RECREATION MASTER STRATEGY

Newberry National Volcanic Monument

September 1995
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INTRODUCTION

This document describes a long-term recreation strategy for the Road 21 Corridor and the Lava Butte and Caldera Zones within the Monument. This plan is a bridge between the Newberry National Volcanic Monument Comprehensive Management Plan (CMP) and site-specific projects. In this plan the direction from the CMP and the Deschutes National Forest Land and Resource Management Plan (for Road 21) has been synthesized to the next level of detail in order to establish long-term objectives for developed recreational facilities within these areas.

This is not a decision document, rather, projects listed within this plan could ultimately become proposed actions at which time NEPA would begin at the site-specific level. Short- and long-term project priorities have been established and were based on the criteria set forth in the Monument CMP.

Goals and Objectives

• To establish the long-term vision for developed recreational facilities within the Monument.

• To translate the management direction in the CMP into project level objectives in order to implement.

• To ensure that individual project development evolves in a manner consistent with the overall goals for the Monument and developed recreation.

• To understand the relationships and interactions of the landscape and its infrastructure in terms of function and process to assure the desired future conditions are met.

• To establish projects priorities in order that managers will be better able to plan for and budget their programs of work, and estimate project costs.

• To link interpretive opportunities both spatially and physically at this level of planning in order to provide clear guidance for interpretive plan development.
Part One
Existing Condition
EXISTING CONDITION - LAVA BUTTE ZONE

This information does not reflect a site-specific inventory for each recreation site. Rather, key non-functional aspects and/or design elements are described for each of the main developed sites. Comprehensive site-specific details are not part of this plan. They will be addressed at the site-specific project level. See map on the next page.

Infrastructure and Interpretation

Roads and Trailheads

U.S. Highway 97 passes through this zone running north/south. Currently access onto the highway from 9710 and at Lava Lands requires crossing several lanes of traffic. Poor weather and heavy traffic in this area combine to create potentially hazardous conditions. There are no designated trailheads within this zone; however, all of the developed sites have trail opportunities at the site and Benham Falls functions somewhat as a trailhead for access to the river trails. No sense of entry or arrival occurs. Access is fragmented; experiential sequence to Lava Lands is very abrupt from the highway (i.e., decision, decompression, orientation, heightening of awareness, climax, self-discovery etc.).

Lava Lands Visitor Center

This is the largest visitor facility within the Monument. Located directly off U.S. Highway 97, 113,000+ people stop at this visitor center each year as they travel through Central Oregon.

Road circulation and parking are adequate at the visitor center; however, highway signing needs improvement. Exiting the facility (en route towards Bend) necessitates crossing six lanes of highway and can be hazardous. The access road to the visitor center (and all other roads in this zone) are not currently plowed in the winter.

Trails connecting the parking area with the facility do not directionally inform or orient the visitor. In some areas the concrete trail surface is spaulding. One trail passes through, or near, a drainfield (odor). There are few directional cues as to the location of the front door and/or restrooms (i.e., visitors can not see the visitor center from the parking lot). Several areas of obvious surface patching and concrete/pavement maintenance stand out.

There are two trails that originate from behind the facility, which provide opportunities to walk onto the lava flow. These trails are not obvious to the visitor and they are not designed to originate from a staging area. Some trail links in this area share mixed-use with motorized service access, and others appear to be barrier free but are not.

The main building consists of two (2) "public" rooms, and office space. Within the building visitors can see a variety of interpretive displays and have the opportunity to purchase guides, maps, books, t-shirts, as well as other items. In the summer, numerous interpretive talks and walks originate at this facility. The main room in the visitor center has been wired to accommodate mechanical displays and dioramas and it is not currently being utilized in this manner. Some displays cover the windows looking outside. Dioramas are also dated and need more current information.

The interior structure of the visitor center is not designed to relate to outdoor space (Lava Butte, Cascades, lava flow edges, etc.), nor is there a sequence of spaces, messages, themes, or traffic flow that orients and guides visitors once they get inside the building. There are many flush toilets in the facility serving busloads of visitors at one time. The building is currently
operated in the summer only. Winter insulation and heating needs appear to be adequate (based on the fact that the heating bill to keep pipes from freezing in the winter, is about the same amount as the summer bill with air conditioning on), but the center has never been open to the public in the winter. The roof is flat and not well suited to the snowy climate.

Power originates at a substation near Sunriver, and arrives underground via the direction of Benham Falls. The well at Lava Lands is satisfactory and periodically needs to be cleaned. The water source would likely be adequate to handle some expansion of Lava Lands Visitor Center.

Lava Butte Day-Use Area

This day-use area is located on top of Lava Butte, next to (and encircling) Lava Butte Crater. The site currently consists of a parking area, a toilet, an interpretive trail, some picnic tables, and a small visitor facility (featuring panoramic views) at the base of the existing fire lookout.

Road access is along the 100 Road, but does not meet double-lane standards. During the busy season visitors arrive via a concession operated shuttle from Lava Lands. In the fringe seasons, weather permitting, visitors can drive their own vehicles to the top of the butte. Improvements (or widening) of this butte road would necessitate bringing the road up to new development standards, which could be extremely difficult (and expensive) to implement. The parking area on top of the butte is small. There is not currently a visitor staging area. The location of the site features (trail, restroom, etc.) are not obvious to visitors as they arrive.

Site circulation includes an interpretive trail that circles the rim of Lava Butte Crater. As mentioned, this trail is not tied to a staging area and it is not clear to visitors that this trail exists. This trail currently occupies a very wide corridor (wide enough for a car in some locations). Interpretive signing along this trail is in need of repair or replacement.

There is no official trail linkage between Lava Butte and Lava Lands Visitor Center. Development of a trail link would be difficult or impossible due to unstable soils. Pedestrian travel along the road could create a safety problem.

There are picnic tables located at the parking area on top of the butte. While these are accessible to most visitors, they are sited in an area with no view and lots of wind. Paved access between the parking and the toilet and trail is too steep for a wheelchair. While the condition of the toilet is satisfactory, its location is poor, possibly dangerous (because of a 12% pedestrian access grade), and not obvious to visitors. The paved access between the parking and the lookout is also too steep (8-16% grade) for a wheelchair and could be very slippery to most visitors on an icy morning.

This site is constantly affected by wind. Originating primarily in the southwest, wind blows against this butte, eroding away sign pads, the edges of roads, and the base of the visitor facility (which is currently located in the most erosive point of the site). Further erosion problems originate with ground squirrel activities. Most of the existing developed features on the site appear as a patchwork of materials, largely a result of stabilization efforts.

Lava River Cave Day-Use Area

This is a day-use facility featuring an accessible underground lava tube. Located directly off of U.S. Highway 97, many visitors stop at this area to see and learn about this geologic formation.

The existing road circulation takes visitors on a circuitous route through the entire site, including the storage and maintenance areas. The various uses (administrative, visitor, etc.) at the site are neither supported nor separated by the current circulation pattern. There is no clear sense
of entry, vehicular or pedestrian, to the parking lot or to the cave from the parking lot. RV parking within this site is limited, with only two (2) slots, and is not well signed.

This site's main feature is a lava tube trail which extends northwest (underground) for about one (1) mile. No other trail linkage connects this place with adjacent recreation areas.

There are guided and unguided interpretive opportunities at the cave. In the summer, visitors obtain lanterns from a concessionaire prior to entering the cave. In the winter this site is closed; however, there is still a substantial amount of dispersed use of the cave area as evidenced by well worn paths through the snow.

As the site is currently designed, there are few quality interpretive displays and little sense of mystery or self discovery at the cave. Concessionaire facilities are located directly at the edge of the cave entry and the entire special area is ringed with a chain link fence.

There is currently a fiber optic line which passes next to the old highway, at the eastern edge of the site.

**Benham Falls Day-Use Area**

This site is located on the southeastern bank of the Deschutes River in a grove of large, old, ponderosa pine. This area is host to many recreational opportunities such as hiking, fishing, boating, and picnicking. Although named after the falls, the actual Benham Falls is approximately 1 mile north down the river. Existing signage can create a false expectation that the road leads to the falls.

Road access into the area is via Lava Lands on the 9702 Road. This road ends at Benham Falls. Just prior to arrival the road curves and suddenly changes from a two-lane into a one-lane road.

This day-use area has restrooms and picnic table facilities. There is a short cultural history interpretive trail that extends southwest from this site along the edge of the river. The existence and location of this trail is not evident to visitors. Extending north, across the bridge and over the river, are other trails that continue along the western edge of the river and link up with numerous other recreation areas (on the Bend District). Access along this route links to a viewing platform above Benham Falls approximately one mile from the parking area. Physically challenged visitors who come expecting to see the falls may find the one mile trail link beyond their abilities.

**Wildlife**

Most wildlife habitats in this zone are concentrated near the river, where there is habitat for elk, amphibians, waterfowl, neotropical migrants, osprey, and potential bald eagle habitat. Away from the water is a major deer migration corridor and bat habitat. Bats prey on insects over the river and ponds. The open lava flows are potential (unknown) bat habitat. Species that could occur anywhere throughout the vegetated parts of the zone include: deer (winter habitat), flammulated owls, white-headed woodpeckers, and goshawks. Townsend Bats occur within the Monument and are a sensitive species (see also the special status species list in the Caldera Zone section).

The relatively rare habitats in this zone include; the deer migration corridor, the amphibian, waterfowl, neotropical migrant, and osprey habitat (close to the river), the bat, the flammulated...
owl, and the white-headed woodpecker habitats. The remaining wildlife habitats in this area are more common in the adjacent landscape.

With the exception of those habitats located within the lava flows (which also correspond to the habitats with the highest integrity), some wildlife habitats are being affected by current use patterns. Those that are most affected include; the bat habitat in lava river cave, the amphibian, neotropical migrant, waterfowl, and osprey habitats close to the river, the western portion of the deer migration corridor, and the flammulated owl and white-headed woodpecker habitats.

Archaeology

There are nine (9) known prehistoric sites in this zone mostly associated with the edges of lava flows and Native American's euro hunting activities along the river. The significance of these sites occurs both at the surface and below the surface. In addition, there are historic resources at Benham Falls day-use area. These resources are generally tied to the railroad logging history of the area.

There is a high potential to encounter surface archaeological features around the edges of the lava flows and in the corridor between the flows. A majority of the known sites along the edges of the flows have high integrity. Many of these sites are in jeopardy for loosing some integrity based on the current use patterns in the area. The existing known sites have a range of research value, mostly high or medium, while Benham Falls and one older excavated site have relatively low research value.

Geology

The Lava Butte Zone lies low on the north flank of Newberry Volcano. The north (and south) flank of Newberry is covered mainly by hundreds of lava flows which have originated from hundreds of cinder cones and fissure vents. Lava River Cave is a large 7,800-foot-long lava tube which carried lava from one of these vents to the front of a flow. Most of these flows probably range in age from 10,000 to 100,000 years old and are covered by about two (2) feet of pumice and ash from the eruption of Mt. Mazama (Crater Lake) 7,600 years ago. The most recent volcanic activity on the north flank occurred during the Northwest Eruptive Period, 7,000 years ago. The Northwest Rift Zone formed at this time along a NW-trending, 15-mile-long zone of weakness extending from East Lake nearly to the Deschutes River. Over a dozen lava flows erupted from vents along this zone, the northern most being the Lava Butte and Gas-Line vents.

Eruptions from the Lava Butte and Gas-Line vents formed a 500-foot-high cinder cone (Lava Butte), a half dozen spatter cones and spatter ramparts (Gas-Line vents), a non-eruptive 11,000-foot-long fracture system, over nine (9) square miles of lava flows (both pahoehoe and aa), over a square mile of tephra deposits, and hundreds of smaller features such as accretionary lava balls, lava gutters, rafted cinder masses, and tree molds. Scientifically the tephra deposits are especially important for the stratigraphic information that they preserve.

The area around Benham Falls is also the result of the eruption of Lava Butte which dammed and diverted the Deschutes River. The lava dam formed a lake which extended upstream for at least 15 miles. When the lake basin filled with water, the river found a new outlet across an older volcanic dome (Benham Buttes) to form Benham Falls and a new river channel along the west side of the lava flow. Sedimentation in the lake filled the river's old channel with about 90 feet of sediments near the day-use area.
Recreation in this zone is based on the public's desire to explore and learn about the easily accessible and spectacular geologic features in this zone, especially Lava Butte and Benham Falls.

**Sensitive Plants**

Sensitive and special plant habitats in this zone include; *Castilleja chlorotica*, *Artemisia ludoviciana spp. estesii*, and riparian vegetation. Potential habitat for *Castilleja chlorotica* occurs throughout all of the vegetated areas (a few of these areas have been surveyed and no populations were found—these have lower probability). Riparian habitat exists along the water's edge and *Artemisia ludoviciana spp. estesii* exists near Benham Falls day-use area in this zone.

The riparian plant associations (including *Artemisia ludoviciana spp. estesii*) represent a relatively rare habitat in the desert landscape. In contrast, the *Castilleja chlorotica* potential habitat occurs in conjunction with the ponderosa pine community, which is more common in the adjacent landscape. The riparian habitats north of Benham Falls on the eastern edge of the river have relatively high integrity. In general, developed areas (roads, trails, and Benham Falls) correspond with plant habitat areas affected by current use patterns and lower integrity.

**Management Direction**

The CMP for Newberry National Volcanic Monument states that one purpose of the Lava Butte Zone is to serve as the primary interpretive day-use and information hub for the Monument. The Lava Butte Zone objectives as stated in the CMP read:

Manage the Lava Butte Zone to serve a large number of day-use visitors (primarily at Lava Lands Visitor Center) with a variety of short-term, day-oriented interpretive programs and recreation opportunities. Redesign access roads to Lava Lands Visitor Center and Lava River Cave to improve safety of access, and visitors' experiences when entering this part of the Monument. Manage (and if needed, redesign) facilities to support a comprehensive theme-based interpretive program. Manage vegetation to provide high-quality scenery, with emphasis on preserving and sustaining large, old-growth ponderosa pines, and to provide some habitat that allows for deer migration (CMP p. 66).

The Areas of Concern and Opportunity 3-7 (CMP 92-98) were reviewed and discussed as part of this planning effort.

**Recreation Opportunity Spectrum (ROS)**

The ROS classes within this zone include Rural, Roaded Natural, and Semi-Primitive, Non-Motorized (both summer and winter). Individual recreation developments fall into the following classifications:
Rural = Lava Lands Visitor Center
Roaded Natural = Lava River Cave
Lava Butte Day-Use Area
Benham Falls
Semi-Primitive = n/a

A map of the ROS classes in this zone can be found on page 44 of the CMP. Additional descriptions of these classifications are on Table 3-3, page 118 of the FEIS for Newberry National Volcanic Monument, as well as in the 1986 USDA Forest Service ROS book and accompanying ROS Users Guide.
EXISTING CONDITION - ROAD 21 CORRIDOR

Facilities along Road 21 up to the caldera zone boundary are not in the Monument. However, this is where the slow ascent into a 500 square mile volcano, Newberry Volcano, occurs. The information below does not reflect a site-specific inventory for each recreation site, rather, key non-functional aspects and/or design elements are described for each of the main developed sites. Comprehensive site-specific details are not part of this strategy, but will be addressed at the site-specific project level. See map on the next page.

Infrastructure and Interpretation

Roads and Trailheads

Road 21 was recently widened and resurfaced. Larger vehicles and vehicles with trailers now have an easier time using this travel route. The Peter Skene Ogden Trailhead is the only trailhead along Road 21. It is located on the north side, just west of Paulina Creek.

Kiosk - Highway 97 - Road 21 Junction

This kiosk is located off of Road 21 close to the junction of U.S. Highway 97. It is not very visible to visitors turning off of Highway 97 and does not function well (i.e., size of letters, graphic, and specific site design). Informational signing and messages are minimal. The kiosk is situated adjacent to a private RV area and there is minimal visual screening separating these distinctly different areas.

Ogden Campground (group) - Peter Skene Ogden (PSO) Trailhead

These two sites are located next to each other on the north side of Road 21 (approximately three (3) miles east of U.S. Highway 97) in an area of loose gravel. The group camp operates on a reservation system and is not designed in a way that orients visitors to the site. Individual sites are loosely defined and are connected with gravel routes. The water system for the campground functions (it originates out of Prairie Campground); however, it is near its limit. One of the restrooms within the campground needs replacing due to structural vandalism. There is no power at this campground. There are opportunities to convert some site furnishings and camping areas into barrier free.

Peter Skene Ogden Trailhead is adjacent to Ogden Campground. It is the primary staging area for this national recreation trail. It is located in an area of loose gravel and could benefit from some stabilization efforts. There is no delineation of parking spaces or areas for different uses (horses, bikes, pedestrians, etc.). There is a great deal of horse use at this trailhead. The equestrian visitors have different parking and access needs than the hikers. The site shares restroom facilities with the campground. The trailhead is well used and could have facilities designed and organized to support the trailhead function alone. There is a need to improve barrier-free access onto the trail (the trail begins with a series of steps) and to the restroom facility.
Prairie Campground

This campground is located south of Road 21, just east of Paulina Creek. The area has good vegetative screening between most of the campsites. Site circulation and orientation information is adequate but would benefit from enhancement and/or some reorganization. There is a rock quarry near this campground and operations are audible in the campground. There is the potential to expand this campground in the future.

McKay Campground

This dispersed campground, with primitive facilities, is somewhat remote. Access from Road 21 is via a long bumpy road. Beyond the campground, this same access road becomes another standard lower. Paulina Creek meanders through this campground and along side of the creek (along an old railroad grade) runs the Peter Skene Ogden trail. The bridge spanning the creek in the campground is in need of repair. Some of the campsites are in the riparian area and could be improved or relocated. There are many opportunities for enhancing the riparian vegetation and defining campsite and circulation patterns. There are restrooms on each side of the creek. Just east of the campground are some falls on Paulina Creek.

Six-Mile Snopark

This snopark is approximately six (6) miles east of U.S. Highway 97 off of Road 21. With the exception of very high snow winters, this site does not get much use. During high snow conditions this area is used as a snowmobile staging area and has linkages to orange diamond trails.

10-Mile Snopark

This snopark is used as the primary access point for winter activities in and near Newberry Caldera. The entire area is designed to accommodate oversized vehicles and trailers. There are no areas where different uses are accommodated separately. There is one vault toilet and a warming shelter that is too small. Currently the orientation of the snopark results in the snow melting first near the primary staging area and main sign. Trail linkage to the north is adequate; however, to the south both the blue and orange diamond trail access is poor and in need of improvement (both through design and signing). Vegetation within the site would benefit from enhancement. There is limited potential to expand this snopark.

In the summer there are mountain bike activities that originate at this site. Also, this site functions as a staging area for firefighters in the event of nearby wildfires. There is an old wooden pipeline line that provided water for steam locomotives nearby and could become an interpretive feature.

Road 21 Overlook

This is a new, paved, small road pull-off that features a view of the Cascades towards the west. Currently there is no interpretation, trail, or information provided at this site. There is the opportunity to add interpretation of the view and/or other interesting features visible from this site.
Wildlife

Wildlife habitats near Road 21 include osprey nesting, amphibian habitat, and big game movement through the area. Wildlife moves to and from the creek because it is the only water source in the area. The potential for osprey nesting occurs along the road and creek corridor from the caldera west beyond McKay Campground. Big game movement moves through this area in roughly east/west and west/east patterns. Amphibian habitat is associated with the meadow and Paulina Creek.

The amphibian habitat represents a relatively rare habitat for this area. Big game migration and potential osprey nesting areas are more common features of the surrounding forest. With the exception of the osprey (which is high) the habitats in this area have relatively moderate and low integrities. Those areas that are most affected by current use patterns include; the meadow, big game cover at low elevations and the amphibian habitat near McKay Campground.

Archaeology

Paulina Creek roughly corresponds with old travel routes into the caldera. There are sites and the potential to encounter more sites along most of the Paulina Creek corridor including Prairie, McKay, and Ogden Campgrounds, Peter Skene Ogden (PSO) Trailhead, and along the PSO trail. The significance of these sites could occur either at or below the surface, or both. Known sites do not exist along Road 21.

Sites along the PSO trail have higher integrity than areas within developed recreation areas. Some of the sites within or adjacent to developed recreation areas are in jeopardy for loosing some integrity based on the current use patterns in the area. The existing known sites have a range of research value, high at McKay Campground and PSO Trailhead/Ogden Campground; moderate along the PSO trail, and low at Prairie Campground.

Geology

The Road 21 Corridor is located on the west flank of Newberry Volcano and extends from the U.S. Highway 97 in the La Pine Basin nearly to the caldera rim. The west (and east) flank is distinctly different from the north and south flanks which are made up largely of relatively young basaltic lava flows and cinder cones. The west flank, however, has been deeply eroded by stream cut channels. These channels are cut into ash-flow deposits which resulted from the last major caldera-forming eruption about 250,000 years ago. Beneath these ash-flow deposits are older pre-caldera basalt flows and cinder cones. Paulina Creek is the only flowing water on the west flank of Newberry, in fact the only flowing water on the entire volcano. The most interesting features along Paulina Creek are related to a catastrophic flood which came down the creek within the last 7,600 years.
Sensitive Plants

Sensitive and special plant habitats along Road 21 include *Castilleja chlorotica*, riparian, and meadow vegetation. Potential habitat for *Castilleja chlorotica* occurs in association with the ponderosa pine forest communities. Riparian habitat occurs along Paulina Creek. Meadow habitat is located at the western end of Paulina Creek.

The riparian corridor and meadow areas represent relatively rare habitats for the area. In contrast, the *Castilleja chlorotica* potential habitat occurs in conjunction with the ponderosa pine community. It is more common in the adjacent landscape. In general, the meadow and riparian areas adjacent to developed recreational areas have a lower relative integrity and correspond with plant habitat areas affected by current use patterns.

