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Yellowstone National Park
Wyoming, Montana, Idaho

Bechler Administrative Area Improvement Plan
Environmental Assessment
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Bechler Ranger Station-(*NPS Photo*)

Bechler Administrative Area Improvement Plan

Environmental Assessment

Summary

Yellowstone National Park (YNP) is proposing to make improvements to the Bechler Administrative Area. Actions proposed in this environmental assessment (EA) would improve visitor experience and park operations by addressing day use and overnight parking, traffic circulation, employee housing, utility upgrades, and telecommunication functions.

This EA evaluates three alternatives: Alternative A-No Action; Alternative B-construction of single or multiple employee housing units to accommodate six park employees and construction of a new visitor contact station; Alternative C-construction of a single multi-plex employee housing unit to accommodate six park employees and adaptive reuse of the existing visitor contact station. Under the no-action alternative, minor on-going maintenance would continue but new construction would not occur. All actions proposed under this plan would be phased and implemented as funding becomes available. Those actions common to Alternatives B and C would include improvements to the following: traffic circulation and parking; stormwater management; orientation, way-finding and interpretation; accessibility; sustainable design; utilities and telecommunication (including the use of renewable energy); and vegetation management. Other common actions would include the removal of the ATCO trailer; rehabilitation of the Bechler River Soldier Station to be used as two housing units or one family unit; placement of temporary housing for park employees and construction crews; relocation of two volunteer RV sites with hook-ups; and a new stock shade shelter. The design of the new structures would meet Sustainable Buildings Guidance while retaining acceptable visual quality of the landmark and historic districts and meet the Secretary of Interior's Standards for the Treatment of Historic Properties. Three additional alternatives were evaluated during the planning stages of this project but were dismissed from further consideration.

This EA has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet objectives of the proposal, 2) evaluates potential issues and impacts to the park's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics included in this document because the resultant impacts may be greater-than-minor include geology and soils; vegetation and rare plants; wildlife; special status wildlife species and Yellowstone species of management concern; soundscape management; historic structures; visitor use and experience; and park operations. All other resource topics were dismissed because the project would result in negligible or less impacts to those resources. No major impacts are anticipated as a result of this project. Public scoping was conducted in winter 2011 to assist with the development of this document and comments were received, with almost half of the comments voicing opposition to major improvements in the area.

Public Comment

If you wish to comment on the EA, **you may post comments online at:** http://parkplanning.nps.gov/BechlerEA or mail or hand deliver comments to: Bechler Administrative Area Improvement Plan Environmental Assessment, National Park Service, P.O. Box 168, Yellowstone National Park, Wyoming 82190.

This EA will be on public review for 30 days. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Comments will not be accepted by fax, email, or in any other way than those specified above. Bulk comments in any format (hard copy or electronic) submitted on behalf of others will not be accepted.

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PURPOSE AND NEED

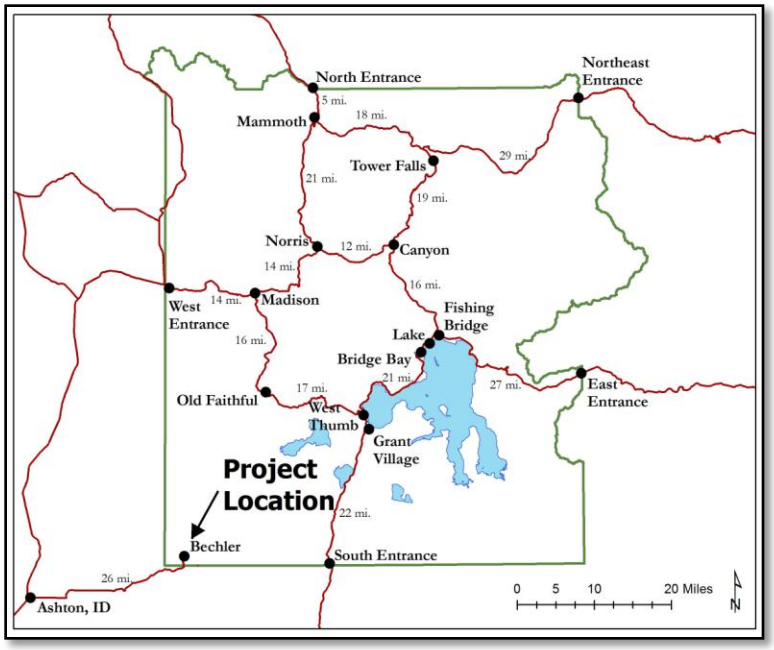

Figure 1 - Project location

Introduction

Yellowstone National Park (YNP) is located in the northwest portion of Wyoming and crosses the border into Montana and Idaho. The park was established by an act of Congress on March 1, 1872 and is managed by the National Park Service (NPS). The 2.2 million acres of the park were "set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people…and to…provide for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition."

Since 1910, the Bechler Administrative Area has served as the major checkpoint for the southwest corner of YNP, near the Wyoming-Idaho state line and the park's southern boundary. It currently serves as the only entrance fee collection point in the southwestern area of the park. The ranger station is located 26 miles from Ashton, Idaho, at the end of a twelve-mile gravel road, and is not accessible from or connected to any of the major park roads (Figure 1). Vehicles access the area from a spur road, 1 1/2 miles north of Cave Falls Road.

Backcountry use in the area is significant and has increased in recent years. A prominent trail, marked by an information board and trailhead register, begins at the northeast edge of the clearing of the administrative area. This popular trail is used by many hikers and horseback riders traveling through the backcountry to one of the many waterfalls in the area. Anecdotally, the Bechler Meadows area has gained popularity as a fishing destination in recent years.

Bechler area visitor services are open from June 1 to November 1 annually and are subject to short periods of occupation by park staff each winter. Employees living at Bechler during the summer season collect entrance fees, provide information and emergency services to visitors, protect park resources, and conduct boundary patrol in this isolated region of the park. The Bechler area may receive up to eight feet of snow during the winter. For its elevation, Bechler gets more precipitation (snowfall) than anywhere else in the park.

The purpose of this EA is to examine the environmental impacts associated with the proposal to improve conditions around the Bechler Administrative Area. Increased visitation to this area of the park has greatly accentuated problems associated with parking and park operations. Actions proposed in this EA would improve park operations and visitor experience by addressing day use and overnight parking, circulation, employee housing, utility upgrades and telecommunication functions.

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR §1508.9), and NPS Director's Order (DO)-12 (*Conservation Planning, Environmental Impact Analysis, and Decision-Making*).

Background

Historically, the Bechler area, not unlike much of YNP, was rich in large game animals. Poaching in this area went unchecked for many years before the U.S. Army took control of the park and began to provide enforcement of wildlife protective legislation through regulations such as the Lacey Act of 1896. Due to the inaccessibility to YNP's Grand Loop Road and its entry roads, as well as the distance (58 miles from air, and 127 miles by road) from park headquarters in Mammoth Hot Springs, the Bechler River Soldier Station was constructed in 1910-1911 to provide a year round presence in the Bechler area to discourage poaching by nearby residents. Poaching of elk, bison, moose, and beaver was a common practice in the areas immediately surrounding the park and continues in and around the park to some degree today.

The Bechler area was aptly named the "Cascade Corner" by conservationist W.C. Gregg after visiting the area in 1920 – 1921 (Whittlesey, 2011). Gregg was known for documenting over twenty-five larger waterfalls during his visit, with seventy-eight more documented by researchers almost eighty years later, proving the area to be one of the nation's richest in spectacular waterfalls (Rubinstein et al., 2000). Additionally, the Bechler area is among the wettest areas of the park, and has recorded some of the park's highest snowfalls. It has been theorized that past experience with the effect of such conditions on man-made structures led the Army to look for a drier site; the Bechler River Soldier Station site met that description, being situated 25 to 30 feet above nearby Wyoming Creek.

The Bechler River Administrative Area is a collection of buildings located in a clearing approximately 300 feet southwest of Wyoming Creek, in the southwest corner of YNP. The primary structures are a quarters building, housing trailer, and wood shed at the north edge of the clearing; a shop building and fire cache, a generator building, and an office at the west edge; and a barn with accompanying corrals at the south and east edges. Various other structures, such as a hose house, propane tanks, and trailhead markers are also placed around the clearing along the north edge. Vehicle access to the project area is by way of a 1 ¼-mile entrance road off of Cave Falls Road The entrance road, a parking area, and the corral areas are all dirt-covered. Despite its location in an area of the park known for its wet and sometimes swampy conditions, the Bechler River Administrative Area is located about 20 to 30 feet above the level of nearby Wyoming Creek and stays fairly dry.

The Bechler Administrative Area consists of two historic districts (Figure 2); Bechler is considered a discontiguous unit of the Fort Yellowstone Landmark District, and the Bechler River Soldier Station Historic District. The Fort Yellowstone Landmark District consists of the Bechler River Soldier Station and the Bechler Horse Barn. The Bechler River Soldier Station Historic District boundary includes the Bechler River Soldier Station and the Bechler Horse Barn as well as the visitor contact station and office building (Figure 3). Other buildings in the area include an ATCO trailer in poor condition that currently serves as seasonal employee housing, a fire cache/shop building, and a generator shed/water system building and a vault toilet. A temporary solar array is situated in the open field west of the fire cache/shop building.

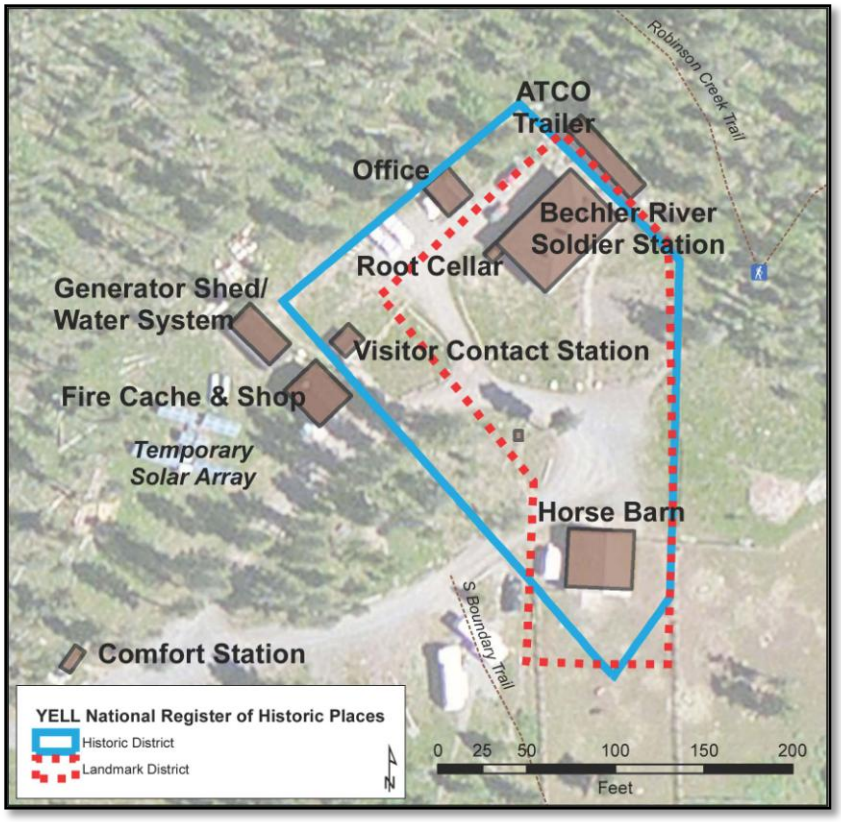

Figure 2 – Map of Landmark and Historic Districts at Bechler

Soldier Station and Barn

The Bechler River Soldier Station and Horse Barn were built at the same time. Completed in 1910, they are the oldest two structures in the project area. Day laborers and troops completed the eight-room frame quarters and adjacent stable at a combined cost of around $3,650. Capable of housing up to twelve men, the station measured approximately 31 by 52 feet, and the barn, 31 by 34 feet. Construction was directed by the Army Construction Quartermaster and completed in early December; soldiers moved in by December 14, 1910.

Figure 3 – Existing Visitor Contact Station and Office

The Soldier Station today appears much as it did when first constructed more than a century ago. It exists in its original location, retains most of its original materials, and is still used for its original purpose of providing housing—originally to soldiers, today to park staff. The single-story, wood-frame structure is approximately 48 feet long by 34

feet wide, with a foundation of field stones in cement. Three large brick chimneys project through a wood-shingled hip roof.

Infrastructure

In 1911, the Army continued to strengthen its local presence for better protection of park resources by connecting the soldier station to the park's telephone system, via a new line from the Snake River Station at the South Entrance. That same year, the isolated station's patrolling effectiveness was improved by establishing a series of new trails, including one that connected the Soldier Station to the Snake River Station. Most likely, the telephone line followed the same trail. Subsequent road improvements included a CCC road project completed in 1934.

Figure 4 – ATCO trailer used for employee housing

Other Structures

Bechler Administrative Area structures also include a root cellar, completed in 1919 and accessed via an enclosed stairway leading downward off the Soldier Station porch. The Bechler Visitor Contact Station, a pre-existing structure originally located in the West Thumb area, was moved to the Bechler site in 1946. Later site additions included a firewood storage building (1954), a fire cache and a garage (1970).

Employees typically reside in the Bechler River Soldier Station, which is currently divided into two units, and an ATCO trailer (Figure 4). One permanent employee resides in one side of the Soldier Station, while the rest of the seasonal staff live in the four room ATCO trailer that provides sleeping quarters only with no storage and poor lighting. The trailer has no plumbing, so employees share the kitchen and bathroom on the "seasonal side" of the Soldier Station. The ATCO trailer is past its useful life and is in poor and rapidly deteriorating condition. There are pest problems and associated public health concerns including potential exposure to zoonotic diseases (Hantavirus) in the trailer. Annual maintenance and repair costs are increasing. Heating costs are very high in early summer and late fall seasons due to lack of insulation and single pane windows. The current housing does not provide adequate family accommodations.

The visitor contact station serves as an office and telecommunications center (Figure 5). One ranger and only three or four visitors can be accommodated in the 11' x 13' (143 square feet) building at one time. The visitor contact station functions include selling park entrance passes and fishing licenses, issuing backcountry permits, providing park, national forest, and road information; as well as selling books and maps. The visitor contact station also

Figure 5 – Inside view of the Visitor Contact Station

serves as an office for both permanent and seasonal staff.

The Bechler weather station is currently located in the far southeast corner of the clearing for the administrative area just outside of the horse corral, and is somewhat shielded from view by vegetation. It includes instrumentation to gather data such as temperature, precipitation, relative humidity, and barometric pressure. A telecommunications tower is currently located immediately adjacent to the visitor contact station and holds three antennas for the area's public safety communications. The visitor contact station houses a frequency agile medium power desktop two way base station. The generator building houses the main fixed station high power two way radio for the area and a very low power cell phone booster that services the Bechler Administrative Area. The visitor contact station provides the only radio communication service to backcountry staff in many backcountry locations (Bechler Canyon) in the Bechler area.

Parking at Bechler is predominantly located at the southwestern edge of the clearing in the administrative area. A small day-use parking area is also located between the Bechler River Soldier Station and the Bechler Barn. Combined, the parking areas can accommodate approximately five horse trailers and 20 vehicles. During the peak season, this parking area fills quickly and commonly has eight horse trailers and 30 to 35 vehicles in the parking areas (Figure 6). This overflow of vehicles causes visitors to park in undesignated areas located along the road and in areas clear of trees. Currently there is not a designated area for trailers and overnight users. This lack of designation causes issues due to unorganized parking situations. During the peak visitation, staff is tasked with assisting visitors find parking in order accommodate the maximum number of vehicles and horse trailers on any given day. This additional task is often difficult to do while serving the needs of several groups of visitors at one time and wait periods can be quite lengthy.

Figure 6 – Unorganized parking typical at Bechler during the peak season

A portable photovoltaic solar array is temporarily located next to the generator shed at the west edge of the landmark and historic districts (Figure 7). The array was placed here to determine the feasibility of the use of solar in the area. The trailer mounted array, when fully functional, provides approximately 90% of the power to the administrative area during the summer months supplemented by the propane generator as needed at night. This array has been in use for two full seasons and is being used strictly during the summer months. Before snowfall, it is transported for storage or for use at other areas of the park. Prior to the installation of the solar panels, loud propane generators were run 24 hours a day.

Purpose and Need

The purpose of the Bechler Administrative Area Improvement Plan Environmental Assessment is to guide future improvements while protecting the values and purposes for which YNP was set aside. Those values include protecting the natural and cultural resources in the area while sensitively accomplishing the objectives of the plan.

Figure 7 – Temporary photovoltaic portable trailer

Major needs for the area include adequate visitor and employee services. The following are specific needs and objectives of the plan:

1. Due to inadequate and unorganized parking currently available, improvements are needed for parking to include designated areas for day-use, overnight, stock use, and employees. Improvements are needed that would develop appropriate vehicle and pedestrian circulation patterns with the overall goal to provide easy access to trails and the landmark and historic districts. Currently, little interpretation of the area and limited visitor information is available outside of the visitor contact station. The need for a more suitable visitor contact station that would be able to accommodate more visitors at a time and provide information after working hours is needed. Measures of success would include:
    - Delineated parking that accommodates overnight and day use visitors, and employees, with vehicles and horse trailers
    - Separation of pedestrian and parked vehicles from traffic
    - Designated safe walkways and crossings
    - Improved interpretation of the Bechler area for visitors, both inside and outside the visitor contact station, that could include history, natural resources, visitor safety and orientation
    - Ability to improve visitor experience when processing backcountry or fishing permits or providing general information

2. A well-staffed presence at Bechler during the peak season and intermittently during the remaining parts of the year requires adequate housing. There is an immediate need for adequate housing and the development of utilities necessary to house up to eight park employees, with one unit that could be used for a family. Measures of success would include:
    - Improved employee housing conditions
    - Improved employee work environment and safety
    - Improved utilities (to include renewable energy), and telecommunications

3. Meet area needs and objectives of the plan while protecting the values and purposes for which YNP was set aside; especially those natural and cultural resources in the area of the Bechler Administrative Area. Measures of success would include:

- Maintain the historic integrity of the Bechler River Solider Station and other buildings as part of the Fort Yellowstone National Historic Landmark and Historic designations
- Protect native vegetation and wildlife

Relationship to Other Plans and Policies

The Bechler Administrative Area Improvement Plan is consistent with other planning and operating procedures for YNP including:

Yellowstone National Park Master Plan (NPS 1974) The Master Plan strives to balance human impacts and preservation of park natural, cultural, and scenic resources by developing objectives for General Management, Resource Management, Visitor Use, and Interpretation.

Yellowstone National Park Statement for Management (NPS 1999) The Statement for Management describes the existing conditions and management objectives for natural resources, adjacent lands coordination, visitor use, cultural resources, and park operations and planning.

Yellowstone National Park Long-Range Interpretive Plan (2000) The YNP Long-Range Interpretive Plan provides visitor experience goals and primary interpretive themes and follows with recommendations. An update to the plan is underway with project completion in winter 2012–2013.

