

**FINDING OF NO SIGNIFICANT IMPACT**  
**Reach the Peak**  
**Lassen Peak Trail Rehabilitation Environmental Assessment**  
Lassen Volcanic National Park  
*February 2009*

**Introduction**

This Finding of No Significant Impact (FONSI) documents the decision of the National Park Service (NPS) to adopt Alternative C, with slight modifications from the preferred alternative as presented in the Lassen Peak Trail Rehabilitation Environmental Assessment (rehabilitation of Lassen Peak Trail and construction of the Manzanita Creek Connector Trail), and the determination that no significant impacts on the quality of the human environment nor impairment of park values are associated with that decision.

**Project Background**

The Lassen Peak Trail began as a foot path up the peak, with some construction occurring by the early 1920s, shortly after the eruption. The formal trail was originally designed in 1929 to have a width of four feet and a grade of 15 percent by NPS engineer Ward P. Webber. NPS Chief Engineer, Kittredge identified the purpose of National Park trails in a speech at a conference in 1915. . . *as a means for visitors to find inspiration more fully than from a road. Properly built trails, whether in the frontcountry or backcountry, constituted the best way to make new conservationists and prepare the next generation to carry on the work of protecting the national parks and the ideals associated with wilderness preservation* (NPS 2009: section 8, page 5).

The Lassen Peak Trail was reconstructed, beginning in 1930. During the Mission 66 period, it appears as if a rehabilitation project on the Lassen Peak Trail was undertaken and it is during this time that many of the non-historic mortared rock walls were constructed, however, it is clear that there were several rehabilitation efforts, because the various extant walls differ from each other based on their construction (mortar and rocks).

Pit toilets were dug adjacent to the peak trail beginning in 1936. From about 1970 to 1995, toilets were routinely carried in by helicopter to a point two-thirds of the way up the trail behind a large rock outcrop. Today, with no toilets, there are numerous areas where people appear to be using areas behind rocks, rock walls or interpretive signs. An August 2009 survey indicates that many of the historic and non-historic rock walls have deteriorated and are failing, either because rocks have fallen out of them or because they have been undermined or both.

A hiker's shuttle was originally approved as part of Lassen's Commercial Services Plan finalized on April 17, 2007. The Lassen Peak EA reaffirmed the Park's desire to have commercial transportation on the main park road. The opportunity is available for a private individual or company to provide this service.

**Purpose and Need**

The Lassen Peak Trail begins at the Lassen Peak parking lot (8,440 feet) and terminates at the top of Lassen Peak (10,457 feet). What began as a seasonal social trail in the early 1900s and was later constructed and envisioned as one of the park's premiere visitor experiences in the 1920s, has become a heavily traveled trail, a popular 2.5 mile hike to the top of one of the largest plug dome volcanoes in the world. It is a visitor experience undertaken by more than 30,000 of Lassen Volcanic National Park's 400,000 annual visitors, primarily during the 90-day summer peak season, when up to 600 people take the hike on a typical Saturday.

Hiking the non-wilderness Lassen Peak Trail is a highlight of the park visitor experience. The trail condition, however, varies from good to poor, with many trail locations that are deteriorating and eroding. This condition contributes to numerous safety concerns and resource degradation along the route. Among the most pressing problems are those that follow:

- ◆ In some locations, the trail is narrow and does not allow adequate space for two hikers to pass when traveling in opposite directions.
- ◆ Some sections of the trail are difficult to locate in the early season after the road and trailhead open. During this time, when snow still covers north-facing slopes and high elevations, some sections of the trail are consistently cut by visitors avoiding steep icy slopes. Hiking off the established route contributes to off-trail erosion and loss of plants.
- ◆ Some rock retaining walls constructed during the historic period are in need of repairs following decades of trail use. Some poorly constructed rock retaining walls have been damaged by weathering and off-trail travel.
- ◆ Although historically pit toilets were located along the trail, none are now present. As a result, the three to six hour excursion on the trail results in observable human waste impacts.
- ◆ Interpretation of the geology, scenic views and other key features associated with the trail is inconsistent and varies in appearance and themes, depending on when the signs or wayside exhibits were installed.
- ◆ Although groups frequently use the trail, there are few appropriate areas that allow groups to step aside to discuss key features or to allow other hiking parties to pass.
- ◆ The loss of some historic trail features, such as switchback-end (corner) vista points, has occurred from visitors' short-cutting switchbacks over time.
- ◆ Because access to the trail is only available from the Lassen Peak Trailhead parking area, visitors must often drive from distant campgrounds to access the trail (no trails connect to it from other popular visitor use areas).

In addition to problems primarily associated with trail access and the main trail, there are problems associated with the summit area visitor experience and resource conditions, including the following:

- ◆ The trail terminates in an unsatisfactory location for some visitors, because the current end of the maintained trail is not actually at the true summit.
- ◆ Off-trail hiking in the crater contributes to the trampling of sensitive plants and often places visitors in the position of scaling rock outcrops.
- ◆ Unmarked social trails are used to climb to the true summit and to explore the crater rim. Although marked trails in the crater rim area were constructed beginning in 1937, only remnants exist and they cannot easily be followed.
- ◆ A radio repeater located at the true summit impedes the visitor experience because it can be seen from the main park road / Volcanic Legacy Scenic Byway - All American Road.

Lastly, a popular adjacent area – the Vulcan's Castle, as well as connection to the Manzanita Lake area are only available via cross-country hiking and have therefore been affected by social trails, which in turn affect wilderness resources. Increasing access to the Lassen Peak Trail via a new trail in Wilderness would allow visitors another means to access the trail while mitigating trampling and other wilderness impacts, and would open access to the Vulcan's Castle, one of the park's most spectacular wilderness destinations. Extension of the Manzanita Creek Trail to the Vulcan's Castle area would provide trail access to a unique area of the park and would mitigate currently occurring resource impacts by decreasing the number of social trails.

Proposed rehabilitation of the Lassen Peak Trail would improve the visitor experience, reduce resource damage and improve visitor safety. If physical connection to the Manzanita Lake park developed area was made, it could diminish the need for visitors to drive through the park to access the trailhead and expand visitor use opportunities but would require new trail construction in wilderness.

## **Alternatives Analyzed**

Four alternatives were analyzed in the Lassen Peak Trail Rehabilitation Environmental Assessment. These alternatives are labeled Alternative A: No Action (Continue Current Management), Alternative B: Minor Changes in Lassen Peak Trail Visitor Experience, Alternative C: Modest Improvements in Lassen Peak Trail Visitor Experience, and Alternative D: Lassen Peak Trail Visitor Use Accommodation.

The following goals guided development of the alternative actions proposed for the Lassen Peak Trail Rehabilitation project:

Improve Resource Conditions and Visitor Experience by:

- Minimizing trail-cutting;
- Improving safety conditions;
- Addressing human waste management issues (including the lack of a trailside toilet);
- Increasing the consistency of interpretation;
- Considering a trail to connect the Manzanita Lake area to the Lassen Peak Parking area; and
- Considering designation / delineation of summit area trails.

Among the key considerations were improving the visitor experience on the trail, including trail use, human waste management, safety and interpretation; and protecting natural, cultural and wilderness resources. Proposed specific improvements considered include features that would allow for hikers to safely pass in opposite directions; improve the visual quality and content of interpretive signs; address public health issues regarding human waste; ongoing protection for sensitive plants; eliminate off-trail travel; and providing a means for visitors to reach the trail from the north side of the park, as well as to access the adjacent Vulcan's Castle area.