Management Direction

This area is outside of the Newberry National Volcanic Monument and falls under the management direction of the 1990 Deschutes National Forest - Land and Resource Management Plan. Management allocations along the Road 21 Corridor include:

- Scenic Views 1
- Scenic Views 4
- Old Growth
- Wild & Scenic River
- General Forest

The scenic views allocations generally encompass the Road 21 Corridor and a portion of Paulina Creek corridor. Wild & Scenic River allocation extends along Paulina Creek from the caldera west to McKay Campground. Old Growth is along the creek to the west of McKay Campground. General Forest allocation occurs outside of the road and creek corridors. The forest boundary crosses Road 21 a few miles east of U.S. Highway 97. Lands west of this boundary are outside of the Deschutes National Forest.

Recreation Opportunity Spectrum (ROS)

The ROS classes along Road 21 (within the Deschutes National Forest) include; Roaded Natural, Roaded Modified, and Semi-Primitive, Non-Motorized (winter). Roaded Natural encompasses the Road 21 and Paulina Creek corridor. Roaded Modified corresponds to the General Forest allocations. Semi-Primitive occurs at the eastern edge, up the flanks of the caldera north of Paulina Creek. Individual recreation developments fall into the following classifications:

- Roaded Natural = Kiosk Road 21 & Highway 97
- Prairie Campground
- Ogden Campground
- Peter Skene Ogden Trailhead
- McKay Campground
- Road 21 Overlook
- 6-Mile Snopark
10-Mile Snopark

Roaded Modified= n/a

Semi-Primitive= n/a

A map of the ROS classes in this zone can be found on page 44 of the CMP. Additional descriptions of these classifications are in the 1986 USDA Forest Service ROS book and accompanying ROS Users Guide.
EXISTING CONDITION - CALDERA ZONE

This information does not reflect a site-specific inventory for each recreation site. Rather, key non-functional aspects and/or design elements are described for each of the main developed sites. Comprehensive site-specific details are not part of this plan. They will be addressed at the site-specific project level. See map on the next page.

Infrastructure and Interpretation

Roads & Trailheads

Road 21 was recently widened and resurfaced. Larger vehicles and vehicles with trailers will now have an easier time accessing and moving throughout the caldera.

There is currently one (1) official trailhead (at Little Crater Day-Use Area) within the caldera. It does not function well primarily because people are not aware that it is there and the location of the trail is not readily evident. There is a need for designating trailhead areas in order to improve visitor trail experience and facilitate smooth traffic flow and consolidated parking within the caldera.

Paulina Falls Day-Use Area

This is a day-use area along Paulina Creek at the western outflow of the caldera. The key feature within the site is Paulina Falls. Many trails pass through this site in the summer and the winter. The site does not have an identity and is an important link into the caldera. This is a potential contact point for a majority of the visitors to the caldera. Site improvements could be redesigned using indigenous materials that provide safety and complement the surrounding forest. There is a high need and potential for accessible experiences at this site.

Parking expansion is limited by site constraints. Currently there is a need for signing which would support the purpose of the site and orient and direct the visitor. For example, many visitors are not aware that there are picnicking facilities at this site. There is visible erosion and compaction on old roads and powerline corridors in this area. The lack of site direction lends itself to dispersed trampling and impact over a broader area.

Paulina Guard Station

This is a historic CCC structure (old ranger station) located along the southern edge of Road 21 near the entrance into the caldera. This station has an important relationship with visitor arrival into the caldera since people often search for orientation information as they pass through this area. This site and the area around it has high concentrations of uses. It is located along the main access road which bisects a conglomerate of interesting features.

Currently the area around the station appears haphazard with many stumps and miscellaneous debris scattered throughout the area. The surrounding vegetation does not support the role of the structure. The building appears run down and cramped. There is not adequate parking at or near this site.
To access the guard station, pedestrian visitors from the adjacent campground and day-use area must cross congested Road 21 which may be an added safety concern.

**Paulina Lake Campground**

This is a high-use campground north of Road 21 near the existing day-use area. The entire campground appears to have soil compaction problems. Campsites are not well defined and non-campsite areas need to be revegetated. Visual screening between the sites is generally poor or non-existent.

Road circulation at the campground is poor and could be redesigned to function smoothly (and be separate from the day-use area). The boat ramp in the site has some siltation problems which are expected to continue into the future. The ramp functions okay, but there is inadequate parking. The water system at the site is inadequate and needs to be replaced.

**Paulina Lake Lodge**

This (special use permit) lodge is northwest of Paulina Lake Day-Use Area and Campground. Currently there is no Master Plan developed for this site. Lodge cabins are in a variety of styles and colors as well as condition. Many of the on-lake facilities (boat dock and ramp) are in need of repair, replacing, or removing. There is a parking area established directly on the water (near the riparian area) that is visually distracting and degrades the scenic quality of the area. Site circulation could be improved and there is some clutter throughout the site. Cumulatively, the presence of the lodge, Paulina Lake Campground, and the guard station provide a very cluttered, "busy" first view of the otherwise pristine lake setting.

**Paulina Lake Day-Use Area**

This day-use area is currently located within and adjacent to the riparian area at the southwest edge of Paulina Lake. Visitors experience this site as their first impression view of the caldera. Consequently, visitors are greatly affected by what they see in this area. Currently this area appears trampled and haphazard. The vegetation within the site is trampled and much of the soil appears to be compacted. Down the road slightly is a toilet and the old entry road into the site. The old road is blocked off but it is still readily apparent and confusing to visitors.

This site has many trails that pass to and/or through it. There is an opportunity for a boardwalk trail through the riparian area. The site does not currently have or relate to any trailheads. Road circulation into this site is poor and requires visitors to travel through a majority of the campground in order to access the day-use area. The boat ramp in the site is silted in and could be removed.

**Paulina Peak Day-Use Area**

This day-use area is located at the top of Paulina Peak. The parking area at the top is limited (physically) and the road surface en route to the top is rough. The beginning of the road, near Road 21, is of a higher standard surface than the rest of the road and can be misleading as to the overall road standard. The road surface has very little material left on top of the subgrade. There are existing surface drainage and erosion problems.

There is the potential for a pull-off/trailhead near the beginning of the road. At the top of the peak there is a restroom that is in good condition; however, access to the entrance of the restroom could be improved. It is often windy on the top and while the views are spectacular the site is often conducive to a short stay. There is no current interpretation or mountain top...
identification to engage/inform visitors. There is a railing at the cliff edge, but there is no formal walkway system and the site appears trampled. Site details (handrail, etc.) need repair or replacing to fit in with the ROS and overall Monument architectural theme.

**Newberry Group Campground**

This is a group campground located along the southern edge of Paulina Lake. This area functions well. Road circulation is good and in general the vegetation provides screening and appears healthy. The historic cabins on site are in need of attention in order that they do not begin to fall apart. In the deep water to the east of this site (not within the campground), there is the potential for a future boat ramp.

**Summer Homes**

These are a tract of six summer homes located just south of Paulina Lake. With the exception of the Paulina Lake trail, they are fairly well separated from public recreational facilities on the lake.

**Chief Paulina Horsecamp**

This is a horse camp located away from Paulina Lake, south of Road 21. With the exception of a trail that passes through the campground, this site functions fairly well. Horse facilities (corrals and troughs) are available. Drinking water is not available at this site. To the east of this campground is a flat area which has existing loop roads and would be suitable for additional campground area.

**Little Crater Day-Use Area**

This is a day-use area along the road to Little Crater Campground. This site is under utilized, in part because people are not aware of the trail access it provides and in part because many visitors are interested in gaining access to the lake trail at the north end of Little Crater Campground. This site is technically a trailhead. However, trail connections are not readily evident. The boat ramp that is present here functions ok, but is not as good a site as the campground boat ramp. As a result, it seems redundant and not needed.

**Little Crater Campground**

This is a long, linear lake-side campground on the eastern edge of Paulina Lake. The campsites are designed for single cars. However, much of the current use is from RV's and cars with trailers. Quite often vehicles are very cramped up against the road due to the lack of parking space in the sites. The road currently bisects the campground setting up a poor circulation pattern. These patterns force people to cross back and forth across the main road in order to get to the lake. Also, many of the campsites along the water, block the lake view for other campers. Silt routinely finds its way onto the access road from the adjacent sloping hillside, making for dusty summer conditions.

The north end of the campsite functions as an informal trailhead. Many visitors seek out the lake loop trail just north of the campground because of the many unique features in the area. The road is also technically the lake loop trail as it passes through the campground. This is not only confusing, it adds more pedestrian use on the already congested travel route. In addition, the lakeside campsites force users of the lake loop trail back onto the access road, exacerbating this problem.
Warm Springs and North Cove Campgrounds

These are two (2) primitive boat-in or hike-in campgrounds on the northern edge of Paulina Lake. There is a great deal of downed, dead wood on the forest floor in this area. In some areas it is difficult to walk through the campground because of all the woody material. The actual campground sites are not obvious to the visitor, and in some cases facilities such as picnic tables are located far from the actual campground area.

Big Obsidian Flow Day-Use Area

This is an interpretive day-use site located at the northern edge of the Big Obsidian Flow. This site is in need of a stronger interpretive identity and accessible experiences. The parking lot is a large square of pavement with no defined circulation pattern. There is a run down amphitheater located directly adjacent to the parking area where it is affected by car headlights and views of and from the parking lot. The placement of the amphitheater could have been more experiential (maybe locating it next to the edge of the flow) instead of a big 'ol asphalt parking lot. The location of site features (picnic tables, restrooms, amphitheater, etc.) do not complement the overall function of the site. There is no water or electricity at this site. Site detailing is inconsistent throughout the area.

East Lake Campground

This is a small lakeside campground on East Lake. In general this campground functions well. The boat ramp at this site works, however, it is not too good for bigger boats. The vegetation appears predominately healthy with the exception of some stumps. This site runs at a very high occupancy, and could be designed to better reflect this use pattern. The water is on a gravity system and is adequate.

Hot Springs Campground

This is an overflow campground located south of Road 21, away from East Lake. It is typically open only a few days each summer (on holiday weekends). The new Road 21 improvements have directly impacted some of the sites in this campground, which must be removed, relocated or eliminated. There is no screening between Road 21 and this campground. This campground has a well. There is a trail that passes along the edge of this site.

Hot Springs Boat Ramp

This is a day-use boat ramp located at the southeast edge of East Lake. Because of the water depth and siltation patterns, this is the best boat ramp in the caldera. The current use of this ramp is appropriate for its size. The physical constraints of the site limit expansion opportunities. There is currently a picnic area north of the boat ramp. It is not obvious to the casual visitor and does not get much use. If use increases it could create parking pressure at the boat ramp area. Traffic flow within the site is adequate but could use improvement. The boat ramp is next to the former location of the old Hot Springs Resort (it no longer exists). This old resort along with the hot springs themselves are interpretive opportunities. There is an excellent view down into the hot springs from up on the bench to the west.

East Lake Resort

This is the resort on the southeastern edge of East Lake. Currently there is no Master Plan developed for this site. Many of the facilities are in need of repair, replacing, or removing. There is the opportunity to enhance the vegetative screening around the buildings (as viewed from other areas) in order make the area more visually pleasing. Site circulation could be improved.
and there is clutter throughout the site. The RV campground across the road is in need of renovation and restoration efforts.

Cinder Hill Day-Use Area(s)

These are day-use areas at the northeast edge of East lake. There are actually two of these day-use areas within the Cinder Hill Campground. The northern boat ramp is dysfunctional and the boat ramp at the southern day-use area is very poor due to wave problems. The whole campground/day-use area is on a wide pebbly beach. Day-use circulation is included within the campground and there is not a clear separation of use areas. Site orientation for the visitors could be improved.

Cinder Hill Campground

This is a large campground on the northeastern side of East Lake. The campsites are designed for single cars. However, a portion of the current use is from RV’s and cars with trailers. Road circulation currently bisects portions of the campground setting up a less than optimum pattern. This pattern forces people to cross back and forth across the main road in order to get to the lake. Also, some of the campsites near the water, block the lake view for other campers. A majority the campsites, as designed, necessitate barrier posts. There are stumps, evidence of soil compaction, and erosion in many of the campsites. Visual screening throughout the campground is poor in many areas (the northernmost loop has better screening than the rest of the campground).

There is not clear linkage to trail opportunities in the area. The water system appears adequate (the tank is an old railroad car).

Dome (Flanks Zone)

This is a day-use trail southeast of the caldera, in the Flanks Zone. This area is within a (summer) Semi-Primitive Non-Motorized (SPNM) ROS area. A portion of this trail experience takes place within or near populations of a sensitive plant. There is no clear delineation of the trail corridor on the top of the Dome, or of the sensitive areas.

Wildlife

The main wildlife habitats within the caldera include; eagle and osprey around the lakes and creek; amphibians along the creek, Lost Lake, and in some areas around the lake edges; fish in the lakes; peregrine falcon (potential) around Paulina Peak; and neotropical migrants near Cinder Hill and Paulina Lake Campgrounds. Species that occur potentially anywhere/everywhere (except lakes and open lava flows) within the caldera include: elk, deer, bear, and marten.

Special status applies to some of these species including: the eagle- Threatened sp., the peregrine falcon (there are no current residents, but there is potential habitat)- Endangered sp., the Preble’s shrew- Sensitive sp., and a frog species (records on file)- Sensitive sp.

The relatively rare habitats in this zone include: the eagle, amphibian, peregrine falcon, and neotropical migrant habitats. The remaining wildlife habitats in this area are more common in the adjacent landscape.

Some wildlife habitats are currently being affected more directly by current use patterns than others. Those that are most affected include: the amphibian habitats around Paulina Lake,
near the Hot Springs on East lake, at Lost Lake, the neotropical migrant habitat on East Lake, and the bear habitat. Those habitats with the highest integrity include; eagle, osprey, peregrine falcon, elk, deer, and marten.

**Archaeology**

There are seven (7) known large prehistoric sites in this zone mostly associated with the edges of lava flows. The significance of these sites occurs both at the surface and below the surface.

In addition, there are historic resources at Paulina Guard Station, Newberry Group Cabins, and the site of the old resort on East Lake. There is a high potential to encounter pre-mazama archaeological resources throughout a majority of the caldera floor. With the exception of the northern edges of the Big Obsidian and East Lake Flows and a few of the developed sites, a majority of the known sites along the edges of the flows have high or medium integrity. Many of these sites are in jeopardy for losing some integrity based on the current use patterns. This is particularly true for the sites around the edges of lava flows, lakes, and in developed recreation areas. The existing known sites have a range of research value, mostly high around Paulina Lake, medium around East Lake, and lower in the areas south of Road 21.

**Geology**

The Caldera Zone lies largely within Newberry Crater. Newberry Crater (actually a caldera) represents the summit of Newberry Volcano, which collapsed during a series of large violent eruptions beginning at least a half million years ago. The eruptions eventually formed a nearly circular volcanic depression 4 to 5 miles in diameter and 2,600 feet deep, which contained a large caldera lake. The last caldera-forming eruption probably occurred about 250,000 years ago, since that time the caldera has slowly filled with the products of hundreds of smaller volcanic eruptions. Today the caldera is about 1,000 feet deep and contains two lakes (Paulina Lake and East Lake) and a floor covered with a wide range of volcanic features and deposits of great geologic interest and diversity. Features on the caldera floor range in age from as old as about 200,000 years old to as young as 1,250 years old. Some of the older features include silicic domes, basaltic cinder cones and lava flows, and maar volcanoes (tuff cones).

A large portion of the caldera is covered by volcanic features and deposits resulting from six (6) eruptive periods over about the last 12,000 years. The majority of these features are silicic and include pumice cones and rings, obsidian flows and tephra deposits. Six (6) obsidian flows were formed during three (3) eruptive episodes ranging in age from the 7,200-year-old Interlake Obsidian Flow to the 1,250-year-old Big Obsidian Flow. The obsidian flows and tephra deposits are extremely important to the pre-history of Newberry National Volcanic Monument. The abundance of obsidian sources within the caldera was an important draw to the natives of the region, and the numerous dated tephras within the caldera preserved many archaeological sites and provide age control for the archaeological features within the site.

A small area outside the caldera boundary is included within the Caldera Zone and includes the Paulina Creek Falls area. This area is composed of small near-vent ash-flow deposits from the vents along the western boundary of the caldera. Paulina Creek has cut a deep narrow canyon into these deposits below the falls.

Today the scenic values and volcanic treasures (especially the obsidian flows) of Newberry Crater are a major source of attraction to tourists and scientists alike. The preservation of the
volcanic treasures of Newberry Crater was the driving force behind the establishment of Newberry National Volcanic Monument.

Sensitive Plants

The main sensitive and/or special plant habitats within the caldera include; *Botrychium pumicola* (BOPU) habitat (in many different locations), riparian habitats around the lakes, and talus areas near Paulina Peak. Most of the mapped plant areas reflect potential habitat; however, some indicate known populations.

All of these habitats represent a relatively rare habitat in the landscape. With the exception of portions of the riparian edges (where it is steep and there is little riparian transition area) the habitats all have very high value.

In general, developed recreation areas and trails (formal and informal) along the edges of the lake correspond with those plant habitats most affected by current use patterns. Conversely, habitats away from the lakes, in less frequented areas generally correspond to the habitats with the highest integrity.

Management Direction

The CMP for Newberry National Volcanic Monument states that one (1) purpose of the Caldera Zone is to provide high quality recreational and interpretive experiences. In addition to day-use opportunities, it is the overnight hub for the Monument.

(CMP, pg. 72) Manage the Caldera Zone to provide a range of high-quality recreational and interpretive opportunities, from developed to undeveloped. Provide for high-quality overnight camping at 1993 levels of overnight visitor use. Increase day-use recreational and interpretive opportunities. Increase trail systems for a variety of users, including hikers, bicyclists, horseback riders, snowmobilers and nordic skiers. Rehabilitate and/or upgrade existing trails and facilities. Redesign the entrance to the caldera, including a Portal Entrance Station to better manage flow and dispersal of visitor use in the caldera. Maintain the high scenic quality within the Caldera Zone. This Zone Is divided into five (5) recreation units, because of the diversity and complexity of settings and opportunities within the caldera (see map on following page). They are intended to display where different uses in the caldera are emphasized and directed. The five (5) recreation units inside the caldera include:

- **The Portal Unit:** functions as the main entrance to the caldera
- **The Lakeside Units:** include the developed areas around the lake edges
- **The Flow Unit:** in the main area for day-use opportunities
- **The Eagle Unit:** includes the Bald Eagle Management Areas (BEMA's)
- **The Undeveloped Unit:** provides undeveloped, dispersed opportunities

The Areas of Concern and Opportunity 27-40 (CMP 121-138) were reviewed and discussed as part of this planning effort.
Recreation Opportunity Spectrum (ROS)

The ROS classes within this zone include Rural, Roaded Natural, and Semi-Primitive, Non-Motorized (summer) and Semi-Primitive, Motorized (winter). Individual recreation developments fall into the following classifications:

**Rural**
- Newberry Portal
- Paulina Lake Lodge
- Paulina Lake Day-Use Area
- Paulina Lake Campground
- Newberry Group Campground
- Little Crater Campground
- Little Crater Day-Use Area
- East Lake Campground
- East Lake Resort

**Roaded Natural**
- Paulina Falls Day-Use Area
- Paulina Peak Day-Use Area
- Big Obsidian Flow Day-Use Area
- Hot Springs Campground
- Hot Springs Boat Ramp
- Cinder Hill Day-Use Area
- Cinder Hill Campground
- Warm Springs & North Cove (these will be phased out)
- Chief Paulina Horsecamp

**Semi-Primitive**
- Dome (Flanks Zone)

A map of the ROS classes in this zone can be found on page 44 of the CMP. Additional descriptions of these classifications are on Table 3-3, page 118 of the FEIS for Newberry National Volcanic Monument, as well as in the 1986 USDA Forest Service ROS book and accompanying ROS Users Guide.
Part Two
Desired Future Condition
DESIRED FUTURE CONDITION - LAVA BUTTE ZONE

The Lava Butte Zone provides visitors with orientation to the Monument and day-use recreational opportunities (see map on page 21a and Map Sheet 1, page 103, map pocket at end of document). Visitors can enjoy a diverse set of activities geared towards getting folks out of their cars and interacting with the natural world. There are extensive trail networks and a trail underpass beneath U.S. Highway 97 that serve to connect to Lava River Cave and other trails and provide opportunities for all users (including barrier-free, See map page 21a). Interpretation focuses on the Monument as well as local and regional geology and human history. Programming, trails, and facility design is well integrated. Facility layout and design reflect natural and psychological use patterns. Signing is minimal but appropriate to direct visitors. The signs reflect a consistent Monument theme which serves to orient and inform the visitors.

The primary entrance into this zone is via the Cottonwood interchange on U.S. Highway 97 (see map page 21b). The western route is the primary access to Lava Lands Visitor Center and also Lava Butte and Benham Falls. This route is developed in order that visitorS can "decompress" once they turn off of the main highway prior to arriving at one of the many features in this zone. The eastern route is actually the beginning of a scenic loop route (auto tour) southeast into the Transition Zone towards Lava Cast Forest. The eastern road provides access to Lava River Cave, the Monument Trail Trailhead, and the Spatter Cones area, all within the Lava Butte Zone. Both routes have been sensitively located in order to response to deer migratory routes. Other roads in this zone (that historically and presently are red) have retained their red color. In some cases blacktop roads have been converted to red. Shuttle opportunities with "on board" interpretation offer visitors an alternative to driving their own personal vehicle around the Lava Butte Zone (see maps page 21c and 21d).

KEY PLANNING ELEMENTS

Site Design

- Redesign the recreation areas in this zone to provide a sense of arrival and a sequence of experiences for the visitor.
- Improve safety within recreation areas.
- Improve the integration of facilities, roads, and trails.
- Use the appropriate amount of thematic signing to adequately interpret for and direct visitors.
- Signs in this zone should have a consistent Monument theme that ensure flexibility to be appropriate to the site.

Structures

- Provide structures that complement the landscape setting and are consistent with the Recreation Opportunity Spectrum (ROS) classifications for the area.
Interpretation

- Develop a balanced interpretive program that utilizes facilities and programs. Create this program to include Monument features and be Regional in scope.
- Develop an auto/bike tour of the Monument features.