The proposal is consistent with the goals and objectives of the **National Park Service Management Policies 2006** that state that major park facilities within park boundaries should be located so as to minimize impacts to park resources (NPS 2006). The proposed sites for improvement were identified to minimize harm to all park resources particularly significant cultural resources.

The **Wireless Communication Services Plan Environmental Assessment (2009)** provided a framework for establishing wireless communication services parkwide. The Bechler Administrative Area is not an area under consideration for wireless services; however, design criteria for mounting structures developed in this plan would be used.

Scoping

Scoping is a process used early and openly throughout the planning process to identify resources that may be affected by a project proposal. Scoping ensures that alternative ways of achieving the proposal are considered while minimizing adverse impacts. Yellowstone National Park conducted internal scoping with an interdisciplinary team of park staff in 2011 to define the purpose and need for the project, identify potential environmental impacts and establish possible mitigation measures.

External scoping was initiated with the distribution of a scoping letter to inform the public of the proposal and to generate input on the preparation of this environmental assessment. The scoping letter dated February 2, 2011 was mailed to over 300 individuals, organizations, federal and state agencies, affiliated Native American tribes, local governments, and local news organizations. Scoping information was also posted on the park's website (http://www.nps.gov/yell).

During the 30-day scoping period, 22 public responses were received. The majority of respondents suggested keeping the project small and in keeping with the rustic nature of the Bechler area. The remaining responses included some in favor of the project, some opposed to

the project, and some requesting more project information. No comments were received from Native American tribes for the proposed project. Scoping is described in more detail in the *Consultation and Coordination* chapter.

Impact Topics Retained For Further Analysis

Impact topics for this project were identified on the basis of federal laws, regulations, and orders; NPS *Management Policies* 2006; and NPS knowledge of resources at YNP. Impact topics that are carried forward for further analysis in this EA include:

Geology and Soils

Vegetation and Rare Plants

Wildlife

Special Status Wildlife Species and Yellowstone Species of Management Concern

Historic Structures

Soundscape Management

Visitor Use and Experience

Park Operations

Impact Topics Dismissed From Further Analysis

In this section, the NPS evaluates all potential impacts by considering the direct, indirect, and cumulative effects of the proposed action on the environment, along with connected and cumulative actions. Impacts are described in terms of context and duration. The context or extent of the impact is described as localized or widespread. The duration of impacts is described as short-term, ranging from days to three years in duration, or long-term, extending up to 20 years or longer. The intensity and type of impact is described as negligible, minor, moderate, or major, and as beneficial or adverse. The NPS equates "major" effects as "significant" effects. The identification of "major" effects would trigger the need for an EIS. Where the intensity of an impact could be described quantitatively, the numerical data is presented; however, most impact analyses are qualitative and use best professional judgment in making the assessment.

Some resource impact topics that are commonly considered during planning processes were dismissed from detailed analysis because the management alternatives would have no effect, a negligible effect, or a minor effect on the resource or the resource does not occur within the Bechler Administrative Area. For the purpose of this section, an impact of negligible intensity is one that is "at the lowest levels of detection, barely perceptible, but is slight, localized, and would result in a limited alteration or would impact a limited area." The rationale for dismissing these specific topics is described below. Impact topics are dismissed from further evaluation in this EA if:

- they do not exist in the analysis area, or
- they would not be affected by the proposal, or the likelihood of impacts are not reasonably expected, or
- through the application of mitigation measures, there would be minor or less effects (i.e. no measurable effects) from the proposal, and there is little controversy on the subject or reasons to otherwise include the topic.

Due to there being no effect or no measurable effects, there would either be no contribution

towards cumulative effects or the contribution would be low. For each issue or topic presented below, if the resource is found in the analysis area or the issue is applicable to the proposal, then a limited analysis of direct and indirect, and cumulative effects is presented.

Water Resources

The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and for regulating water quality standards for surface waters. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The NPS *Management Policies* 2006 require protection of water quality consistent with the Clean Water Act and state that NPS will perpetuate surface waters and groundwaters as integral components of park aquatic and terrestrial ecosystems.

The proposed project area does not contain surface waters, and is mostly dry, except for periodic runoff during storm events. Water quality, water quantity, and drinking water are not expected to be affected by the project. Any new housing footprint would increase the amount of impervious surface in the area, which could possibly increase the erosion potential of the area; however, removal of the existing ATCO trailer should offset or mitigate this effect to some degree. To further assist with erosion and water quality, disturbed areas would be revegetated and recontoured following construction. The proposed action would result in negligible effects to water resources. Because these effects are minor or less in degree, this topic is dismissed from further analysis in this document.

Wetlands

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

Executive Order 11990 *Protection of Wetlands* requires federal agencies to avoid adversely impacting wetlands where possible. Further, §404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge of dredged or fill material or excavation within waters of the United States. National Park Service policies for wetlands as stated in the NPS *Management Policies* 2006 and Director's Order (DO) 77-1 *Wetlands Protection* strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. In accordance with DO 77-1 *Wetlands Protection,* proposed actions that have the potential to adversely impact wetlands must be addressed in a statement of findings for wetlands.

Many wetland areas occur in the southwest area of the park, and despite the high percentage of wetlands in the Bechler area, the administrative area was originally selected due to its upland qualities. Because there are no wetlands or waters of the U.S. located in the project area and because there is no potential for measurable impacts by the proposed action, the topic of wetlands has been dismissed for further analysis in this document.

Floodplains

Executive Order 11988 *Floodplain Management* requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. The NPS, under the NPS *Management Policies* 2006 and DO 77-2 *Floodplain Management,* will strive to preserve floodplain values and minimize hazardous floodplain conditions. According to

DO 77-2 *Floodplain Management,* certain construction within a 100-year floodplain requires preparation of a statement of findings for floodplains.

The Bechler Administrative Area is not located within, or near the 100-year floodplain of the Fall River or Bechler River; therefore a statement of findings for floodplains will not be prepared. Because there are no floodplains in the project area, this topic has been dismissed from further analysis.

Hydrothermal Resources

Although hydrothermal resources are located at several sites within the Bechler area, there are no hydrothermal features located in or adjacent to the Bechler Administrative Area with the closest being three to four miles away. Because there are no hydrothermal resources in the area, and there would be no impacts, the topic of Hydrothermal Resources has been dismissed for further analysis in this document.

Archeological Resources

In addition to the National Historic Preservation Act, DO-28A *Archeology* affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the NPS reflect a commitment to the conservation of archeological resources as elements of our national heritage.

Archeological inventories of the project area were conducted by Dr. Ann Johnson, then park archeologist for Yellowstone National Park, in 2002 in preparation for a modification of a non-contributing generator building and in 2004 in preparation for wildland urban interface fuel reduction. Three archeological sites were discovered; NPS determined that these sites were not eligible for the National Register of Historic Places due to a lack of significance and a lack of integrity. The Wyoming State Historic Preservation Officer (SHPO) concurred with this determination on Sept. 2, 2003 and February 9, 2005. The entire area of potential affect for the Bechler Administrative Area Improvement Plan EA falls within the area previously inventoried for archeological resources. Therefore, based on previous inventory of archeological resources and consultation, no eligible archeological sites will be affected and this topic is dismissed from further analysis in this EA.

If during project activities archaeological resources are encountered, all work in the immediate vicinity of the discovery will be halted until the resources can be identified and evaluated and any appropriate mitigation strategies can be developed, in consultation with the Wyoming SHPO, as appropriate.

Ethnographic Resources

Discussions with the 26 Native American Tribes associated with YNP to identify park resources significant to tribes have been ongoing for over 12 years. Although no specific area has been identified, many tribes have identified the general importance of thermal water and geyser features, and the various minerals found in the thermal areas as important and to be preserved and protected. No additional information on ethnographic resources was obtained during consultation with the tribes for this project. Yellowstone National Park recognizes the significance of the thermal resources in the Bechler area and other areas of the park, however, this project would not impact those resources.

A variety of common plants found throughout the park have been identified as having been used for food, medicinal and other purposes, many of which are still used today. Some of the plants are located in the Bechler Administrative Area and include berries, roots, greens, pine nuts,

seeds, chokecherries, wild carrots, wild onions, sage, and mint. Medicinal plants such as sage, "cedar" (Juniper), yarrow, fir, balsam, and mint were gathered and used in teas and to treat bruises, cuts, sores, infections, headaches, and toothaches. Juniper "cedar" was used for purification, prayer, and curing. All of the plants identified are common and are plentiful in many locations within and outside the park.

Similarly, a wide variety of animal resources have played a large role in the subsistence practices of many Native American people. These animals, such as bison, bear, big horn sheep, elk, antelope, deer, rabbit, and a variety of other smaller mammals are found throughout the park and outside the park in all directions. There are no unique concentrations of ethnographically used animals within the area of the proposed project at Bechler. Therefore, this topic has been dismissed from further analysis.

Cultural Landscapes

According to DO-28 *Cultural Resource Management Guideline*, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The Bechler Administrative Area has not been inventoried or evaluated as a cultural landscape. The Bechler River Soldier Station and Barn are contributing structures to the Fort Yellowstone National Historic Landmark but are discontiguous to that historic landscape. The proposed changes would have a beneficial impact on the historic landscape by removing the ATCO trailer and with construction of new buildings that are compatible with the Historic districts. Because the integrity of the existing landscape would be unaffected, this topic has been dismissed from further analysis

Museum Collections

According to DO-24 *Museum Collections*, the NPS requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, NPS museum collections. Many of the Park's museum collections are stored in the Heritage and Research Center in Gardiner, Montana, or within one of the visitor centers of the park. There are no museum collections in the Bechler area. The proposed action is consistent with §1.4.7.1 of the NPS *Management Policies 2006* and there would be no impacts to museum collections. Because these effects are minor or less, this topic has been dismissed from further analysis.

Paleontological Resources

According to NPS *Management Policies* 2006, paleontological resources (fossils), including both organic and mineralized remains in body or trace form, will be protected, preserved, and managed for public education, interpretation, and scientific research (NPS 2006). Vincent L. Santucci conducted *The Yellowstone Paleontological Survey* and provided the inventory report to the park in 1998. According to Santucci, the Bechler Administrative Area is located just outside the Birch Hills fossil region. This region is known to have limited outcrops of Gallatin limestone (Cambian), Madison Limestone (Mississipian), and Phosphoria Formation (Permian). This is the only area of the southwest corner of the park that has the potential to contain fossiliferous exposures. To date, no fossil localities have been identified in the Bechler Administrative Area. Because fossil localities have not been found and are not likely present within the project area, there would be no unacceptable impacts to paleontological resources; this topic is dismissed from further analysis in this document.

Air Quality

The NPS has a responsibility to protect air quality under both the 1916 Organic Act and the Clean Air Act. The 1963 Clean Air Act, as amended (42 USC 7401 et seq.) requires federal land managers to protect park air quality while the NPS *Management Policies* 2006 address the need to analyze air quality during park planning. The Clean Air Act requires superintendents to take actions consistent with their affirmative responsibilities to protect air quality related values in Class I areas. Class I areas include all NPS units designated as national parks with more than 6,000 acres, and all national wilderness areas with more than 5,000 acres that were in existence on August 7,1977, and any other area redesignated as Class I by the governing state or Native American authority. The act also establishes a national goal of preventing any future and remedying any existing man-made visibility impairment in Class I areas. Yellowstone National Park extends into five counties in three states, including Park and Teton in Wyoming, Park and Gallatin in Montana, and Fremont in Idaho. None of the five counties have air pollution levels that persistently exceed the national ambient air quality standards and are designated as nonattainment status (EPA, 2011). Impacts derived from this project on air quality would be short-term and negligible in a local and regional context.

There is the possibility of short-term temporary impacts on air quality or visibility in the proposed project area. Construction activities such as hauling materials and operating heavy equipment would result in temporary increases of vehicle exhaust, emissions, and fugitive dust in the general project area. Any exhaust, emissions, and fugitive dust generated from construction activities would be temporary and localized and would likely dissipate rapidly. Overall, the project could result in a negligible degradation of local air quality, and such effects would be temporary, lasting only as long as construction. The Class I air quality designation for YNP would not be affected by the proposal. Further, because the Class I air quality would not be affected, the proposed actions are consistent with §1.4.7.1 of the NPS *Management Policies* 2006. Because the effects on air quality would be negligible, this topic has been dismissed from further analysis.

Lightscape Management

In accordance with NPS *Management Policies* 2006, the NPS strives to preserve natural ambient lightscapes, which are natural resources and values that exist in the absence of human-produced light. The NPS would limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements. In addition, the NPS would ensure that all outdoor lighting is shielded to the maximum extent possible to keep light on the intended subject and out of the night sky so that the contribution to surrounding light sources would be minimal. These practices and procedures are also consistent with YNP Outdoor Lighting Standards.

Socioeconomics

The proposed action would neither change local and regional land use nor appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a negligible beneficial impact to the economies of nearby Ashton, Idaho as well as Fremont County due to minimal increases in employment opportunities for the construction workforce and revenues for local businesses and governments generated from these additional construction activities and workers. Any increase in workforce and revenue, however, would be temporary and negligible, lasting only as long as construction. Because the impacts to the socioeconomic environment would be negligible, this topic has been dismissed.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands

to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. Because there would be no effects on prime and unique farmlands, this topic has been dismissed from further analysis.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. The Park's lands and resources related to this project are not held in trust by the Secretary of the Interior. Because there are no Indian trust resources related to this project, this topic has been dismissed from further analysis.

Environmental Justice

Executive Order 12898 *General Actions to Address Environmental Justice in Minority Populations and Low-income Populations* requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Because there are no minority or low income populations within the affected area the proposed action would not have disproportionate health or environmental effects on minorities or low-income populations or communities. Because there would be no disproportionate effects, this topic has been dismissed from further analysis.

Climate Change

Although climatologists are unsure about the long-term results of global climate change, it is clear that the planet is experiencing a warming trend that affects ocean currents, sea levels, polar sea ice, and global weather patterns. Although these changes would likely affect winter precipitation patterns and amounts in the park, it would be speculative to predict localized changes in temperature, precipitation, or other weather changes, in part because there are many variables that are not fully understood and there may be variables not currently defined. The actions proposed are not expected to result in more than negligible increase in green house gas emissions. Therefore, the analysis in this document is based on past and current weather patterns and the potential effects of future climate changes are not discussed further.

Wilderness

The project area has not been recommended for wilderness designation, however it is managed by the NPS as wilderness. As per the NPS *Management Policies* 2006, regardless of the category of wilderness, NPS "will take no action that would diminish the wilderness eligibility of an area possessing wilderness characteristics until the legislative process of wilderness designation has been completed. Until that time, management decisions will be made in expectation of eventual wilderness designation." Because the proposed action occurs in an administrative area and is not likely to be designated a wilderness area, this topic has been dismissed from further analysis.

ALTERNATIVES

During February of 2011, an interdisciplinary team of NPS employees met for the purpose of developing project alternatives. This meeting resulted in the definition of project objectives as described in the *Purpose and Need,* and a list of alternatives that could potentially meet these objectives. A total of two action alternatives and a no-action alternative were originally identified for this project and are carried forward for further evaluation in this environmental assessment. A summary table comparing alternative components is presented at the end of this chapter.

Alternatives Carried Forward

Alternative A–No Action

Under this alternative, proposed improvements would not occur. The existing visitor contact station would continue to serve as an employee office space, telecommunications center, and visitor contact station and other administrative functions. Seasonal and permanent housing would continue to operate out of the Bechler River Soldier Station and the ATCO trailer. Traffic circulation and parking would remain the same. There would be no improvements made to orientation, way-finding, or interpretation for visitors. Utilities and telecommunications would not be upgraded. However, routine maintenance activities would continue to maintain the existing structures and historic assets.

Actions Common to Alternatives B and C

Phased Funding and Implementation

Projects proposed under Alternatives B and C would be phased and implemented as funding becomes available.

Site Design

Both alternatives proposed include the same general site design based on the need to be sensitive to the landmark and historic districts (Figure 8). Exact locations have not been determined, however, the temporary and permanent housing, two RV sites, solar array, new visitor contact station (Alternative B Only) and telecommunications tower would all be within the defined zones proposed. The defined zones are as follows:

- Historic setting – The overall character of a small outpost in a remote setting would be preserved. The integrity of historic properties would be maintained and views and circulation patterns would be improved including the removal of day use parking from the landmark and historic District and RV sites from the immediate viewshed. A shelter for horses is considered immediately outside the historic corral fence and behind the barn to preserve views of the historic buildings from the trail heads and the road and would be in keeping with historic character. No other buildings are proposed for this area. Visitors are encouraged to pass through this area and information and orientation is provided.
- Administrative/Support Services – This area includes a shop, office and employee housing with associated parking. It would be separated from the historic setting and screened from visitor use areas as much as possible. Buildings and structures would complement the scale and appearance of historic buildings to maintain the overall character of the area. Visitor services are not provided and visitors would be discouraged from entering this area.

- Visitor Services – This area would serve visitors and present a quality visitor experience for entering the Bechler area. It would include visitor parking and services such as a vault toilet and contact station where visitors can receive information and orientation for their trip.