Although the Lassen Peak Trail and Manzanita Creek Connector Trail could be separate projects, impacts from these were considered together because both projects were being considered by the park at the same time. As required by NEPA, consideration of the impacts of both projects ensures that potentially concurrent cumulative impacts are analyzed together, not in a piecemeal fashion.

## **Selected Alternative (Alternative C)**

### Summary

*Elements Common to the Action Alternatives:* All action alternatives (including the selected alternative) included: rehabilitation or reconstruction of the trail tread, including rock walls and steps; shoulder season way finding / access improvements; relocation of the radio repeater structure; use of rock from within and outside the park for trail rehabilitation; helicopter transport of materials for the Peak trail rehabilitation; ongoing trail maintenance; increased trail monitoring; and potential implementation of a hiker shuttle.

*Site Specific Actions:* The following actions were specific to the selected alternative: The lower section of trail (approximately 1.2 miles to tree line) would be widened to approximately six feet, while the upper section would remain at its historic width of approximately four feet. A trailside toilet would be provided at a wide area about 0.6 miles from the summit. Approximately 6-8 new turnouts would be constructed alongside the trail to accommodate groups of 10-15 people. There would be designated loop and/or spur trails in the summit crater area and a designated route with stabilized tread and a cable with stanchions leading to the true summit, where the summit register would be identified. A new trail in Wilderness to connect the Manzanita Creek Trail to the Lassen Peak Trail would also be constructed.

### **Changes Incorporated in the Selected Alternative**

In response to public comments, the following changes to the Preferred Alternative (as presented in the EA) have been incorporated into the Lassen Peak Trail rehabilitation project:

- Providing more information in the sign to be located at the base of the trail regarding safety and resource issues visitors may encounter on the trail; and
- Retaining the summit register in its current location and at the summit plateau area, pending removal of the radio repeater structure. Evaluation of both locations would be made when the repeater is removed. There is a potential that it would remain in both locations evaluated (as in Alternatives A and C).

### Detailed Description

**Vision:** The Lassen Peak Trail would accommodate a modest increase in visitor use capacity while maintaining a rugged hiking experience.

## *Elements Common to the Action Alternatives*

### **Trail Improvements**

#### *Shoulder Season Way Finding:*

Bamboo or other narrow wands would continue to be used to mark the location of the Lassen Peak Trail during the shoulder seasons to prevent visitors from becoming lost or from wandering into unsafe areas near the edges of switchbacks. Trail wandering would continue to occur in spring and fall when the trail is snow-covered. Wandering the trail also minimizes trail-cutting and therefore erosion damage. The park would also continue to use crews to shovel trenches in some sections.

#### *Shoulder Season Access:*

At switchback ends on the lower section of trail where snow / ice obscure the existing trail during spring and fall and visitors now need to choose between safety and resource damage options by traversing a steep, icy section of trail or cutting a switchback, a series of steps to form a trail bypass would be constructed to allow for improved visitor safety during spring and fall. Other similar areas where steep icy sections preclude walking on the established trail could also be identified and slight reroutes constructed over time as needed. The number of sections with steps would be determined depending on the success of initial sections designed to curb switchback-cutting.

*Repeater:* The repeater structure, electronics and photovoltaic array would be removed. Frequency spread modeling and analysis has identified other locations that can give similar radio coverage for all agencies that use this site. The repeater would be left in place for up to three years to allow for an alternative system to be constructed in another location(s) to provide acceptable radio coverage.

### **Trail Construction**

*Procurement of Materials:* Rock needed for rock wall construction would be obtained from existing wall deconstruction, from loose talus at the Lake Helen quarry or from outside the park. The majority of the rock would come from local quarries outside the park. It would be trucked to helipads within the park and then air-lifted to pre-identified landing zones along the trail. Small quantities would also be harvested from the Helen Lake quarry and locations on the peak.

*Transport of Materials (non-wilderness):* Helicopters would be used to transport materials to strategic locations specifically selected to minimize impacts to soil and vegetation and to provide for ease of handling the imported materials. Rock would then be moved to the job site by carts or other low impact mechanized devices. Park staff will plan the safest mix of using helicopters and trail carts to safely and efficiently rehabilitate the trail. Movement of these materials and supplies will be timed to minimize visitor disturbance. Equipment and materials would primarily be staged from Lost Creek helipad and flown to trailside locations and then moved by hand, trail cart or stock from those locations to project sites along the trail. For logistical reasons, stock is the least likely means used to transport rock. There would be no impacts on wilderness from this non-wilderness transportation of materials for the Lassen Peak Trail.

*Transport of Materials (in Wilderness):* There would be no helicopter transport of materials associated with the construction of the Manzanita Creek Connector Trail located in Wilderness.

*Rock walls:* New and rehabilitated rock walls would be constructed with typical design details. Proposed rock wall designs are based on NPS standard trail designs (including the collective expertise of park and NPS trails staff). The typical design is for a four-foot high wall built on the steepest slopes. Variations of this design would be used for most walls (which are generally two to three feet high and are on less steep slopes). Similarly, for the handful of walls that exceed four feet, a modified design would be used. Typical designs have also been reviewed by State of California trails staff, who have concurred that the proposed design drawings represent a safe and long lasting approach.

### **Trail Maintenance**

Following trail rehabilitation there would continue to be ongoing trail maintenance as appropriate to minimize unsafe trail and facility conditions for visitors. The trail naturally deteriorates over time from visitor use, snow creep and other weather related factors.

## **Trail Monitoring**

Periodic monitoring of the Lassen Peak Trail would occur by resource, interpretive, maintenance or law enforcement park staff during the construction process for this project. Studies in other parks have shown that a uniformed presence improves compliance with resource protection measures and improves visitor safety more than signs or other methods. The park would endeavor to have a uniformed NPS staff member present on the trail during high use periods.

## *Alternative Specific Actions*

### **Lassen Peak Trail to Summit Plateau**

**Width:** The lower portion of the trail (approximately 1.2 miles) up to tree line would be widened where possible to approximately six feet (as noted above this is the average width of the current trail). Above treeline, the trail would continue at a width of approximately four feet

**Grade:** As originally constructed, there would be little change in overall grade and that grade would be approximately 15 percent according to its original designed grade. There would be a slight reduction in grade at some historic switchback corners where the trail would be extended to the historic viewpoint. Most historic viewpoints would be met by the trail in this alternative.

**Group Turnouts:** There would be approximately 6-8 new turnouts constructed to accommodate small groups of 10-15 people. These turnouts would be approximately 15 feet long and 10 feet wide (150 square feet) and could include benches constructed from local materials, such as large flat rocks, etc.

**Interpretation:** Interpretation would continue to be via a series of interpretive signs installed in 2002. In addition, there would be some effort made to increase NPS interpretive staff on the trail and to link electronic media programming to the trail. More signs would be added to replace those from the 1970s. In addition, NPS interpretive staff and electronic media programming would increase.

### **Summit Plateau**

**Visitor Experience:** Designation of routes extending beyond the Summit Plateau toward the Summit Crater and true summit areas and improvements in wayside exhibits and interpretive signage along the trail would improve the visitor experience.

**Rare Plant Enclosure:** The low profile fence enclosure that protects an endemic rare plant would be retained and expanded as necessary.

**Interpretation:** The interpretive panels would be replaced. Information would link to the new interpretive exhibits along the trail and identify landscape features. A Comprehensive Interpretive Plan would aid the NPS in determining the most appropriate stories to interpret on the Lassen Peak Trail.