Circulation

- Expand the trail opportunities for all users including barrier-free.
- Explore a variety of shuttle options including guided, unguided and combinations.
- Strengthen shuttle experiences. Connect Lava Lands with Lava Butte, Lava River Cave, Benham Falls, Spatter Cones, and eventually, Lava Cast Forest.
- Keep existing red roads red. Make other paved roads red where practical.
- Provide a diverse set of experiences that take visitors out of their car.
- Provide a trail underpass (beneath U.S. Highway 97) in order to connect and safely provide trail access between the recreation areas on both sides of the highway.

Accessibility

- Design individual sites consistent with the guidelines in the book: Universal Access to Outdoor Recreation: A Design Guide (USFS 1993). References for design levels and descriptions of terminology such as "primary elements" and "recreation trails" are discussed in more detail in this book.
- Design the primary elements at each recreation site according to the design level listed for the site (see individual site descriptions, levels include Easy, Moderate, and Difficult).
- Design the recreational trails that link between the sites consistent with the "radial concept" (see diagram below).
- Design accessible improvements and/or new opportunities to be consistent with the ROS standards for the area.
- Plan for retrofitting individual recreation areas to provide accessible sites according to the priorities established in the INVENTORY section to the "Forest Transition Plan for Accessibility."

**Radial Concept**

ROS level for trail development between recreation sites

- **R** (Rural)
- **RN** (Roasted Natural)
- **SP** (Semi-Primitive)

○ Recreation Area
LAVA BUTTE DAY-USE AREA

The primary purpose of this site is to provide the many visitors who stop at Lava Lands with a high quality interpretive experience within a dynamic outdoor setting. On the top of the butte there is an interpretive trail, a fire lookout, a visitor facility, and panoramic vistas. This site affords the best panoramic views adjacent to a major artery in the Monument. Here visitors can learn about Lava Butte Crater, regional geology (including Newberry Caldera and the Monument), as well as two of the dynamic elements of the surrounding landscape (fire and wind). Physically and programmatically this site functions in conjunction with Lava Lands Visitor Center.

The shuttle stop at the top of the butte greets the visitor and orients them to the area (facilities, circulation, programs, and services). The site is organized in order that the toilet facility and most viewing sites (including views into the Lava Butte Crater) and interpretive opportunities are designed to be fully accessible and are located at the parking lot level. The visitor facility on the butte is organic in form, designed to relate to the outside, and complements the surrounding landscape. The historic integrity of the fire lookout has been retained and it (as well as other features on the butte) can be experienced through personal contact with interpreters. Visitors are encouraged to explore the interpretive trail around the edge of the crater. The trail is connected to the site entrance and provides a dynamic, variable interpretive experience along the edge.

During the primary summer season, shuttle service (originating at Lava Lands) transports visitors to the top of this butte. During the shoulder seasons (when there is no snow and when shuttles are not operating) visitors are allowed to drive their cars to the top of the butte. In the winter, the road is not plowed and visitors can ski or snowshoe to the top.

KEY PLANNING ELEMENTS

Site Design

- Redesign the top of the butte in order to provide a sequence of experiences.
- Improve the sense of arrival in order to enhance visitor experience and orientation to the area.
- Design the area in a way that accommodates barrier-free experiences.
- Protect existing vegetation and plant new natives in eroded areas.

Structures

- Explore an alternative architectural type for the fire lookout.
- Retain the historic integrity of the fire lookout.
- The "new" or "renovated" main visitor facility provides a view into Lava Butte Crater, and relates more to the outside. Design it organic in form, in a way that celebrates the power of the dynamic landscape. Explore subterranean building access.
- Improve the toilet and make it accessible.
- Consider placing the visitor facility at the parking lot level if access to the top cannot be for all visitors.

Interpretation

- Interpret fire, wind, Lava Butte Crater, the regional geology (including the Monument), and the dynamic landscape.
- Increase the programmatic linkage to Lava Lands in order for visitors to experience the relationship between these places and their interpretive messages.
• Emphasize interpretation at the parking lot level in order to provide sequencing and increase barrier-free opportunities.

Circulation

• Explore a trail connection with Lava Lands in order to offer alternative access to the butte.
• Enhance visitor experience along the existing trail by decreasing its scale, defining it more clearly, and improving or changing the signage. In addition, explore the opportunities to vary the edge (drop the trail down and up) within accessibility limits.
• Make the trail apparent and connect it to the entry in order that visitors are aware of this opportunity.

Accessibility

• Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Moderate).
• Design the recreational trails that link to the site to meet Moderate and Difficult design levels for accessibility (emphasize Difficult). Access to the lookout at this site is considered a recreational trail experience.

LAVA LANDS

Lava Lands is the primary visitor center within Newberry National Volcanic Monument. It provides interpretation about the Monument (particularly those features located within the vicinity of the visitor center) as well as local and regional geology and human history. Information about other opportunities within the Monument and other interpretive centers and geologic areas in the region are also available at the center. It is open year-round and has an active winter interpretive program.

Visitors arrive at the center via an access road off of Cottonwood Road. The area around the building complex is designed in order that visitors can easily find their way to the main interpretive facility and toilets upon arrival. The building amplifies the volcanic "sense of place". The structure is a subordinate extension of earth, wind, and fire. There is not a delineation of exterior/interior space, only a celebration of the power of the setting. Facilities within the main building complex are designed to be barrier free and to provide a sequence of experiences. Inside the building visitors can participate in various forms of interpretation, including; up-to-date exhibits (with information about the Monument, regional geology, and human history), an audio-visual theater; and a classroom or laboratory space. There is a small book store/gift shop within the main facility. Outside the building is an outdoor classroom. The building complex itself relates to its setting and views outward (from inside the building and from key viewpoints in the complex) are focused on special landscape features including; nearby Lava Butte, the Cascades, and the edge of the lava.

Lava Lands functions as a staging area for many outside activities surrounding the visitor center. Numerous trails originate from the complex, and are easy to find as is the information about the different trail options. The trails are designed to be different lengths with a variety of loops meandering throughout the lava and the forest. In addition to loop experiences, trails link Lava Lands to nearby features including: Lava River Cave, a nearby kipuka, Benham Falls, Spatter Cones, and (possibly) Lava Butte.
Lava Lands also acts as a staging area for shuttle service. Originating from the center are shuttles to Lava Butte, Lava River Cave, Benham Falls, Spatter Cones, and (in the very long term) along a scenic loop route out and around Lava Cast Forest and back. The shuttle service, in conjunction with the trails, allow visitors to tailor their hiking experiences to their level of ability.

**KEY PLANNING ELEMENTS**

**Site Design**

- Design improvements that accommodate barrier-free experiences (including trails and facilities).
- Improve the sense of arrival to the building and enhance the sequencing within the site in order to improve visitor experience and facilitate orientation.
- Improve the connection between parking and Visitor Information Services.
- Design and orient outdoor (gathering) spaces to take advantage of views of Lava Butte, the Cascades, and the edge of the lava flow.

**Structures**

- Improve the support facilities (storage, etc.).
- Provide an indoor space that accommodates discovery-related activities, such as a laboratory.
- Design the main facility in a manner that accommodates summer and winter interpretive programs (consider a roof that sheds the snow).
- Design housing near the pump house for a caretaker.
- Design building improvements to take advantage of views towards Lava Butte, the Cascades, and the edge of the lava flow.
- Allow for incremental expansions and additions to the visitor center in an outdoor campus style extending to the southwest along the edge of the lava flow.
- Explore relocating the main visitor center to a more effective location that provides a buffer from the highway and relates more directly the unique features and views that characterize this area.

**Interpretation**

- Develop one or more interpretive spaces for small group gatherings.
- Provide up-to-date exhibits that interpret the Monument, regional geology, and natural history.
- Construct an audio-visual theater that can also be used for talks and community meetings.
- Link interpretive programming to the other nearby sites including; Lava Butte, Lava River Cave, Spatter Cones, and Benham Falls.
- Establish interpretive goal, objectives, and theme to drive appropriate physical and programmatic development.
- Provide state-of-the-art space for interpretive sales materials, storage, display and transactions.
Circulation

• Provide a staging area that will accommodate all the shuttles originating from the center.
• Expand the trails, provide longer and a wider range of experiences.
• Provide summer trail linkage between Lava Lands and; Lava River Cave (under the highway), Spatter Cones, Lava Butte (possibly), and Benham Falls. Locate and design the trail to Benham Falls to accommodate existing use and to mitigate any impacts.

Accessibility

• Design the primary elements of the site to meet the Easy and Moderate design levels of accessibility (emphasize Easy).
• Design the recreational trails that link to the site to meet Easy, Moderate, and Difficult design levels for accessibility (emphasize Moderate). Existing trails close-in to the main building would be considered primary elements at this site.

LAVA RIVER CAVE/MONUMENT TRAIL and TRAILHEAD

Lava River Cave provides visitors with the opportunity to explore an underground lava tube trail and learn about lava formations, caves and bats. Visitors arrive at this area anticipating a cave, yet are unaware of its location. The site is arranged in order that there is a sense of mystery as one proceeds from their car (or from the trail access) towards an orientation stop where they receive cave interpretation and lanterns. Then visitors proceed on to a dramatic view of the cave entry and descend into the cave. Storage and administrative support facilities are not visible along the main entry route and trail to the cave. In the summer, both guided and unguided interpretation are available at this site. In the winter access into the cave is by guide only. Picnicking facilities are also provided in this area.

During the summer season visitors may access this site via shuttle service or a trail (both originating at Lava Lands), or by private auto through the Cottonwood Interchange. Access into the cave is limited in the winter.

Establish the Monument Trail & Trailhead either as a part of the cave parking area or an adjacent area. This trailhead should originate on the south side of Highway 97 in order that visitors do not need to cross the highway.

KEY PLANNING ELEMENTS

Site Design

• Redesign the site to provide sequences of experiences that emphasize mystery, adventure, and discovery.
• Provide power and water in this site.

Structures

• Explore a visitor information/lantern structure that complements the character of the site and does not detract from the cave entrance.
• Explore the feasibility of permanent housing for a caretaker/concessionaire in order to improve safety on the site and resource protection.
• Remove/replace the chain-link fence.
Interpretation

- Design the site to provide guided and unguided experiences in the summer.
- Manage the cave for guided activities only in the winter.

Circulation

- Explore both connecting the Monument Trail Trailhead with the parking facilities at the cave, and providing a separate parking area for the trailhead (see also Monument Trail Trailhead section).
- Provide access to the cave from the (new) Cottonwood Interchange in order that visitors could stop at the cave as part of their trip along the scenic loop into the Transition Zone. Access via U.S. Highway 97 would be closed once this new access is established.
- Provide shuttle service to this area that originates at Lava Lands.
- Construct an underpass (under U.S. Highway 97) for trail access under the highway from Lava Lands.

Accessibility

- Design the primary elements of the cave site to meet Moderate and Difficult design levels for accessibility (emphasize Moderate).
- Design the primary elements of the Monument trail/trailhead to meet Difficult design levels for accessibility.
- Design new recreational trails that link to the site to meet a Difficult design level for accessibility. Explore opportunities to provide visitors with an additional interpretive experience of the cave (from outside the cave, but up close to the entry). Design this trail to meet a Difficult design level for accessibility.
- Maintain the existing trail into the cave as a virtually inaccessible trail.

BENHAM FALLS

This site provides opportunities for general recreation (i.e., fishing, hiking, canoeing, picnicking, etc.) as well as interpretation. This area serves as a terminus for numerous recreation areas along the Deschutes River on the Bend Ranger District. As a part of the Monument this area functions as a (somewhat distant) interpretive site staged primarily out of Lava Lands.

Visitors arrive at this site from two different directions, the trail to the north along the river and from the east along the road. Both routes provide the visitor with a pleasant and safe entry into the site. Upon arrival information is available regarding the different recreation and interpretive opportunities around the site. Visitors can learn about the railroad and logging history of this site as well as the relationship between lava flows and river ecology and how those elements have played a role in the history of the Monument.

During the summer season shuttle service is available for Monument visitors and is staged out of Lava Lands Visitor Center. In the winter the road is not plowed and (with adequate snow) visitors can ski to this area from Lava Lands.
KEY PLANNING ELEMENTS

Site Design

• Explore renaming this site (or the changing of signing) in order that it reflects its location and is not confused with the actual falls.
• Connect this area with adjacent recreation areas both physically and with information (signs, maps, etc.).
• Improve the views both within the site, from adjacent areas as one approaches the site, and from the river.
• Enhance visitor experience and orientation by improving the sense of arrival.
• Provide clear signing.
• Reconfigure the trailhead to make the existing interpretive trail entry more evident.

Structures

• Replace the toilets.

Interpretation

• Develop an interpretive connection with Lava Butte.
• Increase the awareness of the railroad history of this site. Consider rebuilding part of the railroad, orienting road in order that you drive on the railroad bed.
• Interpret the riparian ecology and geology.
• Interpret logging history.

Circulation

• Expand and improve trail opportunities. Harden trail surfaces or use boardwalks in some areas in order to protect resources.
• Recommend improving the trail across the river (on the Bend District) which links this site with the actual falls.
• Fix the existing hazard area along the road where the road narrows to one lane on a curve.
• Develop a loop(s) trail east from the developed site with views (not access) into the pond and access to the nearby kipuka.

Accessibility

• Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Easy).
• Design the recreational trails that link to the site to meet Easy, Moderate, and Difficult design levels for accessibility (emphasize Moderate).
• Take advantage of the unique opportunities to provide barrier-free interpretive trail opportunities (designed to meet the Easy design levels with only minor site adaptations) along the existing interpretive trail to the north and west of the existing parking area.

SPATTER CONES

The purpose of this site is to provide Monument visitors with an interpretive experience of interesting surface geology. Interpretive information about this site is available at this site and
at Lava Lands. At the Spatter Cones visitors can learn about geologic formations and about resource protection.

Visitors arrive at this site via one of two trails. The site is designed in order to provide a series of interpretive experiences while maximizing protection of the resources. In the summer there is shuttle access to the site trailhead on the road. Visitors can experience this site as an element along the (very long term) scenic loop road into the Transition Zone. There is trail access from Lava Lands, under the highway (in conjunction with trail access to Lava River Cave) to this area and it is linked by trails to Lava River Cave.

KEY PLANNING ELEMENTS

• This site does not currently exist.

Accessibility

• Design the primary elements of the site to meet the Difficult design levels for accessibility.
• Design the recreational trails that link to the area to meet the Difficult design levels for accessibility.
DESIRED FUTURE CONDITION - ROAD 21 CORRIDOR

The Road 21 Corridor provides visitors with general information and an interpretive experience as they travel the 12-mile section between Highway 97 and the Newberry Portal.

Although not technically within the Monument boundaries, many visitors perceive the turn off of Highway 97 onto Road 21 as the beginning of their trip into the Monument. This road corridor is designed to provide a linear sequence of experiences for frequent local visitors as well as new Monument visitors.

Information and interpretation are linked along this travel route. Visitors can enjoy a series of interpretive messages designed around the concept of "climbing up a volcano," ongoing geothermal development, and the geological context of the nearby Cascade Range. Information is provided so that visitors orient to their surroundings, are aware of the distances to different parts of the Monument, and can find out whether or not there are available camping sites open in the Monument. With the exception of Paulina Meadow and the Road 21 Overlook (up to the Caldera Zone), visitors are encouraged to stay in their cars throughout their drive along Road 21. See maps on pages 31a-d and Map Sheet 2 in the map pocket at the end of this document.

KEY PLANNING ELEMENTS

Site Design

- n/a

Structures

- n/a

Interpretation

- Provide interpretation that would "reinforce" the experience of driving up a volcano.
- Consider interpretive message about: volcanos, ecosystem management, fire, and geothermal dynamics.

Circulation

- Between the staging area and the overlook; provide interpretive information but do not pull cars over (i.e., media could be a brochure, radio station/"auto ranger," etc.).

Accessibility

- Design individual sites consistent with the guidelines in the book: Universal Access to Outdoor Recreation: A Design Guide (USFS 1993). References for design levels and descriptions of terminology such as "primary elements" and "recreation trails" are discussed in more detail in this book.
- Design the primary elements of each recreation site according to the design level listed for the site (see individual site descriptions, levels include Easy, Moderate, and Difficult).
Design the recreational trails that link between the sites consistent with the "radial concept" (see diagram on page 22).

Design accessible improvements and/or new opportunities to be consistent with the ROS standards for the area.

Plan for retrofitting individual recreation areas to provide accessible sites according to the priorities established in the INVENTORY section of the "Forest Transition Plan for Accessibility."

KIOSK - HIGHWAY 97-ROAD 21 JUNCTION

This information site no longer exists. It has been replaced by an information sign on Road 21 and the Paulina Meadow information stop.

An information sign close to the intersection of Road 21 and Highway 97 informs and directs visitors to their next stop (i.e., Monument Information two (2) miles ahead). This sign is intended to provide directional and distance information to visitors soon after they turn off the highway. A few miles up the road is the Paulina Meadow stop. This site replaces the function of the old kiosk pull-off (see the PAULINA MEADOW section).

KEY PLANNING ELEMENTS

Site Design

- Rehabilitate the area to restore to a natural condition.
- Provide visitor information and orientation (NOT interpretation) materials that focus on Road 21 and Newberry Caldera. Emphasis on information (visitor) for Road 21 and Newberry Caldera.
- Explore a new site location (see information about Interpretive Staging Area).
- In the short term this site could provide information about campgrounds, resort information, etc.; however, ultimately distributing this information will be a function of the Portal and Paulina Meadow.

Structures

- Replace kiosk eventually (one new interpretive staging area exists) with a sign on the road.

Interpretation

- None.

Circulation

- This information site will eventually be replaced by an information sign on Road 21. This sign will inform visitors the traveling distances to information and services. Additional information and interpretation will be available at the Paulina Meadow stop (see PAULINA MEADOW section).
PAULINA MEADOW

The primary purposes of this new site are to provide information to visitors traveling to the Monument and orient visitors to the beginning of an interpretive journey. This site replaces the old U.S. Highway 97/Road 21 information kiosk.

This site functions in conjunction with the Newberry Portal and with U.S. Highway 97 and Road 21 signage. Visitors pull off of Road 21 for a short duration stop. There are no restrooms. Here visitors receive capacity information about all the local campgrounds (Monument and non-Monument) and other operational factors such as woodcutting information, etc. If facilities are full, visitors have the option of turning around at this point rather than driving all the way to Newberry Portal.

The architectural theme for the Monument begins here and sets the stage for a high-quality visitor experience. The site has been located and designed to facilitate interpretation and allow for visitors to see their destination (Paulina Peak) in the distance. It is at this site that visitors begin an interpretive journey of the Monument. This journey revolves around the interpretive message of "driving up the side of a volcano" and may also include elements of "fire" and/or "water." Visitors have the opportunity of tuning into a radio station as they continue up Road 21 as a means of learning more about these interpretive features.

KEY PLANNING ELEMENTS

Site Design

- Seek out the best location for this site. Conceptually it occurs on the high ground to the west of the meadow area (where Paulina Creek crosses under the highway). This may be the most suitable location but further evaluation is warranted (if an alternative location is selected, the name of this site would change accordingly). A strong consideration to evaluate when locating this site is the potential for a view of Paulina Peak, a place to "see" your destination.
- Integrate the function of this site with U.S. Highway 97 signs and the Portal.
- This site replaces the function of the U.S. Highway 97 Information Center Kiosk.
- Explore burying the powerline across meadow.
- Provide information on "ALL" local campgrounds. Monument and non-Monument.
- This site will set architectural theme for rest of the Monument.
- This site is geared to a short-term visitor duration.
- Consider a meadow rehabilitation project in conjunction with this site. Currently land in areas adjacent have both private and Forest Service ownership.
- Provide resource information, i.e., fire, woodcutter information.

Structures

-

Interpretation

- This site sets the stage for the drive up to the Caldera.
- Messages could include; "driving up the side of a volcano," "fire," and "water."
- Consider interpreting the drive using a radio station whereby visitors tune in for Monument information.
Circulation

Accessibility

• Design the primary elements of the site to meet the Easy design level for accessibility.

OGDEN GROUP CAMPGROUND
PETER SKENE OGDEN TRAILHEAD

The primary purpose of Ogden Campground is to provide reservation group camping opportunities outside of the Monument. Visitors easily find their way to well delineated campsites. In addition to group opportunities, this campground also provides overflow areas for general use camping. These areas are typically used when all the campsites within the Monument are full and are separate from the group reservation sites. Overflow areas do not include water.

The Peter Skene Ogden (PSO) Trailhead has a strong identity of its own. It is separate from the Ogden Group Campground. This trailhead sets the stage for a high quality trail experience consistent with its status as a National Recreation Trail. The trail experience begins with a new entry sign and the old parking area has been designed to function more smoothly and include accessible experiences. In addition, archaeological interpretive messages have been incorporated onto the trail (either programmatically or physically). Vegetation near the creek and within both the campground and the trailhead appears healthy and has been rehabilitated in some areas in order to support the site design and the definition of spaces.

KEY PLANNING ELEMENTS

Site Design

• Upgrade the trailhead and create a stronger identity for the PSO trail.
• Consider that the water comes from the well at Prairie and the system is maximized. There is no room for expansion within current system, without increasing mainline, pressure tank, etc.
• Restore vegetation within and adjacent to these sites and the creek.

Structures

• Improve the entry sign
• Add a toilet near the east side of site C.

Interpretation

• Consider archaeological interpretive messages along the trail, possibly with a self-guided brochure available at the trailhead.
Circulation

- Improve definition and delineation of the group sites.

Accessibility

- Design the primary elements of the group camp to meet the Easy and Moderate design levels for accessibility (emphasize Moderate).
- Design the primary elements of the trailhead to meet the Moderate and Difficult design levels for accessibility (emphasize Difficult).
- Design the Peter Skene Ogden Trail meet the Difficult design levels for accessibility.

