected that the current pattern or traditional recreation uses would continue at an increased rate. However, preferred settings near water are a finite resource.

In a statewide survey, general recreational demands include more semiprimitive and primitive settings. Listed below are the recreational demands that have been identified for the Breitenbush:

- Winter sports opportunities and facilities, particularly for snowmobilers
- Areas for mountain biking, four-wheel driving and all terrain vehicles
- White water boating
- More sophisticated improvements at campgrounds such as flush toilets and showers, RV hookups, sanitary stations, and large spaces for RV parking
- Group sites
- Accessible recreational opportunities and facilities for people with disabilities
- Day use and camping opportunities and facilities.
- Interpretive services

- Special designations such as wild and scenic river, scenic byways, etc.
- Hot springs
- Areas for special use events

b) Reference condition

- i) What are the major historical human uses in the watershed, including tribal and other cultural uses?**

1840-1900

Early Visitors of the Breitenbush: In the 1840's John Breitenbush was the first Euro-American to visit the Breitenbush hot springs, after acquiring knowledge of the springs through his association with the Native Americans in the area. The years following, hunters and trappers frequented the hot springs during trips into the Breitenbush drainage.

In circa 1873 John Minto and Henry States led an expedition up the North Fork of the Santiam River in an attempt to find a pass over the Cascades. Upon reaching the mouth of the tributary to the North Santiam River they meet John Breitenbush and later named the river after him. One of the trails that Minto examined for a route over the Cascades was the South Breitenbush. This trail ends at a wagon road on the east side of the Cascade Mountains.

The high country was highly attractive to adventurers who engaged in mountain climbing, botany, fishing, hunting and photography. The first western mountaineering club, Oregon Alpine Club was organized in 1887 followed by a "true" climbing club called the Mazamas.

John Hollingsworth started operating pack trains in 1897, taking visitors into the Breitenbush Hot Springs.

Early Forest Reserve proposals and designations during the 1880-90's stressed the importance of preserving wilderness values and scenery, as well as, protection of city watersheds and salmon spawning grounds.

On September 28, 1893, the Cascade Range Forest Reserve reaching from the Columbia River nearly to the California border was created.

Prior to the Reserves, sheep men had established driveways and ranges in the Cascades. Some sheep men had used the same range in the Mt. Jefferson area since the 1880's. Sheep men wintered their flocks in the valleys of eastern

Oregon. After lambing season, they began to trail their flocks toward the mountains as snow levels receded. They reached the alpine meadows by August and by September they would begin trailing their flocks back down to the eastern valleys. The sheep industry protested against their exclusion from the Reserve and there were instances of trespass.

During this time, sheep grazing was a controversy with a variety of other forest uses. There was some opposition to sheep grazing in the reserve from recreational groups, primarily the Mazamas, who continued to use the reserve for their outings, mountaineering, hunting and fishing. There was also opposition from Native Americans and Euro-Americans who utilized the huckleberry meadows, as the presence of sheep was considered incompatible with berry picking.

The years of 1896-1897 a wave of protest was brought about by the sheeping industry. In June of 1896, Congress passed a resolution that cut the Reserve into three smaller reserves. One of these areas was a 30,000 acre area near Mt. Jefferson. Except for these areas, the forests were opened to grazing and settlement.

1900-1940

River valleys were vital factors in determining the pattern of settlement, transportation routes and resource utilization. The North Santiam River with its tributaries the Little North Fork and Breitenbush were routes into the interior and provided the easiest access.

In the Detroit area, commercial logging had developed early due to the railroad. Hammond Lumber Company constructed a railroad grade and tracks up the Breitenbush drainage sometime between 1894-1907. Harvesting occurred on the lower reaches of the Breitenbush River in the 1920's.

Circa 1911 Mark S. Skiff, from Salem, Oregon, applied for a special use permit to occupy about three acres of land to construct a hotel, sanitarium, cabins and acquire water rights to three mineral springs along the Breitenbush River (Lower Breitenbush Hot Springs). Many problems arose, especially concerning water rights but in 1913 a final permit was issued granting him rights to construct the above buildings for his proposed summer resort business. The hot springs resort was eventually established in 1923 and had road access built into it.