### **Summit Crater Area**

**Access:** A narrow formal loop and/or spur trail(s) (0.2 – 0.4 miles long) would be designated and indicated with native rock cairns or similar monuments.

**Interpretation:** The new spur or loop trail(s) could be linked to an interpretive trail guide to identify points of interest.

### **True Summit**

**Access:** A designated route to the summit would be constructed. The first portion would follow the existing social trail alignment with a variable width that would not exceed 24". The final 100 yards would consist of stabilized rocks and soil and a cable held by stanchions alongside it to identify the path. Although the stanchions would remain, the cable would be removed in winter.

**Summit Register:** Once the radio system repeater structures are removed, the area would be leveled by moving materials around. The summit register would be retained in its current location but would also be located at the summit plateau area, pending removal of the radio repeater structure. Evaluation of the locations would be made when the repeater is removed and there is a potential that it would remain in

both locations evaluated. Documents and scribes left in the register would periodically be taken from the register for potential inclusion in the park's archives.

### **Toilets**

A trailside toilet would be constructed approximately two-thirds of the way to the summit. The toilet would have two user compartments and be gender specific. The toilet would initially be a low-odor vault evaporator toilet within a low-profile shelter. If the toilets are working acceptably after five years, a low-profile building faced with rock (to blend into the surroundings) would be constructed to contain them. It would be designed to be large enough to accommodate projected use and to be serviced regularly for cleaning and once a year via helicopter to remove waste (all waste would be contained or stored within the structure and disposed of in accordance with state and federal standards when removed). Although the building would not be visible from the highway or most lower elevation locations, it would be visible from the summit and from the trail. If the toilets are not functioning at an acceptable level after the five-year trial period, the park would explore other options, including removal.

### **Manzanita Lake Connector Trail**

The Manzanita Lake Connector Trail would begin from the Lassen Peak parking area and connect with the existing 3.5 mile long Manzanita Creek Trail and would primarily be constructed in wilderness. This trail would direct use onto a formal trail, which bypasses sensitive resources, instead of on an array of social trails. Social trails beginning from the Lassen Peak parking area have developed as visitors try to access Vulcan's Castle and other areas beyond the parking lot. Those at the end of the Manzanita Creek Trail have developed because that trail ends abruptly without an obvious final destination.

The connector trail would begin on the west side of the Lassen Peak parking area and continue west for approximately one mile, providing views down toward Lake Helen and Emerald Lake toward Conard and Brokeoff mountains. At that point, it would cross the saddle between Ski Heil and Eagle Peak, where views of the Trinity Alps are available. As the trail continues, it would descend toward the Manzanita Creek Trail and would include views of Loomis Peak, Thousand Lakes Wilderness, Chaos Crags, Crescent Cliffs (including Lassen Peak), Eagle Peak and Vulcan's Castle.

The trail would be designed with an overall grade of approximately 10 percent and would be approximately two feet wide and 5.5 miles long before connecting with the Manzanita Creek Trail (for a total length of approximately 9.0 miles between Manzanita Lake Campground and the Lassen Peak parking area). Approximately 5.15 miles would be located in wilderness. Due to its general side-hill location, a three to four-foot bench would be constructed for the trail tread with occasional dry-stack stone retaining walls (with buried rock foundations) and rock steps as needed. Trail surfacing would consist of crushed rock manufactured on site using hand tools. Both the surfacing rock and the rock for trail features would be obtained from areas alongside the trail according to the park's standards for use of local materials.

Several small unnamed drainages would be crossed and a small pond and a wet meadow skirted by the proposed trail. The trail would also traverse through a diverse mountain hemlock forest and several talus areas. There would be several places where large rocks would facilitate crossing of small perennial drainages and one location where a wooden bridge, constructed of local materials would be constructed. Other small drainages would be crossed by means of a puncheon, an elevated walkway which allows for water to freely pass underneath. The exact mixture of puncheons, wooden bridges and large rock crossings has not been determined.

The trail would be constructed using hand tools (pulaskis, McCleods, shovels, rock bars, etc.), but would also include some chainsaw use. The trail crew would use mechanical tools such as tampers and a punjar to construct the short sections traversing talus fields. The trail would traverse talus to avoid fragile meadow communities. The above tools and devices are the "minimum tools" because of the terrain traversed by the trail. All materials used would be from the local area and no blasting is planned.

No interpretive display panels or electronic media would be used or located in the wilderness portion of this trail.

### **Improve Manzanita Creek Trailhead Parking**

The Manzanita Creek Trailhead Parking area would be improved by enlarging it to hold 5 - 10 cars (approximately 750 – 1,500 square feet).

### **Restoration**

Ongoing restoration projects would continue and could include additional restoration of social trails as staffing and funding permitted. In addition, shortcuts between switchbacks on the main Lassen Peak Trail, social trails on the peak, and social trails in the Vulcan's Castle vicinity would be restored.

### **Cultural Resources Treatment**

To comply with the Secretary of the Interior's Standards for Rehabilitation (to minimize effects on the historic contributing features of the Lassen Peak Trail), trail rehabilitation would maintain / rehabilitate the original alignment and width from the trailhead to the wide area approximately half way to the summit plateau. Where dry-stack rock walls retain integrity, they would be stabilized using appropriate reconstruction techniques. Failing dry-stack rock walls would be rebuilt using original and imported rock. Where needed, new foundation rocks could be used. All mortared walls (non-contributing) are failing and these would be redesigned as dry-stack rock walls and would primarily rely on imported rock. Most historic switchback corners would be recaptured by extending the trail to meet them. There would be no adverse effect on the contribution of the historic Lassen Peak Trail to the Lassen Volcanic National Park Highway Historic District.

## **Summary of Other Alternatives Considered**

**Alternative A: No Action (Continue Current Management):** Existing management, including ongoing maintenance and occasional reconstruction of the non-wilderness Lassen Peak Trail, would continue. There would continue to be no trailside toilets and human waste disposal problems would also therefore continue. Social / way trails would continue to be the primary means of access in the summit crater and true summit areas. Interpretation would be provided by existing interpretive exhibits and occasional staff presence. Aside from removal of older exhibits, rehabilitation or replacement of exhibits would generally only occur as these were damaged.

**Elements Common to All Action Alternatives:** As noted above, all action alternatives (Alternatives B, C, and D) included: rehabilitation or reconstruction of the trail tread, including rock walls and steps; shoulder season way finding / access improvements; relocation of the radio repeater structure; use of rock from within and outside the park for trail rehabilitation; helicopter transport of materials for the Peak trail rehabilitation; ongoing trail maintenance; increased trail monitoring; and potential implementation of a hiker shuttle.

**Alternative B: Minor Changes in Lassen Peak Trail Visitor Experience:** The Lassen Peak Trail would be rehabilitated in a single, phased project to a consistent four-foot width (including narrowing of existing wider sections) to replicate its historic condition. No additional group turnouts would be added. There would be no trailside toilets, therefore human waste disposal problems would continue. Social / way trails would continue to be the primary means of access in the crater and true summit areas. The NPS would not maintain a summit register. Limited interpretive opportunities would continue to occur from rehabilitation of existing interpretive exhibits or occasional staff presence and programs.