PRAIRIE CAMPGROUND

The primary purpose of this site is to provide "Roaded Natural" overnight camping opportunities outside of the Monument. Campsites within this area are spaced farther apart from each other and are separated with vegetative screening. All sites provide a high-quality forested campsite setting. A portion of this campground has been expanded and is designed to accommodate overflow campers from the Monument.

KEY PLANNING ELEMENTS

Site Design

- Consider expansion of this campground if additional overnight space becomes necessary.
- Maintain the "Roaded Natural" character of this area.
- Design more "elbow room" per campsite versus the majority of the campsites in the Caldera.
- Operate Prairie, in part, as an overflow Monument campground area.

Structures

-

Interpretation

-

Circulation

-

Accessibility

- Design the primary elements of the site to meet the Moderate and Difficult design levels for accessibility (emphasize Moderate).
MCKAY CAMPGROUND

This campground continues to provide camping in a "remote" setting, away from the more busy Caldera area. It serves a different visitor than the traditional Monument enthusiast. Camping in the riparian zone has been moved back to minimize impacts along Paulina Creek. Sites have been defined to "delimit" acceptable concentrated use. The campground is well signed and minimizes circulation conflict for both Peter Skene Ogden trail and campground users. Site furnishings have been upgraded to fit the ROS and meet SST and accessibility levels.

KEY PLANNING ELEMENTS

Site Design

- Define campsites versus dispersed camping.
- Relocate campsites away from the riparian edge.
- This campground does not serve as an overflow to the Monument.
- Explore riparian zone rehabilitation where appropriate.

Structures

- Toilets and individual site furnishings are replaced.

Interpretation

- History of the adjacent railroad grade (which Peter Skene Ogden Trail follows) is interpreted.

Circulation

- Trail user ingress and egress from the campground minimizes conflicts with campers.
- Continue monitoring the bridge across Paulina Creek for structural soundness.

Accessibility

- Design the primary elements of the site to meet the Difficult design level for accessibility.
- Design the recreational trails that link to the site to meet Moderate and Difficult design levels for accessibility (emphasize Difficult).
6-MILE SNOPARK

The purpose of this site is to function as part of the snopark system during high snow winters. It has no summer function. This site is maintained at minimum standards.

KEY PLANNING ELEMENTS

- Keep this site in the system unless it is identified as excess to the overall needs for winter parking.
- Encourage overnight camping here when adequate snow permits snowmobile trail riding from the lot.
- Consider adding a vault toilet.

10-MILE SNOPARK

The purpose of this site in the winter is to function as a major component of the snopark system. It is closely linked with 12-Mile Snopark. This site provides access to orange-diamond and blue-diamond winter trails and has a large warming shelter. Trail linkage and signing is well defined and visitors easily orient and find their way to their destination or desired travel route.

Visitors are encouraged to use 10-Mile Snopark for orange diamond trail access during the primary winter season (assuming adequate snow). During this season, 10-mile is the primary staging area for snowmobile access into the Monument and vicinity (nordic access is staged out of 12-Mile Snopark). The site is designed primarily to accommodate larger vehicles with trailers. Single cars are encouraged to “double up.”

In the summer this site functions as a staging area for mountain bike and other group recreation activities. The site can also be used for overflow RV camping and/or for RV groups visiting the Monument. In the event of a wildfire emergency, this site functions as a staging area for firefighters.

KEY PLANNING ELEMENTS

Site Design

- Design and operate area to function in conjunction with 12-Mile SnoPark. Emphasize nordic at 12-mile, when snow is equally good at the two areas. Coordinate this operational strategy with visitor education approach.
- Consider redesigning the site for segregated use patterns -- nordic versus snowmobile/ATV’s, if the educational approach does not work.
- Explore better utilizing this area in the summer (i.e., RV group camp, ATV trailhead, shelter used as meeting room, etc.). This area currently functions as a fire management staging area in the event of a large wildfire in the vicinity.

Structures

- Enlarge the winter shelter.
- Replace toilet.

Interpretation

—
Circulation

- Improve the trailhead signing, access and trail linkage.
- Educate car/resort users to "double-up" in some areas and sign area as such.
- Consider expansion opportunities such as plowing Road 21 for small car/nordic parking.

Accessibility

- Provide accessible toilets and trail access at this site in the winter.

ROAD 21 OVERLOOK

The purpose of this site is to provide visitors with a short-stop interpretive viewing opportunity. This is the only point along Road 21 between Paulina Meadow and Newberry Portal where visitors are encouraged to stop and get out of their car. This site provides a brief interpretive view that is tied to their "journey" up into the Monument.

Visitors arrive at this site, park their car, and walk a short distance to an interpretive viewing point. What they see from this point is tied to the interpretive sequence along the road. They are encouraged to stay for a short period of time, no restroom facilities are provided. This site is primarily geared towards visitors traveling up the road.

KEY PLANNING ELEMENTS

Site Design

- This site should function as a short-duration site, no restrooms.

Structures

-

Interpretation

- Add a feature that invites visitors to get out of their car, i.e., interpretive signing; short trail; mountain finder; etc.
- Tie the interpretive message with the Road 21 interpretive theme (this could potentially include; fire as part of healthy ecosystem; Cascade Mountain view, Cascade Range versus Newberry, elevation gained while driving up the volcano, geothermal development/plate tectonics).

Circulation

-

Accessibility

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Easy).
- Assuming the trail is the selected interpretive feature to pursue at this site, develop it as a primary element of the site.
Page missing
DESIRED FUTURE CONDITION - CALDERA ZONE

The Caldera Zone provides visitors with day-use and overnight opportunities (see Map Sheet 3, page 105, in the map pocket at the end of the document). Visitors can enjoy a diverse set of recreational activities ranging from hiking, fishing, boating, camping, skiing and snowmobiling to exploring interpretive sites and trails or taking a shuttle to the top of Paulina Peak.

There is an extensive trail network throughout the Caldera providing hiker-only experiences as well as trails for bikes and horses. In the winter there are nordic and snowmobile trails in the Caldera. Barrier-free trail experiences originate out of each developed site and provide a range of challenge levels (see map, page 40b, 40c and 40e).

There are four main trailheads within the Caldera (see map, page 40a). Paulina Trailhead and Little Crater Trailhead both are primarily interpretive day-hiking trailheads. The Peak Trailhead provides shuttle and trail access to Paulina Peak and the Crater Rim Trail. Cinder Hill Trailhead contributes to a day-use area at East Lake and provides recreational trail access to the Rim Trail. An "Intercrater Trail" links all developed facilities in the Caldera. It provides easy trail travel routes within the Caldera so that visitors do not have to drive their cars to all their destinations. It is non-motorized and is designed for hikers and bikes (slow speed). Trail linkages and types are shown on map on page 40b.

Interpretation within the Caldera focuses on the many unique geologic, historic, ecologic, and archaeological features. There is opportunity for self-discovery interpretation and for highly structured interpretation in both facilities and services. There are two story circles (one at Paulina and one at Cinder Hill Day-Use Areas) and one amphitheater (at the Big Obsidian Flow) that facilitate day and evening interpretive programming. Both story circles convert into amphitheaters in the evenings and are linked with the nearby campgrounds. Programming, trails, and facility design is well integrated. Signing is minimal but appropriate to direct visitors. Signs reflect a consistent Monument theme which serves to orient and inform the visitors.

The primary entrance into this zone is via a 13 mile trip up Road 21 from U.S. Highway 97. Road 21 from East Lake Resort eastwards out of the Caldera is not paved, nor improved, it functions primarily as an administrative route and emergency exit from the Caldera. Visitors are not encouraged to drive this route.

Concessionaire operated shuttle opportunities offer visitors an alternative to driving their own personal vehicle around the Caldera (see map, page 40c). This minimizes the amount of cars circulating around the Caldera at any one time. The main staging area is at Newberry Portal with primary routes to Paulina Falls, Paulina Lake Day-Use Area, Paulina Peak, Peak Trailhead, Big Obsidian Flow, and Little Crater Day-Use Area. A less frequent route provides shuttle access to East Lake Resort. Shuttle operators offer quality interpretation en route.

Winter visitors enjoy a variety of snowmobile and nordic trails in the Caldera. A majority of the snowmobile access into this area originates at 10-Mile Snopark (described under the ROAD 21 CORRIDOR section of this plan). The 12-Mile Snopark (called "Newberry Portal" in the summer) at the western edge of this zone facilitates a majority of the nordic skiing access.
KEY PLANNING ELEMENTS

Site Design

• Develop vegetation management plans for all of the developed sites within the Caldera.
• Improve accessibility within the Caldera and provide a range of challenge levels. Define an accessible trail sequence.
• Redesign developed sites to provide a sequence of experiences, improve circulation and enhance the recreation experience.

Structures

• Consider moorage at one day-use area within the Caldera.
• Develop three amphitheaters (or story circles that can be converted into amphitheaters) within the Caldera. Locate them at Paulina Lake Day-Use area (story circle), Big Obsidian Flow Day-Use area, and Cinder Hill Day-Use area (story circle). They provide the framework for day-talks (on a variety of topics), are used for campfire programs in the evening for the adjacent campgrounds. They are also used for winter interpretive programs.

Interpretation

• Improve the winter interpretive opportunities and programs.
• Develop an interpretive program that balances non-personal and personal services -- also locate interpretive signs in a limited number of selective locations other than designated interpretive sites.

Circulation

• Define four main summer trailheads within the Caldera. Locate one near the Paulina Lake Day-Use area (PAULINA TRAILHEAD - primary use interpretive day hiking), one off of the road to the peak (PEAK TRAILHEAD - primary use trail or shuttle access to Paulina Peak), one at the north end of Little Crater Campground (LITTLE CRATER TRAILHEAD - primary use interpretive day hiking), and one near the day-use area at the south end of Cinder Hill Campground (CINDER HILL TRAILHEAD - primary use general hiking, and access to Rim Trail).
• Develop a shuttle system with designated shuttle stops.

Accessibility

• Design individual sites consistent with the guidelines in the book: *Universal Access to Outdoor Recreation: A Design Guide* (USFS 1993). References for design levels and descriptions of terminology such as "primary elements" and "recreation trails" are discussed in more detail in this book.
• Design the primary elements at each recreation site according to the design level listed for the site (see individual site descriptions, levels include Easy, Moderate, and Difficult).
• Design the recreational trails that link between the sites consistent with the "radial concept" (see diagram page 22).
• Design accessible improvements and/or new opportunities to be consistent with the ROS standards for the area.
• Plan for retrofitting individual recreation areas to provide accessible sites according to the priorities established in the INVENTORY section of the "Forest Transition Plan for Accessibility."
NOTE: All boating facilities within this zone are based on floating dock systems. By nature of seasonal water fluctuations it is not likely to be possible (with one exception) to be able to provide an accessibility level greater than Difficult. The East Lake Campground provides the greatest opportunity to provide boating facilities at a Moderate level of accessibility. As feasible, within site constraints, higher levels of accessibility are desired. For these reasons, under the individual site descriptions, boating facilities have not been considered as a primary element.

NEWBERRY PORTAL / 12-MILE SNOPARK

The primary purpose of the Portal is to orient visitors to the Monument, provide parking and basic information about the area. Visitors pay fees for campground sites here and are informed about campground capacity and regulations that apply within the Monument. Day-use permits are distributed at this site and in the summer this area functions as a shuttle staging area. In the winter this area becomes the 12-Mile Snopark.

Visitors arrive at the Portal about 20 minutes after they first turn off of U.S. Highway 97. It is at this point that they are informed they are about to enter the "Caldera," and in fact the "Monument." The parking facilities at this site have been sensitively sited off of, and not visible from, the road. In the summer visitors stop at this point and obtain applicable permits and/or pay fees for camping. Those familiar with the area quickly continue on to their destination. For visitors unfamiliar with the area, information regarding recreational and interpretive opportunities in the Monument are available in this location. Newcomers have a chance to spend a couple of minutes looking at maps and brochures in order to select their next destination. All visitors have the opportunity to leave their car behind at this point and hop on a shuttle. Shuttles service the main day-use areas (including Paulina Falls, Paulina Peak, and the Big Obsidian Flow) as well as Paulina Campground, Little Crater Campground, and both resorts.

During the peak season in the winter (when there is lots of snow) this area functions as the primary nordic ski staging area for the Monument and 10-Mile Snopark is primarily used for snowmobiles. This area functions as a multiple-use facility with both nordic and snowmobilers staging out of this area. The parking areas are designed to support easy access to the appropriate trails (orange or blue) in a manner which minimizes the potential for user conflict.

KEY PLANNING ELEMENTS

Site Design

- Consider a staging and parking area for shuttle service into the Caldera, including service to Paulina Peak.
- Design this site so that it functions as a winter snopark (12-Mile Snopark). Consider a size similar to 10-Mile Snopark, which has 75 spaces for cars with trailers.
- Consider locating the portal where there are views of either Paulina Peak and/or both the peak and the plume (then tie to interpretation).
- Integrate the function of this area with Paulina Guard Station.
- Design this area as a short stop; however, due to the shuttle staging area and winter use there will be toilet facilities (they will not be in the Portal facility).
Design this project to be phased.

Structures

- Design the facilities on site to serve the following functions; orient visitors to the Monument and provide basic information about the area, collect fees for campgrounds (operation and reservation system), provide campground capacity information, and inform visitors about regulations in the area and resource protection information.
- Design comfortable and convenient waiting area with seating and information signs for the shuttle.
- Stop all cars at the portal (at minimal, just to receive a day-use permit).
- Provide visitors with information about the Monument opportunities and direct them to their next stop. Provide maps and guides of the area.
- Staff this facility (at peak times) and supply power and phone service.
- Design the facility to serve both the summer and winter needs.
- Design the site to accommodate a winter shelter, even if it is not constructed now.
- Develop a well and provide flush toilets for use by visitors and Portal staff.

Interpretation

- Provide a message about entering "Newberry Caldera" and the Monument.
- Consider a brochure information packet, and/or discovery guide.

Circulation

- Design the winter sno-park to serve large and small vehicles.
- Design this area to minimize pedestrian/auto conflicts
- Develop winter nordic trails that link this area with the Caldera trails, and the trails to the east.
- Link snowmobile trails to this area.
- Design trails to minimize nordic and snowmobile user conflicts.

Accessibility

- Design the primary elements of the site to meet an Easy design level for accessibility.
- Provide accessible toilets and trail access at this site in the winter.

**PAULINA FALLS DAY-USE AREA**

The primary purpose of this site is to provide visitors to the Caldera with a high-quality interpretive experience of Paulina Falls. Often times this site will be the first developed recreation site that visitors experience within the Monument. Views of the falls (both from above as well as below at the creek) have been sensitively linked with interpretive messages and a sequencing of events. Visitors are able to learn about the relationship between water, geology, and riparian life.

Visitors arrive at this interpretive site via a couple of different routes. Paulina Falls is linked to a series of interpretive trails that originate out of the Paulina Trailhead. Second, a multiple-use trail passes close to, and links up with, this area. Visitors on this trail are generally en route between the Peter Skene Ogden Trail, the Caldera Rim Trail, and the Peak Trailhead. Road 21 is the third access route, linking visitors requiring or desiring easy car access to a small parking lot at Paulina Falls. Lastly, the shuttle system stops here.
Built structures within the site reflect the character of the surrounding forest in materials, color, textures and forms. Overhead powerlines are not visible, nor are the corridors where old access routes and powerlines used to extend. Visitors easily find their way through the site and are aware of the different site features, including interpretive elements, picnic areas, and restrooms. There are many barrier-free opportunities at this site.

In the winter some trails pass through or near this area. These trail corridors have been designed to complement the summer circulation patterns. Winter trail opportunities have been linked with interpretive programs.

KEY PLANNING ELEMENTS

Site Design

- Redesign the entire site to function primarily as an interpretive site, picnicking at the site would be a secondary focus (if there is room for this use). If included, the existing picnic area would need to be redesigned (and/or relocated) so that it works (perhaps move it closer to parking facilities).
- Improve accessibility throughout the site, with attention to viewing the falls.
- Improve signing throughout the site.
- Improve the site aesthetics by; burying the powerline, removing the chain link fence (replace with a fence constructed out of materials that are consistent with the surrounding forest character, or redesign circulation to improve safety), and revegetating bare areas (including the powerline corridor).

Structures

- Cantilevered viewing platform, walls, sitting area, hand rails etc.
- New vault toilet(s).

Interpretation

- The primary function of this site is interpretation.
- Provide interpretation along the trail to the bottom of the fall
- Explore a viewing platform at the bottom of the trail and expanding the trail opportunities.
- Consider hardening portions of the trail system, where appropriate.

Circulation

- Keep the parking lot small, this site is not a trailhead.
- Improve the parking lot striping.
- Plan for a shuttle stop (originating at the Portal) at this site.
- any visitors arrive at this site along a trail originating from the trailhead in the Paulina Complex.
Accessibility

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Easy). The trail to the Falls overlook is considered a primary element of this site.
- Design the recreational trails that link to the site to meet Easy and Moderate design levels for accessibility (emphasize Moderate).
- Maintain the existing trail down to the creek at its current Difficult or Inaccessible level.

PAULINA LAKE DAY-USE, TRAILHEAD & INTERPRETIVE AREA

The purpose of this area is to provide visitors with a range of day-use opportunities. Interpretation relating to the riparian area, prehistoric archaeological ruins, and the Paulina Guard Station are concentrated in this area. Picnicking and boating facilities are located near the waters edge and there is parking for the many trails that originate or pass through this area.

As visitors enter Newberry Caldera their first view is of Paulina Lake surrounded by native vegetation in the foreground with the forested north rim in the distance. Just past this view is a turn-off, inviting visitors to get out of their car and explore. Interpretive trails offer options for visiting nearby historic and prehistoric features and a boardwalk trail provides a platformed tour of the riparian area and links to Paulina Resort. Some visitors continue on down to the waters edge where they are able to launch their boat or have a picnic. Others decide to get right on the trail and head for the rim or explore the lake trail.

The circulation within the site is organized so that this area functions independent from the nearby campground. Still the proximity and trail linkage between the areas allows the campers to convert a story circle within the site into an evening amphitheater for interpretive programs. During the day this story circle accommodates formal and informal group gathering and outdoor education programs.

KEY PLANNING ELEMENTS

Site Design

- Remove the existing day-use area from the western edge of Paulina Lake. Rehabilitate the existing site and restore it to a riparian and wooded lake edge (this area becomes a key entry view of the Monument for visitors).
- Create a first impression for visitors. Enhance the view across the riparian area (currently where the day-use area is). For visitors (arriving in cars or on a shuttle) it is their first glimpse of the lakes and the *Monument.* This area contributes to the *sense of arrival* along Road 21. Remove toilet.
- Design and create a new day-use area to the east, where the existing day-use area is located. It should be out of the *first impression* viewshed from the road and include a picnic area.
- Provide a staging area for interpretive opportunities, separate from the boating and picnicking day-use activities.
- Possibly expand the parking facilities for day-use visitors in this area. Add more picnicking opportunities.
- Create separate access routes to the day-use area and the campground.
Structures

- Remove the existing silted in boat ramp in the existing day-use area (two boat ramps will be consolidated into one). Restore the riparian vegetation in this area.
- Look for the best location for a single boat ramp. Either improve the function of the existing boat ramp (currently in the campground) or relocate. This boat ramp will also be used by the campground visitors.
- Consider moorage (if not here then at another campground on one of the lakes).
- Relocate the existing toilet.

Interpretation

- Due to its complexity, the Paulina Guard Station is discussed separately (see PAULINA GUARD STATION section). It does however function as an integral part of the Paulina Complex.
- Create an interpretive boardwalk trail through the "restored" riparian area. Design the trail(s) to be low profile and subordinate to the landscape character. This trail could become a link of the Paulina Lake Trail.
- Interpret riparian ecology (wildlife, fish, and plants), archaeology, and the Paulina Guard Station in this area. Create trail opportunities to and through these areas.
- Create a "story circle" in the new day-use area as a place for groups to gather. Design it in such a way that it can be converted to function as an amphitheater for users and Paulina Lodge visitors.

Circulation

- Create a trailhead (Paulina Trailhead) in this area, consolidate parking needs with adjacent areas where appropriate or feasible. Link this trailhead to the Paulina Lake Trail, new interpretive trails, trails to the east, to Paulina Falls and to the PSO Trail (via the Paulina Lake Trail).
- Define Paulina Lake Trail through area and link it to Paulina Trailhead.
- Define all the trail flows through this area and link them to the new trailhead (Paulina Trailhead).

Accessibility

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Easy).
- Design the recreational trails that link to this trailhead to meet Easy and Moderate design levels for accessibility (emphasize Easy).

PAULINA GUARD STATION

The primary purposes of the Guard Station are to protect the historic integrity of the building and landscape setting and to provide visitors with the opportunity to visit and learn about this piece of history.

In the summer this historic site functions in conjunction with the nearby interpretive staging area at the riparian area. Visitors see and explore the station and the historic setting that provides the context for the structure(s). Upon arrival there is adequate parking; however, it is designed in such a way and located so as not to detract from the historic landscape setting for the Guard Station. Within the station itself, visitors have the opportunity to obtain interpretive information.
and/or purchase books, maps, and pamphlets, appropriate to this and other interpretive experiences within the Caldera. The area around the Guard Station appears simple and uncluttered. There are no administrative functions or uses in the areas surrounding the Guard Station, they have all been consolidated at or near the "boneyard." Winter interpretive opportunities are also tied to this historic feature.

KEY PLANNING ELEMENTS

Site Design

- Explore relocating the Guard Station across Road 21 in order to improve the traffic flow and function within this concentrated-use area.
- Consider opportunities to restore (inside and outside) the station as a functioning Ranger Station of its "era."
- Provide adequate parking; however, consider that parking too near the building could impact the historic building setting. Consider a number of different locations, including across the road.
- Simplify the site and clean it up.
- Consider alternate locations and functions (summer and winter) for the bunkhouse.
- Remove administrative functions (including the gas house) from the entire area, move these uses to the boneyard.

