

## 2 ALTERNATIVES CONSIDERED

The No Action Alternative (Alternative A) and four action alternatives are presented in this section. The environmentally preferred alternative (Alternative B) and the preferred alternative (Alternative F) are identified and described along with mitigation measures and actions common to all.

### Alternative A (No Action)

The No Action Alternative is defined as the continued operation by existing tenants of their telecommunications equipment located on the summit of Shasta Bally without issuance of ROW Permits by the NPS. This alternative assumes that existing tenants would continue to operate as they do now without changes in use, infrastructure, or access.

Although the No Action Alternative assumes that existing tenants would continue operating as they do now, they could not continue to operate without a permit from the NPS (36 CFR Section Part 14). Therefore, the No Action Alternative is included to provide an environmental baseline for assessing and comparing the impacts of the action alternatives. For the purposes of this analysis, the date for baseline conditions was established as June 25, 2008, which is the date of the Settlement Agreement between the United States and COBi.

### Actions Common to All Action Alternatives

The NPS would oversee the maintenance and management of the telecommunications equipment, powerline and road in such a manner that provides for the enhancement and protection of natural resources such as vegetation, wildlife, water quality, air quality and similar such resources. Specifically, the NPS would:

- Issue 10-year ROW Permits to existing tenants
- Provide regular road maintenance to repair culverts and grade and gravel road
- Implement mitigation measures and best management practices (BMP) to reduce resource impacts (see Mitigation Measures and BMP Section)
- Implement mitigation measures and BMPs for sustainable construction operations (see Appendix B Mitigation Measures and BMP Practices)
- Define parking area and trail
- Relocate powerline to Shasta Bally road if opportunity presents itself (i.e. if a fire were to destroy the line, there might be the opportunity to realign the power line with Shasta Bally road)

### Alternative B – Existing Permittees Remain (Environmentally Preferred)

Under this alternative, all existing permit applicants would continue to use the site. Existing tenants would not be allowed to install new structures or add new pieces of equipment on existing structures. No new entities would be allowed to locate equipment at the site. As new technologies provide feasible options to relocate or remove the facilities, users may choose to leave the site, and at such times, site restoration to a natural condition would occur on a gradual basis.

### Alternative C – Long-Term Phase-Out

Under this alternative, a plan would be developed to phase out the presence of telecommunications

equipment on the summit of Shasta Bally over a 20 to 30 year period (Phase-Out). No new entities would be allowed to locate equipment at the site during the Phase Out period. Existing tenants would not be allowed to install new structures or add new pieces of equipment on existing structures. At the end of the of the Phase-Out period the existing powerlines would be decommissioned and the site would be restored by promoting growth of native species.

## **Alternative D – Existing and New Permittees on Existing Infrastructure**

This alternative is similar to Alternative B; however, it allows for new permittees to co-locate equipment on existing infrastructure. New structures or increases to existing infrastructure would not be allowed. As with Alternative B, users may choose to leave the site, and at such time, site restoration to a natural condition could occur on a gradual basis. However, because new permittees would be allowed to co-locate under Alternative D, it is assumed that use of the site for communication purposes would continue for a longer period of time than under Alternative B, and perhaps WCF would remain indefinitely under Alternative D.

## **Alternative F – Expansion (Preferred Alternative)**

Under this alternative, all existing permit applicants would continue to use the site and new permittees would be allowed to co-locate equipment on existing infrastructure. This alternative allows existing and new users to install new infrastructure at the site in recently disturbed area not currently being utilized. Under this alternative, the WCF could remain on the summit indefinitely.

## **Environmentally Preferred Alternative**

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the Council on Environmental Quality (CEQ). The CEQ provides direction that the environmentally preferable alternative is the alternative that would promote the national environmental policy as expressed in NEPA's Section 101:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- Preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Although each of the alternatives meets the above criteria to some degree, Alternative B best addresses five of the six evaluation factors.

In contrast to Alternative C, which includes a mandatory phase out over 20-30 years, Alternative B relies on the gradual removal of WCF facilities. This gradual removal would occur over time as operators choose to relocate elsewhere. It is expected that the removal of all the WCF would take place sooner in Alternative B than in the Phase-Out period in Alternative C. As a result, Alternative B best meets the goal of attaining the widest range of beneficial uses of the environment without risk to health and safety or other undesirable consequences.

Alternative B does not allow for an increase in WCF tenants nor does it allow for the expansion of WCF facilities atop Shasta Bally. Alternatives D and F both allow for varying degrees of increase in WCF facilities. Because Alternative B would limit WCF facilities to those that exist now, Alternative B more fully meets the goals of fulfilling the responsibilities of each generation as trustee for the environment, assuring an aesthetically pleasing environment for all generations, achieving a balance between population demands and resource use, and preserving natural aspects of our nation's heritage.