**Alternative D: Lassen Peak Trail Visitor Use Accommodation:** The upper and lower sections of trail would be widened to approximately six feet, where possible. Trailside toilets would be provided in two locations (one located approximately 0.75-1.0 mile from the parking area and one approximately 0.6 miles from the summit). Approximately 6 turnouts would accommodate groups of 15-20 people and 2-4 turnouts would accommodate groups of 10-15 people. A formally constructed loop trail in the summit crater area would contain interpretive wayside panels. Another formal trail with even tread, including rock steps would lead to the true summit. The summit register would be moved down to the summit plateau area to allow more people to access it. A new trail in wilderness to connect the Manzanita Creek Trail to the Lassen Peak Trail would also be constructed.

## **Alternatives Considered But Dismissed**

The following alternatives or variations were considered during scoping and preliminary design phases of the proposal, but because of impracticality for meeting project objectives, inability to resolve need for federal action, or had foreseeable environmental impacts that were unacceptable, they were not carried forward for full consideration in developing the EA.

### **New Southwest Face Lassen Peak Trail**

Initially the proposed project was to have focused on constructing a new trail (approximately two miles long and six feet wide) on the southwest face of Lassen Peak to serve as a safe shoulder season (spring) access. It was envisioned that this new trail would melt out while snow lingered on the existing trail and would therefore be a safer shoulder season route. Upon construction, the new trail would have been open only to downhill hikers, while the existing trail would have been open to uphill hikers, creating a loop trail experience.

Although the southwest face trail would have been designed to discourage short-cutting and off trail travel it would have been constructed primarily in loose talus, resulting in an extensive and very expensive array of rock retaining walls and other stabilization measures, and the long-term need to routinely clear the trail, all expensive endeavors. In addition, rehabilitation of the existing trail would still have been needed.

As proposed this six-foot wide trail up the unvegetated southwest flank of Lassen Peak would also have been much more conspicuous than the existing trail. Although this trail would have melted out earlier (allowing for longer season hiking of Lassen Peak), it likely would have been more dangerous during descent due to being surrounded by loose talus, with the ongoing potential for short-cutting to result in a prolonged slide downhill.

Based on consultation with the USGS, the proposed route would have suffered from and been exposed to the same problems of snow cover and switchback cutting as the present route. More importantly, it likely would require more maintenance than the existing trail due to its location on a more unstable scree slope.

This alternative was considered and rejected because of its economic infeasibility; because it would have added dangerous conditions (as noted by USGS and California trail experts); because it would have been difficult to maintain; and because the existing trail was found to be historic.

### **No Use of Helicopters to Transport Materials**

Initial proposals focused on the use of trail carts and stock, rather than helicopters, to move materials and supplies. Large trail carts (only) would have forced the trail to be much wider and to remove / avoid the use of stairs. Stock use (only) would have required thousands of trips on a trail not designed for stock standards, which would have resulted in overuse of the trail before the rehabilitation was complete or in a redesign to stock standards. These means (complete reliance on trail carts or stock) were rejected due to their technical infeasibility and because they would have resulted in greater adverse impacts on the historic trail (from conversion to allow for routine wheeled vehicle use or major stock use).

### **Use of Blue Bags to Manage Human Waste**

Although a variety of means to manage human waste issues were considered, including a toilet located at the summit plateau (see below) and blue bags, these were eventually discarded. Because the Lassen Peak Trail is essentially a front-country trail used by people of all ages and backgrounds, requiring these visitors to use blue bags (as in mountaineering) to dispose of human waste would require a major visitor education effort to increase the comfort level of visitors in using them. Using a blue bag involves defecating in a blue bag and then carrying it to a designated blue bag depository. Because the Lassen Peak Trail is used by a wide range of the general public, rather than mountain climbers, it is likely that most would be reluctant to use the method. In addition because there are very limited opportunities for privacy, it is unlikely that most visitors would opt to use them, resulting in an inability to resolve the need for their use. In addition, their use would require other features, such as deposit locations and periodic removal of the bags / barrels.

Although blue bags are used successfully on Mt. Shasta and on some other peaks in the northwest, the situation and the visitors are very different. Mt. Shasta is climbed by fewer people, most with extensive backcountry and mountaineering experience. Because fewer visitors are spread over multiple routes, privacy is possible. There are no known areas that experience the number and type of visitors as Lassen Peak that rely on blue bags. The Lassen Peak Trail is a family trail with few trees or large rocks for privacy; it would generally be inappropriate for people to be squatting and defecating to use blue bags on the side of the trail given the number and array of visitors.

### **Constructing Different Kinds of Toilets / Toilets Located in Different Areas**

A wide array of toilet options were considered during the planning process, including locating a toilet at the summit plateau and constructing pit or vault or composting toilets. These options were eventually considered but rejected, primarily for technical infeasibility due to the high elevation anaerobic conditions as well as because of potential impacts to the Historic District. Summit area toilets were actually constructed in 1936 then were demolished by a wind event a short-time later and reconstructed again. Pit toilets have been discouraged by the State of California and vault and composting toilets would be infeasible due to the repetitive need to remove waste and because of the number of visitors that would likely use the facilities if they were present. Composting toilets work poorly at low temperatures, require daily consistent maintenance (which would have been unlikely to be achieved due to the day use nature of the trail), do not handle spikes in use well (most use would have occurred on two days of the week), and would require large solar air heaters which would have impacted a larger area and would not blend well with the environment.

### **Reducing the Size of the Lassen Peak Parking Lot**

Although the planning team initially considered modifications to the Lassen Peak Parking Lot, actions associated with this parking lot were previously considered in the park road rehabilitation environmental assessment and are therefore outside the scope of the proposed project. In addition, the team concluded that there was no need to modify the size of the parking area due to its consistent use for snowplay and during the summer. The Lassen Peak Parking Lot is also part of the Historic District.

### **Lassen Volcanic National Park as the Sole Rock Source**

Although most of the rock originally used in the construction of the Lassen Peak Trail came from the park, most borrow areas where rock was obtained have since been closed except for the Lake Helen quarry area. Obtaining all rock from inside the park would necessitate opening and developing a new quarry with a variety of unacceptable adverse impacts. New borrow areas are permitted to be opened in national parks only under a very strict guidelines identified in *NPS Management Policies* (2006). Because of the quantities of rock that would be needed for some parts of the rehabilitation project (such as rock walls in all alternatives), most rock would need to come from outside the park. The alternatives and the park's trail maintenance standards allow for use where possible of local materials, including nearby rock or rocks that have come from historically constructed rock walls. Loose rocks from the base of the Lake Helen quarry would likely also be used. In addition historic preservation standards are focused on allowing for the use of historic materials over imported materials.

### **Wide, Designated Summit Crater Loop**

Constructing a four-foot wide designated summit crater loop trail was considered and rejected in favor of two narrower options in Alternatives C and D. These narrower trails would be less expensive and have fewer resource impacts than a wider trail. In addition, the use of this area does not currently show a need for a wider trail. Although the hike up Lassen Peak is very popular, most visitors arrive at the top fairly tired and therefore most (more than 90 percent) do not explore the crater. With a more formal trail (including wayfinding), another 10-15 percent of visitors may choose to explore the crater area. Such an increase, however, would not justify a wider trail.

### **Narrowing or Greater Widening the Lassen Peak Trail**

Initially the planning team considered reducing the width of the trail in one of the alternatives to focus on a different type of visitor experience, however, two factors resulted in this being rejected: 1) the popularity of the trail, with approximately 22,000 hikers in 2008, making it the second most popular hike in the park;

and 2) research that led to understanding the historic nature of the trail and components of its originally designed width of four feet.