Structures

- Maintain or restore the historic integrity of the buildings and the landscape.
- Preserve the historical value of the Guard Station (part of which is its location and setting), it is the best example of the 4 or 5 similar historic buildings in the region. The building could potentially be moved across the road and still retain its historic value.
- Increase O&M in order to deal with the existing odor problem within the building.
- Remove the administrative functions of the Guard Station.
- Distribute maps, sell books, and provide other information about features in the Caldera within the Guard Station.
- Explore removal and/or relocation of the crew house, it is an eligible structure.

Interpretation

- Interpret the Guard Station and its value as a historical structure. Tie its interpretation with the other features in this area; riparian ecology, archaeology.
- Provide winter interpretation opportunities (either inside or outside).

Circulation

- Consider potential safety concerns related to the station's current location and people crossing Road 21.
- Stress pedestrian access along this stretch of Road 21. Deliberately slow traffic through this area.
• Locate parking either to the north or the south of the Guard Station. Maintain service entrance to the station.
• Relocate and minimize trails through the area.

Accessibility

• Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Easy).
• Design the recreational trails that link to this trailhead to meet Easy and Moderate design levels for accessibility (emphasize Easy).

PAULINA LAKE CAMPGROUND

This area is one of two (2) general-use campgrounds on Paulina Lake. The purpose of this campground is to provide visitors with a high-quality camping experience in a setting close to but not directly on the water.

Visitors arrive and easily find their way to their individual sites. These may include non-specific campsites or be tent-only, RV, and walk-in areas. Because the campground is so popular the area has been designed to run at full occupancy all of the time. Individual sites are spaced far enough apart so that even when full there is still a sense of privacy and adequate vegetative screening between the sites. There is no generator noise within the campground; however, there are some modern conveniences, such as water, power, and gray water disposal. The vegetation within the site appears healthy and untrampled, there are no stumps. The site facilities and detailing appear consistent and complement the surrounding forested landscape. The campground has trails that link to the adjacent day-use area, the lake trail (Intercrater Trail), and other loop trails in the vicinity.

KEY PLANNING ELEMENTS

Site Design

• Relocate the existing campground to the east (of the existing area), away from the lakeside. Expand the campground to the south to make up for lost capacity as necessary. Rehabilitate, decompact the soil, and revegetate the existing site (part of it may become a portion of the new day-use area).
• Provide for gray water disposal and a functional dump station.
• Renovate the water system.
• Provide power to the site in order to eliminate generator noise.
• Develop a vegetation management plan for the campground area.
• Design and locate the new campground are in a manner that protects the viewsheds for visitors looking towards the campgrounds from the lake, roads, and trails, and for the campers' views of the lake.
• Consider opportunities for walk-in campsites.
• Design the area to run at high occupancy (therefore net Persons At One Time (PAOT's) are likely to decrease from existing unless the net area of the campground is increased). Design the facility to accommodate about the same number of people as present.
• Provide adequate space and screening between sites so that the sites are comfortable even when the campground is full.
• Consider hardening some or all sites and design the sites to accommodate modern vehicles.
• Improve the site detailing (barrier posts, signs, etc.).
• Establish buffer zones between the day-use area and the campground.
• Design to minimize the need for barrier posts, signs, etc.

Structures
• Design the area consistent with ROS Rural classification; however, keep the structures "rustic" (i.e., materials are not as refined as in a Rural classification, yet they are designed to accommodate a high level of use) (per CMP p.44, FEIS p. 118).

Interpretation
• Provide evening programs in the nearby day-use area.

Circulation
• Provide a separate access from the day-use area. Consider how these two sites relate to each other and the movement of people (in cars and on trails) between them (for example, some campers will be using the boat ramp in the day-use area).
• Clearly delineate and sign the trail access and linkage with adjacent areas.
• Improve the traffic and trail flow within site.
• Link the site to the Intercrater Trail.

Accessibility
• Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Easy and base these on redesign opportunities).
• Design the recreational trails that link to this trailhead to meet Easy and Moderate design levels for accessibility (emphasize Easy).

PAULINA LAKE LODGE

The primary purpose of this site is to provide overnight resort opportunities for visitors to the Monument. Amenities include boat rentals, gas, store and a restaurant.

The architectural style of the resort and the signing appears consistent with the Monument. All improvements and changes have been and continue to be coordinated with the overall Master Plan for the site. Traffic flow throughout the site moves smoothly and visitors easily orient and find their way through the uncluttered resort. The portion of the lake trail that passes along the edge of the water is clearly defined and recognizable to the visitor. It is linked to the other sections of the lake trail. When viewed from across the riparian area (at the Paulina Lake Day-Use and Interpretive Area) the resort appears simple, clean and there is no parking area on the waters' edge. Parking areas are vegetatively screened.
KEY PLANNING ELEMENTS

Site Design
- Relocate or screen marina parking.
- Simplify the site, remove clutter, and relocate the storage pile in vicinity of bait shop.
- Sign the area consistent with the Monument.
- Develop a Master Plan for the resort, including a vegetative rehabilitation and planting plan.

Structures
- Improve the O&M schedule (boat ramps, docks).
- Resolve the conflicting architectural style.

Interpretation
- Provide information to guests about interpretive opportunities, and seek jointly funded interpretive programs for guests with the resort operators.

Circulation
- Define and delineate trails that flow through the area.
- Improve the people and vehicular flow through the area.

Accessibility
- The resort master plan should include an access strategy that ties in with and compliments the surrounding trails and experience levels.

PAULINA PEAK & PEAK TRAILHEAD

The primary purpose of the Paulina Peak site is to provide visitors with panoramic views of Newberry Caldera and the surrounding landscape. Many of the viewing opportunities are tied directly to interpretive activities.

Visitors arrive at the top of the peak via car, trail, or shuttle. Trail routes are clearly defined, safe, and are organized around a small staging area. In addition to some short viewing trail loops meandering around the top of the peak, the Caldera Rim Trail connects up to and passes through this area. A small viewing shelter emerges out of the landscape a short distance from the main staging area on top of the peak. This shelter, constructed out of native stone, blends into the rocky peak surface and provides visitors an opportunity to get in out of the wind and enjoy the spectacular views.

The Peak Trailhead is located off the road to the peak approximately one (1) mile south of Paulina Lake. Visitors can drive their cars to this point in order to get on a trail or take a shuttle to the top. This point is on a shuttle route originating at Newberry Portal. In addition, multiple-use trails pass through this point as they cross from east to west between the Caldera and Flanks Zones.
KEY PLANNING ELEMENTS

Site Design

- Develop and define trails on the top of the peak and define trail linkage to off-site trail routes.
- Consider hard surface on the heavily-used interpretive viewing area, shuttle staging area and toilet area, and restore native plantings to eroded areas.

Structures

- Consider the use of a railing or redesign the edge (or trail) in order to improve safety and to control and direct use.
- Explore the idea of a "rock house" viewing structure at the top in order that visitors can get out of the wind and enjoy the views. Design to be fully accessible.

Interpretation

- Develop interpretive signing for viewing areas.
- Provide on-site interpreters during the peak season and peak times of use.
- Explore having shuttle drivers interpret along the route.
- Interpret the weather, vistas, and geology of area.

Circulation

- Create a shuttle tour to this viewing area.
- Allow cars to continue driving to the top.
- Explore relocating the Rim Trail to include the Peak.
- Reconstruct the road, add gravel and improve the drainage to the point that there is no more surface erosion.
- Maintain the road as a single road with turnouts and a "rough" character.
- Create a trailhead along the road to the peak in order to provide closer trail access and a shuttle link to the top of the peak. The multiple-use trails in the area are directed through this trailhead.

Accessibility

- Design the primary elements on top of Paulina Peak to meet the Easy and Moderate design levels for accessibility (emphasize Moderate).
- Design the recreational trails that link to the top of Paulina Peak to meet the Moderate and Difficult design levels for accessibility.
- Design the primary elements at the Peak Trailhead to meet an Easy design level for accessibility (as they relate to visitors arriving by car to take a shuttle to the top of the peak); and to Difficult design levels for accessibility (as they relate to visitors arriving by trail to take a trail to another destination).
- Design the recreation trails that link through the Peak Trailhead to meet the Difficult design level for accessibility.

NEWBERRY GROUP CAMPGROUND

In the summer the primary purposes of this site are to provide visitors with reservation group camping and day-use opportunities and to provide interpretation of the historic cabins on the
site. Interpretation is appropriate both in the summer and in the winter; however, in the winter the other main purpose converts to providing a warming shelter area or meeting room.

Groups using this campground in the summer enjoy spacious, accessible facilities that among other things include power, water, and access to a community kitchen. The historic cabins within the site have been stabilized and provide passive interpretive experiences. Visitors using the lake trail often take a short side spur up the slope to see these cabins. In addition, people occasionally drive down into this site just to see the cabins. General day-users are welcome but are encouraged to stay for just a short stop in order that they do not interfere with the group activities within the campground.

KEY PLANNING ELEMENTS

Site Design

- Improve accessibility within the site.
- Do not add more summer activities to area.
- Expand power and water to the site.

Structures

- Add a community kitchen/ winter group shelter.
- Explore the potential for a boat ramp day-use area east of the group site (not in the group site). This ramp could serve the long-term day-use needs in the Caldera.
- Pursue changing the obligation with the Advisory Council to allow us to "stabilize" the IOOF cabins and retain them on site for ambiance only (including passive interpretation). (Other uses that were considered were; winter shelters, removal, host cabins, overnight accommodations, and a range of interpretation).

Interpretation

- Provide passive interpretation of the cabins.

Circulation

Accessibility

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Moderate).
- Design the recreational trails that link to this trailhead to meet a Moderate design level for accessibility.
SUMMER HOMES

A tract of summer homes continue to exist near the southern edge of Paulina Lake. They appear well maintained and are predominately screened from views from the lake. The lake trail that connects through this area is well defined and recognizable to Monument visitors.

KEY PLANNING ELEMENTS

- Increase the maintenance levels in order to improve the appearance of the homes.
- Continue the regular Forest Service review.

CHIEF PAULINA HORSECAMP & TRAILHEAD

The primary purpose of this site is to provide an overnight campground and trailhead opportunities for visitors with horses.

Visitors enjoy campground facilities that include corrals and troughs designed to accommodate horses. Trail access between this campground and adjacent features is well defined and staged out of the trailhead at one end of the campground. The major east/west multiple-use trail wraps around this campground. There is pedestrian (no horses) trail access that connects this campground across Road 21 with the Intercrater Trail.

KEY PLANNING ELEMENTS

- In Chief Paulina Campground, relocate the existing trail access around (instead of through) the campground
- Create a trailhead for horse use at one end of the site (Chief Trailhead).
- Consider adding water to the site.

Accessibility

- Design the primary elements of the site to meet a Moderate design level for accessibility.
- Design the recreational trails that link to this trailhead to meet a Difficult design level for accessibility.

PAULINA VIEW OVERFLOW CAMPGROUND

The primary purpose of this campground is to provide overflow general-use camping away from, but in the vicinity of, Paulina Lake. This campground shares part of an access road with the horse camp. The campsites have good visual screening between them and many have views of Paulina Peak.

KEY PLANNING ELEMENTS

- Designate and develop a campground to the east of Chief Paulina Campground to be used as an overflow area for general-use camping (not a horse campground).
- Explore the option for a well at this site, which could also serve the horse camp.
Accessibility

- Design the primary elements of the site to meet a Moderate design level for accessibility.
- Design any recreational trails that link to this site to meet a Moderate design level for accessibility.

LITTLE CRATER DAY-USE AREA & TRAILHEAD

This area includes the Little Crater Trailhead, one of the two main day-use trailheads on Paulina Lake (the other is Paulina Trailhead). The primary purposes of the day-use area are to provide boat ramp access to Paulina Lake, as well as interpretive trail access to the north eastern portion of the Paulina Lake Trail and to the Little Crater trails.

Interpretation relating to the riparian edge of the lake, the hot springs, unusual geological formations, and wildlife are concentrated in this area. Interpretive trails offer options for visiting nearby hot springs, or hiking up the Little Crater and connecting to the Big Obsidian Flow to the south. The Paulina Lake Trail links through this trailhead after it meanders along the lake edge through the Little Crater Campground. Picnicking and boating facilities are located near the waters edge and there is parking for the many trails that originate or pass through this area.

Visitors arrive at this area via a road that passes adjacent to Little Crater Campground. The circulation within the site is organized so that this area functions independent from the nearby campground.

KEY PLANNING ELEMENTS

Site Design

- Move the existing day-use and trailhead area to the north end of the campground (expand the existing informal trailhead) or move up onto the bench where there is more room. Convert the existing day-use area into overnight camping in conjunction with a road realignment project.
- Consolidate the two existing day-use areas into one area with a trailhead.
- Add signing to support the trailhead and trails.

Structures

- Consider eliminating the existing boat ramp at the existing day-use area to the south of the campground.

Interpretation

- Provide self-discovery brochures in dispensers on signs at the trailhead.

Circulation

- Relocate the road to the toe of the slope so that it no longer bisects either the day-use area or the campground.
- Reroute (relocate) the Lake Trail so that it is not on the road.
- Link the Lake Trail with the Little Crater Trail in order to provide an alternative route that avoids the developed site.
Accessibility

- Design the primary elements of the site to a Moderate design level for accessibility.
- Design the recreational trails that link to this trailhead to meet Moderate and Difficult design levels for accessibility (emphasize Difficult).

LITTLE CRATER CAMPGROUND

This area is one of two general-use campgrounds on Paulina Lake. The purpose of this campground is to provide visitors with a high-quality camping experience in a setting close to the water.

Visitors arrive and easily find their way to their individual sites. These may include non-specific campsites or be tent-only, RV, and walk-in areas. Because the campground is so popular the area has been designed to run at full occupancy all of the time. Individual sites are spaced far enough apart so that even when full there is still a sense of privacy and adequate vegetative screening between the sites. There is no generator noise within the campground; however, there are some modern conveniences, such as water, power, and gray water disposal. The vegetation within the site appears healthy and untrampled, there are no stumps. The site facilities and detailing appear consistent and complement the surrounding forested landscape. The campground has trails that link to the adjacent day-use area, the lake trail (Intercrater Trail), the Little Crater Trails, and across Road 21 to the Big Obsidian Flow. The amphitheater at the Big Obsidian Flow is used for the evening interpretive programs for this campground.

KEY PLANNING ELEMENTS

Site Design

- Redesign the campground to accommodate the current types of users and their vehicles. Increase the space between the campsites.
- Provide for gray water disposal.
- Provide power in order to eliminate generator noise.
- Develop a vegetation management plan for the campground and day-use area.
- Redesign the campground in a manner that protects the viewsheds, both from the campground to the lake, and from the lake to the campground.
- Redesign the area to run at 100% occupancy and to accommodate approximately the same amount of people. Provide adequate spacing between sites and consider surface hardening in some areas.
- Expand the campground onto the upper bench and into the former day-use area to the south.
- Consider opportunities for walk-in camping areas and clustering uses in various portions of the site.
- Separate the campground from the day-use area.
- Stabilize the boat ramp and banks along the developed edge of the campground.

Structures

- Provide adequate trail linkage and signing so that campground visitors can use the amphitheater at the Big Obsidian Flow for their overnight programs.
- Design the area consistent with ROS Rural classification; however, keep the structures "rustic" (i.e., materials are not as refined as in a Rural classification, yet they are designed to accommodate a high level of use) (per CMP p.44, FEIS p. 118).
Interpretation

Circulation

- Consider the flow between the campground and the day-use area.
- Relocate the road to the toe of the slope.

Accessibility

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Moderate and base them on redesign opportunities).
- Design the recreational trails that link to this site to meet Easy and Moderate design levels for accessibility (emphasize Moderate).

WARM SPRINGS & NORTH COVE CAMPGROUNDS

These campgrounds no longer exist along the northern edge of Paulina Lake. Hike-in, bike-in, and boat-in camping opportunities have been established elsewhere in the Caldera. The Paulina Lake Trail provides scenic and interpretive opportunities as it passes along the northern edge of the lake.

KEY PLANNING ELEMENTS

- Define the lake trail through this area and rehabilitate the trail corridor.
- Explore locations for relocating these campsites in the future, (look around East Lake).
- Rehabilitate the riparian edge of the lake.
- Continue managing the hot springs as current (self-discovery feature), do not sign the hot springs from the trail.

BIG OBSIDIAN FLOW

The primary purpose of this site is to provide visitors with a high-quality day-use interpretive experience. Interpretation of the Big Obsidian Flow, the Little Crater, Lost Lake, and Human History are all concentrated in this area.

The main staging area for this site originates at the parking area. Visitors are informed and directed to the many different features and interpretive opportunities in the area. Site detailing is consistent throughout the area and complements the unique qualities that characterize the obsidian flow. The surface of the interpretive flow trail has retained its crunchy obsidian texture. There are no visible powerlines near the site and disturbed areas have been revegetated. A variety of barrier-free opportunities are available, including access to the new amphitheater, trails, the picnic area and restrooms. The amphitheater is located a short distance from the main parking area and serves many day-use interpretive programs. In the evening this amphitheater accommodates interpretive programs for the visitors at the Little Crater Campground.

Visitors arrive at this area via private car, shuttle, or on the Intercrater or Powerline Trails. Trail connections within and adjacent to the site are well defined and recognizable to the visitor.
In the winter some trails pass through or near this area. These trail corridors have been designed to complement the summer circulation patterns. Winter trail opportunities have been linked with interpretive programs.

KEY PLANNING ELEMENTS

Site Design

- Redesign or relocate the parking lot and staging area (including picnic, toilet...). Keep the parking lot approximately the same size.
- Relocate the amphitheater to new location at this site. This amphitheater serves day-use visitors to the flow and evening programs for visitors at Little Crater Campground.
- Improve accessibility to the site and amphitheater.
- Make the site detailing consistent.
- Keep the long-term surface character of the interpretive trail on the obsidian flow, made out of obsidian.

Structures

- Replace (and relocate) the toilet.
- Bury the powerline.

Interpretation

Circulation

- Define vehicle circulation and parking in the parking lot, provide pedestrian circulation from parking to the interpretive trail, amphitheater and restrooms, define safe pedestrian circulation from Little Crater Campground to the site.
- Link this area to the Intercrater Trail. Define and make clear the connection to the multiple-use trail that runs close by this area.
- Expand the interpretive trails (i.e., Lost Lake Crater).
- Link to Little Crater Trail.

Accessibility

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Moderate).
- Design the recreational trails that link to this site to meet Easy and Moderate design levels for accessibility (emphasize Moderate).
- Maintain trail access up onto the lava flow (on the existing trail) at its current Moderate or Difficult level of accessibility.
- Develop an additional trail opportunity that provides an Easy access level experience.

EAST LAKE CAMPGROUND

This is a small general-use campground on East Lake. The purpose of this campground is to provide visitors with a high quality camping experience in a setting close to the water.
Visitors arrive and easily find their way to their individual sites. Because the campground is so popular the area has been designed to run at full occupancy all of the time. Individual sites are spaced far enough apart so that even when full there is still a sense of privacy and adequate vegetative screening between the sites. There is no generator noise within the campground; however, there are some modern conveniences, such as water, power, and gray water disposal. The vegetation within the site appears healthy and untrampled, there are no stumps. The site facilities and detailing appear consistent and complement the surrounding forested landscape. The boat ramp within the site primarily accommodates the overnight campers, day-use boat activities are directed to the hot springs boat ramp. The campground has well-defined trail linkage to the Intercrater Trail.

**KEY PLANNING ELEMENTS**

- Develop a vegetation management plan to define and protect the existing vegetation in the campground.
- Design the area to run at 100% occupancy, keep sites spaced apart (potentially space them further apart and/or harden some areas).
- Direct day-use activities elsewhere (i.e., Hot Springs for a boat ramp and Cinder Hill for picnicking and hiking).
- Design the area consistent with ROS Rural classification; however, keep the structures "rustic" (i.e., materials are not as refined as in a Rural classification, yet they are designed to accommodate a high level of use) (per CMP p.44, FEIS p. 118).

**Accessibility**

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Easy).
- Design the recreational trails that link to this trailhead to meet Easy and Moderate design levels for accessibility.
- Provide a boat ramp opportunity consistent with a Moderate design level for accessibility (as possible).

**HOT SPRINGS CAMPGROUND**

The purpose of this campground it to provide visitors with a low-key, high-quality camping experience in a setting away from the water, but relating to East Lake.

Visitors arrive and easily find their way to their individual sites. These may include non-specific campsites, or be tent-only, RV, and walk-in areas. This campground is open full-time in the summer but it is not designed to run at 100% occupancy all of the time. The campground is screened from Road 21 and the powerline is not visible. Individual sites are spaced far enough apart so that there is a sense of privacy and adequate vegetative screening between the sites. Generator noise is regulated within the campground and water is available. The vegetation within the site appears healthy and untrampled, there are no stumps. The site facilities and detailing appear consistent, low-key, and complement the surrounding forested landscape.

The campground has a trail link across the road to the Intercrater Trail. In addition, the east/west multiple-use trail that used to run through this area has been clearly defined and rerouted around this campground. There are no trails from this campground up to the lava flow along the southern boundary.
KEY PLANNING ELEMENTS

Site Design

- Redesign the area to function as one of the general-use campground areas. Open the campground full-time in the summer.
- Update the units consistent with a Roaded Natural ROS classification.
- Remove the sites that were impacted by the road project and enhance visual screening from the road.

Structures

- Interpretation

- Explore an educational and/or special groups purpose for this campground.
- Emphasize resource protection (i.e., in campsite placement; trail linkages, interpretive messages, etc.).
- Explore interpreting the "Old Hot Springs" resort site and/or "Hot Springs Ecology" using the trail access from the Intercrater Trail.

Circulation

- Bury the powerline.
- Improve and define the trail linkages, to and through the site.

Accessibility

- Design the primary elements of the site to meet the Moderate and Difficult design levels for accessibility (emphasize Difficult).
- Design the recreational trails that link to this trailhead to meet Moderate and Difficult design levels for accessibility.
- Do not invest in providing a high level of accessibility at this campground (because of the physical constraints of the site).