Outdoor recreation began to grow during the 1920's through the 1930's,

sparked by the increasing ownership of private automobiles. In response to the recreation demand, there was a national and regional effort to provide areas for summer homes and campgrounds to encourage people to visit and enjoy our national forests.

During the 1920's, changing public needs and demands for recreational use of the Breitenbush resulted in planning and designing roads, campgrounds, and two summer home tracts.

Plans for a road adjacent the Breitenbush River from Detroit to Breitenbush Hot Springs made it necessary to coordinate logging plans with scenic roadways. In 1920 Fred Ames and Fred Cleator made such plans for the projected sales on Canyon and Humbug Creeks. These included providing a 100-250 foot scenic strip between the railroad track and river so logging trains would run behind the scenic corridor. In 1930, Cleator made plans to build a road up the North Fork of the Breitenbush River to Olallie Lake to connect with the Mt. Hood Loop Road. This would unite the northern Santiam (Willamette) and the Mt. Hood National Forests into an integrated recreation complex. A road was developed accessing the Breitenbush Hot Springs before 1931 and access to Olallie Lakes by road was developed before 1935 as depicted on historic forest maps.

The Civilian Conservation Corps (CCC) program was used to advance recreation developments in the Breitenbush. The CCC provided the survey work for the summer home tracts; built and relocated trails such as the Skyline Trail; built trail side shelters; built four Forest Service campgrounds including Breitenbush, Breitenbush Forks (as seen on the 1936 North Santiam Recreation area map), Breitenbush Lake, and Humbug; Gold Butte Lookout and Breitenbush and Breitenbush Lake Guard Stations.

During the 1920's, the Chemeketans and Obsidians outdoor clubs were formed. They used the Upper North Santiam for their mountaineering and hiking adventures. Along with the Mazama's and Oregon Alpine Club, they often assisted in mountain rescue work and serving as advisory groups for recreational planning.

In 1919, the Forest Service began to consider plans to build a trail from the Columbia River through the Upper North Santiam onto Crater Lake, in part using existing trails and pioneering new ones. In 1920, with the leadership of Fred Cleator, the Oregon Skyline Trail (now known as the Pacific Crest Trail) was officially born and marked the beginning towards the grandiose network through Oregon. There was a need to relocate trails with steep gradients and

to sign the routes more clearly. In addition, plans were made to develop campsites along the way. Cleator's developments were put into effect with CCC relief help in the 1930's.

This was an era in which scenic mountain highways were becoming popular. Cleator planned a Skyline Highway taking off from existing roads south of Mt. Hood and connecting with existing roads near Crater Lake. The Old Skyline Road was developed on the Mt. Hood side and is the 4220 Road that exists today. The highway would run west of the Skyline Trail and through the Breitenbush drainage. The project attracted a great deal of public attention but the hard times of the 1930's put an end to the project. It isn't until the 1990's when his vision finally approaches reality.

The Mt. Jefferson Primitive Area, established October 10, 1930 was the first primitive area established in the present Willamette National Forest. An expansion was made on June 8, 1933.

Prominent recreation features that attracted outdoor enthusiasts at this time are still popular today. Mt. Jefferson was seen by Lewis and Clark on March 30, 1806 and named in honor of the President of the United States. The first ascent to the peak, according to Mazama History, was made August 12, 1888. Jefferson Park was thought a masterpiece of natural artistry and awed by many.

Oregon Skyline Trail became a well known alpine trail route threading the high passes of the Oregon Cascades from Mt. Hood to Crater Lake and traverses the entire length of the primitive area. The Oregon Skyline Trail was not recognized of great local importance but was recognized as one of the main future recreation assets of the State at that time. As the trail became more popular, a great number of lakes including barren lakes had been stocked with native and nonnative fish.

Increasingly between 1915 and the 1930's became a strong emphasis on using the high country for recreation. By 1930, a general recognition within the Region was clear; that recreational use of peaks, passes, glaciers, subalpine meadows and lakes was to be dominant with sheep grazing taking a backseat as a secondary use.