### **Constructing a More Direct Trail to Manzanita Lake**

A more direct trail to Manzanita Lake would have resulted in a slightly shorter trail but it would have been much steeper, with grades in excess of 12 percent, resulting in a trail that was not as pleasurable to hike and which would be difficult to maintain (due to increased potential for natural erosion). It is likely that the steeper trail would have resulted in a less desirable visitor experience, and would not have met project objectives for a high quality visitor experience.

### **A Quota or Reservation System to Restrict Day Use Lassen Peak Trail Hikers**

As noted in the GMP (NPS 2002), "There is no evidence to suggest that Lassen Volcanic National Park is, on a parkwide basis, exceeding or even close to exceeding its carrying capacity or that carrying capacity will be exceeded during the life of this general management plan considering the potential for increased visitation. While resource damage is occurring at discrete locations in the park, . . . that damage is attributable to poorly located or designed facilities and/or insufficient management of visitors, and can realistically be remediated by measures other than visitation reduction (NPS 2003B:18)." As a result this alternative component was rejected in favor of trail rehabilitation to allow for a more adequately designed facility, including the opportunity to design designated trails for areas experiencing resource damage (such as the summit crater and true summit).

### **Loop Trail around Vulcan's Castle**

This action, suggested as an additional short trail opportunity for day use visitors to the Lassen Peak Trailhead Parking Lot, was dismissed because a survey of the area could not identify a desirable route that would not be too steep. Instead, the proposed Manzanita Creek Connector Trail in Alternatives C and D would pass close to this area.

## **Environmentally Preferable Alternative**

In accordance with NPS Director's Order 12, Conservation Planning, Environmental Impact Analysis and Decision-making, the NPS in preparing the EA identified the Preferred Alternative as being the environmentally preferred course of action. The environmentally preferred alternative is that which promotes the national environmental policy as expressed in NEPA's §101(b), which considers:

1. Fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assuring for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attaining the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. Preserving important historic, cultural, and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice;
5. Achieving balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
6. Enhancing the quality of renewable resources and approaching the maximum attainable recycling of depleted resources.

The environmentally preferred alternative may also be considered to be "the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (46 FR 18026 – 18038). As specified in NPS Director's Order 12, through identification of the environmentally preferred alternative, the park managers and the public are faced with the relative merits of choices and must clearly state through the decision-making process the values and policies used in reaching final decisions.

As was discussed in detail in the Environmental Assessment, the alternative that best fulfills the criteria is Alternative C, the park's preferred alternative. Through review of potential cultural and natural resource impacts, effects on visitor experience, and mitigation strategies it was determined that the preferred alternative achieves the greatest balance between the need for repairing the trail and the need for preserving natural and cultural resources and improving the visitor experience in the park. This alternative was selected as the best alternative when taking into account greater enhancements and upgrades to park maintenance operations, visitor and employee safety, and long-term operational costs.

The Preferred Alternative has the following benefits:

- As with Alternatives B and D, it would rehabilitate the Lassen Peak Trail in one complete project within a few years, instead of intermittently, over time, as in Alternative A.
- As with Alternatives B and D, it would meet the criterion for enhancing safe, healthful, productive, and esthetically and culturally pleasing surroundings through its rehabilitation of the Lassen Peak Trail.
- As with Alternative D, it would meet the goal of providing the widest range of beneficial uses of the environment without harm from the construction and additional opportunities present in the designation of a summit crater trail, a true summit route and from construction of the Manzanita Creek Connector Trail.
- It would have the same beneficial effects as Alternative B and fewer adverse effects than Alternative D on natural and cultural resources, including on the eligibility of the Lassen Peak Trail as part of the Lassen Volcanic National Park Highway Historic District.
- By adding one restroom and a designated trail in the summit crater area and a designated route to the true summit, instead of two restrooms and designated trails in the summit crater and true summit areas as in Alternative D, it would achieve a balance between enhancing visitor experience (population) and minimizing resource use by enhancing preservation.
- By using fewer resources than Alternative D, Alternatives B and C would minimize depletion of resources. Because the trail would be widened less in the upper, narrow section, fewer rock walls would need to be completely reconstructed in Alternative C, compared to Alternative D. Allowing the lower section of the trail to remain wide would minimize work needed to narrow it as described in Alternative B.

## **Why the Selected Alternative Will Not Have a Significant Effect**

The NPS has determined that the Selected Alternative can be implemented with no significant adverse effects on soils, water quality, vegetation, wildlife, special status species, prehistoric and historical archeology, ethnographic resources, historic structures and cultural landscapes, visitor experience, or park operations. NEPA requires that decision-making regarding the analysis of significance be based on analysis of the proposed action with respect to the following factors:

- The Selected Alternative has a wide range of beneficial and adverse effects (see Measures to Minimize Environmental Harm below).
- The Selected Alternative will not adversely affect public health or safety.
- The Selected Alternative will not impact the unique characteristics of the area, including prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas.
- The effects on the human environment are known, and there were no controversial impacts or aspects of the proposed project that surfaced during the environmental analysis process.
- The Selected Alternative neither establishes an NPS precedent for future actions with significant effects, nor represents a decision in principle about a future consideration.
- The Selected Alternative will have *no adverse effect* on contributing features to these historic properties.
- The proposed project would have no effect on species listed or proposed for listing.
- No significant cumulative effects and no highly uncertain, unique or unknown risks were identified during preparation of the EA or during the public review period.
- The Selected Alternative will not violate any federal, state or local environmental protection laws.

## Measures to Minimize Environmental Harm

The following summary identifies the impacts and mitigation required for satisfactory implementation of the selected alternative. This summary assigns responsibility for ensuring the measures which minimize, eliminate or avoid these impacts are implemented.

All mitigation measures described in this section will be implemented. Further mitigation measures may be developed in response to ongoing informal consultation on this project and may also augment the measures described below. The measures identified below are designed to ensure that impacts to park natural and cultural resources, visitor use/experience and park operations are avoided, minimized or mitigated.

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impacts	Responsibility
<b>Soils and Geology</b>	<p>Localized, moderate short- to long-term adverse impacts. Minor long-term beneficial impacts from additional restoration.</p> <p>Minor cumulative impacts from additional impacts in an area previously impacted by human activities (the Lassen Peak Trail) and additional cumulative impacts from construction of the Manzanita Lake Connector Trail.</p>	<ul style="list-style-type: none"> <li>• Locating staging areas where they would minimize new disturbance of area soils, vegetation and butterflies.</li> <li>• Clearing only those areas where construction would occur.</li> <li>• Minimizing ground disturbance to the extent possible.</li> <li>• Delineating clearing limits to minimize the amount of vegetation loss.</li> <li>• Avoiding construction during heavy precipitation.</li> <li>• Salvaging topsoil (if any) from excavated areas for use in re-covering source area or other project areas.</li> <li>• Not piling excavated soil alongside trees to remain, and providing tree protection for trees to remain.</li> <li>• Reusing (rather than removing) excavated materials from the project area.</li> <li>• Revegetating project areas through native seeding and/or planting where appropriate and viable.</li> <li>• Using material from excavation to fill social trails as part of the obliteration technique.</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources</p>
<b>Water Resources: Water Quality</b>	<p>Negligible to minor short-term adverse impacts. Long-term minor beneficial effects from stabilization of soil and rock within the trail tread and from providing toilets. Slightly more impacts from constructing the Manzanita Creek Connector Trail.</p> <p>Negligible to minor cumulative beneficial impacts on water quality.</p>	<ul style="list-style-type: none"> <li>• Minimizing the amount of disturbed earth area and the duration of soil exposure to rainfall.</li> <li>• Minimizing soil disturbance and re-seeding or revegetating disturbed areas as soon as practical.</li> <li>• Using swales, trenches or drains to divert stormwater runoff away from disturbed areas.</li> <li>• Outsloping new trail construction.</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources</p>
<b>Water Resources: Wetlands</b>	<p>Negligible to minor localized adverse effects. No wetlands statement of findings required because impacts would be much less than one acre.</p> <p>Negligible cumulative adverse effects.</p>	<ul style="list-style-type: none"> <li>• Avoiding wetlands where possible by trail routing.</li> <li>• Using bridges rather than culverts to cross ephemeral drainages.</li> <li>• Not conducting excavation in wet areas.</li> <li>• Monitoring the development of way trails in the vicinity of the large wetland avoided by Manzanita Creek Connector Trail construction.</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources</p>
<b>Vegetation</b>	Localized minor to moderate short- and	<ul style="list-style-type: none"> <li>• Establishing narrow limits of construction to avoid</li> </ul>	Chief of Maintenance