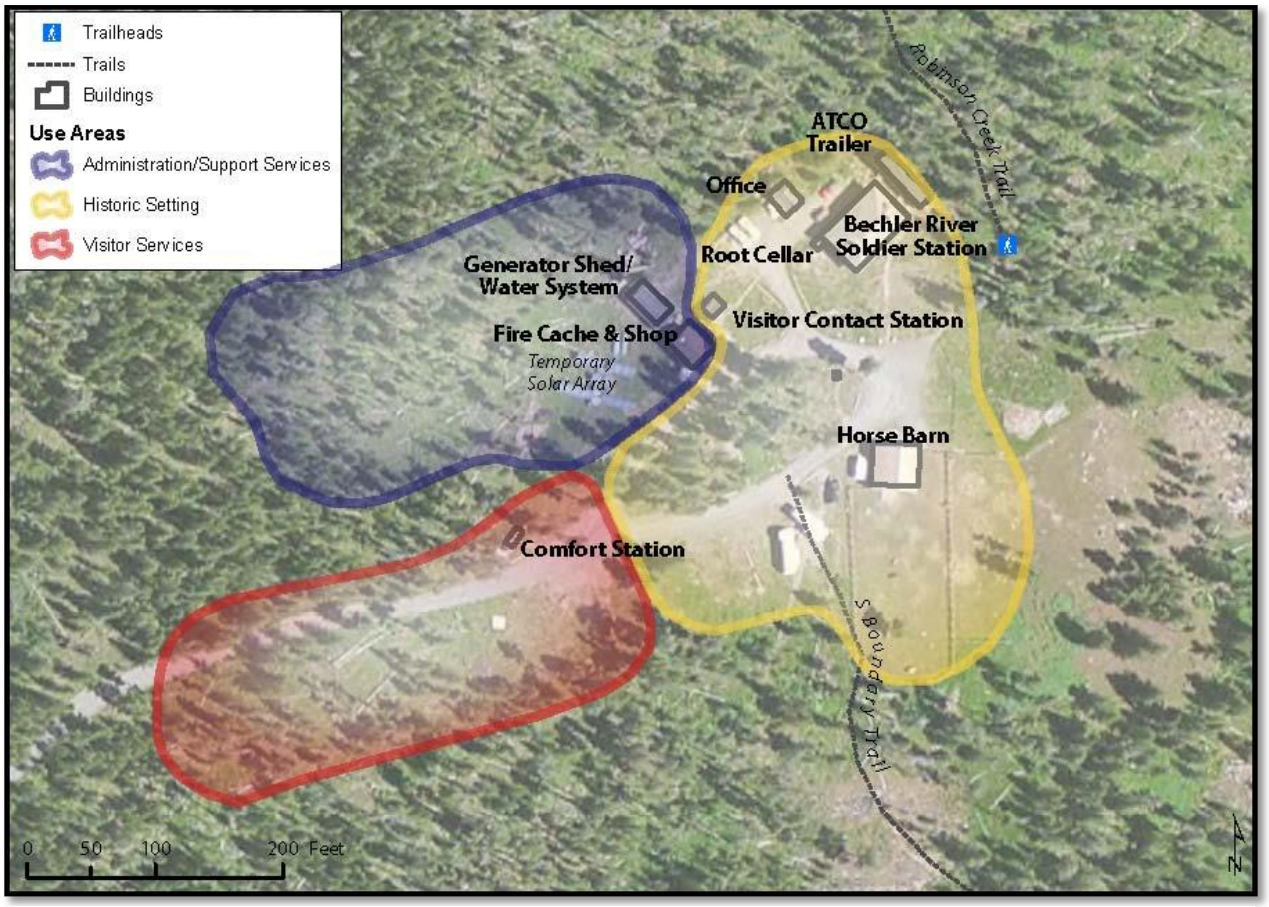

Figure 8 – Site Design Concept

Rehabilitation of the Bechler River Soldier Station into Two Individual Housing Units or One Family Unit

The Bechler River Soldier Station would be rehabilitated to accommodate two employees or one family. Although in recent years the south side residence has functioned as a common space for staff living in the ATCO trailer, small updates would enable its intended use as a self-contained unit. Improvements needed may include: interior painting, floor refinishing, insulation upgrades, installation of an access door allowing the use of both sides for a family, and the installation of high efficiency Energy Star appliances.

Temporary Housing Units, Volunteer Accommodations, and Removal of the ATCO Trailer

Temporary housing units (PortaDorms) may be utilized until funds can be obtained for the permanent housing construction. The ATCO trailer and associated utility connections would be removed followed by rehabilitation of the area. PortaDorms are typically two bedroom units and can be pre-fabricated or built on-site. These temporary units would be placed in areas that would not impede the construction of the permanent units, and would need to be connected in some capacity to existing utilities, including water, sewer, electric, and propane which may entail

excavation and placement of additional underground piping/wiring. The size of the units would be between 500 – 1000 square feet. Additionally, temporary contractor housing may be sited in the area during construction periods due to the remote nature of the location. Housing for additional staff needs, beyond the scope of that described in Alternatives B & C such as volunteer staff would include two trailer sites with hook-ups in an area that would not visually impact the landmark and historic districts.

Traffic Circulation and Parking

Vehicles would continue to enter the Bechler area using the existing spur from Cave Falls Road. Parking areas would be expanded but would be further away from the historic buildings along the entrance road and visitors would no longer be permitted to drive around the small loop past the Bechler River Soldier Station or park within the historic district. This change in traffic flow would better accommodate an increased number of day use and overnight visitors, as well as vehicles with horse trailers and would provide designated areas for each. Individual parking spaces would be delineated with wood or other natural materials. The discontinuation of visitor traffic around the loop would allow for a safer visitor walking experience to the main trail head, the visitor contact station and within the landmark and historic districts. In addition, the visual quality and general feeling of the Historic District, without vehicles, would be enhanced. Hitching rails and posts would be installed adjacent to the parking area to allow for safe holding of stock and easy access to trails in the area. Employee parking spaces would be constructed and serve approximately eight vehicles near the housing units. To construct these parking spaces an access road would be constructed. Log curbing and/or sit rails or bollards would be added where necessary to deter visitors from parking outside the established parking limits. Disturbance for the additional parking and road would be approximately 0.50 acre.

Construction Staging, Materials and Timing

Due to the short operating season (June 1–November 1), the majority of construction activities would be scheduled and completed during the summer and fall months. Because most activities would require that construction take place during periods of high visitation, mitigation measures would be implemented to lessen the duration and impacts on visitors, special use permit holders, park operations and local residents.

Storm Water Management

The existing roads and parking areas would be re-graded and re-surfaced with gravel or permeable material. Culverts and diversions would be installed where needed to ensure proper drainage of the walkways and parking area. The appropriate permits and authorizations will be acquired prior to construction.

Orientation, Way-finding and Interpretation

New directional and orientation signs would be installed to improve both pedestrian and vehicle traffic flow. Free-standing interpretive displays would be designed and positioned to enable visitors to gather information after hours when the visitor contact station is not manned and would provide safety messages regarding information such as traveling in bear country as well as the history of the Bechler River Soldier Station.

Accessibility

New and existing pathways, structures and facilities within the Bechler Administrative Area would have universal access according to the standards established by the Americans with Disabilities Act, Architectural Barriers Act, and the Draft Final Accessibility Guidelines for Outdoor Developed Areas.

Sustainable Design

All new housing units would be designed to meet the High Performance and Sustainable Buildings Guidance (Guiding Principles) which state that new construction will be 30% more efficient than performance rating per the American National Standards for ANSI, ASHRAE and IESNA. The Leadership in Energy and Environmental Design (LEED) rating system could be used to guide the project to ensure design is equivalent or better than LEED certified. Examples of design elements that go toward LEED certification include selection of a sustainable site, materials and resources, indoor environmental quality, energy efficiency, and innovation in design. Any buildings that require renovation would also be designed to meet the Guiding Principles.

Renewable energy would be used to the greatest extent possible and reasonable, with any fossil fuel systems being the most efficient and clean available. Solar arrays would either be roof-mounted, or free standing such that their visual impact from both districts and visitor use areas is minimized. Energy star efficient appliances and energy efficient lighting would be installed in each housing unit and other facilities to reduce overall energy demands on the system.

Secretary of Interior's Standards for the Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties would be utilized to guide the design process in this area to ensure the new structures blend with the current setting. The new housing would be sited in a location that would not detract from the landmark or historic districts. Figures 9, 10 & 11 provide a 3-D rendering of how the new housing could look from three areas within the landmark and historic districts.

Figure 9 – Conceptual rendering of the viewshed by the Montana State University Community Design Center as seen standing in front of the Bechler Barn. This figure depicts the new housing as three duplex units. The new units are located to the left side and are lighter in color than the existing structures.

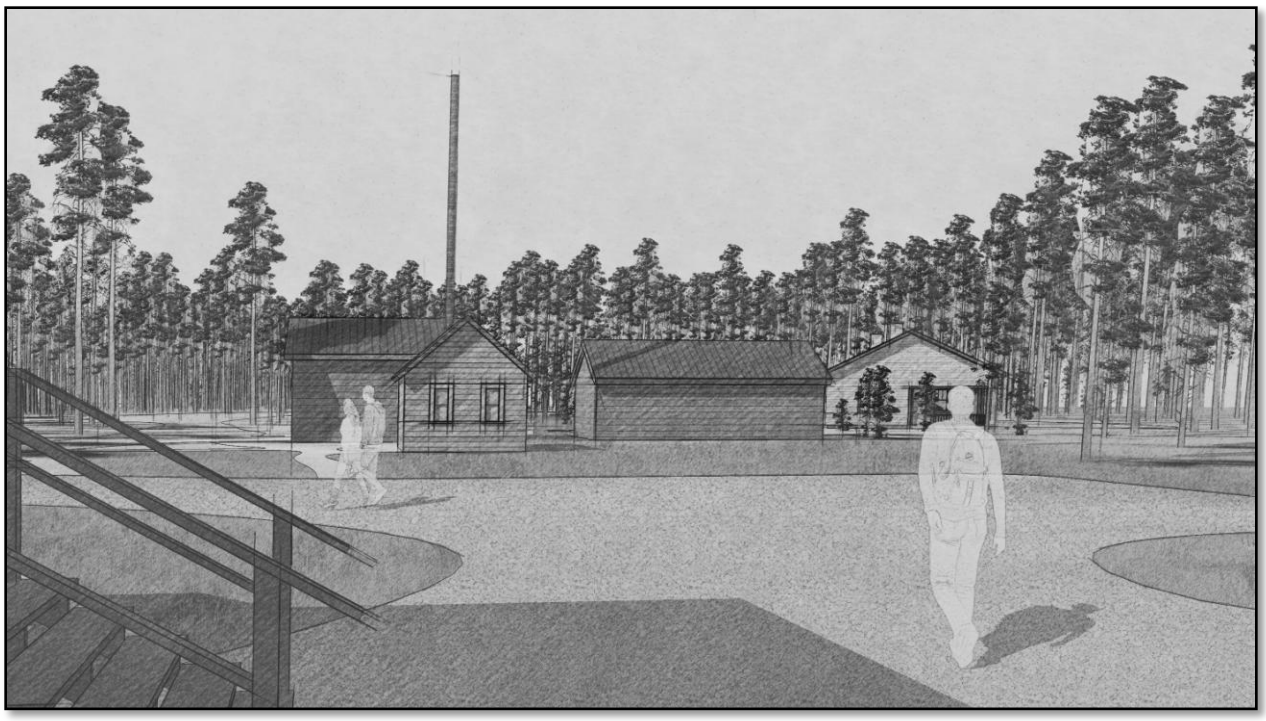

Figure 10 - Conceptual rendering by the Montana State University Community Design Center of the new housing as seen from the northwest side of the Bechler River Soldier Station. The new housing is at the far right of the figure and the new structures are lighter in color than the existing structures. MSU Community Design Center

Figure 11 - Conceptual rendering created by the Montana State University Community Design Center of the new housing as seen from between the Bechler River Soldier Station and the Bechler Barn, near the Robinson Creek trailhead. The new housing is barely seen, and is the lighter colored structure, at the far left, and behind the existing structures.

Utilities & Telecommunications

Electric, water, propane, septic, fiber and copper telecommunication would be upgraded and connected to the new housing structures. Lines would be trenched and utilities would be installed with minimal impact and in the same trench if possible. Existing utilities and previously disturbed areas would be used as much as possible; however, some systems may require an

upgrade. The septic system currently located adjacent to the horse corral and parking area may require a new leach field based on capacity, proximity to the new units, soils and grades.

A new less visually obtrusive telecommunications mounting structure would be erected to consolidate all existing telecommunication structures currently in the area. The mounting structure would be designed according to criteria established in the Yellowstone National Park Wireless Communication Services Plan Environmental Assessment of 2009 and would be sited to blend with the existing vegetation. The weather station would be moved from its current location just outside the horse corral to the same area to consolidate structures.

Stock Shade Shelter

A stock shade shelter is proposed under both alternatives to provide stock with a source of reliable shelter from inclement weather. The structure would be sited outside the landmark and historic districts and would be designed to reflect the style of the barn and incorporate elements compatible with the historic districts (Figure 12). The shelter would be less imposing than the barn with a similar roof pitch and would be less than 500 square feet.

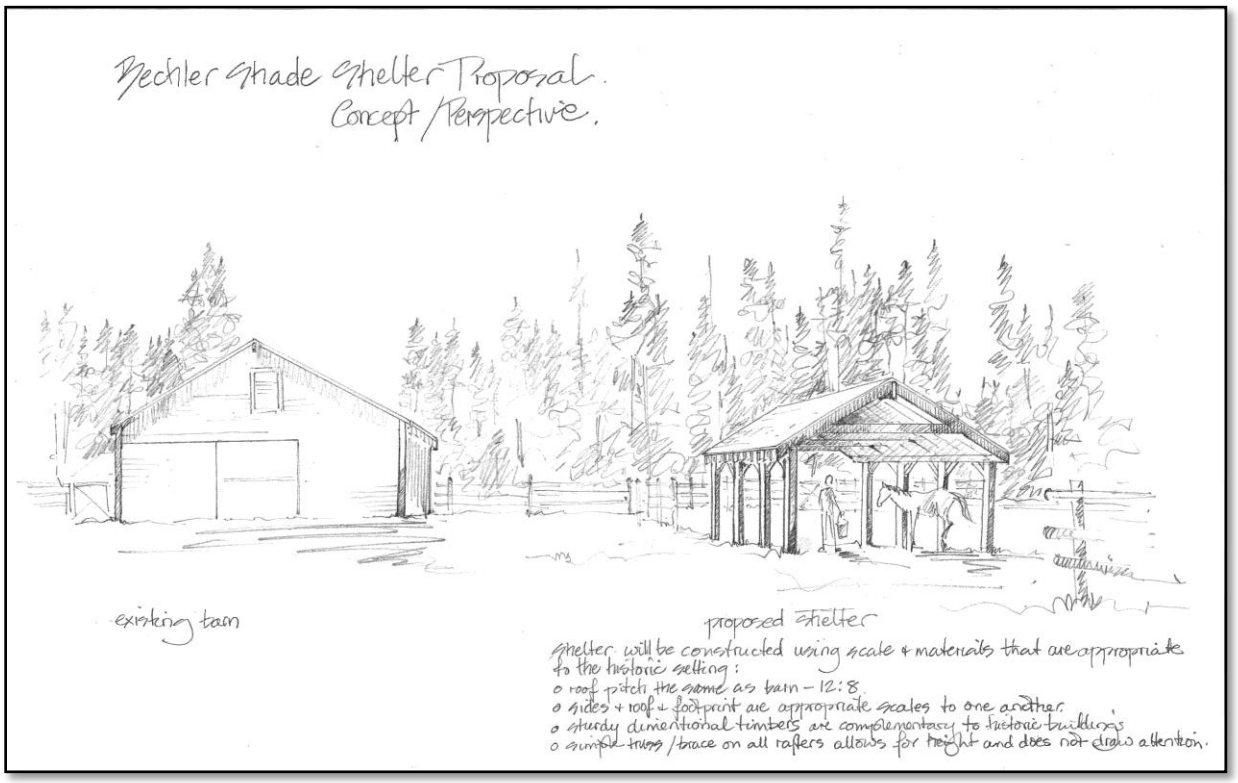

Figure 12 – Proposed Shade Shelter Concept

Vegetation Management

Existing trees in the project area would be preserved to the greatest extent possible to provide natural screening of employee areas; however, approximately 1.5 acres would need to be selectively thinned to accommodate the new buildings and additional parking. All areas disturbed during construction would be managed in accordance with YNP's Vegetation Management standards including the preservation of topsoil with grading and revegetation that blends with the surrounding native landscape. Native vegetation, rocks, or other natural features would be used, as appropriate.

Alternative B–Multiple Housing Units and New Visitor Contact Station (Preferred)

Alternative B describes the alternative with the greatest construction footprint necessary to address the housing needs identified, and has the least visual impact. This alternative proposes to construct housing units that are the same or smaller in size and scale to the historic buildings. There would be from one to six buildings accommodating single or multiple units (Figure 13). The Bechler River Soldier Station would receive minimal remodeling to accommodate two employee housing units or one family unit. This alternative would also include the construction of a new visitor contact station of up to 1000 square feet.

- Housing Unit Features – The new housing would be the same or smaller in scale and size to the historic buildings (Bechler River Soldier Station and the Bechler Barn) with design that is compatible with the Historic character of the area. There would be from one to six buildings accommodating single or multiple units. One and a half story units would be permissible where the roof space is livable as long as the roof pitch and height is compatible with Historic buildings. The new housing units would be no more than 600 square feet each with the building footprint not to exceed 1,500 square feet including porches. This ensures buildings are a size and scale that complements the existing Historic buildings and are consistent with the appearance of a remote outpost. The units would be self-contained but small in size. They would include a small efficiency kitchen, living room/dining room area, bedroom and full bathroom or would be studio style with one room serving as kitchen, living, dining and bedroom with a separate bathroom. Laundry would be located in one space shared by all the units. Units would be designed and positioned on the site to make the best use of passive heating and cooling and to avoid the need for air conditioning systems. Heating systems would be installed in the units to provide heat as needed in the early and late parts of the season. A fire protection system consisting of a smoke and heat detection alarm and sprinklers would also be installed. Two units would be constructed to enable winter-season use with building envelope and utilities appropriately designed and constructed to handle long periods of sub-zero temperatures. At least one unit would be designed for universal access.

- New Visitor Contact Station Features – A new, not to exceed, 1000 square foot visitor contact station would be constructed to accommodate larger groups of visitors at a time, and to provide additional space inside the station for staff. The new station would be equipped with a fire protection system consisting of smoke and heat detection alarms and sprinklers and would be designed for universal access. The current visitor contact station interior would be rehabilitated to allow future use as a storage shed or for an employee fitness center since the current location in the Bechler River Soldier Station would be displaced with the rehabilitation to two housing units. The current visitor contact station would also receive upgrades to improve structural stabilization to help decrease movement of the walls due to snow load.