HOT SPRINGS BOAT RAMP

The purpose of this site is to provide boat ramp access to East Lake for day-use visitors. There is a small picnic area to the east of the boat ramp which is primarily used by boat ramp or Intercrater Trail users. It is not advertised to the general day-use visitor.

Traffic flow runs smoothly through this area. Linkage to the Intercrater Trail is clearly defined; however, this is not a trailhead. Interpretation of the old resort and hot springs ecology is concentrated in this area.

KEY PLANNING ELEMENTS

Site Design

- Reduce the size of the existing picnic area and do not advertise it.
Structures

- Make the boat ramp the prime feature and function of the area.

Interpretation

- Interpret the old resort area, and hot springs ecology.

Circulation

- Improve the traffic flow for boat launching (works "OK" as is).
- Define linkage and access for the (new) Lake Trail that links the southern half of the lake, from East Lake Campground to Cinder Hill Campground (and includes Hot Springs Campground).

Accessibility

- Design the primary elements (the boat ramp is considered separately, see discussion under accessible key elements for the Caldera Zone) of the site to meet the Easy and Moderate design levels for accessibility (emphasize Moderate).
- Design the recreational trails that link to this trailhead to meet Easy and Moderate design levels for accessibility (emphasize Moderate).

EAST LAKE RESORT

The primary purpose of this site is to provide overnight resort opportunities on East Lake.

The architectural style of the resort and signing appears consistent with the Monument. All improvements and changes have been and continue to be coordinated with the overall Master Plan for the site. Traffic flow throughout the cabins moves smoothly and visitors easily orient and find their way through the uncluttered and well-kept resort. The portion of the Lake Trail that passes along the edge of the water is clearly defined and recognizable to the visitor. A majority of the resort is visually screened from the lake and Road 21 (including the newly renovated RV camping area). Those areas that are visible appears simple and clean. There are interpretive canoe opportunities that originate from this site.

KEY PLANNING ELEMENTS

Site Design

- Develop a Master Plan for the resort.
- Renovate the RV camping area.
- Remove the clutter throughout the resort site.
- Improve the screening of the resort facilities, as viewed from adjacent areas.

Structures

- Increase the maintenance of the facilities.
- Explore architectural alternatives, the existing architecture has limited value.

Interpretation
• Provide interpretive canoe trips along the lake's edge using a self-guided brochure.

Circulation

• Provide canoe rentals.

Accessibility

• The resort master plan should include an access strategy that ties in with and compliments the surrounding trails and experience levels.

CINDER HILL DAY-USE AREA & TRAILHEAD

The primary purpose of this area is to provide day-use visitors to East Lake with a low-key, high-quality recreational experience. This area is geared primarily to fishing, boating, picnicking, day hiking, and includes some interpretive programs and trail opportunities. Interpretation relating to the lake-side pond habitat, amphibians, the interlake flow (from a boat), and eagles is concentrated in this area. A story circle facilitates interpretive programs. Picnicking and boating facilities are located near the waters edge and there is parking for the many trails that originate or pass through this area (Cinder Hill Trailhead).
Visitors arrive at this area via Road 21, from the Intercrater Trail (this is the eastern terminus), or from the outlying trails stemming towards the north and east. The circulation within the site is organized so that this area functions independent from the nearby campground. Still the proximity and trail linkage between the areas allows Cinder Hill campers to convert the story circle into an evening amphitheater for interpretive programs. During the day the circle accommodates formal and informal group gathering and outdoor education programs.

In the winter the site is closed; however, some trails pass through or near this area. These trail corridors have been designed to complement the summer circulation patterns. Winter trail opportunities have been linked with interpretive programs.

**KEY PLANNING ELEMENTS**

**Site Design**
- Separate the day-use area from the campground. Locate day-use activities (including interpretive, picnicking and boat ramp) in the southern portion of the existing campground (see the "Long-Term Strategy Map" in the map envelope). Develop a trailhead as part of this day-use area.
- Design the site consistent with a Roaded Natural ROS classification.

**Structures**
- Develop a "story circle" as part of the day-use area. Design it and locate it so that it functions as an amphitheater for the campground in the evening.
- Reconstruct the boat ramp.

**Interpretation**
- Interpret the pond, amphibians, the Bald Eagle Management Area (BEMA), and the Interlake Obsidian Flow.
- Provide interpretation for both day-use and overnight visitors.

**Circulation**
- Consider the flow between the day-use area and the campground.
- Define trail connections and develop a trailhead.

**Accessibility**
- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Moderate).
- Design the recreational trails that link to this trailhead to meet Easy, Moderate, and Difficult design levels for accessibility (emphasize Moderate).
- This is a potential area for an Easy level beach access point.
CINDER HILL CAMPGROUND

This is a large campground on East Lake. The purpose of this campground is to provide visitors with a low-key, high-quality camping experience in a setting close to (but not directly on) the water.

Visitors arrive and easily find their way to their individual sites. These may include non-specific campsites or be tent-only, RV, and walk-in areas. The area has been designed to run at full occupancy all of the time; therefore, individual sites are spaced far enough apart so that even when full there is still a sense of privacy and adequate vegetative screening between the sites. There is no generator noise within the campground; however, there are some modern conveniences, such as water, power, and a gray water disposal area. The vegetation within the site appears healthy and untrampled, there are no stumps. The site facilities and detailing appear consistent and complement the surrounding forested landscape. The campground has trails that link to adjacent day use, the lake trail (Inter crater Trail), and other trails extending north and east, eventually intersecting the Rim Trail. No trails have been developed that conflict with the nearby Bald Eagle Management Areas.

KEY PLANNING ELEMENTS

Site Design

- Improve and upgrade the existing campsites.
- Reduce the campsite density and explore expanding the campground.
- Explore block reservation sites, walk-in camping, and clustering uses in some portions of the campground.
- Design the campground to run at 100% occupancy. Provide adequate space between sites in order to maximize screening and privacy. Consider hardening some high-use areas.
- Design the site consistent with a Roaded Natural ROS classification.
- Design the campground to accommodate slightly more visitors than existing.
- Consider separating the day-use area from the campground.
- Develop a vegetation management plan for the campground.
- Redesign the campground and protect the viewsheds, both of the campground from the lake, and of the lake, from the campground.

Structures

- Provide a functional dump station and a gray water disposal area.
- Provide power as a means to get rid of generator noise.

Interpretation

- Interpret the pond, amphibians, the BEMA, and the Interlake Obsidian Flow.
- Provide interpretation for both day-use and overnight visitors.

Circulation

- Consider the traffic flow between the day-use area and the campground.
- Define trail connections and develop a trailhead.
- Provide access to the day-use story circle for evening interpretive programs.
Accessibility

- Design the primary elements of the site to meet the Easy and Moderate design levels for accessibility (emphasize Moderate and base them on redesign opportunities).

DOME (Flanks Zone)

The purposes of this site are to protect the sensitive plants that live in the Dome area and to provide some visitors with a semi-primitive experience of this geologic formation.

Visitors arrive at this site as part of a self-discovery experience in the Flanks Zone. Visitors arriving at the Caldera for day-use activities are not directed to this site as part of their journey around the Monument. The trail is well defined and a strong resource protection message contributes to the sensitive identity of this place.

KEY PLANNING ELEMENTS

- Manage this site consistent with a semi-primitive/non-motorized ROS classification.
- Define the trail on top in order to protect the sensitive plants on the Dome.
- Explore interpreting the Dome at the trailhead (alert people *early on* to the sensitivity of the site on top), or from off-site as part of a discovery guide (for semi-primitive exploring).
- Limit public access and do not *direct* people to go there.
Part Three
Interpretive Strategy
INTERPRETIVE STRATEGY

Program Recommendations

Newberry Volcano offers profound gifts to all who come to discover. In Newberry National Volcanic Monument (NNVM) strength is the product of diversity and in diversity we find unlimited opportunities to connect and learn.

Monument designation delineated an amoeba-shaped area blanketing Newberry Volcano’s interpretive heart. There is so much to discover here that care must be taken to focus. Interpretive messages need to be specific, provocative and related to experiences common to most visitors.

Interpretive media will be written, contracted and implemented according to previously established Monument Plan guidelines and subsequently, to Monument CIP planning proposals.

Zones Lava Butte and Caldera as well as Road 21 Corridor were given priority for interpretive planning. These zones contain the most often visited interpretive sites in NNVM.

Interpretive media at all sites will be consistent with goals and objectives outlined in the NNVM Recreation Implementation Strategy (RIS) and incorporate key planning elements described in long term strategies for each zone.

The following are recommendations for interpretive themes and media. Flexibility must be maintained in this and future planning efforts to allow creative, appropriate responses to changes that will naturally occur on the Monument and in our culture.
Central Interpretive Theme

Interpretive themes for Newberry National Volcanic Monument Interpretive Plan were synthesized from input of authors of the Monument Management Plan, members of the Monument CIP Team and members of the Monument Interpretive Plan Team. Themes on the following pages are designed to capture the heart and spirit of everyone who cares about this unique volcano. All themes have been crafted to match current conditions. Interpretive programs and media will relate to the central or supporting themes. Four topical areas - geology, climate, archaeology and ecology guide each supporting theme. Each site theme will be related to appropriate supporting theme.

Central Theme:

Flows and formations foster life on this active and ancient volcano.

Supporting Themes:

1) Geology: Newberry Volcano was built and shaped by volcanism, climate, human occupation and the unique ecosystem that has developed there - these interrelated processes will also determine the volcano's future.

2) Climate: Volcanoes may be the shakers but wind and water are the real movers.

3) Archaeology: The flow of life on Newberry Volcano provided strength, protection and guidance to Native Americans.

4) Ecology: Environmental conditions determine whether, where and how life forms flourish.
LAVA BUTTE ZONE

This is the interpretive day-use hub for the Monument, the Deschutes National Forest and the surrounding area. It includes U.S. Highway 97, an interpretive greeting center (Lava Lands), day-use sites and trails. Important opportunities exist to create stronger connections among the day-use sites in the southern part of the zone. Winter use when snow is good.

Lava Lands Visitor Center

Function:

Primary visitor center within NNVM. Lava Lands Visitor Center (LLVC) is the only agency interpretive and information center in Central Oregon. Visitors arrive expecting to find information about NNVM, Highway 97 corridor, local and regional amenities, local and regional attractions. Interpreters, volunteers and visitor service staff must know an astounding variety of subjects in order to provide help and answers to a variety of questions and to develop meaningful interpretive media.

During the operating season the facility will provide visitors with rapid orientation to the area and services that meet users' needs and interests. Interpretive exhibits will be engaging and designed to inspire visitors to explore the area in greater detail. Exhibits will also be designed to help visitors learn skills to facilitate gaining greater meaning during their subsequent explorations.

Consistent with discovery related themes the cultural resources, geology, ecology and climate stories will show how, for instance, archaeologists developed the prevailing theory of how native people lived in this region using the NNVM story. This will not only tell the cultural resource story but also give visitors insight into techniques of discovery which they will begin to apply to other sites.

Major Features:

Lava Lands Visitor Center, the patio, Trail of the Molten Land, Trail of the Whispering Pines, Phil Brogan Viewpoint, Lava Butte Lava Flow, ponderosa pine plantation, impressive view of the Cascades and Lava Butte (from flow).

Themes:

1) Geology: Skills in geology are gained step-by-step and this is how everyone will begin to understand the geology of Central Oregon.

2) Climate: We know that climate is largely responsible for preserving Central Oregon geology and the distribution of life in the region.

3) Archaeology: Careful excavation of archaeological sites on Newberry Volcano yields astounding discoveries and clues about the remarkable lives of Newberry's first humans.

4) Ecology: Ecology is the branch of science the Deschutes National Forest uses to investigate the pattern of relationships between organisms and their environment.
**Media Proposals:**

Information desk, exhibits, maps, brochures, orientation displays, bulletin board, interpretive signs and panels, interpretive programs, environmental education curriculum, self-guided interpretive trails, trail link to Lava Butte and Benham Falls.

**Discussion:**

Current CIP planning strategy proposes that LLVC be "revamped." Planning for the future look of the visitor center will take place during the next two to three years. A site plan will be developed using themes previously mentioned.

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**Lava Butte**

**Major Features:**

Road to top of Butte, shuttle bus, working fire lookout, cinder cone, crater, self-guided rim trail, panoramic view of Central Oregon (Cascades, Newberry, Bend area, views of southeastern high desert obscured by Newberry), Rift Zone, vegetative trace of Deschutes River, complete extent of Lava Butte Flow.

**Themes:**

1) Geology: The geologic origins of Central Oregon are obvious, mysterious and global.

2) Climate: Lava Butte has changed little since the eruption ceased 6200 years ago.

3) Archaeology: Lava directs the flow of life by creating natural barriers and corridors, microclimates and unique environments.

4) Ecology: Fire, wind and water are natural housekeepers.

**Media Proposals:**

Accessible interpretive room below lookout or signs and exhibits, working lookout, interpretive signs in parking lot, interpretive signs on rim trail, interpretive programs, viewshed interpretive guide.

**Discussion:**

*Lava Butte Lookout:* Lava Butte Lookout may be replaced in two to three years. Safety will be the chief consideration. Wind erosion and frost heaving are undermining the stability of structures and paving: a natural consequence of building on the geological equivalent of popcorn.
Visitor facility serves three important functions:
1. Protection from the weather enhances the visitors experience greatly.
2. Naturally attracts visitors to one area - good for interpretation.
3. Perfect place to send a strong stewardship message based on theme #4.

A working lookout is an essential visitor attraction and must be included as “media” when planning proceeds for replacement of the facility. Design of the lookout and how lookout staff interact with the public will be a strong addition to interpretive programing.

The big challenge is access to the visitor facility at the lookout level. A visitor facility at the parking lot level may be best if access for all cannot be achieved at the lookout.

**Interpretive Sign(s) Parking Lot:** Existing signs have a few years of life left in them. However, interpretive style and message is somewhat outdated and signs will be replaced - preferably when Lava Butte Lookout setting and facility is redesigned. New signs will orient visitors and provide an introduction by briefly interpreting above themes. These signs will be accessible to all visitors. We will investigate the possibility of making all attractions fully accessible. Attractions will be made accessible whenever possible.

**Rim Trail Interpretive Signs:** Several of the signs on the Rim Trail are missing. If new signs are the preferred method of interpretation for the trail they will be based on themes 1 through 3. The lookout platform will be considered part of the trail experience.

**Rim Trail:** For safety reasons entrance and egress of the rim trail will be improved. Trail width will be modified to direct users to a narrower path and surface improved to make walking easier.

**Interpretive Programs:** Interpreters will give talks and guided walks on Lava Butte. During operating season an interpreter will be stationed on top all day - if budget is available for sufficient staffing. When weather is uncooperative talks will be given inside the interpretive facility.

**Viewshed and Interpretive Site Guide:** An interpretive guidebook will give motivated visitors the opportunity to self discover. Views from the top of Lava Butte invoke questions. The guide will answer commonly asked questions and develop themes 1-4 more thoroughly - it will also include a site guide if the user chooses to venture off and see more of the monument or other important sites on the Forest. Will be organized to be used from Lava Butte and Paulina Peak. Mt. Bachelor could be added at a later date.

### Lava River Cave

**Major Features:**

Intact lava tube - western portion approximately one mile in length, eastern portion about one half mile in length (closed to public), tube collapse is entrance to both parts, unique plant associations in collapse, cave ecosystems, pine forest (some old growth).

**Themes:**

1. Geology: Tubes are self-constructed "pipelines" in basaltic lava flows which allow molten fluid to travel great distances.
2. Climate: In a land of constant change, lava tubes are sanctuaries of sameness.

3. Archaeology: People have used lava tubes as water sources, refrigerators, and perhaps smoke houses.


Media Proposals:

Visitor kiosk prior to entrance of cave, interpretive signs, self-guided trail brochure, winter/summer interpretive programs.

Discussion:

Entrance to cave does not take advantage of the opportunity to create a sense of surprise and wonder. Access to cave should be redesigned. Setting of the cave suggests that site should be kept simple and self-discovery oriented.

Visitor Kiosk: Relocate and improve appearance and function of kiosk. Redesign entrance as indicated in master plan.

Interpretive signs: Orientation sign and introduction to themes. Fully accessible. Begin interpretation in parking lot to help integrate visitor experience. Main interpretive sign at site where all visitors can see cave entrance.

Self-guided trail brochure: Important because staffing will probably never be sufficient to keep a Forest Service interpreter there during operating season. Concessionaire does provide on-site interpretation/information at kiosk when not too busy. Informal site guide is offered by concessionaire but needs to be rewritten to include Monument themes. Will explore making interpretation part of the concessionaires required service, incorporating Monument themes in new signs, interpretive talks, displays and Monument Site-Guide

Benham Falls

Major Features:

Deschutes River, riparian area, physical remnants of railroad logging, railroad grade, Benham Falls Trail Bridge, cross sections of lava flows exposed by river erosion, old-growth Ponderosa pine forest, Benham Falls Trail, trail to old loading dock, river ecology, abundant wildlife.

Themes:

1. Geology: Back and forth, back and forth - lava is pushy, but rivers are relentless.

2. Climate: Almost anywhere we travel on land we see the sculptures of a famous artist - water.
3. Archaeology: Waterfalls have always attracted people.

4. Ecology: Every bend in the river is a new beginning.

**Media Proposals:**

Self-guided trail brochures, interpretive signs, shuttle, railroad artifacts, bulletin board, environmental educational/interpretive programs.

**Discussion:**

Most visitors are not aware that lava north of the river came from Lava Butte. Interpretation at Benham Falls will reinforce the connection with Lava Butte, emphasize the influence repeated lava flows had on the course of the Deschutes River, bring attention to landscape artifacts created by railroad logging, and describe the uniqueness of Deschutes River riparian ecology.

Entrance to the day-use site is awkward and unattractive. Moving the parking lot and entrance may not be possible but other opportunities exist to make the present design of the site more useful and enticing.

**ROAD 21 CORRIDOR**

**Paulina Meadow**

**Major Features:**

Paulina Creek, meadow, bridge, turn off to Ogden Group Camp and Peter Skene Ogden Trailhead.

**Themes:**

1. Geology: Newberry's westside - eastward is upward.

4. Ecology: Fire and water work together to create and sustain healthy forests on Newberry Volcano.

**Media Proposals:**

Small kiosk pullout, inclusion in site guide, visitor information radio station (KNVM).

**Discussion:**

The primary purpose of this new site is to provide information to visitors traveling into the Monument and to start them off on an interpretive experience. This site replaces the old Highway 97/Road 21 Junction information kiosk. Visitors will be able to see their destination (Paulina Peak), obtain information about campground occupancy, local campgrounds, woodcutting, etc., in the area.

As people leave the kiosk and drive up the volcano - other interpretive signs, markers, or a travelers' information radio station will remind them that they are ascending into the caldera of a volcano.
McKay Campground

Major Features:

Old railroad grade (Peter Skene Ogden trail) adjacent to campground, Paulina Creek, riparian areas.

Theme:

3. Archaeology/Cultural Heritage: Logs were moved from harvest to mill by a chaotic web of railroad grades that were quickly built or relocated to access new sources of timber.

Media Proposals:

Small interpretive sign, inclusion in site guide.

Road 21 Overlook

Major Features:

View of Cascades, lodgepole pine forest, elevation gained, change in vegetation, introduction to geothermal exploration.

Themes:

1. Geology: Minimalist geology for the 90's - the slab goes down the mountains come up!

   From sea floor spreading to scenic vistas - what goes down can also eventually come up.

3. Archaeology/Cultural Heritage: John Strong Newberry, a renowned geologist and paleontologist, traveled up the Deschutes River in 1855 on one of the Pacific Railroad Surveys exploring possible routes to link the east and west coasts.

4. Ecology: Fire has been a management tool for centuries.

Media Proposals:

Short self-guided trail, mountain finder, interpretive signs.

Discussion:

This site is designed for a short-duration stop. It is part of the interpretive sequence that will build a sense of arrival when visitors reach the Monument portal.
CALDERA ZONE

This zone is the hub of overnight recreation and a primary day-use zone for NNVM. Boating and fishing on the two lakes are established traditional activities. Interpretation, sight-seeing and trail use are also popular. Much potential exists to develop more interpretive day-use activities and evening and weekend programs for campers.

In this zone discovery-related themes will drive development of interpretive programs and facilities. The Caldera Zone’s natural and social history is diverse. Visitors will be assisted throughout their journey of discovery by many media at levels of detail sufficient to meet the majority of visitors needs. Educational materials and references will also be developed to satisfy the most ardent explorers.

Newberry Portal/12-mile SnoPark

Function:

Year-round facility will provide visitors with rapid orientation to and basic information about the area. Will be a nordic/snowmobile staging area in winter.

Major Features:

Lodgepole pines, stand thinning, view of Paulina Peak, Road 21.

Themes:

See general themes on page one.

Media Proposals:

Kiosk or panels with map, NNVM information and key interpretive themes, orientation brochure, shuttle.

Discussion:

Primary uses are outlined in the site description on page 2-41. It seems wiser to proceed with designing the panels and text when planning proceeds for this facility.

Paulina Falls Day-Use Area

Major Features:

Paulina Falls, mixed conifers, pine, vertical cross section of volcanic strata exposed by erosion, river gorge, changes in plant and animal associations as you descend into gorge, Paulina Creek, riparian area above and below waterfall.

Themes:

1. Geology: At Paulina Falls geologic processes of mountain building and erosion are partners in time.
2. Climate: Water was the gift from rock and ultimately it will be a rock's demise.

3. Archaeology/Humans: Who were the first people to see the water fall?

4. Ecology: Millions of microenvironments connect to create the beautiful scenery around Paulina Falls and Paulina Creek.

**Media Proposals:**

Interpretive signs, self-guided trail brochure, interpretive programs.

**Discussion:**

The primary purpose of this site is interpretation. A trail from the falls will link into the Paulina Trailhead. A viewing platform and interpretive sign at the bottom of the trail could greatly enhance the interpretive experience.