	<p>long-term adverse effects coupled with long term negligible to minor beneficial effects.</p> <p>Additional minor to moderate adverse cumulative effects from the construction of a wider Lassen Peak Trail and from the construction of the proposed Manzanita Creek Connector Trail. Some long-term negligible to minor beneficial effects from restoration plus negligible to minor long-term beneficial effects from additional designation of trails where no formal trails now exist.</p>	<p>impacting sensitive, slow-growing subalpine and alpine plants.</p> <ul style="list-style-type: none"> <li>• Rock imported from outside the park would be from approved commercial sources and would be inspected and/or approved by NPS staff prior to importation into the park to avoid inadvertent importation of invasive species.</li> <li>• Protecting staging areas from spillover impacts by the placement of appropriate barriers and returning these to pre-construction conditions upon completion of the project.</li> <li>• Transporting and storing materials used in project work so as not to acquire noxious weed seeds from adjacent areas.</li> <li>• Monitoring for and controlling undesirable plant species (exotics).</li> <li>• Taking care to avoid disturbance to high elevation sensitive plants.</li> <li>• Using only native species, appropriate to the site, in seeding or planting.</li> <li>• Where possible, salvaging and transplanting native plants.</li> <li>• Minimizing the number of plants affected not only by trail construction, but also by disposal of excess dirt and rock (side-casting), or by stockpiling of materials.</li> <li>• Using tree protection around trees to be retained, especially those that are within or directly adjacent to the limits of construction.</li> <li>• Not removing and not conducting excavation near whitebark pines.</li> </ul>	<p>Chief of Natural and Cultural Resources</p>
<p><b>Wildlife</b></p>	<p>Short and long-term minor to moderate adverse impacts from noise and disturbance and from localized habitat loss.</p> <p>Minor cumulative adverse impacts.</p>	<ul style="list-style-type: none"> <li>• Above ambient noises from trail repair would coincide with the busy summer season.</li> <li>• The wildlife biologist will survey for active raptor nests each summer prior to work on the connector trail. If active nest are located, a limited operating period for work will be established.</li> <li>• Modifying Manzanita Lake Connector Trail construction if active nesting of a sensitive species was found (see below).</li> <li>• Minimizing rock work in occupied pika habitat.</li> <li>• Construction of the proposed connector trail would occur after young pika have left the dens (June).</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources</p>
<p><b>Special Status Species</b></p>	<p><i>No effect</i> on any federal or state listed or proposed species or other species considered sensitive by the USFWS, state or park. No special status plants, except for those associated with the fencing enclosure have been identified on or near the Lassen Peak Trail.</p>	<ul style="list-style-type: none"> <li>• Additional surveys would be undertaken for rare nesting species prior to the construction of the Manzanita Connector Trail (alternatives C and D). If rare species are found in new construction area in the Lassen Peak crater rim or the summit areas, implementation would be modified to avoid potential effects.</li> <li>• If nesting peregrines are found, a limited operating period from February to July would be instituted if work would be</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources</p>

	No contribution to cumulative effects.	<p>within 0.5 miles of a Peregrine nest site. During this time hand tools could be used, but power tools would not be used.</p> <ul style="list-style-type: none"> <li>• Not removing whitebark pines as part of either the Lassen Peak Trail rehabilitation or the Manzanita Creek Connector Trail construction.</li> <li>• Expanding the fencing enclosure on the top of Lassen Peak to ensure protection for rare plants at that location.</li> <li>• Undertaking additional surveys for rare plants known from Lassen Peak prior to the implementation of work in the crater rim or summit areas and modifying project implementation to avoid potential effects if rare species were found.</li> </ul>	
<b>Prehistoric and Historic Archeology</b>	<p>With mitigation measures <i>no adverse effect</i> on archeological resources.</p> <p>No construction-related contributions that would affect known eligible archeological resources and therefore no cumulative impacts.</p> <p>Mitigation measures would preclude effects to currently unidentified cultural resources. No contribution to cumulative effects on archeological resources.</p>	<ul style="list-style-type: none"> <li>• Should presently unidentified archeological resources be discovered during construction, work in that location would be halted, the park Cultural Resources Program Manager contacted, the site secured, and the park would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. Any archeological site would be properly recorded by an archeologist and evaluated under the eligibility criteria of the <i>National Register of Historic Places</i>.</li> <li>• If the resources are determined eligible, appropriate measures would be implemented either to avoid further resource impacts or to mitigate their loss or disturbance (e.g., by data recovery excavations or other means) in consultation with the California State Historic Preservation Office.</li> <li>• In compliance with the Native American Graves Protection and Repatriation Act of 1990, the NPS would also notify and consult concerned Native American representatives for the proper treatment of human remains, funerary and sacred objects, should these be discovered during the course of the project.</li> </ul>	Chief of Maintenance Chief of Natural and Cultural Resources
<b>Ethnographic Resources</b>	<p>No impact to known ethnographic resources. Potential for negligible beneficial effects from construction of Manzanita Creek Connector Trail.</p> <p>Some short-term negligible to minor adverse effects during construction and negligible to minor long-term adverse effects coupled with long-term beneficial effects following rehabilitation.</p>	<ul style="list-style-type: none"> <li>• Sensitive areas, if identified later, could be avoided in the crater rim and true summit areas.</li> </ul>	Chief of Maintenance Chief of Natural and Cultural Resources
<b>Historic Structures / Cultural</b>	<i>No adverse effect</i> on the Historic District. Minor to moderate cumulative adverse impacts from reconstructing	<ul style="list-style-type: none"> <li>• Retaining historic alignment.</li> <li>• Retaining or reconstructing historically compatible dry-stack rock walls.</li> </ul>	Chief of Maintenance Chief of Natural and Cultural Resources