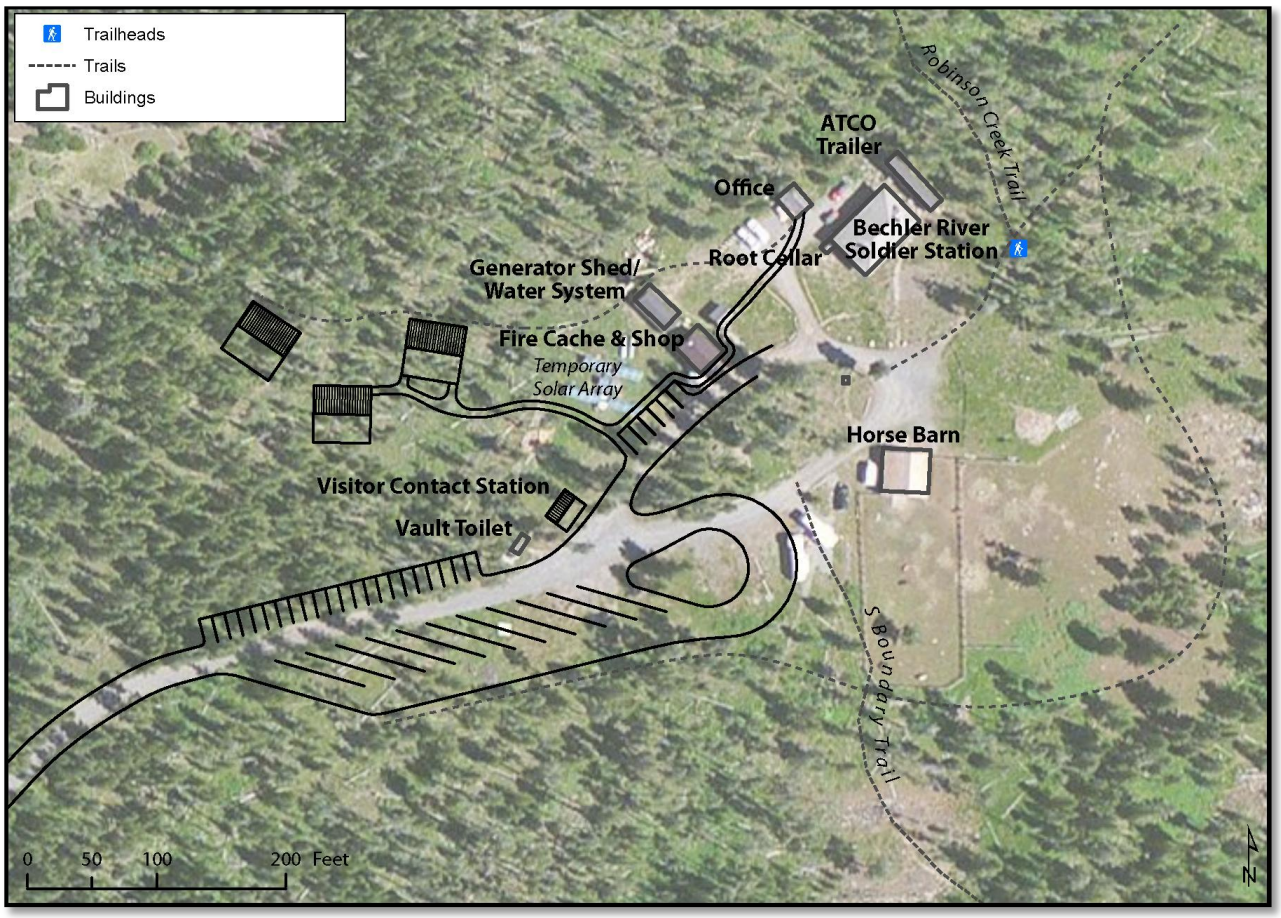

Figure 13 – Alternative B. This is an example of the proposed site design with multiple duplex units. Actual final locations and unit configurations for new construction may vary.

Alternative C–Single Multi-plex Employee Housing Unit and Adaptive Reuse of the Existing Visitor Contact Station

Alternative C describes the alternative with the smallest footprint of disturbance necessary to address the housing issues identified, yet with the most visual impact. This alternative would include the construction of a single building with up to six units that would be larger in scale and size than the historic buildings (Figure 14). This alternative would also include the use of the Bechler River Soldier Station for two housing units, or a single family unit. The visitor contact station would remain in the same building. However, it would be enhanced with a simple awning allowing visitors to stand outside while sheltered from the weather, lessening congestion, and adding the ability to contact more visitors at one time, as well as provide visitors some shelter from inclement weather during non-operating hours.

- Housing Unit Features –The new housing would be a single building, larger in scale and size to historic buildings (Bechler River Soldier Station and Bechler Barn) and would be sited to have minimal visual impact to the landmark and historic districts and from the visitor use areas. This single building would accommodate up to six units. Each housing unit would be a maximum of 600 square feet with the footprint of the total building not to exceed 5000 square feet including porches. The units would include a

small efficiency kitchen, living room/dining room area, bedroom and full bathroom. Laundry, additional storage, and a workout room would be one space shared by all the units. The building would make the best use of passive heating and cooling to avoid the need for air conditioning systems. Heating system(s) would be installed to provide heat as needed in the early and late parts of the season. A fire protection system consisting of a smoke and heat detection alarm and sprinklers would also be installed. Two units would be constructed to enable winter-season use with building envelope and utilities appropriately designed and constructed to handle long periods of sub-zero temperatures. At least one unit would be designed for universal access.

- Adaptive Reuse of the Existing Contact Station –The existing visitor contact station would be redesigned with a service window in order to accommodate larger groups of visitors at one time, and to provide additional space inside the station for staff. The service window would have a small overhang to allow visitors protection from the weather while receiving information, much like campground visitor contact stations throughout the park. The walkways around the visitor contact station would be re-designed for universal access.

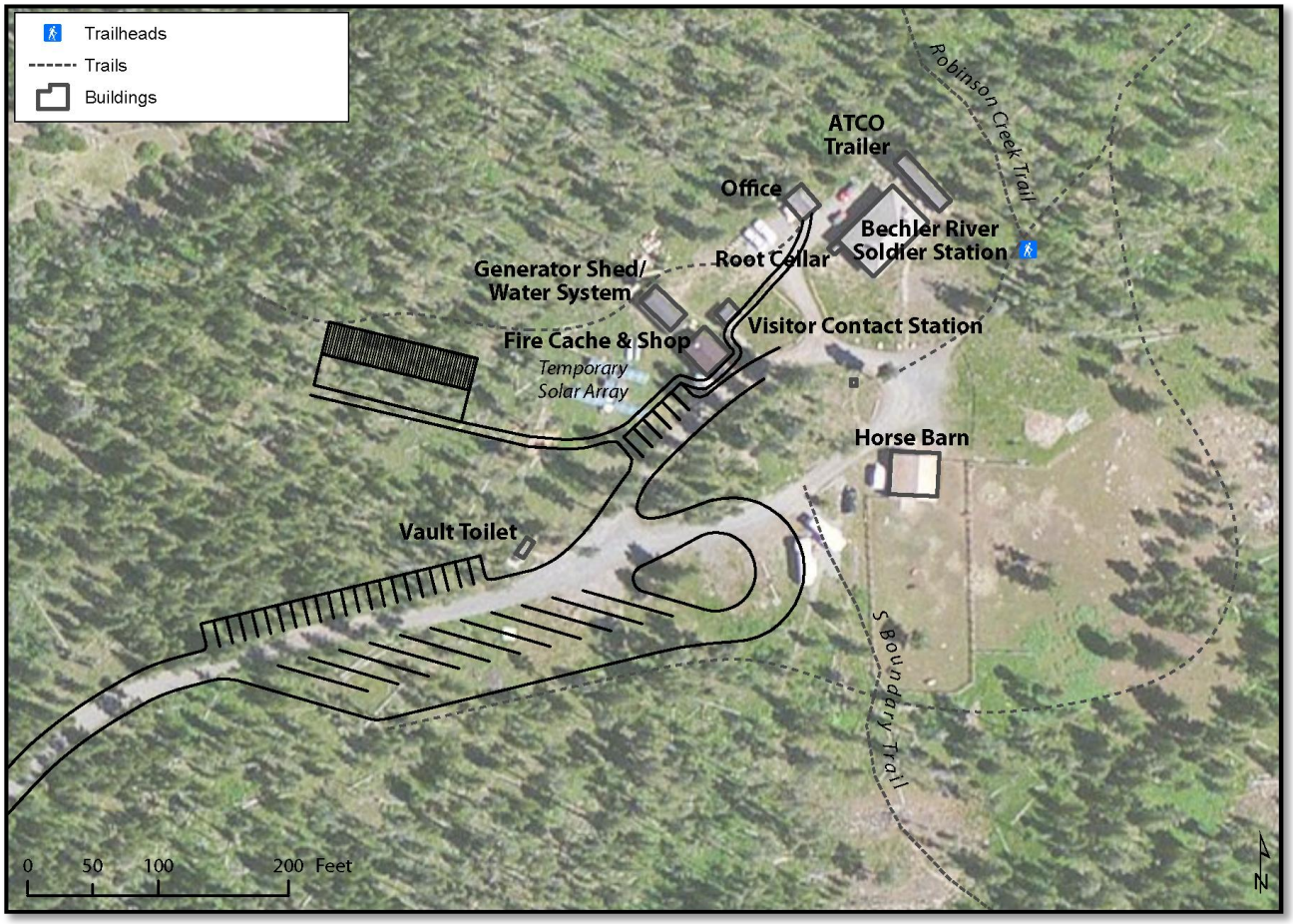

Figure 14 – Alternative C. This is an example of the proposed site design for a single multi-plex unit. Actual unit orientation for new construction may vary.

Mitigation Measures

The following mitigation measures were developed to minimize the degree and/or severity of adverse impacts and would be implemented during construction of the action alternative, as needed:

General Construction

To minimize the amount of ground disturbance, staging and stockpiling areas would be in previously disturbed sites, away from visitor use areas to the greatest extent possible. All staging and stockpiling areas would be returned to pre-construction conditions following construction.

Construction zones would be identified and fenced with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.

Fugitive dust generated by construction would be controlled by spraying water on the construction site and park managed roads, if necessary. Prior approval would be received before road watering began on sections of the Forest Service maintained road. Any water used for dust control would be taken from hydrants in the administrative area, or a local source approved by the park.

To minimize possible petrochemical leaks from construction equipment, the contractor would regularly monitor and check construction equipment to identify and repair any leaks.

Construction workers and supervisors would be informed about the special sensitivity of the park's values, regulations, and appropriate housekeeping.

According to *NPS Management Policies* 2006, the NPS would strive to construct facilities with sustainable designs and systems to minimize potential environmental impacts (NPS 2006). Development would not compete with or dominate the park's features, or interfere with natural processes, such as the seasonal migration of wildlife or hydrologic activity associated with wetlands or hydrothermal processes. To the greatest extent possible, the design and management of facilities would emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings. The NPS also reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology.

Soils and Geology

Topsoil conservation measures would be employed prior to construction in accordance with Yellowstone's Vegetation Management Guidelines. Topsoil will be stripped and replaced wherever possible to enhance revegetation following the construction phase.

Disturbed soils are more susceptible to erosion and until revegetation takes place, standard erosion control measures such as silt fences and/or sandbags would be used to minimize any potential soil erosion.

Vegetation and Rare Plants

Revegetation and recontouring of disturbed areas would take place following construction and would be designed to minimize the visual intrusion of the structure and landscape. Revegetation efforts would strive to reconstruct the natural spacing, abundance, and diversity of native plant species. All disturbed areas would be restored as nearly as possible to pre-construction conditions shortly after construction activities are completed. Non-native species control methods would be implemented to minimize the introduction of noxious weeds and the construction site will be monitored and species treated after the work is complete. This project would follow Topsoil Retention/Vegetation Guidelines developed for previous projects within the park. Some trees may be removed, but other existing vegetation at the site would not be disturbed to the greatest extent possible.

Any equipment used would be cleaned using NPS protocols for reducing the spread of any non-native plant species.

Construction workers and supervisors would be informed about special status plant species, such as *Juncus vaseyi,* a species found close to Wyoming creek. Contract provisions would require the cessation of construction activities if a species were discovered in the project area. Should this occur, park staff would re-evaluate the situation and implement appropriate contract modifications and protection protocols as required to protect the discovery.

Wildlife

Best management practices would be implemented to protect grizzly bears. Any trash receptacles in the administrative area would be of a design considered “bear proof.” All outdoor food storage would adhere to park policies already in place to ensure no unattended food sources are available to wildlife.

All contractors and employees would be educated about working in grizzly bear country and briefed on proper food storage and safety measures.

All tree removal activities would occur outside of the migratory bird nesting season (May 15-August 1). If removal during nesting season is necessary, the park bird biologist should be contacted for nest survey availability.

Soundscapes and Air Quality

To reduce noise and emissions, construction equipment would not be permitted to idle for more than 10 minutes while not in use according to the Superintendent’s Compendium, based on CFR 36 § - 5.13 Nuisances.

Cultural & Paleontological Resources

Designs for new buildings within the boundaries of the landmark and historic districts, or in close proximity to the districts, would be well executed and sensitive to the cultural and natural

environment. The NPS would identify the district's character-defining features in its design planning process, and use a project-specific design recognizing the unique visual and cultural features that qualified the district for listing in the National Register of Historic Places. New construction would be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and would be contingent upon completion of Section 106 responsibilities including consultation with the Wyoming SHPO.

Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of the discovery and the park would consult with the Wyoming SHPO and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) and NPS Director's Order 28 would be followed.

The NPS would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites or historic properties. Contractors and subcontractors would also be instructed on procedures to follow incase previously unknown archeological resources are uncovered during construction.

Should operations uncover or find any paleontological remains, operations would immediately be suspended and the park geologist notified. Any paleontological remains found within the project area are the property of the NPS and would be removed only by the NPS staff or designated representatives.

Visual Quality

The final site selection for the housing, solar arrays, RV sites, and the new appropriately sized telecommunications structure would be oriented in such a way as to not cause adverse impacts to the landmark and historic districts, and not be visually obtrusive to the rustic nature of this area.

Alternatives Considered and Dismissed

The following alternatives were considered for project implementation, but were ultimately dismissed from further analysis. Reasons for their dismissal are provided in the following alternative descriptions.

- Use of the United States Forest Service (USFS) Porcupine Ranger Station. This alternative included entering into an agreement with the USFS for year-round use of existing facilities at the Porcupine Guard Station located approximately 12 miles from the Bechler Administrative Area, just off of Cave Falls Road. This alternative would have utilized several Porcupine buildings for employee housing, a visitor contact station, horse barn and pasture, as well as equipment storage areas. This alternative was dismissed because of the need for management and oversight at the Bechler Administrative Area for the safety and welfare of visitors due to the remote nature of this popular starting point for recreation in the southwest corner of the park.
- Use of the Bechler River Soldier Station as the Visitor Contact Station. This alternative would include a complete remodel of the Bechler River Soldier Station converting it from a duplex housing unit to the visitor contact station. This alternative is not being pursued because a complete rehabilitation of the Bechler River Soldier Station would be extremely costly and if used as housing it would not be in keeping with its historic use.

- Purchase or rent housing located in nearby communities. This alternative was dismissed because of a lack of available housing for seasonal use in the nearby communities of Ashton, Island Park, and St. Anthony, Idaho. Additionally, the long gravel road is hard on vehicles, and the need to have employees living on-site is imperative in this remote section of the park.

Alternative Summaries

Table 1 summarizes the major components of Alternatives A, B and C, and compares the ability of these alternatives to meet the project objectives (the objectives for this project are identified in the Purpose and Need chapter).

Table 1 – Summary of Alternatives and How Each Alternative Meets Project Objectives

Alternative Elements	Alternative A - No Action	Alternative B -Maximum Footprint	Alternative C - Minimum Footprint
Parking	Existing conditions would remain.	Parking would be clearly designated to accommodate employees, day-use and overnight visitors with vehicles and horse trailers.	Same as Alternative B.
Circulation	Existing conditions would remain.	The road loop within the Bechler River Soldier Station Historic District would not be accessible to visitor vehicular traffic to provide a safe walking experience and preserve the historic setting.	Same as Alternative B.
Orientation, Wayfinding & Interpretation	Existing conditions would remain.	Signs would direct and orient visitors to parking, services, and trailheads. Maps and interpretive information would be available to describe the area including key messages about the Bechler area and safety information.	Same as Alternative B.

Alternative Elements	Alternative A - No Action	Alternative B -Maximum Footprint	Alternative C - Minimum Footprint
Visitor Contact Station	Existing conditions would remain.	A new 1000 square foot contact station would be constructed with a historically compatible design to accommodate larger groups inside and to better interpret the Bechler area.	The existing contact station would be re-designed appropriately to allow visitors to stand outside under an awning, therefore not restricting the amount of visitors that can be contacted at one time.
Accessibility	Existing conditions would remain.	Parking, paths, and facilities would be designed to meet universal standards required by ADA.	Same as Alternative B.
8 Individual Housing Units	Existing conditions would remain.	Multiple units would be constructed and the Bechler River Soldier Station would be rehabilitated to accommodate two housing units or one family unit.	One multiple unit housing building would be constructed and the Bechler River Soldier Station would be rehabilitated to accommodate two housing units or one family unit.
Utilities and Telecommunications	Existing conditions would remain.	Electric, water, propane, septic, fiber and copper telecommunication would be upgraded and connected to the temporary, permanent housing as well as the volunteer trailer sites.	Same as Alternative B.
Protect and enhance cultural resources	Existing conditions would remain.	Adaptive reuse of the Bechler River Soldier Station would ensure use of the buildings and continued maintenance of these historic structures.	Adaptive reuse of the visitor contact station and the Bechler River Soldier Station would ensure use of the buildings and continued maintenance of these historic structures. The large multiple-unit building would potentially detract from the historic districts

Alternative Elements	Alternative A - No Action	Alternative B -Maximum Footprint	Alternative C - Minimum Footprint
			because the size of the structure is much larger than any existing structures.
Sustainable Design	Existing conditions would remain.	Adaptive reuse of the Bechler River Soldier Station, renewable energy use, high efficiency propane generators and appliances, passive heating/cooling, indoor environmental quality, and innovative design could be used toward sustainable design and meeting the capacity needs of the "off –the-grid" system.	Adaptive reuse of the Bechler River Soldier Station and visitor contact station, renewable energy use, high efficiency propane generators and appliances, passive heating/cooling, indoor environmental quality, and innovative design could be used toward sustainable design and meeting the capacity needs of the "off –the-grid" system.

Table 2 summarizes the anticipated environmental impacts for Alternatives A, B and C. Only those impact topics that have been carried forward for further analysis are included in this table. The Environmental Consequences chapter provides a more detailed explanation of these impacts.

Table 2 – Environmental Impact Summary by Alternative

Impact Topic	Alternative A-No Action	Alternative B-Minimum	Alternative C-Maximum
Geology and Soils	Direct, local, short- and long term, moderate adverse impacts due to continuing maintenance.	Direct, indirect, local, minor to moderate, short- and long-term adverse impacts due to changes in soil properties, loss of soil to wind and water erosion, a decrease in soil biological activity, an increase in soil compaction, and a suitable stratum for establishment of weeds	Same as Alternative B.

Impact Topic	Alternative A-No Action	Alternative B-Minimum	Alternative C-Maximum
		from excavation and other ground disturbance activities associated with construction.	
Vegetation and Rare Plants	Direct, local, short term, negligible impacts due to no changes being proposed except for continuing maintenance.	Direct, indirect, local, minor, short-and long-term, adverse impacts due to removal of ground cover from construction operations and an increase in suitable stratum for establishment of invasive plants.	Same as Alternative B.
Wildlife	Direct and indirect, local, short-term, minor adverse impacts upon wildlife would result due to continued human presence in the administrative area.	Direct and indirect, local, short-term, minor adverse impacts upon wildlife would result due to continued human presence and the construction of new employee housing, and parking lot expansion.	Direct and indirect, local, short-term, minor adverse impacts upon wildlife would result due to continued human presence and the construction of new employee housing, a new visitor contact station, and parking lot expansion.
Special Status Wildlife Species and Yellowstone Species of Management Concern	Direct and indirect, local, short-term, negligible to minor impacts due to the continued human presence in the administrative area.	Direct and indirect, local, short-term, minor to moderate adverse impacts due to the continued human presence in the administrative area, and construction of a visitor contact station, new housing units, and additional parking.	Direct and indirect, local, short-term, minor to moderate adverse impacts due to the continued human presence in the administrative area, adaptive reuse of the visitor contact station, construction of a new housing unit, and additional parking.
Soundscape Management	Direct, long-term, local minor to moderate adverse impacts due to the continuation of propane generators used as a power	Direct, short-and long-term, minor to moderate beneficial and minor adverse impacts due to the primary use of photovoltaic panels instead of propane	Same as Alternative B.