In the 1880's sheep grazing began in the Primitive Area. The Wild Cheat S & G allotment was summer range for 1200 head of sheep. The allotment included the Jefferson Park area and South Breitenbush.

With more land in the high country dedicated to recreation, it became more difficult to find suitable sites for driveways to herd sheep. Sheep travel was diverted from major recreational trails to lesser used ones. With recreational pack trains traveling the Skyline Trail to favored highland camps, competition for forage grew between sheep and pack stock. As a result, sheep grazing within the Primitive area was terminated by the late 1930's and hasn't been allowed since. Jefferson Park was closed to grazing in the middle 1930's because of overgrazing. The remainder of the allotment was closed in the late 1930's because of lack of adequate access.

The 1930's through 1940's was marked by changing patterns in recreational use. The early recreational uses up to this time were hunting, fishing, camping, berry picking, and photography. In addition to the traditional recreational uses, automobile camping increased while use of horses, except in the back country, declined. With new visitors from out-of-state discovering the area's peaks and other points of interest, mountain climbing and hiking increased.

After the completion of the relocated North Santiam Highway during 1948 and construction of Detroit Dam in 1953, the Breitenbush received an influx of visitors and recreation use tripled.

The period after World War II was marked by major changes in American recreational habits. General prosperity and abundant leisure time led to more use of the national forest. Accelerating technological advances, including the development of equipment, transportation, and sports that necessitated more space, and the need to set aside specialized areas for activities such as cross-country skiing, snowmobiling, trail/mountain bikes, hanggliding, off-road vehicles, pack trains, high tech backpacking/mountain climbing, whitewater boating, RV camping, jet skis, stream and lake fishing. This meant a need to develop more facilities for recreational groups enjoying the forest. It also meant meeting the needs of the wilderness groups, who demanded more land to meet their particular type of experience.

1960-1990

Wilderness Management: A proposal was recommended on August 11, 1967 to incorporate portions of the Mt. Jefferson Primitive Area and some lands immediately adjacent for designation under the National Wilderness Preservation System. Public hearings were held during 1964 and 1966. Within the Breitenbush, the recommended boundaries included additions along the North and South Forks of the Breitenbush River.

After years of deliberation between the Forest Service and public interest groups, Congress, in October of 1968, established the Mt. Jefferson Wilderness (Public Law 90-548) .

With passage of the Oregon Wilderness Act of 1984, 8,189 acres that had been evaluated under RARE and RARE II, was designated under the National Wilderness Preservation System. Areas within the Breitenbush that were included were: Triangulation Peak, Cheat Meadows and Firecamp lakes. No other Wilderness boundary changes have occurred since this time. The remaining 9,684 acres were released for multiple use management. A large portion of the Breitenbush was affected by this change. Since the release of these lands, a portion of this area has been affected by management activities. By the 1960's with tighter budgets, the direction was to build fewer but bigger campgrounds in order to concentrate people to specific areas. Many small, scattered campgrounds existed on the District but were considered inefficient for management purposes. They were also a higher risk for potential human ignited fires. Many of these were converted to dispersed sites and new campgrounds were built and existing ones expanded. Cleator Bend was built in the early 1960's as a picnic ground and was converted and upgraded to a campground in 1974. Breitenbush and Humbug Campgrounds were upgraded and expanded in the early 1960's. In the early 1960's, two recreation projects, Big Forks Campground (on the confluence of the North and South Breitenbush) and Short Lake Picnic Ground, were designed but they never saw implementation. The remaining small campgrounds such as Upper Arm, Dunlap and Leone Lake maintained some minimal facilities, e.g.. toilets, campfire rings and tables.

A majority of the 13,445 acre Breitenbush Known Geothermal Resource Area, an area designated by the U.S. Geological Survey as having high potential for geothermal development, lies within the watershed. In the past, there has been a high interest in geothermal exploration in the Devils Creek drainage. In 1981, a geothermal drill site was constructed near Devils Peak to determine the possibility of obtaining a lease for geothermal development. The area is still an identified Known Geothermal Resource Area and the potential geothermal resource is managed according to the Geothermal Steam Act of 1970.