<p><b>Landscapes</b></p>	<p>historic contributing features coupled with the long-term beneficial impacts of retaining the trail.</p> <p>Minor to moderate cumulative adverse impacts and moderate long-term beneficial impacts from rehabilitation.</p>	<ul style="list-style-type: none"> <li>• Capturing some historic switchback corners.</li> <li>• Documenting any historic contributing feature that is to be removed to HABS/HAER standards.</li> <li>• Documenting modifications prior to construction to ensure as much as possible is known about the historic resources and the non-historic additions.</li> <li>• Conforming to the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> in rehabilitation and new construction affecting historic resources.</li> </ul>	
<p><b>Visitor Experience: Visitor Access and Opportunities and Visitor Safety</b></p>	<p>Moderate long-term beneficial effects to visitor access and opportunities from the addition of the crater loop, the true summit trail, the connector trail and a restroom. Minor to moderate beneficial effects to safety would be realized from the rehabilitation of the peak trail and the designation of a true summit trail. Short-term minor adverse effects to access during rehabilitation.</p> <p>No contribution to cumulative adverse impacts. Possible long-term beneficial impacts from reducing the tendency for hikers to wander off the poorly delineated routes in the crater rim and true summit areas.</p>	<ul style="list-style-type: none"> <li>• Using press releases to local media and signs in the park to inform visitors about trail conditions in the park during the projects (such as potential closures or delays).</li> <li>• Using barriers and barricades, signs and flagging, as necessary or appropriate, to clearly delineate work areas and provide for safe pedestrian travel through the construction area (if appropriate).</li> <li>• Not conducting weekend and holiday work if the trail is open.</li> <li>• Ensuring that materials deliveries would (to the degree possible) take place in the early morning and late evening hours and would proceed along the shortest route possible. Undertaking area surveys to ensure a stable working environment before work on reconstruction of rock walls commenced. As appropriate, the work area would be reinforced to minimize the potential to trigger a rockslide during excavation.</li> <li>• Developing Standard Operating Procedures or assessment techniques to determine when the Lassen Peak Trail is safe to open.</li> <li>• Formalizing and making more rigorous, the informal trail assessments, which have routinely been done each spring. Additional trail safety assessments would also occur in summer.</li> <li>• Before the road opens to the public, assessing and mitigating safety hazards in the snow-free sections (approximately 1/2 the trail is usually snow free when the road opens). Once this inspection is complete and visible hazards are mitigated the trail would open with a "hazardous conditions" sign at the bottom because snowfields on the trail are commonly still present.</li> <li>• Reassessing newly melted out sections prior to the July 4<sup>th</sup> weekend to determine if new hazards have developed. Snowfields which cannot be easily bypassed would be trenched (to define the route and to improve safety conditions). If, during the second assessment, the trail is deemed safe, hazardous conditions signage could be removed. If additional hazards, however, are discovered that need repair, the trail could be closed until repairs are made.</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources Chief of Interpretation and Education</p>

<p><b>Wilderness</b></p>	<p>Short-term minor to moderate and short-term minor cumulative impacts on wilderness values. Additional long-term minor to moderate adverse impacts on primeval character and long-term minor beneficial effects on improving opportunities to experience other wilderness values from construction of Manzanita Creek Trail.</p> <p>Short-term minor impacts on wilderness solitude by increasing noise. Long-term minor adverse impacts on wilderness from decreasing primeval character and naturalness as a result of locating the Manzanita Creek Connector Trail in an area now without designated trails between Manzanita Creek Campground and the Lassen Peak Trailhead parking lot. Minor beneficial impacts from increased access and opportunities to experience other wilderness values.</p>	<ul style="list-style-type: none"> <li>• Conducting helicopter materials deliveries during times of lower visitor use and limiting these to the minimum number possible.</li> <li>• Limiting helicopter trips to service toilets to one to two days each year.</li> <li>• Designing permanent toilets to withstand a season of visitor use to minimize the number of helicopter flights that would be required to fly out waste.</li> <li>• A Minimum Requirement Analysis has been completed.</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources</p>
<p><b>Park Operations</b></p>	<p>Short- and long-term minor to moderate adverse effects and minor to moderate long-term beneficial effects.</p> <p>Minor impacts from impact of specific project implementation funding to purchase materials and supplies and to hire staff. Moderate impacts from cost (including for materials and supplies, and staffing).</p>	<ul style="list-style-type: none"> <li>• Staging materials together and combining helicopter trips for various construction projects to minimize the need for additional helicopter flights and related expenses.</li> <li>• When possible employees would travel together and stay near the work site to minimize travel time.</li> <li>• Purchasing needed materials together (as possible) and transporting these in bulk to minimize costs and trip generation associated with the project.</li> <li>• Using additional staff to accomplish the proposed trail project(s).</li> </ul>	<p>Chief of Maintenance Chief of Natural and Cultural Resources</p>

## **Public Involvement Internal and External Scoping**

Lassen Volcanic National Park conducted both internal scoping with appropriate NPS staff and external scoping with the public and interested and affected groups, agencies, and tribes to determine the range of issues to be discussed in the Environmental Assessment. This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined the likely issues and impact topics, and identified the relationship of the preferred alternative to other planning efforts in the park. Scoping was also conducted with Lassen National Forest regarding removal and relocation of the radio repeater site.

Public scoping was initiated through a press release issued on August 1, 2008, questionnaires offered to visitors at the trailhead and meetings with the park's cooperating association. The press release was sent to the following newspapers: Red Bluff Daily News, Redding Searchlight, Chester Progressive, Intermountain News, Los Angeles Times, Lassen County Times, Westwood Pines Press, Enterprise Record (Chico, California), and Ridge Rider News and was published in the Chester Progressive (8/6/08) and Redding Record Searchlight (9-2-08). Informal surveys of visitors to the Lassen Peak Trail were also conducted in August and September of 2008. The formal public scoping period for this Environmental Assessment occurred from August 1, 2008 to September 15, 2008.

In addition to approximately 39 Lassen Peak Trail Questionnaire forms turned in, another eight emails and two comment letters were received during the public scoping period: all were from individuals. No letters from non-profit or other organizations were received. One letter was received (prior to public scoping) from a public agency representative (USGS). Comments were provided via U.S. mail, email, fax and in person. Main themes which emerged from the scoping outreach effort included summit trail delineation, parking capacity, need for trailside benches, interpretive media and signage, using permit to limit hikers, impacts due to social trails, and the Manzanita Creek Connector Trail.

## **Public Review**

The Environmental Assessment was released for a 30-day public review period from December 9, 2009 to January 11, 2010. Approximately 115 printed and 35 CD-format EAs were distributed to the park's mailing list, including to individuals, agencies, non-profit organizations and government officials. The EA was also available at county or city libraries in Quincy, Susanville, Red Bluff, Chester, Shingletown, Burney, Chico and Redding. No public meetings were held during the public comment period. The press release announcing the public comment period was sent to the following newspapers on Chester Progressive, Red Bluff Daily News, Redding Record Searchlight, Sacramento Bee, Reno Gazette Journal, Ridge Rider News (Shingletown), Northern California Times. An article published in the Redding Searchlight on December 11, 2009 noted the request for public comments on the EA. Another letter referenced an article published in the Sacramento Bee.

## **Summary of Public Response to the Lassen Peak Trail Rehabilitation EA**

Approximately 31 substantive comments were identified from approximately 133 letters and emails received during the formal public review period. These comments were received from approximately 138 individuals (some were signed by more than one person), two groups (Sacramento Valley Hiking Conference and California Wilderness Coalition) and one federal agency (U.S. Forest Service, Lassen National Forest). Most comment letters and emails were from California addresses, many local; however, there were also comments with addresses from Oregon, Missouri, Texas, and England.

Approximately eight categories of comments raised issues outside the scope of the EA, mostly about creating new trails in other areas. Most non-substantive (opinion) comments stated an opinion about the alternative that should be implemented, agreed or disagreed with various components of the plan (such as the need for toilets or construction of the Manzanita Creek Connector Trail). Most comments were unique; however there were several questions / comments about the joint review of the Manzanita Creek Connector Trail combined with the Lassen Peak Trail Rehabilitation as well as two comments about permutations of alternatives without the Manzanita Creek Connector Trail.