Impact Topic	Alternative A-No Action	Alternative B-Minimum	Alternative C-Maximum
	source.	generators.	
Historic Structures	Direct, local, long-term minor impacts due to continuing maintenance.	Direct, local, long-term moderately adverse impacts due to minor rehabilitation of the Bechler River Soldier Station if done within the Secretary of Interior's Standards for Treatment of Historic Structures. Beneficial impacts would result from the removal of the ATCO trailer.	Direct, local, long-term and moderately adverse impacts due to adaptive reuse of the visitor contact station, and minor rehabilitation of the Bechler River Soldier Station if done within the Secretary of Interior's Standards for Treatment of Historic Structures. Beneficial impacts would result from the removal of the ATCO trailer.
Visitor Use and Experience (Including Human Health and Safety)	Direct, long-term adverse impacts due to no changes being proposed except for continuing maintenance.	Direct, short-and long-term minor beneficial impacts to visitor use and experience due to the new visitor contact station and improvements to circulation and parking.	Direct, short-and long-term minor beneficial impacts to visitor use and experience due to the improvements to the visitor contact station and improvements to circulation and parking.
Park Operations	Direct, short-and long-term beneficial negligible impacts due to no changes being proposed except for continuing maintenance.	Direct, short-and long-term minor beneficial and adverse impacts to park operations due to the improvements to living and working conditions.	Same as Alternative B.

Environmentally Preferable Alternative

According to the CEQ regulations implementing NEPA (43 CFR 46.30), an environmentally preferable alternative is one that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as

when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative."

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the CEQ. The following are criteria used to determine the environmentally preferable alternative:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically 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 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

Alternative B (Multiple Housing Units and New Visitor Contact Station) is the environmentally preferable alternative for several reasons: 1) The buildings' size and scale would be more compatible with the landmark and historic districts, and would blend better with the surrounding natural environment, keeping the appearance and impression of a small remote outpost. 2) This alternative maintains and preserves the Bechler River Soldier Station as two employee residences or one family unit. This structure is a historically significant discontiguous unit within the Fort Yellowstone Historic Landmark District and the Bechler River Soldier Station Historic District. 3) The housing would be energy efficient (sustainable) in the long term. Energy saving materials used in the design of the new buildings would be more sustainable in terms of electric, propane and water consumption. Renewable energy sources would be investigated and installed as able to further reduce the consumption of electricity for the units; 4) While there would be some new ground disturbance that would damage the previously undisturbed elements of the biological and physical environment, the design of the new buildings, roads and parking has been kept within the footprint of previous disturbance caused by wildland urban interface tree-thinning operations, thereby reducing impacts to previously disturbed areas as much as possible; 5) This alternative would also assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings. For these reasons, Alternative B causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources, thereby making it the environmentally preferable alternative.

Although many aspects of Alternative C (Single Multi-plex Employee Housing Unit and Adaptive Reuse of the Existing Visitor Contact Station) are the same as Alternative B, Alternative C is not the environmentally preferable alternative due to the size of the employee housing. A single building would require a smaller disturbance footprint and would be more energy efficient and require less building materials; however, the building would not blend with the surrounding environment and would not be compatible with the rustic and moderately sized existing structures in the landmark and historic districts.

Alternative A (No Action) only minimally meets the criteria mentioned above because it retains facilities that do not meet health and safety standards in terms of acceptable living conditions. Although there would be no construction or ground-disturbing activities that would damage previously undisturbed elements of the biological and physical environment, it does not achieve a balance between park resources and the health and safety of park staff. Originally intended for use as an interim housing facility, the ATCO trailer has exceeded its usable lifespan. This alternative also does not meet the criteria for improving renewable resources because the existing housing facilities are inefficient with regard to energy and water use.

Preferred Alternative

No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. Alternative B is the preferred alternative and better meets the project objectives; therefore, it is also considered the NPS preferred alternative. For the remainder of the document, Alternative B will be referred to as the preferred alternative.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment (existing setting or baseline conditions) and analyzes the potential environmental consequences (impacts or effects) that would occur as a result of implementing the proposed project. Direct, indirect, and cumulative effects are analyzed for each resource topic carried forward. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

- **Type** describes the classification of the impact as either beneficial or adverse, direct or indirect:
  - *Beneficial*: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
  - *Adverse*: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
  - *Direct*: An effect that is caused by an action and occurs in the same time and place.
  - *Indirect*: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.
- **Context** describes the area or location in which the impact would occur. Effects may be site-specific, local, regional, or even broader.
- **Duration** describes the length of time an effect would occur, either short-term or long-term:
  - *Short-term* impacts generally last only during construction, and the resources resume their pre-construction conditions following construction.
  - *Long-term* impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction.
- **Intensity** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this EA.

Cumulative Impact Scenario

The CEQ regulations which implement NEPA require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the no-action and preferred alternatives.

Cumulative impacts were determined by combining the impacts of the preferred alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at the park and, if applicable, the surrounding region. Because the scope of this project is relatively small, the geographic and temporal scope of the cumulative analysis is similarly small. The geographic scope for this analysis includes actions within the park boundaries, while the temporal scope includes projects

within a range of approximately ten years. Given this, the following projects were identified for the purpose of conducting the cumulative effects analysis, listed from past to future:

Yellowstone National Park Wildland Fire Management Plan/EA, 2013: The Park's *2013 Wildland Fire Management Plan is in the process of being updated* in order to improve upon the last plan approved in 1992. The final NEPA decision document for the EA, the Finding of No Significant Impact (FONSI), was signed on February 25, 2013 and one of the primary actions described within the plan is the reduction of hazard fuel around structures throughout the park, including the Bechler Administrative Area. Future reduction activities would occur in coordination with construction activities proposed in this plan.

Invasive Vegetation Management Plan/EA, 2013: At the time of writing, final preparations were underway for a FONSI for the Invasive Vegetation Management Plan/EA that would include treating non-native invasive vegetation in the Bechler area. Several species of invasive plant species are present, and treatments have been applied at Bechler in the past. Future treatments would be considered if invasive vegetation populations are determined to be necessary. Post-construction monitoring and treatments will be included in the Invasive Vegetation Management Plan and are included in this plan under the mitigations section.

Ongoing Building, Utilities, Trails, and Road Maintenance Activities in the Bechler Area: General maintenance and minor construction necessary to maintain facilities and trails at Bechler would continue as needs arise and funding and personnel are available. Multiple entities maintain the gravel road leading to Bechler, and road maintenance would continue as funding and personnel allow.

Geology and Soils

Affected Environment

Yellowstone National Park lies in a geologically dynamic region of the Northern Rocky Mountains. The park is noted for its geologic formations that have resulted from glaciation and volcanism. The elevation varies from about 1,610 meters (5,300 feet) along the Yellowstone River in Montana to 3,460 meters (11,360 feet) at Eagle Peak along the eastern boundary of the park in Wyoming.

The Bechler Administrative Area lies at an elevation of about 6,373 feet. Yellowstone is one of the most active hydrothermal areas in the world. The park is world-renowned for its hot springs, geysers, mudpots and fumaroles. Earth tremors are recorded frequently in and around the park. All alternatives described would take place in the southwest section of the park, outside of the caldera formed from the last explosive volcanic eruption 640,000 years ago.

The area consists of, and is surrounded by, a series of high volcanic plateaus made of thick magma. Soils in the area have formed on the glaciated plateaus and rolling glaciated uplands in the southwestern portion of the park. The most common slopes are between 5 and 10 percent. The main deposit is loess-mantled glacial till, derived from a mixture of basalt and rhyolitic ash-flow tuff. Bedrock lies very close to the surface in some places. The soils are medium to coarse textured, contain many rock fragments, and have low soil fertility. They have good drainage and are not saturated for any length of time. These soils are not unique within the park or the surrounding area.

Methodology and Intensity Level Definitions

The methodology used for assessing impacts to geology and soils was derived from available information and park staff's observations. For purposes of analyzing potential impacts to geology and soils, the thresholds of change for the intensity of an impact are defined as follows:

The following impact level definitions were used for geology and soils.

Negligible: Geology and soils would not be impacted and the effects on geology and soils would not be detectable.

Minor: Impacts on geology and soils would be detectable, although these effects would be localized. There could be some slight physical disturbance or removal of and/or some soil compaction. Mitigation measures proposed to offset adverse effects would include measures to ensure that geologic features and topsoil is preserved, the ground is reshaped to natural contours, and that there is no unnatural erosion of soils.

Moderate: Impacts on geology and soils would be readily detectable, localized, but possibly long-term. Measurable effects could include physical disturbance and removal of large amounts of soil, compaction, and, possibly, unnatural erosion of soils. Mitigation measures proposed to offset adverse effects would be extensive and would include measures to ensure that geologic features and topsoil is preserved, ground is reshaped into the natural contours, and that no unnatural erosion occurs.

Major: Impacts on geology and soils would be widespread, readily detectable, and long-term and could have permanent consequences. Significant measurable effects would include the physical disturbance and removal of large amounts of soil, compaction, and the unnatural erosion of soils. Mitigation measures proposed to offset adverse effects would be extensive and success would not be assured.

Impacts of Alternative A–No Action

The no-action alternative would result in no impacts to the topography, geology, and soils resources at YNP. No excavation or disturbance activities would be conducted, but the existing housing, visitor contact station, historic structures and parking area would continue to be used, and the continued use of these structures and facilities would continue to have moderate effects on the topography, geology, and soils resources in the area.

Cumulative Effects: Cumulative impacts on geology and soils are based on the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in the Bechler Administrative Area of YNP. Road maintenance, trail maintenance, and facility maintenance would continue in the Bechler area and the southwestern portion of YNP, disturbing geology and soil and causing minor amounts of erosion. Additionally, foot traffic would continue off pathways to some extent. When added to other projects occurring in the area, Alternative A would cause adverse, direct and indirect, minor to moderate, local, short- and long-term cumulative impacts to geology and soils. The impacts of Alternative A, coupled with past, present, and reasonably foreseeable future actions are minor, short- and long-term, and adverse.

Impacts of Alternative B (Preferred)

Implementing Alternative B would have adverse effects on geology and soil resources. Construction activities such as excavating, leveling, grading, and resurfacing associated with

site work would result in geologic and soil disturbance. A total of approximately 0.95 acres of soil would be impacted by ground disturbance activities the majority of which would be reclaimed, with a maximum of 0.65 acres of permanent impact for temporary and permanent housing, the visitor contact station, the employee spur road to housing and the additional parking. Small areas of soil disturbance would occur where soils would be excavated for new utility lines or those that may need to be repaired or replaced within the administrative area and for staging. Short- and long-term direct effects under this action alternative would include changes to soil properties, loss of soil to wind and water erosion, a decrease in soil biological activity, an increase in soil compaction, and a suitable stratum for establishment of weeds.

Mitigation measures such as topsoil salvage and replacement would be used to lessen impact to soils and allow for revegetation. Monitoring for noxious weeds would be done and treatments would be implemented if needed. Overall, direct and indirect impacts of Alternative B on geology and soils would be adverse, localized, minor to moderate, adverse and short- and long-term.

Cumulative Effects: The impacts from past, present, and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative A. Alternative B, in conjunction with these past, present, and reasonably foreseeable projects would result in minor, short- and long-term adverse impacts to geology and soils.

Impacts of Alternative C

A total of approximately 0.75 acres of soil would be impacted by ground-disturbance activities, the majority of which would be reclaimed, with a maximum of 0.60 acres of permanent impact. Impacts and mitigation measure implemented are the same as those described for Alternative B.

Cumulative Effects: The impacts from past, present, and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative B. Alternative C, in conjunction with these past, present, and reasonably foreseeable projects would result in minor, short- and long-term adverse impacts to geology and soils.

Vegetation and Rare Plants

Affected Environment

The Bechler Administrative Area occupies an opening in the lodgepole pine (*Pinus contorta*) forest, the dominant forest type that covers approximately 80% of the park. The understory vegetation is composed of various species such as pinegrass (*Calamagrostis rubescens*), Utah honeysuckle (*Lonicera utahensis*), elk sedge (*Carex geyeri*), dwarf bilberry (*Vaccinium caespitosum*), and buffalo-berry (*Shepherdia canadensis*).

Surveys in 2004 and 2011 revealed a population of *Sanicula graveolens* (Sierra sanicle) and *Juncus vaseyi* (Vasey rush). *Sanicula graveolens* (Sierra sanicle) is disjunct from its range. It has a global ranking of G4G5 with a globally wide distribution and fairly secure populations. It occurs in western North America from southern British Columbia to southern California, east to central Idaho and western Montana, and then disjunct in northwestern Wyoming. In Idaho *Sanicula graveolens* is a Species of Special Concern and has a heritage rank of S1 or critically imperiled in the state. *Sanicula graveolens* has been removed from the Wyoming Species of Special Concern due to it being more common than previously known. Locally in YNP it is known primarily from thermal areas occurring at Upper, Midway, Lower, Heart Lake, and Shoshone Geyser Basins. The rest of the population of *Sanicula graveolens* within Yellowstone

National Park is in Wyoming, not Idaho. However, the population within Yellowstone is secure. Efforts should be made to avoid impacts to this population by making workers aware of the location so that they can prevent trampling.

Juncus vaseyi is a species of concern for Wyoming but not for Idaho. It is also a species of concern for Yellowstone National Park because the site along the Wyoming River is the only site it is known to occur for Yellowstone. Surveys in 2004 revealed a population of *Juncus vaseyi* but the population could not be relocated in 2011. The population is on the edge of the horse corral. It may no longer exist due to changed (more siltation) conditions in the stream or it may just not have been present at the time of sampling.

The 2004 survey for rare plants in the vicinity of the Bechler Administrative Area did result in the location of a previously unreported exotic plant in YNP. Meadow buttercup (*Ranunculus acris*) occupies an area of approximately 10 x 5 feet with roughly 30 to 40 plants near Wyoming Creek in an area formerly part of the corral system. However, it is unknown how long this population may have been present in the area. Non-native plant species eradication would be conducted with this population in coordination with post-construction monitoring and treatments.

Methodology and Intensity Level Definitions

The methodology used for assessing impacts to plant resources are based on the results of the 2004 rare plant survey that encompassed a 400 foot buffer area surrounding the Bechler Administrative Area. For purposes of analyzing potential impacts to vegetation and rare plant resources, the thresholds of change for the intensity of an impact are defined as follows:

Negligible: Impacts would not cause measurable or discernible alterations to native plant or rare plant community composition, abundance, and diversity. Environmental conditions influencing plant communities (soils and water) would not be affected.

Minor: Impacts would cause limited alteration to native plant or rare plant composition, abundance, and diversity. Changes in environmental conditions influencing plant communities (soils and water) would be at the lower levels of detection. Mitigation measures to avoid adverse impacts would be proposed and implemented.

Moderate: Impacts would cause alteration to native plant or rare plant composition, abundance, and diversity. Changes in environmental condition influencing plant communities (soils and water) would be measurable. Mitigation measures to offset adverse effects would be extensive, but would likely be successful.

Major: Impacts would cause substantial alteration to native plant or rare plant composition, abundance, and diversity. Changes in environmental conditions influencing plant communities (soils and water) would be substantial. Mitigation measures to offset adverse effects would be required, extensive, and success would not be guaranteed.

Impacts of Alternative A–No Action

Under Alternative A, ongoing impacts to vegetation would result in direct, local, short-term, negligible impacts. No excavation or disturbance activities would be conducted, but the existing buildings and parking would continue to be used, and the continued use of these structures and facilities would have negligible effects on the vegetation and special status plant species resources in the area.

Cumulative Effects: Cumulative impacts on vegetation and rare plants are based on the

incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in YNP. Continual activities in the vicinity of the project area include road maintenance, facilities maintenance, trail maintenance, backcountry operations, routine park operations, and hazard fuel reduction projects all of which would continue to have adverse effects on vegetation in the park. Road maintenance activities would require disturbance and removal of soils and vegetation by heavy equipment operation. Backcountry operations include horse and foot patrol and trail maintenance. Trail maintenance involves localized disturbance of soil and vegetation; and overnight use of campsites and cabins leads to some vegetation trampling and development of social trails. Most facility maintenance activities occur in administrative areas where minimal impacts to vegetation would occur. Additionally, YNP's hazard fuel reduction projects require the removal of excess fuel (trees) from administrative areas. Impacts to vegetation can be reduced by ensuring trails are maintained, including the use of barriers to prevent development of social trails and by monitoring construction and maintenance activities. Park visitation is expected to increase over time as a result of population growth in nearby communities and elsewhere. The growth and visitation will increase recreational use, such as angling, camping, and hiking. These activities trample vegetation and soils, which increase the potential for non-native or invasive plants to grow in an area. These actions would result in direct and indirect, minor, short- and long-term adverse impacts to vegetation.

Impacts of Alternative B (Preferred)

The Bechler area is minimally developed and has isolated trees or small groupings of trees, with a sparse herbaceous understory. This action alternative would permanently disturb 0.65 acres of ground, the majority of which is sparsely covered with lodgepole pine. Depending upon the sites chosen for construction, up to 0.95 acres of lodgepole pine would be selectively thinned to clear the site for the new visitor contact station, temporary and permanent housing, the spur road for employee housing, and parking. The potential for proliferation of non- native plants is possible with any ground disturbance, and the potential for spreading non-native plant species during construction operations is a concern. Contractors would be required to adhere to proper construction techniques and precautions, including topsoil salvage and washing of equipment before entering the park in order to eliminate any non-native plant seeds. Reclamation and revegetation efforts would follow YNP's policy on vegetation management for construction which also includes procedures for long-term management of non-native vegetation including monitoring and treatment. Plant species used during reclamation would reflect the vegetation native and typical to the area. The effects on vegetation would be localized, direct, indirect, short-term, adverse, and minor. Due to the requirement for rare plant surveys and avoidance through special mitigation measures, impacts to rare plants would be negligible.

Cumulative Effects: The impacts from past, present and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative A. Alternative B, in conjunction with these past, present, and reasonably foreseeable projects, would result in local, direct and indirect, minor, short- and long-term adverse impacts to vegetation and rare plants.

Impacts would be mitigated through by the use of certain preventative practices including washing of construction equipment before it enters the park, minimizing ground disturbance to avoid creating optimal conditions for weed infestations, topsoil salvage and revegetation of disturbed areas and post-disturbance weed treatments to decrease seed availability and dispersal.

Impacts of Alternative C

Alternative C would permanently disturb 0.60 acres of ground, the majority of which is sparsely covered with lodgepole pine. Depending upon the sites chosen for construction, up to 0.75

acres of lodgepole pine would be selectively thinned to clear the site for the temporary and permanent housing, employee spur road for employee housing and parking. Impacts and mitigation measures are the same as those described for Alternative B.