The Geothermal Steam Act of 1970 was passed as part of a nationwide program designed to reduce our national dependency on imported energy. The Cascade Range along with other areas of recent volcanism in the western states is believed to have considerable geothermal energy potential. Among the possible uses of geothermal energy are generation of electrical power, space heating and industrial processing. Discovery and development of economically

usable geothermal energy resources could contribute significantly to fulfillment of energy needs on a local basis. Geothermal exploration and development has been a topic of controversy in the past.

The lower Breitenbush Hot Springs permit area, originally developed by Mark S. Skiff in 1923, has changed hands a couple of times over the years. The last permittee acquired the area in 1979, and destroyed all but one of the existing buildings on this 40 acre parcel of Forest Service land. The permittee's plan for a new resort included building 44 rental cabins with attached hot tubs, a bunkhouse, 12 RV campsites with hookups and 10 tent campsites, a swimming pool, bath houses, a landscaped pond, restrooms, parking, and a community building including office, snack bar, and seminar rooms. The plan also included restoring the hydroelectric plant which was destroyed and removed by the Flood of 1996. The permit was terminated in 1996 due to failure on behalf of the permittee to adhere to the work schedule.

Today, the area is undeveloped, and contains remnants of the original hot springs resort including one building, a few old deteriorated hot tubs with hot water piped into them, and a dump site of appliances and garbage generated from the removal of the cabins. The site is becoming a popular dispersed camping area and is exhibiting similar site conditions described in the dispersed recreation assessment. More people are becoming aware of the existence of the hot tubs and increasing use has been observed. Approximately, 11 acres of the area lies within a riparian reserve.

During the 1970's through the 1990's, there had been a constant growth in demand for winter sports opportunities. This demand included a wide variety of activities such as snowmobiling, cross-country skiing, snowshoeing and general snowplay.

Winter recreation facilities were developed at Santiam Pass as early as the 1940's. However, these areas were very heavily used throughout the season and often operated beyond their design capacity. The resulting congestion and overcrowding became difficult to administer and ultimately detracted from the visitor's experience. There became a need to develop additional snow parks and emphasis was placed on dispersed winter sports opportunities outside the Santiam Pass area. The goal was to accommodate the growing demand while providing opportunities closer to the Willamette Valley. The Detroit District Winter Sports Management Plan was developed in 1989 to address the need for additional winter sports areas.

In 1984, McCoy Creek Snowmobile Area was developed through a

cooperative effort between the Forest Service and the North Santiam Snowmobile Club. In 1988, the club completed construction of a snow shelter on the upper McCoy Road.

In December of 1988, in response to public comment and intensified concern regarding the management of Forest rivers, a process was initiated to determine Wild and Scenic River eligibility of those rivers identified through the Draft Environmental Impact Statement and proposed Forest Plan. The Forest identified segments of the Breitenbush and South Breitenbush River as eligible for inclusion in the National Wild and Scenic Rivers System.

Wilderness use, since the mid 1940's has increased dramatically. Ease of access along with the growing demand has resulted in the Wilderness receiving use in excess of its capacity. Signs of resource damage were becoming more apparent and there was a need to quantify the impacts. During the 1980's, wilderness managers implemented a process for establishing acceptable levels of Wilderness use called Limits of Acceptable Change (LAC). LAC inventories of existing campsite conditions were conducted during the late 1980's. Rehabilitation of heavily impacted sites was a common practice at this time. In addition there was a need to measure the social impacts within high use areas. Monitoring encounters between groups of people began and continues to be conducted by wilderness managers to determine level of crowding and opportunity for solitude.

c) Comparison of current and reference condition

i) What are the causes of change between historical and current human uses?