**Interpretive Signs:** Paulina Falls is a place of subtle beauty and boisterous aquarobics. Care will be taken to keep interpretive and directional signing to a minimum. Perhaps only one interpretive sign will be necessary - at the overlook - if that sign is fully accessible. The site is geologically and ecologically powerful. For this reason the site must send the message. This may be one of the first places visitors begin to feel Newberry is a national monument - if, for instance, they have not been to Lava Lands or stopped at earlier proposed interpretive sites.

**Self-guided trail brochure:** One of the ironies of Paulina Falls is that the WOW of the falls may distract the visitor from the many other stories the very presence of the falls has authored. A trail brochure will be a useful tool and help increase awareness of just how complex ecosystems are and subsequently how humans fit.

**Interpretive Programs:** Guided group walks down the trail will be offered on an as requested basis. Roving interpreters will make the falls a frequent stop.

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**Paulina Lake Day-Use Area**

**Function:**

The purpose of the day-use area is to provide visitors with a variety of day-use activities. Interpretation will focus to microclimates and microenvironments in the riparian areas, historic and prehistoric use of the site, and how an active volcano dictates what happens in its domain.

**Major Features:**

Riparian ecology, lake benches, views across lake, heritage resources, volcanic soils, lake ecology, pine forest, geology.
Themes:

1. Geology: I'm gonna wash that ash right outta my hair.

2. Climate: Microclimates - small spaces can have gigantic impacts.

3. Archaeology: Lakes and shores have provided homes and recreation for countless generations.

4. Ecology: Ibid. We will combine themes 3 and 4 and emphasize the connection all organisms have with the land they inhabit and each other.

Media Proposals:

Trails, boardwalk, interpretive signs, trail guides, story circle/amphitheatre, interpretive and Environmental Education programs.

Discussion:

This site will be connected to many different interpretive sites. Interpretive trails and signs will be designed so that they are subordinate to the landscape. In all probability the project will proceed in phases and site plans will be developed to guide development. Site plans will use above themes.

Paulina Guard Station

Function:

Many functions have been proposed for this site. Presently it serves as a small visitor center and residence for volunteers. If a new visitor information facility is built or moved to the Paulina Day-Use area then this site will function strictly as a restored CCC era historic site - a working museum.

Major Features:

Guard Station CCC era, bunkhouse, lodgepole pine, view of lake and riparian area.

Themes:

1. Geology: Newberry Volcano is uniquely related to the surrounding geology and the geology of the world.

2. Climate: The seasons of Newberry Crater are bridges across the chaotic breadth of weather extremes.

3. Archaeology: Cultures may differ over the centuries but the places we choose to live tend to be the same.

4. Ecology: Newberry's natural history is extremely diverse and well connected.
Media Proposals:

Interpretive displays, NWIA sales area, bulletin board, maps, interpretive programs, information desk, orientation displays, Environmental Education curriculum, outside brochure rack.

Discussion:

Combine CCC theme with archaeology. Maintenance will continue on the front room of the guard station to reclaim the original CCC character. Space in the rest of the building is still needed for a residence. One of the bedrooms may be used as a "discovery room" focusing on NNVM ecology until another facility is available - then it could be turned into a CCC era "discovery room" with simple interactive exhibits which give people a taste of the times. A ranger dressed in an old Forest Service uniform would enhance the experience and provide a watchful eye.

Paulina Lake Campground

Media Proposals:

Story circle, bulletin board.

Paulina Lake Lodge

Major Features:

Lodge, archaeology, views across lake, trail link, docks, fish viewing, one of the best views of Paulina Peak.

Themes:

3. Archaeology/Cultural history: What was it like to come to Central Oregon in the 20's (for instance) - prohibition.

Also see guiding themes on page one.

Media proposals:

Site description in Paulina Lake Trail Guide.

Discussion:

This may not be a high priority unless the resort owner chooses to help develop interpretation at the resort. We will ask the lodge owner if he is interested in working on this.
Paulina Peak and Peak Trailhead

Major Features:

Paulina Peak - panoramic views of Cascades, eastern part of high desert including Fort Rock, geology of Paulina Peak, caldera lakes and ecosystem.

Themes:

1. Geology: The view from Oregon’s volcanic suburbs help us understand if Newberry is a Cascades relative or new eruptive kid near the block.

2. Climate: Dust, glaciers, shoes and sagebrush - what do they have in common?

3. Archaeology: Native American Indians developed successful, enduring cultures which flourished here for over 10,000 years.

4. Ecology: Like a bowl of ripe fruit - the caldera below is full of natural wonders you can consume for hours.

Media proposals:

Interpretive signs on peak and peak trail, inclusion in guidebook, on-site interpretation, shuttle tour, scheduled interpretive talks and walks, roving interpreter.

Newberry Group Campground

Major features:

Lake access, cultural resources, view across lake, lake trail, riparian ecology, forest ecosystem, near shore lake ecology, IOOF cabins.

Archaeology/Cultural History: Many generations have left their mark here.

Themes:

See main themes on page one.

Media proposals:

Passive interpretation of site, roving interpretation, brochure interpretive cabins, inclusion in guidebook.

Discussion:

Provide passive interpretation. Not intended as an active interpretive site. Story circle could be useful for programs for large groups if they would like to schedule an interpreter.
Little Crater Campground, Day-Use Area and Trailhead

Major Features:

Shore and near-shore lake ecology, geology, lake trail and access to Little Crater Trail, fisheries ecology, hot springs ecology, view of Paulina Lake, Paulina Peak, Interlake Obsidian Flow, Central Pumice Cone and other interesting geological features, trailhead for east Paulina Lake Trail, wildlife viewing, bugs, fungi, smells, cultural resources.

Themes:

See main themes on page one.

Media Proposals:

Self-guided trail brochure, include in Newberry Site Guide, interpretive signs at trail head.

Big Obsidian Flow (BOF)

Major Features:

Obsidian flow, contorted trees, ecology of BOF, BOF trail and amphitheater, view of Little Crater maar, Lost Lake, BOF dome, beetle damage, obsidian quarries, parking lot, view of Paulina Peak and Paulina Lake from top of BOF trail.

Themes:

1. Geology: Natural glass is formed when magma is cooled so rapidly its atoms (ions) do not have enough time to arrange themselves into minerals.
   
   Obsidian formed from magma that was superhot, supercooled, iron poor and silica rich.

2. Climate: Air flows through conduits in the broken lava melting snow from below and makes walking on top a slicey business.

3. Archaeology: Volcanic glass was as good as gold - luring people to Newberry for thousands of years.


Media Proposals:

BOF interpretive signs, trail guide, larger amphitheater, barrier-free overlook at head of stairs, interpretive walk/talks, roving interpretation, flintknapping, primitive skills workshops.

Discussion:

The Big Obsidian Flow is without question the primary destination of visitors to the caldera. While interpretive signs have been installed on the trail and answer many commonly asked questions - we have found that they actually raise more questions in the visitors mind. Seasonal use of the amphitheater has already out grown the space available. Effort must be made to tie
all amenities at the BOF together and increase the quality. Use of the site really demands that supporting facilities be substantially upgraded.

**Hot Springs Campground**

**Major features:**

East Lake Obsidian Flow, unique ecosystems on and around flow.

**Themes:**

3. Archaeology: Obsidian was quarried by Native Americans at numerous flows in the caldera.

1 & 4 Geology/Ecology: The East Lake Obsidian Flow (ELOF) - this space was taken.

**Media Proposals:**

Education and special groups site, outdoor classroom and audio-visual amphitheater, do not include in guidebook, leave for accidental discovery.

**Discussion:**

The top of the ELOF is one of the most spectacular sites in the caldera. In many ways it is like stepping over the edge into another land. Unique plant associations, trails created by animals and artifacts dropped by whoever worked there last (a couple thousand years ago) makes the whole experience of walking around on top of the flow thrilling.

The site is extremely delicate and an important cultural resource. Because it is still relatively pristine, care must be taken to protect it. One proposal is to turn it into an educational camp and meeting site.

**Hot Springs Boat Ramp**

**Major features:**

Geology, hot springs west of boat ramp, old resort site, fisheries.

**Themes:**

3. Archaeology/Cultural Resources: People drove miles over rutted roads to take the cure at East Lake Hot Springs Resort.

4. Ecology: Hot springs in East Lake help create food, habitat and history.

**Media Proposals:**

Interpretive trail west from ramp, small interpretive signs, roving interpretation, interpretive sign in parking lot, inclusion in guidebook.
Discussion:

Not many people have seen the algae blooming around hot spring vents on the south shore of East Lake. Old rusty iron pipes emerging on the beach can be traced into the lake - lonely relics of a plumbing system that drew hot water to fill tubs for languishing bathers.

An arson - apparently the owner - set fire to the resort in the 1940's. Charcoal, pipes, pier-like pilings and old photographs are all that remain of more restful times.

East Lake and East Lake Resort

Major Features:

Views across lake, volcanic sediments, Interlake Obsidian Flow, Pacific Northwest Rift Zone, completely unique lake ecology because of relatively shallow hot springs, fisheries, amphibian pond, resort, cultural resources, Central Pumice Cone and oh, so much more.

Theme:

1. Geology: Below you now, powerful forces are at work "planning" new mountains.

Media Proposals:

Canoe tours, inclusion in guidebook, roving interpretation.

Discussion:

Develop additional themes and interpretive attractions when permittee does resort master plan. Encourage owner to offer rental canoes tied to a canoe trail guide - perhaps a partnership with us and owner.

When funds and staff become available begin scheduled interpretive canoe trips around east lake.

Cinder Hill Day Use, Campground and Trailhead

Major Features:

Shore and near-shore lake ecology, geology, lake trail and access to view behind resort, fisheries ecology, hot springs ecology, view of East Lake, Paulina Peak, East Lake Obsidian Flow, Rift Zone, Interlake Obsidian Flow, Central Pumice Cone and other interesting geological features.

Theme:

4. Ecology: Dinosaurs! Now that we have your attention - let's talk amphibians - almost the closest animals to dinosaurs we have!

Media Proposals:

Inclusion in guidebook, possible small interpretive sign at boat ramp or pond. Story circle in campground. Canoe tours of lake.
For related information,

* Media Methods Glossary
* Standards for Interpretation
* Levels of Interpretation
* Program Augmentation Through Partnerships,

please refer to Part 5 - References .... (pg 93).
Part Four
Projects
Based on our analysis of the Monument's recreational facilities, we have identified the following projects as compatible with the Monument's natural features, and necessary for providing quality customer service. We have divided these projects into two (2) categories: Immediate Needs and Long-Term Needs.

**IMMEDIATE NEEDS**

These are the projects we feel are the highest priority, and will offer the most "bang for the buck." A brief explanation of each project is included here, including a proposed timeline and a cost estimate. The projects are in three (3) different categories for funding purposes: Recreational Facilities; Roads and Trailheads; and Trails. An explanation of the criteria for prioritizing these projects follows this project section. Improving accessibility and sanitation standards are primary objectives when designing or redesigning any facilities.

1. **Visitor Orientation.** This includes a small portal or gatehouse designed to offer an interpretive welcome and orientation for visitors to the caldera. The portal will include restrooms, campground fee collections, telephone, a parking area, the staging area for shuttle buses, and will serve as a snopark in the winter, enhancing winter recreation. Other facets to the project include relocating the "information kiosk" near the junction of U.S. Highway 97 & Road 21 to nearer Paulina Meadow (milepost 3 on Road 21, winter trail connections to the snopark, trail guide signs for existing summer trails, and interpretive, site & directional signing for approach to and within the caldera area.

   **Schedule:** Feasibility-FY 95; Survey/Design-FY 96; Construction-FY 97
   **Total Cost:** $1,287,000

2. **Paulina Complex.** This project is the reconstruction of the Paulina Lake Campground, boat ramp, and adjoining day use area. It would ease congestion, separate day use visitors from overnight campers, improve access to the lake for anglers, and provide a designated trailhead for users of the many trails passing through this hub area.

   **Schedule:** Feasibility-FY 96; Survey-FY 97; Design-FY 98; Construct-FY 99-2000
   **Total Cost:** $2,547,000 (FS=$2,370,000; Marine Board=$177,000)

3. **Paulina Falls.** This effort would replace the unsightly chain link fence, the toilets, and the picnic site overlooking popular Paulina Falls. Interpretive signing would provide visitors with information about the lakes, the falls, and the surrounding ecology. Current facilities do not meet sanitary and accessibility standards and are badly degraded.

   **Schedule:** Feasibility-FY 97; Survey-FY 98; Design-FY 98; Construct-FY 99
   **Total Cost:** $125,900 (funds replace chainlink fence only; other needs funded from different sources.)
4. Paulina Trails. This project would redesign and relocate a series of trails in the Paulina Falls/campground area. Current trails are overused, rutted, prone to erosion, and in some areas harmful to wetlands. Relocated trails would skirt or bridge over the wetland and provide better access to Paulina Falls, the Crater rim trail, and other summer and winter routes.

Schedule: Feasibility-FY 97; Survey-FY 98; Design-FY 98; Construct-FY 99
Total Cost: $273,100

5. Newberry 1 Trails. These trails are in the heart of the popular caldera, which receives over 300,000 visitors per year. Trails include Paulina Lakeshore Loop Trail (from Paulina Campground to the Little Crater area), Little Crater Loop Trail, and a new link from Little Crater to the Big Obsidian Flow. These trails are getting increasing use from hikers, horseback riders, and mountain bikers. Tread surfacing, redesign and reconfigured use patterns are needed.

Schedule: Feasibility-FY 96; Survey-FY 97; Design-FY 97; Construct-FY 98
Total Cost: $197,500

6. Newberry 2 Trails. This is a continuation of the Newberry 1 project, completing the reconstruction of the Paulina Lakeshore Loop Trail (except within the Little Crater Campground), providing a new link to the Crater Rim Loop Trail (from the Lakeshore Loop route) and providing a new loop onto an unnamed pumice cone near Paulina Campground. Projects would stop erosion into Paulina Lake, and in other areas, while improving access for thousands of recreationists.

Schedule: Feasibility-FY 97; Survey-FY 98; Design-FY 98; Construct-FY 99
Total Cost: $258,800

7. Paulina Peak Road. This important access route would be graveled and improved to increase visitor safety on this windy, narrow road to the 7,985-foot peak. A parallel trail will provide non-motorized recreational opportunities. An interpretive *peak finder* orienting visitors to the easily-visible Cascade Range could be added. Trailhead improvements on top would be aimed at controlling the current haphazard user trail network and the addition of a trailhead for the parallel trail near the beginning of the ascent up the mountain would improve visitor experiences.

Schedule: Feasibility-FY 96; Survey/Design-FY 97; Construction-FY 98
Total Cost: $283,000

LONG-TERM NEEDS

These are the projects we feel are important for the long-term stability and *serviceability* of Newberry National Volcanic Monument. Again, they are divided into three (3) different categories for funding purposes: Recreational Facilities; Roads and Trailheads; and Trails. Note that the first number of the projects in Recreational Facilities and Trails categories is Number 4. This is because the top three (3) priorities are listed above — in the Immediate Needs Section. Dollar estimates for these projects are not shown at this time. We have focussed our fiscal planning on the immediate needs, but do want to show long-term needs here as well. A description of the criteria for prioritizing these projects follows this section.
RECREATIONAL FACILITIES

• 4) **Lava Lands** would be improved and updated to provide better service to visitors. More space is needed for improved and updated interpretation.

• 5) **Lava Butte Lookout area** would be redesigned to provide a better interpretive facility and more effective fire-fighting technology. If visitor facilities on "top" of the butte cannot be feasibly accessed by all visitors, visitor orientation and interpretation should be done at the parking lot level. Reconstructed trail loop & signs and new restrooms meeting current standards would be included.

• 6) **Little Crater Campground** would be redesigned to accommodate current use patterns. The redesign would also protect and enhance the views looking at the campground from across the lake, and from the campground looking out.

• 7) **Lava River Cave** facilities would be upgraded to emphasize mystery, adventure, and discovery, in keeping with the unique spirit of a one-mile underground cave.

• 8) **Benham Falls Day-Use Area** would be redesigned to provide better service to visitors and to enhance interpretation of the river area with its unique lava flows and associated wildlife. New restrooms and picnic facilities would be included.

• 9) **Cinder Hill Campground** on East Lake would be reconstructed to accommodate slightly more visitors than at present. Power would also be provided to provide a better experience for motorhomes.

• 10) **Paulina Guard Station** would be renovated and upgraded (it was built in the 1930's) to become a working ranger station in the Caldera, and provide interpretive displays and exhibits.

• 11) **Big Obsidian Flow project** would redesign or relocate the parking lot, staging area (including the picnic and toilet facilities) and amphitheater.

• 12) **Newberry Group Campground project** would improve accessibility to the sites and add a community kitchen/winter group shelter (multiple-use). Passive interpretation of the IOOF cabins would be pursued.

• 13) **10-Mile Snopark** shelter would be expanded and the existing toilet replaced.

• 14) **Road 21 Overlook** would be enhanced with either interpretive signing, a mountain finder and/or a short trail.

• 15) **Hot Springs Campground** would be redesigned and reconstructed to function as a general-use facility, for full-time operation. Interpretation of the adjacent "Old Hot Springs" resort or "Hot Springs Ecology" should be explored.

• 16) **East Lake Campground** would be redesigned and reconstructed to run at "high" occupancy, utilizing vegetation where practical to screen and define site limits.

• 17) **Hot Springs Day-Use Area** would be redesigned to function primarily as a boat launching facility, with improved traffic flow for launching. Consider reducing the size of the adjoining picnic area and improving ties to trails.
18) **Paulina View Campground** would be a new facility, developed to the east of Chief Paulina Horse Campground, and would be used as an overflow for general-use camping. If a well was installed, it could also serve the horse camp.

**ROAD and TRAILHEADS**

- **2) Cottonwood Road Interchange** Phase 1 would redesign and reconstruct the access road into Lava Lands Visitor Center. The new access would provide a safer, more aesthetically pleasing approach into the Lava Lands area. Project should be timed with the Oregon Department of Transportation's upgrade of U.S. Highway 97 to Sunriver.

- **3) Cottonwood Road** Phase 2 would provide new access to Lava River Cave from the redesigned Cottonwood Interchange.

- **4) Big Obsidian Flow Trailhead** improvements would redesign or relocate the parking lot, staging area and amphitheater at the Big Obsidian Flow.

- **5) Chief Paulina Horsecamp** needs a trailhead for horse use, orienting riders to the network of Caldera trails.

**TRAILS**

- **4) The existing Molten Land Trail and Whispering Pines Trails** would be reconstructed and several additional trails constructed, providing opportunities to access a kipuka, tie to Lava River Cave and/or visit additional lava flow areas near Lava Lands.

- **5) The remaining 1/2 mile (yet to be reconstructed) of the Paulina Lakeshore Loop Trail,** which travels through Little Crater Campground, would be relocated/reconstructed.

- **6) Winter trails** throughout the Caldera would be enhanced and expanded to provide improved access for both snowmobilers and cross-country skiers.

- **7) The Paulina Peak Trail** would be reconstructed, with relocation needed on about a mile of the trail, which goes from the floor of the Caldera to the top of Paulina Peak.

- **8) The Benham Falls Interpretive Trail** along the Deschutes River would be upgraded, with new interpretive signs and updated information.

- **9) The Dome Trail** east of the Caldera would be relocated to an area further away from rare and sensitive plant species.

- **10) A winter shelter and associated trails** would be constructed in the North Peak area to serve winter recreationists.

- **11) Outlying nordic trail links** would be constructed in the Caldera to expand the designated skiing opportunities available in the Monument.

- **12) Rehabilitation and revegetation work** is needed to rectify and control user impacts along the **Benham Falls Interpretive trails** on the Bend District side of the Deschutes River. These trails tie directly into the Monument.
• 13) **Big Obsidian Flow Trail** expansion would improve the accessibility of all users on the existing route. Possible additional routes onto the flow would be explored.

• 14) A **trail link from Benham Falls to Lava Lands** would be pursued. The objective is to accommodate existing levels of mountain bike and foot travel along this route, while locating the trail away from any resource concern areas.

• 15) A **new Intercrater Trail** would link the Big Obsidian Flow and Little Crater areas to Cinder Hill campground. The trail would be designed to accommodate, hikers and bikers, and provide various accessibility challenges.

• 16) **New winter links** along the existing summer South Rim Trail could provide additional trail opportunities and spectacular views to both snowmobilers and nordic skiers. Routes into and out of the existing trail would total about 2 miles.

• 17) **Peter Skene Ogden National Recreation Trail** needs two (2) miles reconstructed and one (1) mile relocated. This project is east of the existing Bridge 3 near 10-Mile Snopark.

• 18) **Improvements** are needed on the **existing Swamp Wells Trail** in the Flanks Zone.

• 19) The **new Monument Trail** (Phase 1) would connect the Lava River Cave area to Lava Cast Forest.

• 20) **Phase 2 of the Monument Trail** project would connect Lava Cast Forest to the existing Rim Trail in the Flanks Zone.

• 21) A **new trail link between Cinder Hill Trailhead and the Rim Trail** would increase utilization of the Rim Trail by providing a shorter tie and loop opportunity.

• 22) The **existing Parallel Trail to Rim Trail** would be reconstructed.

• 23) A **new trail link** would be provided between the **Warm Springs area and the Rim Trail**. This tie would increase utilization of the Rim trail by adding a shorter loop opportunity.

• 24) **New hiking trails in the Benham Falls Day-Use Area** could tie to Benham Falls Pond and/or to a nearby kipuka.
CRITERIA FOR PRIORITIZING and SELECTING PROJECTS

The Comprehensive Management Plan (CMP) for the Monument established programmatic direction for five (5) distinct zones: River Zone, Lava Butte Zone, Transition Zone, Flanks Zone, and Caldera Zone. In addition, we have identified an "entrance corridor" into the Monument, the Road 21 Corridor. Recreational developments will be located principally in three (3) zones: Lava Butte Zone (where the present visitor center is located); Caldera Zone (site of numerous campgrounds and facilities); and the Road 21 Corridor (main entrance to the Caldera).