Cumulative Effects: The impacts from past, present and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative B. Alternative C, in conjunction with these past, present, and reasonably foreseeable projects, would result in local, direct and indirect, minor, short- and long-term adverse impacts to vegetation and rare plants.

Wildlife

Affected Environment

With 67 mammals documented, YNP is home to the largest concentration of mammals in the lower 48 states. Yellowstone is also home to six reptiles, four amphibians, twelve native fish, five nonnative fish, and more than 300 species of birds. Of those mammals, seven are native ungulates, two are bears, three are wild cats, three are canids, and six are members of the weasel family. The following species descriptions are limited to those that may occur in the vicinity of the project area.

Mammals

Ungulates found in the area include moose (*Alces alces shirasi*), mule deer (*Odocoileus hemionus*), and elk (*Cervus elaphus*). Bison (*Bison bison*) are rarely seen. Black bears (*Ursus americanus*) are more commonly observed than grizzly bears (*Ursus arctos horribilis*), as the area is better black bear habitat. Gray wolves (*Canis lupus*) are sometimes seen. Coyotes (*Canis latrans*) frequent the area. Grizzly bears and wolves are addressed in the *Special Status Wildlife Species and Yellowstone Species of Management Concern* section of this document. Small mammals seen in the area include voles (*Microtus* spp.), mice (*Peromyscus* spp.), pocket gophers (*Thomomys taloides*), beavers (*Castor canadensis*), Uinta ground squirrels (*Spermophilus armatus*), golden-mantled ground squirrels (*Spermophilus lateralis*), red squirrels (*Tamiasciurus hudsonicus*), porcupines (*Erethizon dorsatum*), pine marten (*Martes americana*), weasel (*Mustela* spp.), and the little brown bat (*Myotis lucifugus*).

Birds

Yellowstone National Park is home to a wide array of seasonally migrant and year-round resident bird species. Birds commonly seen in the Bechler area include: trumpeter swan (*Cygnus buccinator*), green-winged teal (*Anas crecca*), mallard (*Anas platyrhynchos*), common merganser (*Mergus merganser*), osprey (*Pandion haliaetus*), ruffed grouse (*Bonasa umbellus*), sandhill crane (*Grus canadensis*), spotted sandpiper (*Actitis macularia*), Wilson’s snipe (*Gallinago delicata*), Wilson's phalarope (*Phalaropus tricolor*), black tern (*Chlidonias niger*), mourning dove (*Zenaida macroura*), great horned owl (*Bubo virginianus*), great gray owl (*Strix nebulosa*), calliope hummingbird (*Stellula calliope*), broad-tailed hummingbird (*Selasphorus platycercus*), rufous hummingbird (*Selasphorus rufus*), red-naped sapsucker (*Sphyrapicus nuchalis*), Williamson's sapsucker (*Sphyrapicus thyroideus*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), American three-toed woodpecker (*Picoides dorsalis*), black-backed woodpecker (*Picoides arcticus*) , olive-sided flycatcher (*Contopus cooperi*), western wood-pewee (Contopus sordidulus), Hammond's flycatcher (*Empidonax hammondii*), dusky flycatcher (*Empidonax oberholseri*), tree swallow (*Tachycineta bicolor*), violet-green swallow (*Tachycineta thalassina*), barn swallow (*Hirundo rustica*), gray jay

(*Perisoreus canadensis*), Steller's jay (*Cyanocitta stelleri*), Clark's nutcracker (*Nucifraga columbiana*), common raven (*Corvus corax*), mountain chickadee (*Poecile gambeli*), red-breasted nuthatch (*Sitta canadensis*), house wren (*Troglodytes aedon*), golden-crowned kinglet (*Regulus satrapa*), ruby-crowned kinglet (*Regulus calendula*), mountain bluebird (*Sialia currucoides*), Townsend's solitaire (*Myadestes townsendi*), Swainson's thrush (*Catharus ustulatus*), hermit thrush (*Catharus guttatus*), American robin (*Turdus migratorius*), cedar waxwing (*Bombycilla cedrorum*), European starling (*Sturnus vulgaris*), warbling vireo (*Vireo gilvus*), orange-crowned warbler (*Oreothlypis celata*), yellow warbler (*Setophaga petechia*), yellow-rumped warbler (*Dendroica coronata*), common yellowthroat (*Geothlypis trichas*), Wilson's warbler (*Cardellina pusilla*), western tanager (*Piranga ludoviciana*) chipping sparrow (*Spizella passerine*), savannah sparrow (*Passerculus sandwichensis*), song sparrow (*Melospiza melodia*), Lincoln's sparrow (*Melospiza lincolnii*), dark-eyed junco (*Junco hyemalis*), red-winged blackbird (*Agelaius phoeniceus*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), Brewer's blackbird (*Euphagus cyanocephalus*), brown-headed cowbird (*Molothrus ater*), Cassin's finch (*Carpodacus cassinii*), red crossbill (*Loxia curvirostra*), and pine siskin (*Spinus pinus*).

There are no known raptors or other sensitive species nesting in the project area.

Fish

Fish, both native and introduced species, are an important component of the Park's animal life. Predominant species in YNP include native westslope cutthroat trout (*Oncorhynchus clarki lewisi*), Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), longnose dace (*Rhinichthys cataractae*), Arctic grayling (*Thymallus arcticus*), longnose sucker (*Catostomus catostomus*), and three introduced trout species: brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), and rainbow trout (*Oncorhynchus mykiss*).

It is generally believed that the entire Fall River drainage above Cave Falls near the YNP boundary was historically fishless. Yellowstone fisheries records indicate that Yellowstone cutthroat and other trout species were introduced into these waters during the early part of the 20th Century. Cutthroats discovered above a barrier falls in Wyoming Creek a few miles west of the park boundary during a 1997 survey were found to be pure Yellowstone cutthroats based on DNA analysis (Gregory et. al., 1998.)

Reptiles and Amphibians

Reptiles and amphibians that are known to occur or that may occur in the Bechler area include the western terrestrial (wandering) garter snake (*Thamnophis elegans vagrans*), rubber boa (Charinabottae), blotched tiger salamander (*Ambystoma tigrinum melanostictum*), western (boreal) toad (*Bufo boreas boreas*), Columbia spotted frog (*Rana petiosa*), and western (boreal) chorus frog (*Pseudacris triseriata maculata*).

Methodology and Intensity Level Definitions

Impacts to native wildlife (mammals, birds, fish, reptiles and amphibians) are analyzed in this impact topic based on the knowledge of park resource specialists and current literature. Yellowstone National Park wildlife biologists used scientific literature, site-specific information, and professional knowledge to define the following intensity thresholds (i.e., degree of change) of impacts to wildlife. The thresholds of change for the intensity of an impact on wildlife resources are defined as follows:

Negligible: Adverse or beneficial impacts to individuals, their habitat, or the natural processes sustaining them would be extremely unlikely to occur or not be measurable.

Minor: Adverse or beneficial impacts to individuals, their habitat, or the natural processes sustaining them would affect a small, localized portion of the species'range in or near the park. Short- or longer-term disturbances to individuals may occur and/or a small amount of habitat could be permanently modified or removed. However, these impacts would not measurably affect the movements, reproduction, or survival of many individuals, or the demography (i.e.age/sex structure, recruitment rates, survival rates, movement rates, population sizes, population rates of change) of populations. Sufficient habitat would remain available and functional to maintain the viability of all resident and migratory animals in the vicinity of any existing or reasonably foreseeable future developments.

Moderate: Adverse or beneficial impacts to individuals, their habitat, or the natural processes sustaining them would affect a moderate portion of the species' range in or near the park. Short- or longer-term disturbances could measurably affect the movements, reproduction, or survival of many individuals, or the demography of populations. However, impacts would not significantly increase the susceptibility of populations in or near the park to environmental or demographic uncertainty (e.g. severe winters, droughts, disease epidemics, skewed age or sex ratios). Sufficient habitat would remain available and functional to maintain the viability of all resident and migratory animals in the vicinity of any existing or reasonably foreseeable future developments.

Major: Adverse or beneficial impacts to populations, their habitat, or the natural processes sustaining would be long-term and affect a large proportion of a species'range in or near the park. The susceptibility of populations in or near the park to environmental or demographic uncertainty would increase significantly.

Impacts of Alternative A–No Action

Numerous wildlife species inhabit the Bechler area. The wildlife present varies on a seasonal basis. Those that are most common in the forests and meadows adjacent to administrative areas during the summer months when visitation is highest would generally be species that are tolerant of, if not habituated to, human presence and activity. For example, ravens, magpies, chipmunks, squirrels, and jays are attracted to food sources provided by the human activity around the Bechler Administrative Area. Continued operations in the Bechler Administrative Area would have a negligible effect on wildlife. Other than routine maintenance, repair, and upkeep activities, no disturbance would occur. While wildlife such as bison, small mammals, and some birds occur within the project area with regularity, many wildlife species avoid the area because of the human activity. Effects from the adoption of Alternative A would be negligible.

Cumulative impacts: Cumulative impacts on wildlife are based on the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in YNP. Ongoing administrative activities such as hazing, wildlife monitoring, road construction, and facilities maintenance would continue to affect some wildlife resources. Some wildlife would be permanently removed from the population if they become habituated to human food and pose a

threat to human safety. Wildlife monitoring practices are used to document various demographics of wildlife populations in the park and may cause adverse impacts ranging from generalized disturbance to sedation and handling of the animals. Noise from facilities maintenance could disturb wildlife in localized areas. Impacts from these disturbances could range from no impact to movement away from the immediate area. Park visitation is expected to increase over time as a result of population growth in nearby communities and elsewhere. Past and ongoing recreational uses such as boating, angling, camping, and hiking would continue parkwide. Fishing occurs parkwide during the summer months and could contribute to generalized disturbance of all wildlife species that occur near streams and lakes. Camping and hiking occur throughout the park and could lead to generalized disturbance which could affect feeding and resting behavior. Both ongoing administration activities and increased visitor use could lead to impacts to wildlife populations throughout the park at the short-term, negligible to minor level. Alternative A would not increase impacts to wildlife. Alternative A, coupled with past, present, and foreseeable future actions would result in minor, short- and long-term adverse impacts to wildlife.

Impacts of Alternative B (Preferred)

Although the long-standing development of the Bechler Administrative Area has resulted in localized degradation of wildlife habitat, a diversity of wildlife species inhabit the area. An increase in human presence in a larger area due to the placement of temporary housing, construction of the new housing units, the new visitor contact station, and rehabilitation of the Bechler River Soldier Station would not have an impact on wildlife species in the area due to use that currently exists. The wildlife present within the immediate vicinity of most of the proposed activities are habituated to human activity. Adverse effects on these animals as a result of the activities proposed under Alternative B are generally expected to be negligible because of the human activity that already occurs there. The species that use this area would be temporarily displaced by construction activity and equipment, but they would be expected to return following completion of the project. Where previously undisturbed ground was developed, a permanent loss of habitat would occur. Some migratory birds could be displaced outside of the nesting period by tree-cutting activities that would occur prior to mid-May and after August 1st. The NPS expects no increase in wildlife mortalities in this area because all construction activities would be short-term (temporary) and confined to the immediate project area. As with all YNP construction projects, the NPS would direct the contractor to manage food and garbage so that they are not available to grizzly or black bears. Contractor staff would have to attend bear/food management orientation sessions and abide by the normal bear management guidelines. Under Alternative B, minor, short-term, local, adverse impacts to park wildlife would be expected to occur.

Cumulative Effects: The impacts from past, present and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative A. Alternative B, in conjunction with these past, present, and reasonably foreseeable projects, would result in minor, short- and long-term, local adverse impacts to wildlife.

Impacts of Alternative C

Although the long standing development of the Bechler Administrative Area has resulted in localized degradation of wildlife habitat, a diversity of wildlife species inhabit the area. An increase in human presence in a larger area due to the placement of temporary housing, construction of the new housing units, and adaptive reuse of the visitor contact station, would not have an impact on wildlife species in the area due to use that currently exists. The wildlife present within the immediate vicinity of most of the proposed activities are habituated to human activity. Adverse effects on these animals as a result of the activities proposed under

Alternative C are generally expected to be negligible because of the human activity that already occurs there. The species that use this area would be temporarily displaced by construction activity and equipment, but they would be expected to return following completion of the project. Where previously undisturbed ground was developed, a permanent loss of habitat would occur. Some migratory birds could be displaced outside of the nesting period by tree-cutting activities that would occur prior to mid-May and after August 1. The NPS expects no increase in wildlife mortalities in this area because all construction activities would be short- term (temporary) and confined to the immediate project area. As with all YNP construction projects, the NPS would direct the contractor to manage food and garbage so that they are not available to grizzly or black bears. Contractor staff would have to attend bear/food management orientation sessions and abide by the normal bear management guidelines. Under Alternative C, minor, short-term, local, adverse impacts to park wildlife would be expected to occur.

Cumulative Effects: The impacts from past, present and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative A. Alternative C, in conjunction with these past, present, and reasonably foreseeable projects, would result in minor, short- and long-term adverse impacts to wildlife.

Special Status Wildlife Species & Yellowstone Species of Management Concern

Affected Environment

The species listed below are either federally listed as endangered, threatened, or candidate species or are listed by the park as a species of management concern. Only species that exist or have the potential to exist in the project area are listed. The evaluation of effects included direct, indirect, interrelated, interdependent, and cumulative impacts as defined by the Endangered Species Act (ESA). Consultation with the US Fish and Wildlife Service (USFWS) will occur during the public comment period. Mitigation proposed by the park for impacts on threatened or endangered species could include avoidance, minimization, and conservation measures as agreed upon by the USFWS.

Grizzly Bear (*Ursus arctos horribilis*): The park is responsible for protecting grizzly bear populations and habitat as mandated by the Yellowstone Park Act (1872) creating the park, the NPS Organic Act (1916), the National Environmental Policy Act (1969), the Endangered Species Act (1973) (ESA), and the National Parks Omnibus Management Act (1998). National Park Service policy mandates that the park perpetuate native animal populations as part of the natural ecosystem and protect native animal populations against destruction, removal, harassment, or harm through human actions (NPS 1996). A recovery plan for grizzly bear populations in the lower 48 contiguous United States was implemented because grizzly bears were listed in 1975 under the Endangered Species Act (USFWS 1982). The plan was developed to provide direction for the conservation of grizzly bears and their habitat to federal agencies responsible for managing land within the recovery zone. That same year, YNP completed an Environmental Impact Statement (EIS) for a grizzly bear management program specifically designed to recover the subpopulation of grizzly bears inhabiting the park (NPS 1982). Management of grizzly bears in YNP has been successful in enabling grizzly bear recovery and reducing bear-human conflicts (e.g., property damage, incidents of bears obtaining human food, bear-inflicted human injuries) and human-caused bear mortalities in the park (Gunther 1994; Gunther, et. al 2004). The USFWS removed grizzly bears in the Greater Yellowstone Ecosystem from the Federal List of Threatened and Endangered Wildlife on April

30, 2007. In 2009, a U.S. District Court returned the grizzly to the federal threatened species list, saying the Conservation Strategy was not enforceable and insufficiently considered the impact of climate change on grizzly food sources. The USFWS and the Department of Justice appealed. In 2012, a ruling was made to keep the grizzly bear on the federal threatened species list. The Bechler Administrative Area is located in the Bechler/Teton Bear Management Unit (BMU). Based on bear habitat preference, cub production, bear activity, bear-human conflicts, and bear management actions, the Bechler area ranked the lowest among all YNP developments in importance to bears, with the lowest quality bear habitat and fewest bear activity observations (Gunther et. al 1998). Grizzly bears have rarely been observed in the Bechler area.

Canada Lynx (*Lynx canadensis*): The USFWS listed the Canada lynx as a threatened species in 2000. Lynx are considered rare in the Greater Yellowstone Area and are believed to use boreal or montane forests. Evidence of lynx in YNP comes from about 216 winter tracking surveys (conducted during winters of 2001-2004 and covering 1,043 total miles), from 118 lynx hair-snare transects deployed parkwide during the summers of 2001-2004, and from historic sightings. Parkwide, only four lynx sightings have been reported by visitors in the last 10 years. Surveys have documented one possible, two probable, and two definite cases of lynx presence, including a female accompanied by a kitten. Population numbers are unknown. Lynx prefer upper elevation coniferous forests in cool, moist vegetation types, particularly those that support abundant snowshoe hares, the primary food source for lynx. One possible lynx track was identified near Kepler Cascades (northeast of the Bechler area) by a reliable observer, but no other surveys were able to verify lynx presence in the area. No critical habitat for lynx occurs in the project area.

Wolverine (*Gulo gulo*): The wolverine is a wide-ranging mustelid that naturally exists at low densities throughout much of northern and western North America (Beauvais and Johnson, 2004). Wolverines are highly adapted to life in extremely cold environments that have snow on the ground all or most of the year (Aubry et al. 2007). In the contiguous United States, these habitats are highly mountainous and occur at elevations above 8,000 feet (Copeland et al. 2007). Overexploitation through hunting, trapping, and predator poisoning programs have likely caused wolverine populations to contract along the southern portion of their historical range in North America since the early 1900s (Banci 1994). However, recent surveys indicate wolverines are widely distributed in remote, montane regions of Idaho, Montana, Washington, and parts of Wyoming (68 FR 60113). They have been documented in Yellowstone and elsewhere in the GYA (Beauvais and Johnson, 2004; Copeland et al.2007). On February 4th, 2013, the USFWS proposed for the the wolverine to be listed as threatened, moving it from candidate species category in the contiguous United States, with pending designation as threatened anticipated in late 2013. It has protected status under state regulation in Washington, Oregon, California, Colorado, Idaho, and Wyoming (Banci 1994); in Montana trapper harvests are managed through a quota system, but with recent proposed listing trapping may be eliminated in 2013.