- **Recreation Use Patterns:** Essentially we use the same corridors today that American Indians used for thousands of years, although we have changed their character greatly. Campgrounds, resorts and trails were developed in areas where prehistoric and historic uses occurred. People have always been drawn to areas along water, meadows, unique topographical features and vista points, whether for recreation, sustenance or cultural values. Future use patterns will likely follow the same corridors as long as access is provided and management direction allows use to continue.
- **Promotion of Recreation Opportunities:** In the 1920's-1930's, early national and regional efforts promoted National Forests for people to come and enjoy. Breitenbush was target for development at this time but was considered remote, back country to a majority of the population, including Mill City. Transportation was slow and limited. Conditions affecting leisure time and its

use have changed quickly during the last 40 years. People began to have more leisure time, and better mobility through improved access and increasing ownership of private automobiles. Considered Willamette Valley's "back yard," the Breitenbush is receiving increase use. Local communities, with the decline of the timber industry, are trying to build strong, diversified rural economies by promoting tourism and recreational opportunities in the area. Areas in the forest are at or reaching capacity levels. These areas should not be promoted and focus should be on "demarketing" those places that have reached capacity. Creating new areas and promoting lesser used areas would be a solution. The information highway is paving the way for promoting recreation opportunities on the Internet. Encouraging use may have adverse affects on the resources or create social issues within the watershed.

- **Changing Demographics and Recreational Demand:** Changing demographics reflects on changing and increasing recreational use and demands. In 1910, the U.S. operated on a rural economy that had 90 percent of its population living in rural areas. The population had not achieved the mobility or the freedom from sustenance requirements that would give the time and means for recreation. After World War II, society became more affluent, urban growth started to boom, transportation systems improved and industrialization has been replaced by the information society resulting with more leisure time. Rapid population growth has the most dynamic influence on recreational use.

Many societal changes have occurred in the last few decades. Our society is becoming increasingly older, better educated and ethnically diverse. Americans are becoming increasingly concerned with environmental quality, quality of life, and the responsiveness of government to public needs. There is heightened concern with fitness and health. Americans are more urban and mobile, many wanting higher levels of services, developments, and conveniences. Changing lifestyles include smaller families, two-income family households, and single-parent households. With new legislation and accessibility developments, people with disabilities more "mobile" and able to visit the National Forest.

- **New Technology and Recreational Demand:** Prior to World War II, recreation uses were traditional, eg. hunting and gathering, fishing and camping. Post World War II was marked by major changes in American recreational habits. The interest in various types of recreation has varied as the population's way of living has varied. Accelerating technological advances, including the development of equipment, transportation, and sports, necessitated more space, and the need to set aside specialized areas for activities such as cross-country skiing, snowmobiling, hanggliding,

trail/mountain bikes, off-road vehicles, pack trains, hi-tech backpacking/mountain climbing, whitewater boating, RV camping, jet skis, and stream and lake fishing. This meant a need to develop more facilities for recreational groups enjoying the forest. It also meant meeting the needs of the wilderness groups, who demanded more land area to meet their particular type of experience. Although difficult to predict, new uses will emerge in the future, but historical uses will continue. People have strong ties to traditional, long-standing activities and places they enjoy.

- **Facility Construction:** The construction of transportation networks in combination with improved means of transportation (i.e. automobile), made access much easier and has resulted in more people recreating in the National Forest than in historical times. In addition, the construction of Detroit Dam resulted in more access to water-based recreation.
- **Competition for Use of Resources:** Legislation, brought about by public disagreement and debate amount management and protection of forest resources, was brought about in large part by competition for the scarce resources that are available now as compared to the past. Legislation such as the Wilderness Act, Wild and Scenic Rivers Act, Endangered Species Act, Clean Water Act, etc. resulted from this controversy. Often times, many of the legislative solutions conflicted with each other. Because of such legislation and public sentiment, practices such as sheep grazing have disappeared from the watershed. In addition, timber harvest is on the decline in recent years.
- **Funding Levels:** Funding levels are decreasing and demand for recreation opportunities is increasing. In order to fulfill this demand, agencies are looking at new ways to provide recreational opportunities such as user fees and privatization of the operation of the facilities (concessionaires).
- **Resource Damage:** Social crowding has resulted in increasing resource damage at the more popular recreation areas.