## **Alternatives Considered but Dismissed**

### **Immediately Terminate All Operations of Telecommunications Equipment**

This alternative option was initially considered during project scoping and was presented as Alternative E in the preliminary range of alternatives in the November 2008 newsletter. Alternative E would have terminated telecommunication operations immediately. This alternative was considered too disruptive to the public and to the telecommunications needs of the existing tenants who were operating on Shasta Bally during the period when COBi managed telecommunications uses. Therefore, this alternative was not considered due to the impact it would have on the public and existing tenants.

### **Pave Shasta Bally Road from Sheep Camp to Summit and Install Scenic Pullouts**

Paving the road and installing scenic pullouts along the road would cause significant impacts due to the need for road realignments, widening, turnouts, and other road development. Damages to the park resources that would occur while paving the road coupled with the high cost to implement the project make this option not feasible.

## **Mitigation Measures and Best Management Practices**

The nature of wireless telecommunications creates the potential for significant visual and other resource impacts because antennas need to be placed in a location offering clear line-of-sight, wireless telecommunications must be connected to electrical systems, and be accessible for maintenance. Mitigation Measures and BMPs have been identified to address these impacts. Some of these measures pertain to all users and facilities at this site, while a portion of them are only relevant for any new construction of facilities or for new users on existing facilities.

### **Mitigation Measures for Structures and Facilities—Existing**

To minimize the adverse effects to park resources from the presence of existing wireless communication facilities, the following measures will be adhered to regardless of which alternative is selected. These measures shall be incorporated into permits issued by the park for use of the site for continued operation of WCF by existing users

- All wireless telecommunication equipment and support structures will be painted in appropriate color shades that will minimize the visibility of the structures. Finishes or colors that would be shiny or reflective in sunlight would not be allowed. Park staff shall be consulted regarding the appropriateness of color shades for structures.

- Existing structures shall incorporate camouflage design, if feasible. Park staff shall be consulted regarding the feasibility and appropriateness of camouflage designs for structures.
- In order to minimize above-ground obstacles to visual resources, wireless telecommunication equipment can not exceed 120 feet above summit height (not to exceed 6320 elevation). As equipment located on towers is retired, reconfigured or removed, an evaluation shall be conducted to determine the feasibility for lowering the tower height while retaining full operation of the remaining users equipment.
- Towers, buildings, and equipment would remain unlit unless light is needed for maintenance operations. In compliance with FCC regulations and other guidelines, towers less than 120 feet do not require lights. Lights will utilize full cut-off fixtures to minimize degradation of the night sky. Security or safety lighting for on-ground facilities and equipment would be down-shielded to keep light within the site boundaries.
- No company logos or advertising would be displayed on wireless telecommunication facilities.
- As equipment is replaced, new equipment shall be state-of-the-art and energy-efficient to reduce the overall energy needs of the site.
- Utility services for wireless telecommunication facilities will be installed underground or placed in at-grade conduits unless this would disturb recently undisturbed areas or cause other unacceptable resource impacts.
- Solar energy-powered and other alternative energy resources will be evaluated for feasibility to meet the energy demands of the facilities.
- Reduce tower heights after a full evaluation of existing users and equipment. This evaluation can identify an optimal operation plan that would reduce the visual impacts, retain full operation of remaining equipment, and maintain appropriate safety distances. Any towers not necessary shall be removed.
- Helicopter use for access to the site will be regulated by NPS according to park aviation plan. Advance planning with park aviation coordinator (Chief Ranger) is required.

## **Mitigation Measures and BMPs—Maintenance and Construction**

These measures are applicable to both ongoing maintenance and repair activities related to roads, power transmission and facilities, as well as construction of any new facilities for which a right of way is permitted. These BMP's are used on all construction projects at the park.

### **Air Quality**

- Dust control would occur as needed on active work areas where soil or fine particles are exposed.
- The contractor would not leave vehicles idling for more than five minutes when parked or not in use.

### **Soils/Geologic Resources**

- Erosion and sediment control would be required (see "General Mitigation Measures" in Appendix B).
- Use of Shasta Bally road shall be limited to dry season to minimize damage to road bed.
- Topsoil would be removed from areas of construction and stored for later reclamation use. The topsoil would be redistributed as near the original location as possible.