Gray Wolf (*Canis lupus*): Gray wolves were native to the Greater Yellowstone Area when the park was established in 1872. Historically hunted for their hides and as predators, they were eliminated from the ecosystem by the 1930s. The USFWS released an EIS on wolf reintroduction in May 1994. In 1995 and 1996, 31 gray wolves from Canada were released in the park. A total of 14 wolves were released in the winter of 1994-1995; 17 additional wolves were released in 1996 (Phillips and Smith 1996). On May 5, 2011, the USFWS removed gray wolves in a portion of the Northern Rocky Mountain Distinct Population Segment (DPS) encompassing Idaho, Montana, and parts of Oregon, Washington, and Utah from the Federal List of Endangered and Threatened Wildlife. Gray wolves in Wyoming remain on the List of Endangered and Threatened Wildlife and continue to be subject to the provisions of our

experimental population regulations codified at 50 CFR 17.84(i) and (n). Wolves reintroduced into YNP and central Idaho were classified “nonessential experimental” according to section 10(j) of the ESA of 1973, as amended (16 U.S.C. 1531). In national parks and wildlife refuges, nonessential experimental populations are treated as threatened species, and all provisions of Section 7 of the ESA apply (50 CFR 17.83(b)). The gray wolf was removed from the federal list of endangered and threatened wildlife and from Wyoming’s wolf population’s status as an experimental population effective September 30, 2012. The USFWS, NPS, and the states will monitor wolf populations in the Northern Rocky Mountain DPS and gather population data for at least five years. At the end of 2011, at least 98 wolves (10 packs and 2 loners) occupied YNP. This is nearly the same size population as in 2010 (97 wolves) and represents a stable population. At the end of 2011, there were approximately 499 adult wolves consisting of 38 breeding pairs present in the GYA. At least one member of most packs is radio-collared, allowing NPS and USFWS personnel to monitor the movements of all packs. While the Bechler area is part of the Bechler pack’s territory (currently uncollared), and possibly overlaps with the territory of uncollared groups of wolves to the south, the wolves largely avoid the Bechler Administrative Area.

Boreal Toad (*Bufo boreas*): The boreal toad typically breeds in park areas with water chemistry characteristics that include a pH >8.0, high conductivity, and high acid-neutralization capacity; many of the sites have a geothermal influence (Koch and Peterson 1995). Boreal toad breeding areas are common in the Upper Geyser Basin and have been documented in the Swan Lake Flats area. Boreal toads can also be found in riparian and riverine areas where they feed if adequate cover is available. Major boreal toad breeding sites occur north (Lower Geyser Basin and Fairy Creek) and northeast of Bechler (Lone Star Geyser). No toads have been documented specifically within the project area. Boreal toads have declined considerably throughout the park and are fairly rare compared to other amphibians.

Bald Eagle (*Haliaeetus leucocephalus*): The USFWS removed the bald eagle from the list of endangered and threatened wildlife on August 8, 2007. According to the USFWS website, current data indicate populations of bald eagles have recovered in the lower 48 states, with an estimated minimum of 9,789 breeding pairs as of 2006 compared to 417 breeding pairs in 1963. Nesting and fledgling bald eagles in YNP increased incrementally from 1987 to 2007 (Baril and Smith 2008). Resident and migratory bald eagles are now found throughout the park, with nesting sites located primarily along the margins of lakes and shorelines of larger rivers. The bald eagle management plan for the Greater Yellowstone Ecosystem achieved the goals set for establishing a stable bald eagle population in the park, with a total of 26 eaglets fledged from 34 active nests during 2007 (McEneaney 2006). This is the most fledged eaglets ever recorded in YNP and the increasing population trend indicates habitat is not presently limiting the growth of the population. Bald eagles are found to use the habitat in the greater Bechler area, but not within the project area.

American Peregrine Falcon (*Falco peregrinus anatum*): The peregrine falcon was removed from the list of endangered and threatened wildlife on August 25, 1999 due to its recovery following restrictions on organochlorine pesticides in the United States and Canada, and implementation of various management actions, including the release of approximately 6,000 captive-reared falcons (64 FR 46541). The USFWS has implemented a post-delisting monitoring plan pursuant to the Endangered Species Act that requires monitoring peregrine falcons at three-year intervals, which began in 2003 and will end in 2015. Monitoring estimates from 2003 indicate territory occupancy, nest success, and productivity were above target values set in the monitoring plan and that the peregrine falcon population is secure and viable (71 FR 60563). Peregrine falcons reside in YNP from April through October, nesting on large cliffs. The number of nesting pairs and fledglings in the park has steadily increased from zero in 1983 to a

minimum of33 pairs in 2012 (Smith et al. 2012). Peregrine falcons are not found to use habitat within the project area.

Trumpeter Swan (*Cygnus buccinator*): Trumpeter swans were nearly extinct by 1900, but a small group survived by remaining year round in the Greater Yellowstone Area. As of 2010 there were approximately 46,000 trumpeter swans in North America (USFWS 2012). Yellowstone supports resident, non-migratory trumpeter swans throughout the year, but during winter Yellowstone's resident birds are joined by migratory swans from Canada. Yellowstone's winter swan population varies considerably with the availability of ice-free water that diminishes as winter progresses. The NPS is committed to the conservation of resident trumpeter swans and preserving habitat for winter migrants in YNP because swans are part of the natural biota and a species with considerable historical significance. However, counts of resident, adult trumpeter swans in the park decreased from a high of 69 in 1961 to 12 in 2012. Causes of this decline are unknown, but may include decreased immigration, competition with migrants, and the effects of sustained drought and predation on productivity (Smith and Chambers 2011). The Rocky Mountain trumpeter swan population operates at a scale larger than YNP, and the dynamics of resident swans in YNP appear to be influenced by larger sub-populations and management actions in the Greater Yellowstone Area and elsewhere. The majority of trumpeter swan use in the Bechler region occurs nearby, but not within the project area.

Methodology and Intensity Level Definitions

Yellowstone has no endangered wildlife species. Federally listed threatened species are the grizzly bear and the Canada lynx and lynx critical habitat. Wolverines are now proposed for listing under the ESA with a designation as threatened pending in 2013. Special status species include certain fish, amphibians, birds, and mammals. Plant species of special concern are described above under "Vegetation and Rare Plants." Impacts on threatened wildlife species and Yellowstone wildlife species of special management concern were analyzed based on scientific literature and the knowledge of NPS and other resource specialists. The intensity of impacts to threatened and endangered species are defined as follows:

Negligible: Adverse or beneficial impacts to individuals or population of threatened and endangered species or species of concern or to the species habitat that is not measurable or perceptible and would be unlikely to occur.

Minor: Adverse or beneficial impacts to individuals or population of threatened and endangered species or species of concern or to the species habitat that are measurable, small, and localized may occur. Short- or long-term disturbances to individuals or population and/or a small amount of habitat could be permanently modified or removed. Impacts would not measurably affect the migration patterns, or other demographic characteristic of the population (i.e., age/sex structure, recruitment rates, survival rates, movement rates, population sizes, population rates of change).

Moderate: Adverse or beneficial impacts to individuals or population of threatened and endangered species or species of concern or to the species habitat that are measurable, localized, and of consequence would affect a moderate portion of the species/range in the park. Short- or long-term disturbances could measurably affect the migration patterns or other demographic characteristics of a population (i.e., age/sex structure, recruitment rates, survival rates, movement rates, population sizes, population rates of change). Impacts would not significantly increase the susceptibility of populations(s) in or near the park to environmental or demographic uncertainties (e.g., severe winters, droughts, disease epidemics,

and skewed age or sex ratios).

Major: Adverse or beneficial impacts to individuals or population of threatened and endangered species or species of concern or to the species habitats that are measurable, large, long-term, and cause a widespread change across the region. The susceptibility of populations(s) throughout the region to environmental or demographic uncertainty would significantly increase.

Impacts of Alternative A–No Action

Seven special status animal species were determined to have potential to occur within the Bechler Administrative Area. Special status wildlife species are generally not expected to occur within the Bechler Administrative Area due to the level of habitat disturbance and human use. Since facilities would remain the same under Alternative A, only negligible to minor adverse effects to special status wildlife species are expected.

The gray wolf, wolverine, trumpeter swan, bald eagle, peregrine falcon, and boreal toad are not known to regularly inhabit the project area but have the potential to exist in the project area. Hazing of wolves in the administrative project area may occur under YNP's wolf habituation management plan. Any effects to these species would be negligible and short-term.

Grizzly Bear: Because of lack of high quality habitat in the Bechler Administrative Area, grizzlies generally avoid the area during most of the year. The area is designated Management Situation 2 habitat, and is managed for regular human use or occupation. Management of carcasses in administrative areas requires their removal to reduce conflicts with bears. These carcasses are relocated to other areas of the park where they can be safely utilized by bears and other scavengers without disturbance. Existing management wildlife closures would be maintained for the area. The probability of grizzly bear loss due to vehicular traffic is not likely to increase with this alternative. Traffic on the roads in the Bechler Administrative Area is expected to stay neutral, with no increase or decrease expected due to this project. Bear mortality is significantly low in this area with speed limits below 25 miles per hour and the areas around the project site are posted at 15 miles per hour or less. While there may be short-term displacement of bears from areas adjacent to the administrative area due to ongoing maintenance and management actions, there would be no long-term impacts. Implementation of Alternative A "*may affect, but is not likely to adversely affect* "the grizzly bear.

Canada Lynx: The Bechler Administrative Area does not occur in a Lynx Analysis Unit and few, if any, lynx occur in the area. Since the ongoing maintenance is in an area of continued human use, movements of lynx near the project site are not anticipated. While there is always the potential that there could be some direct or indirect impacts to lynx, these impacts are expected to be short-term and negligible. Alternative A would have "*no effect*" on the Canada lynx and therefore this alternative would have "*no effect"* on Canada lynx critical habitat.

Cumulative Impacts: Cumulative impacts on special status species are based on the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in the Bechler Administrative Area. Cumulative impacts for threatened and endangered species are those effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within the action area (50 CFR §402.02). The project is entirely within YNP and land outside of the park immediately adjacent to the project is federal national forest lands. There are no private in holdings within the boundaries of YNP. Therefore, there are no state, tribal, local, or private actions likely to occur within the action area. Ongoing administrative activities, such as road reconstruction and maintenance, backcountry operations, hazing activities, and facilities maintenance, would continue to have

adverse effects on special status species in the park. These would cause temporary displacement of special status species from generalized disturbance; feeding and resting behavior of wildlife species may be interrupted. Use of trails and backcountry campsites and cabins could also temporarily displace or disrupt special status species. Effects from these activities would be direct, short-term, and negligible because of the limited duration of the activity. Hazing activities usually take place near administrative areas where wildlife have become habituated to the presence of humans. The grizzly bear is a species most likely affected by hazing activities. Hazing of grizzly bears near administrative areas in YNP is authorized by the USFWS without an incidental take statement issued for this agency action (USFWS regional permit PRT-74090; subpermit 8701). Most facilities maintenance would take place in administrative areas where minimal impacts to special status species would occur. However, adverse impacts to some species may occur because they are disturbed by noise and people associated with maintenance activities. Park visitation is expected to increase each year as a result of population growth in nearby communities and elsewhere. Past and ongoing recreational use such as fishing, camping, and hiking would continue parkwide. These activities could lead to negligible to minor adverse impacts because special status species can become disturbed from human activity. Outside of the park, recent hunting regulations for gray wolves would have an adverse affect on the population, but compliance with the individual state's wolf management plan would ensure genetic viability and survival of the species.

Impacts of Alternative B (Preferred)

Seven special status wildlife species were determined to have potential to occur within the Bechler Administrative Area. Special status wildlife species are generally not expected to occur within the administrative area due to the level of habitat disturbance and human use. Due to this lack of occurrence in the project areas, minor to moderate adverse effects to special status wildlife species are expected due to loss of habitat.

The gray wolf, wolverine, trumpeter swan, bald eagle, peregrine falcon, gray wolves, and boreal toad are not known to regularly inhabit the project area but have the potential to exist in the project area. Hazing of wolves in the administrative project area may occur under YNP's wolf habituation management plan. Any effects to these species would be negligible and short-term.

Grizzly Bear: Because of lack of high quality habitat in the Bechler Administrative Area, grizzlies generally avoid the area during most of the year. The area is designated Management Situation 2 habitat, which are managed for regular human use or occupation. Management of carcasses in administrative areas requires their removal to reduce conflicts with bears. During construction of the employee housing, as with any other time of the year in administrative areas, these carcasses are relocated to other areas of the park where they can be safely utilized by bears and other scavengers without disturbance. Existing management wildlife closures would be maintained for the area. All contractor employees would be required to attend and abide by the park's grizzly bear orientation sessions. These sessions focus on proper food and garbage storage, how to avoid disturbing or encountering bears, and how to minimize unavoidable effects or encounters. Food storage and disposal procedures at the construction sites would be strictly enforced to minimize the potential for bears to obtain food. By confining construction to within the Bechler Administrative Area, there would be no loss of grizzly bear habitat. By providing Living in Bear Country orientation sessions for construction workers and strictly enforcing management regulations, the potential direct and indirect effects on grizzly bears would be minimized and minor. The probability for grizzly bear loss due to vehicular traffic is not likely to increase with this alternative. Traffic on the roads in the Bechler Administrative Area is expected to stay neutral, with no increase or decrease expected due to this project. Bear mortality is significantly low in this area with speed limits below 25 miles per hour and the areas around the project site are posted at 15 miles per hour or less. While there may be short- term

displacement of bears from areas adjacent to the administrative area due to construction activities and management actions, there would be no long-term impacts. Implementation of Alternative B "*may affect, but is not likely to adversely affect*" the grizzly bear.

Canada Lynx: The Bechler Administrative Area does not occur in a Lynx Analysis Unit and few, if any, lynx occur in the area. Since the construction of employee housing is in an area of continued human use, movements of lynx near the project site are not anticipated. While there is always the potential that there could be some direct or indirect impacts to lynx, these impacts are expected to be short- term and negligible. Alternative B would have "*no effect*" on the Canada lynx and therefore this alternative would have "*no effect*" on Canada lynx critical habitat.

Selection of this alternative would have negligible to minor effects on the two federally listed species found in the Bechler Administrative Area. The effects on these species are similar to the effects of Alternative A as described above.

Cumulative Impacts: The impacts from past, present, and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative A. Alternative B, in conjunction with these past, present, and reasonably foreseeable projects would result in minor to moderate short- and long-term adverse impacts to special status species.

Impacts of Alternative C

The effects on Special Status Wildlife Species and Yellowstone Species of Management Concern are the same as described in Alternative B. Selection of this alternative would have negligible to minor effects on the grizzly bear, and Canada lynx. While the gray wolf, wolverine, trumpeter swan, bald eagle, peregrine falcon, gray wolf, and boreal toad are not known to regularly inhabit the project area but have the potential to exist in the project area. Any effects to these species would be negligible and short-term.

New construction in the Bechler Administrative Area would result in negligible effects ("*no effect*") to the Canada lynx and Canada lynx habitat, and a "*may affect, not likely to adversely affect*" the grizzly bear. Grizzly bears found within the Bechler Administrative Area are hazed out of the area to reduce conflicts with humans. The nearest critical habitat for the lynx is approximately 20 miles east of the project area, this alternative would have "no effect" on critical lynx habitat. Sightings of any of the three species are unusual in the area due to frequent human activity near this administrative area. Alternative C would not increase impacts to special status species.

Cumulative Impacts: The impacts from past, present, and reasonably foreseeable projects are the same as described in the cumulative effects section for Alternative A. Alternative C, in conjunction with these past, present, and reasonably foreseeable projects would result in minor to moderate, short- and long-term adverse impacts to special status species.

Soundscape Management

Affected Environment

The *NPS Management Policies* 2006 state that the NPS preserve to the greatest extent possible the natural soundscapes of the park, both biological and physical (NPS 2006). Natural sounds are intrinsic elements of the environment that are vital to the functioning of ecosystems and can be used to determine the diversity and interactions of species within communities.

Soundscapes are often associated with parks and are considered important components of the visitor experience as well as natural wildlife interactions.

Many mammals, insects, and birds decipher sounds to find desirable habitat and mates, avoid predators and protect young, establish territories, and to meet other survival needs. Soundscapes in YNP consist of both natural and non-natural sounds. Natural soundscapes exist in the absence of human caused sound. The natural soundscape is the aggregate of all the natural sounds that occur in parks, together with the physical capacity for transmitting natural sounds. Natural sounds are intrinsic elements of the environment and part of "the scenery and the natural and historic objects and the wild life" protected by the NPS Organic Act. They are vital to the visitor experience of many parks and provide valuable indicators of the health of various ecosystems. Non-natural sounds include those produced by aircraft, human voices, wheeled vehicles, and building operations (Burson 2009). Yellowstone's soundscapes vary greatly with location, time of day, and time of year. The audibility of non-natural sounds in the park is influenced by environmental conditions including type of terrain, vegetation cover, wind speed and direction, presence of natural sounds (wind, bird call, and geyser activity), snow cover, and other atmospheric conditions. In general, low frequency sounds travel farther from the source at lower temperatures. Wind sounds often mask low-level motorized sound, limiting the audibility of motorized sounds at a site; the frequency of the sound and any movement of the other sound source also contribute to audibility.

The Bechler Administrative Area has used various generators over time to provide power to the area. Early single cylinder generators were used in much of the park beginning as early as the 1930s, and were then replaced with diesel, then propane. One common element to generators is noise, and although significantly reduced now with newer propane technology, these noisy generators have commonly been heard in the Bechler area for decades. Over the past two summer seasons, a portable photovoltaic solar array has provided approximately 90% of the energy needed for the Bechler Administrative Area. It is supplemented by the current propane generators as needed at night, thus reducing the noise in the area considerably. The temporary trailer was placed at Bechler to determine if the use of solar would be feasible for future improvement options.

Even though hundreds of visitors enter the Bechler Administration Area daily in the summer it is considered remote and rustic and one of the most desirable areas to visit in the park. Vehicular traffic entering on the gravel road can create a noisy environment. Still most of this noise is confined to the administrative area, traveling very little out of the immediate area.

Methodology and Intensity Level Definitions

The methodology used for assessing impacts to soundscape management was derived from available soundscape information and park staff's past observations of the effects on soundscape from visitor use activities and noise being produced by propane generators. On-site observations, complemented with the assistance of Bechler staff, further assisted the analysis. The thresholds of change for the intensity of impacts to soundscapes are defined as follows:

Negligible: Natural sounds would prevail; noise would be infrequent or absent and mostly immeasurable.

Minor: Natural sounds would predominate in areas where management objectives call for natural processes to predominate, with (activity) noise infrequent at low levels. In areas where (activity) noise is consistent with park purpose and

objectives, natural sounds could be heard frequently.

Moderate: In areas where management objectives call for natural processes to predominate, natural sounds would predominate, but (activity) noise could occasionally be present at low to moderate levels. In areas where (activity) noise is consistent with park purposes, (activity) noise would predominate during daylight hours and would not be overly disruptive to noise-sensitive visitor activities in the area. Natural sounds could still be heard occasionally.

Major: In areas where noise is inconsistent with park purpose and objectives, noise would persistently dominate the soundscape. Extensive mitigation measures would be needed to offset any adverse effects, and their success would not be guaranteed.

Impacts of Alternative A–No Action

The no-action alternative would result in minor to moderate long-term direct impacts to the soundscapes of YNP. Currently approximately 90% of the power for the Bechler Administrative Area is generated by photovoltaic panels, with only 10% being produced by propane generators. Propane generators are noisy and obtrusive to the experience of visiting this remote part of the park. If the no action is implemented, the solar trailer currently servicing the area would be removed to another part of the park indefinitely due to the lack of formal consultation with the Wyoming SHPO.