Although the CMP developed programmatic direction, it did not identify specific priorities. Therefore, utilizing criteria established in the CMP plus additional specific criteria that we developed, we were able to identify which projects we would do first, which second, and so on. The criteria were based on: recreational demand, current recreation use patterns, and the intent of the Monument’s Comprehensive Management Plan. The criteria’s framework is not intended to preclude responding to unforeseen opportunities, nor does it supersede managing problems that require immediate attention (i.e. ongoing resource damage) in areas with a lesser priority. For example, the Visitor Orientation project is shown as the top priority of ALL projects. Although the project includes some new facilities, the overall intent of the project is to orient, direct, greet and raise the environmental awareness of ALL 300,000+ visitors to the Newberry Caldera area of the Monument. We feel that an informed, aware visitor will take better care of the existing network of trails, roads and recreation facilities.

Criteria for developed recreation projects:

1) Invest in existing development in the Caldera (renovate, expand, enhance) - both overnight and day use.

2) Invest in existing development in the Lava Butte Zone.

3) Invest in new development - expand development in the Lava Butte Zone south into the Transition Zone. Then, invest in existing development in the Transition Zone.

4) Invest in new development - establish new day-use opportunities in the Caldera.

Criteria for trail projects:

1) Invest in existing trails/trailheads in the Caldera and Flanks Zones (renovate, enhance, mitigate).

2) Invest in existing and new trails/trailheads in the Lava Butte Zone (in conjunction with renovation of Lava Lands Visitor Center).

3) Invest in new and existing trails/trailheads that enhance and connect the Transition and the Lava Butte Zones.

4) Invest in new (day-use) trail development in the Caldera and Flanks Zones.

Additional criteria:

1. Work first on projects that mitigate: safety concerns; resource concerns; or heavy use areas.
2. Secondly work on projects that renovate or enhance existing facilities aimed at better meeting user needs.

3. Then work on projects that would expand existing facilities (implies new facilities).

4. Put available funds first to areas where we have the most visitors.

5. Schedule projects in time to maximize the opportunities for partnering.

How projects actually get accomplished and funded will be a function of internal and external sources (Forest Service Capital Investment Program (CIP) funds, partnerships, etc.).
## BUDGET SUMMARY OF IMMEDIATE NEEDS PROJECTS *

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*Table Key:
- F = feasibility/NEPA decision for a project
- S/D = survey and design for a project
- C = construction for a project

CNFC = capital investment fund code for recreation facilities
CNRN = capital investment fund code for recreation roads and trailheads
CNTR = capital investment fund code for trails
BUDGET SUMMARY OF IMMEDIATE NEEDS PROJECTS * (continued)

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<td>Newberry 2 Trails</td>
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**FY 2000**  
($s are in thousands)

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<th>CNRN</th>
<th>CN-TR</th>
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* Table Key:  
- **F** = feasibility/NEPA decision for a project  
- **S/D** = survey and design for a project  
- **C** = construction for a project

**CNFC** = capital investment fund code for recreation facilities  
**CNRN** = capital investment fund code for recreation roads and trailheads  
**CNTR** = capital investment fund code for trails
Budget Summary

NNVM Needs

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Legend

- [ ] CNFC
- [ ] CNRN
- [ ] CNTR

CNFC = capital investment fund code for recreation facilities
CNRN = capital investment fund code for recreation roads and trailheads
CNTR = capital investment fund code for trails
Part Five
References and Appendices
APPENDIX 1

MEDIA METHODS GLOSSARY
Interpretive Media Descriptions

Activity Guide: Special written guide used by both children and adults to lead them through an activity in the Forest or in an Interpretive/Visitor Center.

Audio-Visual Program: An interpretive presentation using slides, movies, or video with an oral presentation or canned narration. May take place outside in amphitheaters or indoor in theaters.

Auto Tour: An interpretive tour along a road. This may be a road built just for the tour or a road with other uses. The tour may include a guide booklet, a cassette audio tape, signs along the route, or be a guided tour by an interpreter.

AV-Theater: A variety of indoor facilities for showing movies, videos, and slide programs. They range from large theaters with wide screens and elaborate seating to stand-up spaces with small screens.

Book: A lengthy interpretive publication featuring cultural or natural resources, or management activities.

Brochure: A small publication either given away or sold that interprets for visitors some feature(s) or process(es) either natural or man-made. Varies from simple one-color document with line illustrations on a single sheet to multi-page, multi-color publications with color photos.

Bulletin Board: A wooden board or cluster of boards mounted on a support system for displaying information to visitors. May include a roof or other cover protection. Information displays may include posters, maps, regulations, photos, etc.

Contact Desk: A counter for visitor contact with uniformed Forest Service employees and volunteers. Located in visitor centers and other contact stations, these contacts exchange information, directions, sales, free materials, interpretation, etc.

Demonstration: A live demonstration by an interpreter of a technique such as flintknapping or basket weaving, may be done indoors or outside by a single individual or group. Visitors may be encouraged to participate.

Diorama: A type of exhibit in which an indoor or outdoor scene is replicated either in a full-size or scaled size. Natural and artificial materials are used to create the scene and the senses of touch and smell may be used to reinforce the viewing. Visitors usually view the scene from outside, but in some cases are encouraged to walk through the exhibit.

Display: Thematically designed flat wall displays that use maps, photos, art work, and text to interpret various topics. They are located indoor or outdoor under cover.

Elder Hostel Program: A nationwide and worldwide series of educational programs developed for and available only to people over 65 years of age. Programs cover a diversity of subjects and the lengths of the programs vary.
Evenings Program: An evening interpretive program centered around an audio-visual show. May include a campfire, sing along, stories, and other family-oriented activities.

Exhibit: Thematically designed three-dimensional exhibit may include artifacts, user-activated devices, models, hands-on replications, specimens, etc. Usually includes text or studio messages.

Field Seminar: An outdoor program for small groups covering various cultural and natural resource subjects. These programs cover one or more days and have a fee.

Free Brochures: A variety of interpretive and informational materials displayed and given away by the agency. The materials include brochures, small maps, newspapers, posters, pins, patches, pencils, and other Forest-related materials.

Guided Walk: An indoor or outdoor walk led by an interpreter for a variety of size groups. During the walk the interpreter uses various communication methods to interpret features or processes, most walks are organized and scheduled but sometimes they occur to meet visitor needs and demands.

Interactive Video: A video program in which visitors interact with the program displayed on a monitor by responding with touch screens, buttons, or control sticks. The programs include menus of information, learning games, etc.

Interpretive Signs: Thematically designed sign covering various topics used at viewpoints, near special features, in kiosks, along trails, and at roadside pulloffs. Mounted so they are visible to all viewers, they are made of embedded fiberglass, metal, wood, or porcelain enamel-coated.

Interpretive/Visitor Center: A building designed to provide interpretation and orientation through a variety of methods such as personal contact, display and exhibits, AV programs, etc., usually located on-Forest where outside interpretation is an extension of the inside.

Kiosk: A small outdoor structure with orientation, information, or interpretive displays with a roof for weather protection.

Living History: The use of period dress, audio/visual, props, and historical settings by actors/actresses to recreate a time in history. Usually involves the audience as participants.

Map Tear Sheet: A one-page guide map that comes in pads of easily torn off sheets.

NRE Newspaper: An interpretive guide in a newspaper format printed on newsprint paper. The newspaper may include articles, photos, maps, schedules, stories, and illustrations.

Posters: A single large page sheet with any combination of photos, text and graphics that displays a special place, event, program or regulations to visitors.

Open Excavation: An archaeological excavation developed especially for the purpose of allowing visitors to peer into a scientific archaeological investigation. The walls of the excavation are permanently retained allowing visitors to safely view into the "dig."

Radio Transmission: A special local radio transmission used to broadcast local visitor information within a limited area via small range transmitters. Signs are usually used to inform visitors to dial into the transmissions.
Recreation Opportunity Guide (ROG): A publication that features recreation opportunities such as trail hikes, climbs, cross-country skiing routes, etc. Most describe each opportunity on one or two pages including a brief narrative, map distances, conditions, special features, seasons of use, etc. They may be packaged in groups and sold in booklets.

Relief Model: This is a three-dimensional topographic scaled model showing land forms, facilities and features on the land. Some have push button lighting and text to emphasize and explain the area's attractions. Adjacent photos can be used to show visitors the on-the-ground views.

Replication: A life-size replication of an artifact or natural item that visitors can view, touch, or use.

Roving Interpreter: The use of a field interpreter who informally provides interpretation on a spontaneous basis and reacts to visitor use and needs. Usually utilized in areas with heavy visitor use and often supplements scheduled interpretive activities, may also be used in interpretive/visitor centers.

Sales and Publications: A variety of interpretive and informational material usually displayed and sold by a non-profit interpretive association. The materials include books, brochures, maps, slides, posters, videos, calendars, games, and other Forest-related materials.

Sensory Device: Specialized exhibits that utilize the sense of touch, smell, hearing, and taste to interpret. Included are touch tables, temperature control devices, scratch and sniff displays, etc.

Special Event: An interpretive activity which is scheduled to occur at a special time such as an anniversary, a festival, an opening, a dedication, etc. The event may vary from one-time happening to a yearly event. It usually includes a variety of interpretive media such as guided walks, talks, demonstrations, exhibits, etc.
APPENDIX 2
DRAFT
INTERPRETATION AND BARRIER-FREE ACCESS IN THE RECREATION OPPORTUNITY SPECTRUM (ROS)

The Recreation Opportunity Spectrum (ROS) is used to help identify, quantify and describe recreation settings, and the ranges of opportunities available to visitors. These ranges also include what types of interpretive media and barrier-free access are considered within the norm for each classification.

**Primitive (P):**
Interpretive media range:
- Self-discovery, sharing with friends, no site facilities or programs

Barrier-free access range:
- Level 1: most difficult access
- This is the lowest level of accessibility, and therefore presents the greatest challenge to people irrespective of ability; amenities of any kind are generally not provided. The recreation settings may be inaccessible for many persons with disabilities via their normal means of locomotion: horseback, canoe, etc.

**Semi-primitive Non-motorized (SPNM):**
Interpretive media range:
- Self-discovery, along with books, guides, maps, some sharing with friends, no site facilities

Barrier-free access range:
- Level 2: difficult access
- Programs, services and facilities provided in this setting present a lower level of accessibility than either Level 3 or Level 4, and therefore present an even greater challenge for all people. The settings may not be accessible by a continuous path of travel, surface materials may be natural, and linear slopes may be determined by the environment: trails and paths, if provided, however, should not exceed 12% slope, and should be free of obstacles and barriers such as fallen trees, etc. Development or modification of the environment may be limited.

**Semi-primitive Motorized (SPM):**
Interpretive media range:
- Self-discovery with books, maps, guides, some sharing, no site facilities

Barrier-free access range:
- Level 2: difficult access

**Roaded Modified (RM):**
Interpretive media range:
- Combination of self-discovery and unstructured contact with Forest Service staff (usually not interpreters), some Forest Service publications, some simple on-site facilities such as signs, numbered posts, simple viewpoints, etc., using rustic material.

Barrier-free access range:
- Level 2: difficult access
Roaded Natural (RN):
Interpretive media range:
- Limited structured, seasonal contact with Forest Service interpreters doing walks, programs in natural setting, many Forest Service publications, variety of simple to moderately complex structures and facilities such as interpretive trails, overlooks, amphitheaters, boardwalks, etc., using native and native-like materials.

Barrier-free access range:
- Level 3: moderate access
- Programs, services and facilities provided at this level present a lower level of accessibility than Level 4, and therefore present a greater challenge for some persons with disabilities. Level 3 recreation settings are still accessible by a continuous path of travel, but surface material may exhibit a rougher texture, and linear slopes should not exceed 8.33%.

Rural (R):
Interpretive media range:
-Frequent structured and unstructured seasonal contact with Forest Service interpreters doing guided walks, programs for small to medium size groups, partnerships with resorts, tours, etc., many Forest Service publications, variety of complex structures and facilities such as kiosk, contact stations, interpretive trails, small visitor center, exhibits, overlooks, amphitheaters, etc., using refined, native-like materials

Barrier-free access range:
- Level 4: easy access
- All programs, services and facilities provided are fully accessible. Recreation settings at this level are intended for independent use by people with disabilities. Access is by a continuous and integrated path of travel to and from support facilities: parking, visitor centers, exhibits, camping, etc.

Urban (U):
Interpretive media range:
- Almost constant structured contact, usually throughout the year, with Forest Service interpreters doing walks, programs, visitor desk, sales, etc., for medium to large groups, partnerships with resorts, associations, friends groups, etc., many Forest Service publications, complex facilities such as visitor centers, complex exhibits, large amphitheaters, book stores, etc., using highly refined material and technology.

Barrier-free access range:
- Level 4: easy access

Note: For more in-depth information concerning ROS specifications, refer to the Forest guidelines.
APPENDIX 3

STANDARDS FOR INTERPRETATION

In order to effectively reach visitors to the Newberry National Volcanic Monument with interpretive messages, there are specific standards that should be met in order to ensure a quality, satisfying experience. These standards are:

1. Interpretation is “barrier-free” (including language, cultural, physical, and sensory barriers).

2. Interpretive services are compatible with the Recreational Opportunity Spectrum.

3. Interpretation needs to target specific user groups such as: children, seniors, local residents, schools, clubs and organizations, tours, recreation groups, and people who do not traditionally participate in interpretive activities.

4. Interpretive activities/media are compatible with the carrying capacity and sensitivity of the resources being interpreted. Interpretive opportunities should be maximized while minimizing impact to the resource and the recreation experience of the visitors.

5. Information and orientation are different from interpretation, but information and orientation media can be made more appealing and useful by employing interpretive techniques.

6. Interpretive opportunities should be flexible to meet changing conditions and management policy.

7. Facilities and interpretive media will use design, color, and graphics to attract attention, yet not detract from the natural setting.

8. All facilities and interpretive services and programs will have some identification with the U. S. Forest Service.

9. Forest Interpretive Program is consistent with the interpretive element of the Forest Plan which directs (in summation) that - The Forest will provide interpretive facilities and programs and natural resource education programs that keep abreast of visitor’s needs and desires. These will be provided in a variety of locations using a variety of methods.
FOUR LEVELS OF INTERPRETATION

Level I: Orientation

*Physical Comfort and Need:* Where is...the bathroom, water, coffee, food, etc. How do I find my way around to the next place? Where am I now?

These questions are nearly the same everywhere. Forest visitors (residents or non-residents) are barely able to listen to programs if they are uncomfortable. It is essential in all public contacts. This is not interpretation (see Levels III and IV), but it is essential to achieve the higher levels. Visitors are not interested in progressing further until this basic level is satisfied.

Level II: Information

*Mental Involvement:* Once the physical needs are met, visitors are ready to ask questions about the area, National Forest features, and points of interest. At this point the questions will be specific to the area and they will be receptive to new ideas and concepts. This information will form the basis for interpretation (Levels III and IV).

Level III: Appreciation

*Emotional Involvement:* As the interpretive stories are told and the preliminary questions are answered, visitors begin to gain an understanding of the subject and appreciation develops. This, in turn is the basis for the next level.

Level IV: Commitment

*Personal Involvement:* This level is the one that Interpretive Services strives to meet. As Freeman Tilden stated "The chief aim of interpretation is not instruction, but provocation." With physical needs met, questions answered and feelings of appreciation aroused, Forest visitors are ready to be guided towards commitment — involvement in the natural and cultural resources. At this level visitors can be inspired to want to care for their Forest, understand management, and become involved in decisions.
APPENDIX 4B

VARIABLE SERVICE OPTIONS

Because budgets are variable, there is a need to identify those options that would allow the selection of a variety of service. At every level of service, it is important to meet the interpretive goals and objectives (see page 6 and 7), at every site. Full implementation of all recommended services would provide the best blend of opportunities and appeal to the broadest range of visitor interests. This list identifies the interpretive media and their long-term "maintenance needs." These media are prioritized by their relative importance to meeting the interpretive goals and objectives, and to providing a range of services to the millions of visitors that will be coming to explore Newberry National Volcanic Monument. With any given budget, it should be possible to select a blend of these media and services, and still meet the interpretive goals and objectives.

MEDIA

I. Publications
   a. Maps: Revise and update every three to five years.
   b. Newspapers: Update and create new copies one to two times a year.
   c. Brochures: Easily expandable, accessible, can be self-service and self-supporting, should be updated as features change.

II. Self Instructive
   a. Interpretive Trails: Updated as features change.
   b. Interpretive Signs: As above.
   c. Indoor Interpretive Displays: More complex exhibits (e.g., seismographs, laser dome sighting device), require frequent maintenance and adjusting; effectiveness should be reviewed every year, exhibits updated every two years.

III. Live Interpretation
   a. Entrance Station: Flexible to meet demand, low maintenance
   b. Information Desk: Should be designed to be usable both staffed and unstaffed; flexible to meet demand.
   c. Live Interpretive Programs: Flexible, adaptable, may include audio/visual media.

The primary objective is to fully fund all media and interpretive staff, in order to provide the best possible experience for the visitor. If budget constraints create difficulties, it is important to seek out creative funding opportunities to provide professional staff at all facilities. Associated with this, the development and staffing of sites should follow the guidelines set in Staffing Strategies.
APPENDIX 5

PROGRAM AUGMENTATION THROUGH PARTNERSHIPS

Partnership opportunities in the interpretive area are many and varied. In almost all cases, these partnerships are limited to time, equipment, supplies, facilities, etc. They rarely involve the exchange of dollars except possibly with the construction of facilities on a one-time basis.

It needs to be recognized that partnerships are a two-way street. They involve giving, often more than getting, at least in tangible benefits. This is especially true in the early stages of courting any partner. The Forest Service will often be required to produce or show the benefits before there is much of a return from the partner.

In order to develop these partnerships and to maintain them, the Forest Service will need to have a person(s) available to work with partners and potential partners on both the District and Forest levels. This person will need to recruit partners, sell the benefits of an interpretive program, and carry on agreements with partners. In return partners will usually provide places to present programs, volunteer time, marketing and publicity, goods and services, and maybe most important, an interested and willing audience for interpretive programs.

Following are examples of types of partnerships that can be utilized. This is not a comprehensive list but is only included to spark the imagination.

**Other Agencies and Organizations:** Other agencies and organizations often have interpretive staff, facilities, volunteers, and an audience or a public. The resources and contacts of these agencies can often be used by the Forest Service in return for sharing of our interpretive services with them. An entire interpretive cadre could be formed, made up of employees and volunteers of many agencies. In some cases agencies may have some funding for interpretation but not enough to hire an interpreter. Pooling of dollars could possible provide the means to hire an interpreter to serve several agencies. Other possibilities could include the joint development of signing, interpretive trails, visitor centers, etc.

**Chambers of Commerce and the Tourism Industry:** Chambers, visitor and convention bureaus, and regional tourism boards can use their contacts for marketing, scheduling, and promoting interpretive services and tourism. A partnership with these groups can increase the effectiveness of reaching our audiences. In return, the Forest Service is an active participant in the local and regional tourism economy.

**Museums:** The Forest Service has much to offer museums in the form of training, interpreters, etc. The museums have much to offer the Forest Service. They usually have support from Historical Societies and volunteers who are often willing to contribute in some way to an interpretive effort. They have excellent facilities and a ready public hungering for knowledge. The contacts and outreach of the museums can greatly expand and enhance a Forest Service interpretive program. An interpretive program, on the other hand, can greatly enhance the museum. Museums can also provide assistance with grant writing, research, costuming, supplies, etc.
Businesses: Businesses are viable interpretive partners and probably under-utilized. We often think in terms of grants from large corporations while overlooking the many small, but local entrepreneurs, who might form the backbone of a very effective interpretive network. With businesses, more than any other partner, it is necessary to adopt a "show me" attitude. In the early stages of development, the Forest Service should expect little in return. Only as a business owner begins to see the benefits (likely in the form of profits), will the business begin to promote and actively support an interpretive program. Business involved in the tourist industry have many patrons who desire and can benefit from interpretive programs and facilities. Their facilities are excellent places for the Forest Service to contact an interested public. Their customers are also usually patrons of the National Forest as well. When these businesses begin to realize the benefits of interpretive programs they often will begin to take an active part in a number of ways. These ways could include marketing, cash contributions, hiring of or help with interpretive staff, or the provision of goods and services. Examples of the types of businesses that might provide these types of opportunities are: lodging establishments, resorts, tour groups, booking agencies, etc.

Non-profit and Interest groups: These organizations are many and varied. Some are very narrow in scope and some very broad. Examples are Audubon, Trout Unlimited, Ducks Unlimited, outdoor groups, wildlife rehabilitation centers, Elderhostel, youth hostels, Northwest Interpretive Association, etc. These groups can provide expertise, marketing, volunteers, sometimes grants, or in cases like Elderhostel a part of the fee that is charged.

Individuals: There are opportunities to establish partnerships with individuals as volunteers. Many times, individuals are interested in certain aspects of interpretation and want to be involved. This usually happens only in the case of ongoing programs. Volunteers will get involved with ongoing programs much more readily than they will with carrying the bulk of the load for a program. It would be presumptuous to assume that a program could be carried on by volunteers without a heavy commitment by paid Forest Service staff.

Schools and Youth Organizations: Schools are always on the lookout for educational opportunities and have facilities and personnel that can often be useful. They usually do not have dollars to contribute to outside efforts but are very willing to include information about National Forests, resources, etc., in their curriculum, especially if there is an agency person to go with it. They have many community contacts, volunteers, and trained educators who will often volunteer in areas of personal interest that would enhance an interpretive program. Resources such as commons areas, class rooms, mailings, etc., can also be valuable resources to an interpretive effort. Youth Organizations, such as the Boy Scouts, the YMCA, the Girl Scouts, etc., are also eager for educational opportunities. Natural resource education can be provided at summer camps, weekly meetings, through recreation opportunities, etc.