Of the substantive comments, many were about information missing from the EA, including the petition to list the pika published in the Federal Register, additional high elevation plants not listed in the EA, and other species that could be found along the Manzanita Creek Connector Trail; or information that was confusing from the EA (methods employed for drainage crossings and path of connector trail through talus areas in pika habitat); or information not as detailed as it could have been (regarding likelihood of development of numerous social trails from Manzanita Creek Connector Trail). Several comments concerned safety issues or information (need for first aid training or warning signs on trail). Several comments provided more information about rare plants or wildlife. Another approximately 10 comments provided information or repeated information from the EA about the likely effects of the Manzanita Creek Connector Trail. The California Wilderness Coalition provided additional reasons supporting establishment of the Manzanita Creek Connector Trail and noted another wilderness proposal for the park not mentioned in the EA. The Sacramento Valley Hiking Conference suggested alternative means to mark the trail to the true summit and questioned whether the Connector trail would really be used to access Lassen Peak. There were also several comments about the purpose and need for the Manzanita Creek Connector Trail and whether this trail should have been separated from the Lassen Peak Trail Rehabilitation Project in a separate EA.

As noted above, there were minor changes incorporated into the Selected Alternative based on public comments, including providing more information at the Lassen Peak Trailhead and including an additional location for the summit register. Most comment responses included providing additional details or elaborating about impacts discussed in the EA; clarifying information that was presented in the EA; or giving more information about basis for alternatives being considered but dismissed.

All substantive comments and detailed responses are documented in an Errata which was prepared as a technical supplement to the EA (this will be provided to all recipients of the EA). None of the comments received resulted in any substantive changes to the NPS's determinations about the nature of potential environmental consequences.

## **Agency / Tribal Consultation**

### **U.S. Fish and Wildlife Service (Endangered Species Act)**

Federal agencies must consult with the U.S. Fish and Wildlife Service (USFWS) to ensure their actions will not jeopardize the continued existence of any federally listed or proposed threatened or endangered species, or designated or proposed critical habitat [ESA, Sec. 7 (a)(2), 16 USC 1531 et seq.]. If listed species are present, the Federal agency must determine if the action will have *no effect*, *may affect*, [but is] *not likely to adversely affect* or *may affect*, *likely to adversely affect* those species. The NPS made the determination of effect for the Selected Alternative following guidance outlined in the *Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences* (1998 USFWS and National Marine Fisheries Service). NPS has determined that the Selected Alternative will have "no effect" on any federally listed, candidate or proposed species or their designated critical habitat. The USFWS (Arnold Roessler) has concurred informally with this finding in an email and phone conversation with Sean Eagan, Environmental Protection Specialist, Lassen Volcanic National Park on January 15, 2010.

The most recent species list obtained from the USFWS to facilitate consultation under Section 7 of the Endangered Species Act for the Lassen Peak Trail Rehabilitation project is dated May 4, 2009. Because there would be no effect on listed or candidate species from the alternatives in this Environmental Assessment, no further Section 7 (Endangered Species Act) consultation with the USFWS is necessary for the proposed project. Nonetheless, the USFWS has concurred that the proposed project does not affect currently listed species and has identified some additional mitigation measures for the pika (see *Errata*), which has been petitioned for listing, but is currently not listed (phone call with Sean Eagan, Environmental Protection Specialist on January 15, 2010.) If species not currently listed are later proposed or listed, additional consultation would occur in accordance with Section 7 of the Endangered Species Act.

### **California State Historic Preservation Officer (National Historic Preservation Act)**

The NPS made the determination of effect regarding the Selected Alternative on historic properties pursuant to Section 106 of the National Historic Preservation Act (NHPA) in accordance with the *NPS Programmatic Agreement*. For the purpose of NEPA and NPS policy, an impact to a historic property that is eligible or listed under the National Register of Historic Places would be considered significant if an adverse effect could not be resolved through agreement with the State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), American Indian tribal governments, or other consulting and interested parties and the public. The NPS has determined that implementation of the Selected Alternative will have *no adverse effect* on historic properties or American Indian traditional cultural properties, (36 CFR Part 800.5). A letter notifying the California State Historic Preservation Officer of the project was sent on August 18, 2008. A meeting with the California State Historic Preservation Officer regarding the proposed project and other Lassen Volcanic National Park projects occurred on February 26, 2009. No comments on the proposed project were received. The California State Historic Preservation Office concurred with the finding of *no adverse effect* in a letter dated (January 20, 2009). Therefore, the Selected Alternative will not have a significant effect on historic properties.

### **Native American Indian Tribes**

There are ten federally recognized tribes in the Lassen area. They are: Berry Creek Rancheria, Enterprise Rancheria, Greenville Rancheria, Mechoopda Indian Tribe of the Chico Rancheria, Mooretown Rancheria, Redding Rancheria, Susanville Rancheria, Round Valley Indian Tribe, Pit River Tribe, and United Auburn Indian Community. Five of the ten recognized tribes are routinely consulted with regarding park proposed actions. These tribes are Greenville Rancheria, Mooretown Rancheria, Redding Rancheria, Pit River Tribe and the Susanville Indian Rancheria. These five tribes were sent letters on August 18, 2008 noting the likely undertaking in the proposed project area. No comments have been received. The project was also discussed at the Redding Rancheria Tribal Council Meeting on August 18, 2009 and during a site visit on September 29, 2009. No comments were received. Ongoing efforts to meet in person with other Rancherias are continuing. The tribes were also sent a printed copy of the EA on December 9, 2009.

### **Non-Impairment of Park Resources**

Pursuant to the 1916 Organic Act, the National Park Service has a management responsibility "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of future generations." Therefore, the National Park Service cannot take an action that would "impair" park resources or values. Based on the analysis provided in the *Lassen Peak Trail Rehabilitation Environmental Assessment*, the National Park Service concludes that implementation of Alternative C (including the slight modifications) would have no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purpose and significance of Lassen Volcanic National Park; (2) key to the natural or cultural integrity of Lassen Volcanic National Park or to opportunities for enjoyment of the national park; or (3) identified as a goal in the General Management Plan or other relevant National Park Service planning documents. Consequently, implementation of the selected action will not violate the NPS Organic Act.

### **Finding**

On the basis of the information contained in the Environmental Assessment as summarized above, it is the determination of the National Park Service that the selected alternative is not a major federal action significantly affecting the quality of the human environment. Nor is it an action without precedent or similar to an action that normally requires an Environmental Impact Statement. The conclusions of non-significance are supported by the conservation planning and environmental impact analysis completed and the capability of listed mitigation measures to reduce or eliminate impacts. No adverse effects to cultural or historical resources will occur; there are no unacceptable impacts, nor will any impairment of cultural or natural resources, wilderness character, or park values occur. This determination also included due consideration of the minor nature of public commentary received, and agency, tribal and county recommendations. Therefore, in compliance with the National Environmental Policy Act, an

Environmental Impact Statement will not be prepared, and portions of the selected project may be implemented immediately, while others will be implemented as soon as practical, pending other requirements, funding and staffing.

**Recommended:**

*Darlene M. Koontz* 2/4/2010  
Darlene Koontz, Superintendent Date  
Lassen Volcanic National Park

**Approved:**

*Rory D. Westberg* 2/4/2010  
Rory D. Westberg, Acting Regional Director Date  
Pacific West Region