### **Vegetation**

- Before construction would begin, a qualified NPS botanist would survey the project site to look for non-native species of concern in the area. If any of these species were found, mitigation measures to reduce or eliminate impacts by these plants would be taken under direction of the park botanist.
- Approved staging areas would be surveyed for invasive non-native plants.
- Ground surface treatment would include grading to natural contours if necessary and where necessary, seeding, and planting.
- Disturbed areas would be assessed by the NPS Natural Resource Management staff after construction to determine if restoration efforts are successful or if additional actions are necessary.
- In an effort to avoid introduction of non-native/noxious plant species, only certified weed free rice straw would be used during revegetation or for temporary erosion control.
- Best Management Practices would include:
  - Minimize soil disturbance.
  - Pressure wash and/or steam clean all construction equipment to ensure that all equipment, machinery, rocks, gravel, or other materials are cleaned and weed-free before entering the parks. Construction equipment would be inspected by NPS staff prior to entering the parks to ensure compliance with cleanliness requirements and inadequately cleaned equipment would be rejected.
  - Limit vehicle parking to existing roadways, access routes, or the designated staging area.
  - Limit disturbance - no machinery or equipment should access areas outside the construction limits, which would also include the tower construction area, staging area, and existing roadways or access routes.
- Obtain any needed fill, rock, or additional topsoil from the project area, if possible. If not possible, obtain weed-free sources from NPS-approved sources outside the parks.
- Sources of rock, sand, gravel, earth, soil, or other imported natural material would be inspected for invasive non-native plants prior to acceptance.
  - Revegetation would take several years and attempts to propagate plants from the area due to the unique and fragile plant community located on the summit.
  - Monitor disturbed areas for up to three years following construction to identify infestations of noxious weeds or non-native vegetation. Treatment of non-native vegetation would be completed in accordance with NPS-13, *Integrated Pest Management Guidelines*.
- To maximize restoration efforts after completion of construction activities, the following measures would be implemented:
  - Litter and duff would be removed from project areas and stored for later replacement over topsoil.
  - Topsoil would be removed from areas of construction, stored on site, and replaced at the end of the project. The topsoil would be spread in as near the original location as possible.
  - Native vegetation removed during construction would be replanted wherever it is feasible.
  - In areas of bare soil, duff from nearby areas will be collected and spread on site. This material will have a seed bank of local genetic material specific to the summit.

### **Visitor Experience**

- Visitors would be notified when construction would occur and information would be posted in neighboring communities, on the park website, and at visitor centers.

- Visitors would not be allowed to access the construction site. Emergency vehicles would be allowed on site if needed.
- All equipment and facilities will be maintained appropriately, so that there are no unnecessary or displeasing noises, odors or other effects from facility equipment.

### **Water Quality**

- At all cut and fill areas, erosion and sedimentation control, such as silt fencing, would be implemented to minimize impacts to water quality.
- Surface restoration of disturbed soils would be implemented to minimize long-term soil erosion.
- Water needed for construction and dust control would come from the existing developed water systems within the park.

### **Wildlife**

- The clearing limits (construction limits) would be clearly marked or flagged prior to construction to limit disturbance to wildlife habitat.
- Construction activity would be limited to daylight hours.
- Feeding or approaching wildlife would be prohibited.
- Any wildlife collisions would be reported to park personnel.
- A litter control program would be implemented during construction to eliminate the accumulation of trash. All food would be stored in bear-proof containers except when it is being consumed. Food-stored in vehicles would be in bear proof containers. Spilled food would be cleaned up.

### **Environmental compliance**

- A hazard spill plan will be prepared for each fuel tank. Fuel storage tanks will meet NPS and county standards. All equipment will use environmentally-friendly oils, lubricants, cleaning products, etc.
- Septic systems and leach fields will be regularly inspected and maintained in accordance with county regulations and any NPS guidelines.
- Provisions will be added to the ROW Permit for the permittee responsible for site engineers in order to address the issue of having someone live on site.

## **Mitigation Measures and Requirements—New Structures or Facilities**

All of the previous measures would apply for any new user or new wireless telecommunication facilities proposed for the site. There would be additional requirements regarding the design of the facilities in addition to measures to avoid or reduce impacts during construction of the new facilities. Additional construction related mitigation measures and Best Management Practices are located in Appendix B

- Any new towers or other structures supporting wireless telecommunication equipment shall be the minimum height necessary to achieve successful operation, yet still comply with FCC guidelines for safety regarding human exposure. However, tower height cannot exceed 120 feet above the summit in height (maximum 6320-foot elevation at the top of tower), in order to minimize above-ground obstacles to visual resources.

- All new structures will be located within the existing disturbed area of the project site. Park staff shall be consulted regarding the feasibility and appropriate locations for structures.
- Any new towers will utilize a monopole design or one that incorporates thin structural components and minimizes a visual “footprint”. Building height will be limited to current roof line or less. Park staff shall be consulted regarding the feasibility and appropriateness of design for structures.
- All other hardware components attached to towers will be the minimum size necessary to meet the objectives.
- NPS permission (at least 3 months advance notice and subject to NPS ROW Permit provisions) required to install new infrastructure or remove existing infrastructure, including co-located structures on existing buildings, towers, poles, etc. Project specifications will include detailed maps/drawings, schedule, use of road (visitor impacts/safety), staging area sites, dust and noise abatement, cleaning equipment (to reduce exotic plant seed dispersal), erosion control (weed-free materials), secured construction site, debris removal, hazard spill plan, etc.
- New utility services for wireless telecommunication facilities shall be installed underground or placed in at-grade conduits unless this would disturb recently undisturbed areas or cause other unacceptable resource impacts.
- Wireless telecommunication facilities would be constructed in a manner that is compatible with the character of surrounding area. Where feasible, camouflage design shall be incorporated to disguise towers. The proponent would work with park staff to determine the type of camouflage and color of towers to be installed.
- For structure removal, all concrete and below ground structures shall be completely removed, or at least to 18-inch depth (to facilitate future site restoration).
- If unknown cultural/archeological resources are uncovered during construction, work will be halted, the site will be secured and NPS will be notified. No work will proceed until NPS has made proper arrangements for the discovered resources, and protections are put in place to protect any other resources in the area.

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Table 1. Alternative Summary

<b>Project Description</b>	<b>Alternative A – No Action</b>	<b>Alternative B – Existing Permittees Remain (Environmentally Preferred)</b>	<b>Alternative C – Long-Term Phase-out</b>	<b>Alternative D – Existing and New Permittees on Existing Infrastructure</b>	<b>Alternative F – Expansion (Preferred Alternative)</b>
Key Elements of the Alternative	Continued operation by existing tenants of their telecommunications equipment within the existing disturbed area on the summit of Shasta Bally without issuance of ROW Permits. However, without permits, the existing tenants could not operate on the summit.	All existing tenants will continue to use the site. As new technologies provide feasible options to relocate/remove the facilities, users may choose to leave the site, and at such times, site restoration to a natural condition would occur on a gradual basis.	Similar to Alternative B in the short-term, but phases out the site over a set time period (e.g. 20 -30 years). This is the only alternative establishing a process for a sunset date to telecommunication operations.	Similar to Alternative B, but allows new tenants to co-locate on existing infrastructure. This alternative allows continued use of the site, but no construction of new infrastructure.	Similar to Alternative D, but allows existing and new tenants to install new infrastructure at the site in recently disturbed area not currently being utilized.

Table 2. Extent to Which Each Alternative Meets Project Objectives

Project Objectives to Be Met	Alternative A – No Action	Alternative B – Existing Permittees Remain (Environmentally Preferred)	Alternative C – Long-Term Phase-Out	Alternative D – Existing and New Permittees on Existing Infrastructure	Alternative F – Expansion (Preferred Alternative)
Provide for public safety	Permittees continue to provide emergency services	Permittees continue to provide emergency services	In short-term, permittees continue to provide emergency services; long-term services may be curtailed depending on future technologies	Permittees continue to provide emergency services	Permittees continue to provide emergency services
Reduce physical and visual impacts of site	Mitigation measures not implemented	Mitigation measures implemented; site reduced through attrition	Mitigation measures implemented; site closed in 20-30 years	Mitigation measures implemented; new infrastructure allowed through co-location only	Mitigation measures implemented; infrastructure expands
Maintain Shasta Bally road and visitor access	Access to Shasta Bally road would be available	Access to Shasta Bally road would be available	Access to Shasta Bally road would be available	Access to Shasta Bally road would be available	Access to Shasta Bally road would be available
Manage site for sustainability	Additional Best Management Practices not implemented	Best Management Practices implemented and site eventually restored	Best Management Practices implemented and site restored in 20-30 years	Best Management Practices implemented	Best Management Practices implemented
Improve visitor experience	Wayside exhibits not installed, visitor parking and trail not designated	Wayside exhibits installed; visitor parking and trail designated; more natural experience restored eventually	Wayside exhibits installed; visitor parking and trail designated; more natural experience restored in 20-30 years	Wayside exhibits installed; visitor parking and trail designated	Wayside exhibits installed; visitor parking and trail designated