Cumulative Effects: Cumulative impacts on soundscapes are based on the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in YNP. Continual activities in the vicinity of the project area include road maintenance, facilities maintenance, trail maintenance, backcountry operations, routine park operations, and hazard fuel reduction projects all of which would continue to have adverse effects on soundscapes in the park. Park visitation is expected to increase over time as a result of population growth in nearby communities and elsewhere. These actions would result in direct and indirect, minor, short- and long-term adverse impacts to soundscapes.

Impacts of Alternative B (Preferred)

The Bechler area has been powered by noisy generators for decades, and with the current temporary portable solar array, this technology was proven to be effective and worth pursuing in future improvement designs. Commercial power is available approximately 14 miles away near the USFS Porcupine Ranger Station in Idaho, however, due to the cost for installation of commercial power this part of the park has been and would continue to be managed “off the grid” by using propane generators. Under alternative B, specific photovoltaic panels as well as larger community wide systems are proposed to to be constructed to generate power for the area. If the panels are as effective as the current temporary panel, up to 90% of the power could be produced. Short periods of generator use would be necessary during periods of insufficient light or at night, however the noise and impacts to soundscape would be localized, short-term, and negligible. Long-term beneficial impacts would result from the continued use of photovoltaic technologies rather than use of propane generators on a full-time basis. During construction, short-term, direct, minor impacts to the soundscape will occur due to the use of heavy machinery and construction equipment.

Cumulative Effects: Cumulative impacts on soundscapes are based on the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in YNP. Continual activities in the vicinity of the project area include road maintenance, facilities maintenance, trail maintenance, backcountry operations, routine park operations, and hazard fuel reduction projects all of which would continue to have adverse effects on soundscapes in

the park. These actions would result in direct and indirect, minor, short- and long-term adverse impacts to soundscapes.

Impacts of Alternative C

The impacts are the same as those described in Alternative B.

Cumulative Effects: Cumulative impacts on soundscapes are based on the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in YNP. Continual activities in the vicinity of the project area include road maintenance, facilities maintenance, trail maintenance, backcountry operations, routine park operations, and hazard fuel reduction projects all of which would continue to have adverse effects on soundscapes in the park. These actions would result in direct and indirect, minor, short- and long-term adverse impacts to soundscapes.

Historic Structures

Affected Environment

The Bechler River Soldier Station Historic District (48YE235) was recommended eligible for the National Register by YNP staff on October 7, 1998. The Wyoming State Historic Preservation Office concurred with the determination of eligibility on October 26, 1998. The Bechler River Soldier Station Historic District is historically significant at the national level under Criterion A for its association with the Army administration of YNP and the association with the Army's contribution toward the protection and preservation of park resources. The Bechler River Soldier Station Historic District includes buildings that represent some of the few remaining examples of the first soldier stations in YNP.

In July 2003, Fort Yellowstone was listed as a National Historic Landmark; including 40 buildings, plus the Fort Yellowstone cemetery, parade ground, and Roosevelt Arch. This designation included the Norris Soldier Station and the Bechler River Soldier Station, therefore, the Bechler River Soldier Station and the Bechler Barn are considered discontiguous units of the Fort Yellowstone National Historic Landmark District.

The contributing buildings within the landmark and historic districts include:

Description	Relevant Period (s)	Current National Register Status
Soldier/Ranger Station(HS-231)	U.S. Army, 1910	Included in the Fort Yellowstone National Historic Landmark
Barn (HS-232)	U.S. Army, 1911	Included in the Fort Yellowstone National Historic Landmark
Ranger Station Office (BL00465)	Built in 1904 and moved from West Thumb to Bechler in 1946	Contributing to the eligible District
Storage Shed (BL00466)	Early NPS (constructed 1954)	Contributing to the eligible District

Development of the Bechler area began with construction of a soldier station and barn in 1910-1911. The Bechler River Soldier Station (Building #231) and barn (Building #232) exist in their original locations, retain most of their original materials, and are still used for their original purpose. As stated previously, the Bechler River Soldier Station, built in 1910 is one of the oldest soldier stations in the park, and is eligible for the National Register. The horse barn is a 1-1/2 story wood frame structure with a gable roof, used much in the same way it was in 1911, with the addition of use of storage in winter.

The Ranger Station Office, originally built at West Thumb in 1904 under the command of Captain Hiram Chittenden of the Army Corps of Engineers, was moved to the Bechler River Soldier Station in 1946.

The wood shed was constructed in 1954 by ranger staff. The wood shed, which is eligible to the National Register at the local level of significance, was built in the typical backcountry log construction style.

The district represents one of the few remaining examples of the first soldier stations in our nation's first national park. Undertakings within or close to the boundaries of the Bechler River Soldier Station Historic District would require compliance with Section 106 of the National Historic Preservation Act, as amended. The NPS will make every feasible effort to ensure new construction will not adversely affect the landmark and historic districts.
Designs for new buildings within the boundaries of the historic district, or in close proximity to the district, would be well executed and sensitive to the cultural and natural environment. The NPS would identify the district's characteristics in its design planning process, and use a project-specific design recognizing the unique visual and cultural features that qualified the district for listing in the National Register of Historic Places. New construction would be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and would be contingent upon completion of Section 106 responsibilities including consultation with the Wyoming SHPO.

Methodology and Intensity Level Definitions

In order for a historic structure to be eligible for the National Register of Historic Places it must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history. A historic building or structure must also possess integrity of location, design, setting, materials, workmanship, feeling, association (National Register Bulletins: Guidelines for Evaluating and Registering Archeological Properties; How to Apply the National Register Criteria for Evaluation). For purposes of analyzing potential impacts to historic structures/buildings, the thresholds of change for the intensity of an impact are defined as follows:

Negligible: The impact is at the lowest levels of detection, barely perceptible and not measurable.

Minor: Adverse - The impact is measurable or perceptible, but it is slight and affects a

limited area of a structure or group of structures. The impact does not affect the character defining features of a National Register of Historic Places eligible or listed structure and would not have a permanent effect on the integrity of the structure.
Beneficial - Stabilization/preservation of features is in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Moderate: Adverse -The impact is measurable and perceptible. The impact change one or more character defining feature(s) of a historic structure, but does not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized.
Beneficial - Rehabilitation of a structure is in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Major: Adverse* - The impact is substantial, noticeable, and permanent. For National Register eligible or listed historic structures, the impact changes one or more character defining feature(s) of the historic property, diminishing the integrity of the structure to the extent that it is no longer eligible for listing on the National Register.
Beneficial - The impact is of exceptional benefit and the restoration of a structure is in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

*Note that the definition of "adverse impact" per NEPA does not necessarily correlate to adverse affect per the National Historic Preservation Act. You can have adverse impacts without rising to the level of adverse affect.

Impacts of Alternative A-No Action

The no action alternative would continue housing employees in the Historic Bechler River Soldier Station and the ATCO trailer. This alternative would allow the Soldier Station to continue its historic use as quarters for area staff. Ongoing maintenance of all the structures in the Bechler Administrative Area would continue in order to preserve the historic structures. Over the years, the interior of the buildings in the district have been altered to provide for continued use and do not contribute to the National Register eligibility of the structures. The exterior of the structures would continue to receive in-kind repairs where necessary. Actions under Alternative A would have direct, local, long-term, minor impacts. For the purposes of Section 106 of the National Historic Preservation Act, this would be considered a "no adverse affect".

Cumulative Impacts: Cumulative impacts on historic structures are based on the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions in YNP. Since the construction of the Bechler River Soldier Station in 1910, records indicate that it has had new roofing installed (1966), interior painting applied(1967), fire damage abatement completed (1969), was reconfigured to an apartment style duplex for employee use (1969) and new storm windows were installed (1971). Major interior rehabilitation also occurred in the late 1990s.

Impacts of Alternative B (Preferred)

The preferred alternative proposes to construct new employee housing, a new visitor contact station, and renovate the interior of the Bechler River Soldier Station to allow for two employee housing units or one family unit. The renovation of the visitor contact station would have moderate adverse effects on the structure, but with collaborative design consultation with

Wyoming SHPO would not affect its standing as a contributing structure to the landmark and historic districts. The area proposed for the new housing and the visitor contact station is visually separated from the two districts so the new construction would have no visual impact on historic structures. This area is remote, rustic in style, and the structures within the two districts are historically significant. The area proposed for the new housing and visitor contact station is visually separated from the two districts so the construction of new housing in this area would have no impact on historic structures. Construction of the proposed employee housing would be outside the landmark and historic districts. Within the Fort Yellowstone Landmark Historic District and the Bechler River Soldier Station Historic District, impacts would be direct, local, long-term and moderately adverse due to past actions affecting the integrity of the structure interiors. Long-term beneficial impacts would result from the removal of the ATCO trailer from the historic districts. For the purposes of Section 106 of the National Historic Preservation Act, this would be considered "no historic properties adversely affected."

Cumulative Impacts: Past cumulative impacts upgrading and altering the interiors of the structures has adversely impacted the interior integrity of the structures. The in-kind repairs to the exteriors and the upgrade of the interiors of the Bechler River Soldier Station, visitor contact station, and other contributing structures would constitute a moderate adverse impact to the district.

Impact of Alternative C

Alternative C proposes to construct new employee housing, adaptively reuse the existing visitor contact station and renovate the interior of the Bechler River Soldier Station to allow for two employee housing units or one family unit. The renovation of the visitor contact station would have moderate adverse effects on the structure, but with collaborative design consultation with Wyoming SHPO would not affect its standing as a contributing structure to the landmark and historic districts. The area proposed for the new housing and the visitor contact station is visually separated from the two districts so the new construction would have no visual impact on historic structures. This area is remote, rustic in style, and the structures within the two districts are historically significant. Within the historic districts, however, impacts would be direct, local, long-term, and moderately adverse due to past actions affecting the integrity of the structure interiors. Beneficial long-term impacts would occur as a result of the removal of the ATCO trailer from the historic districts. For the purposes of Section 106 of the National Historic Preservation Act, this alternative would be considered "no historic properties adversely affected."

Cumulative Impacts: Past cumulative impacts upgrading and altering the interiors of the structures has adversely impacted the interior integrity of the structures. The in-kind repairs to the exteriors and the upgrade of the interiors of the Bechler River Soldier Station, and other contributing structures would constitute a moderate adverse impact to the district.

Visitor Use and Experience

Affected Environment

Visitation to the Bechler Administrative Area is between 5,000 and 6,500 visitors annually. Many visitors come from Jackson, Wyoming and from Idaho Falls, Island Park, and Rexburg, Idaho. The Bechler Administrative Area serves as the trailhead for backcountry hikers, horseback riders, backcountry campers, and fishing enthusiasts. This area is considered "remote, rustic

and less traveled" but has gained popularity in recent years. Of the 32 campsites in the Bechler area, 20 are hiker only, 5 are stock groups only, and 7 are either hiker or stock parties. Use of the over 100 miles of backcountry trails and 32 campsites is considerable. Average use for the past 4 years (2008-2011) is 480 backcountry camp permits. Visitor day-use statistics are not collected, but the Bechler area is popular with the local Idaho population and this area of the park receives a high amount of day-stock use by the public.

From spring through early July each year, many of the trails are underwater and many of the fords are impassable in the Bechler region. This region averages 80 inches of precipitation annually making Bechler the wettest part of the park and one of the buggiest. This area of the park has more streams, creeks, and waterfalls than any other area of YNP.

Visitor services are limited and include one picnic table, a vault toilet and potable water. Lodging, dining, stores and gift shops do not exist at Bechler. The closest town with amenities is located 26 miles east in Ashton, Idaho.

Methodology and Intensity Level Definitions

Analyses of the potential intensity of impacts to visitor use and experience were derived from available information on visitor use of Yellowstone Park and staff knowledge from the Bechler area of visitor travel patterns and use levels. The thresholds of change for the intensity of impacts to visitor use and experience are defined as follows:

Negligible: Visitors would not be affected or changes in visitor use and/or experience would be below or at the level of detection. The visitor would not likely be aware of the effects associated with the alternative.

Minor: Changes in visitor use and/or experience would be detectable, although the changes would be slight. The visitor would be aware of the effects associated with the alternative, but it would not substantially affect visitor use or the quality of the visitor experience.

Moderate: Changes in visitor use and /or experience would be readily apparent. The visitor would be aware of the effects associated with the alternative and would likely express an opinion about the changes.

Major: The impact on visitor use would be measurable and perceptible. The visitor would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes. Visitor use would diminish and the quality of visitor experience would be substantially affected

Impacts of Alternative A-No Action

Under Alternative A, the Bechler Administrative Area would remain unchanged. The existing visitor contact station would continue to service visitors and be used as office space for permanent and seasonal employees. The current visitor contact station serves as an office and telecommunications center. One ranger and only three to four visitors can be accommodated in the 143 square feet building at one time. The visitor contact station functions include selling park entrance passes and fishing licenses, issuing backcountry permits, providing park, national forest, and road information; as well as selling books and maps. Parking would remain as is and there would be no changes to traffic circulation, way-finding and interpretation of the area.

During the peak season, the current parking area fills quickly and commonly has eight horse trailers and 30-35 vehicles in the parking areas. There is not a designated area for trailers and overnight users. This overflow and lack of designation causes issues due to unorganized parking situations. Under this alternative, no changes would occur, and parking would continue to be unorganized and difficult to find adequate space during the peak season. Staff would continue to spend time assisting visitors in the parking area to assist visitors in finding parking, thus increasing visitor wait time at the visitor contact station. With no improvements to the visitor contact station, large groups of visitors would still not be able to gather information together as only three to four visitors can fit inside at one time. The no action alternative would constitute a direct, local, short-term, negligible to minor, adverse impact to visitor use and experience.

Cumulative Effects: Alternative A would result in a direct, long-term, negligible to minor, adverse impacts on visitor use and experience. Combined with other past, present, and reasonably foreseeable impacts from other activities in the area, Alternative A would have a negligible adverse cumulative impact on visitor use and experience.

Impacts of Alternative B (Preferred)

Implementation of Alternative B would increase the number of parking spaces from the existing 10 vehicle spaces to approximately 20 spaces. Of these spaces, 5 additional trailer spaces would be included. Additionally, trailer spaces can also be used for up to two vehicles if additional vehicle parking is needed. An increase in parking spaces, delineating parking spaces, and separating vehicles with horse trailers would result in a beneficial impact to visitors. However, parking area construction would have short-term, moderate, adverse impacts to visitor use experience. Depending on implementation phasing, improvements to parking and traffic circulation may take as little as one season to complete.

The discontinuation of traffic to flow around the loop would improve visitor access, safety concerns, and traffic congestion around the contact station. The decision points for the visitor would be simplified and way-finding would improve. The addition of interpretive signs enhancing the history of the Bechler area would also result in a moderate, beneficial impact for visitor use and experience.

A new visitor contact station would allow larger groups to receive information at one time, thereby reducing wait times for visitors. The area around the contact would be designed to meet accessibility standards. The changes to the visitor contact station and how information is delivered to visitors would result in direct, long-term, minor beneficial impacts to visitor use and experience.

Construction-related noise, the presence of machinery and trucks, road delays due to moving equipment, and views into construction sites would have short-term adverse impacts on visitor use and experience. The construction season generally coincides with the visitor season at Bechler and short-term, adverse, moderate impacts to visitor experience would occur. Temporary displays and other accommodations would be made while the visitor contact station is undergoing construction.

Cumulative Impacts: Coupled with past, present and foreseeable future actions, the incremental contribution of Alternative B to visitor use would be direct, long-term, and would have beneficial and negligible adverse impacts on visitor use.

Impacts of Alternative C

Implementation of Alternative C would impact visitor use and experience similarly to those

impacts described for Alternative B. However, the redesign of the visitor contact station would accommodate the needs of more visitors and expand capacity for visitor services by providing more educational and interpretive materials and informational opportunities. A larger number of visitors would be able to be serviced outside the visitor contact station. While this action would be beneficial in the long-term, there would be short-term, minor impacts to visitor services while the new service window and awning are being installed on the visitor contact station. Temporary displays and other accommodations would be made while the visitor contact station is undergoing construction.

Cumulative Impacts: Coupled with past, present and foreseeable future actions, the incremental contribution of Alternative C to visitor use would be beneficial long-term, and would have minor impacts on visitor use.

Park Operations

Affected Environment

The Bechler Visitor Contact Station is open for the summer season, June to November 1. During this time there can be up to 5-7 employees living and working within the Bechler Administrative Area. Hiring and retaining qualified employees interested in living and working in a remote area is difficult and can be especially challenging when the living/housing situation is not ideal. Currently there are no housing units equipped to use in the winter months, therefore, winter operations are not typically based out of Bechler. Due to this, a year-round presence is not possible.

The visitor contact station serves as the administrative area for employees as well as the prime area for visitor contact to acquire park passes, backcountry permits, fishing licenses and telecommunications. Many conditions exist within the project area that is not optimal for park operations including limited space for visitor contacts, and office space for employees. Housing is inadequate, and due to limited parking staff time is often spent assisting visitors in finding parking to maximize the parking that's available.

Methodology and Intensity Level Definitions

Operational efficiency, for the purpose of this analysis, refers to adequacy of the staffing levels and quality and effectiveness of the infrastructure used in the operation of the park in order to adequately protect and preserve vital park resources and provide for an effective visitor experience. This includes an analysis of existing and needed staffing levels and of the condition and usefulness of the facilities and developed features used to support the operations of the park. Facilities include the roads that are used to provide access to and within the park (both administrative and visitor use), housing used for staff required to work and live in the park, visitor orientation facilities (visitor centers, developed and interpreted sites, and other interpretive features), and the necessary administrative buildings (office and workspace for park staff), garages, shops, storage buildings, and yards used to house and store the equipment, tools, and materials used to maintain the constructed facilities and features that support the operations of the park. This also includes the presence of utilities such as phones, sewer, water, and electric and other constructed features used to facilitate the operations of the parks.

In addition to the above, discussion of impacts to park operations focuses on (1) employee and visitor health and safety, (2) ability to protect and preserve resources, (3) staff size, whether staffing needs to be increased or decreased, (4) existing and needed facilities, (5)

communication (i.e., telephones, radio, computers, etc.), and (6) appropriate utilities (sewer, electric, water). Park staff knowledge was used to evaluate the impacts of each alternative and is based on the current description of park operations presented in the Affected Environment section of this document. For purposes of analyzing potential impacts to park operations, the thresholds of change for the intensity of an impact are defined as follows:

Negligible: Park operations would not be affected or the effect would be at or below the lower levels of detection, and would not have an appreciable effect on park operations.

Minor: The effects on park operations would be detectable, but would be of a magnitude that would not have an appreciable adverse or beneficial effect. If mitigations were needed to offset adverse effects, it would be relatively simple and successful.

Moderate: The effects on park operations would be readily apparent and would result in a substantial adverse or beneficial change. The change would be noticeable to staff and the public. Mitigation measures would likely be necessary to offset adverse effects and have a high probability of being successful.

Major: The effects on park operations would be readily apparent and would result in a substantial adverse or beneficial change. The change would be noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed and their success not guaranteed.

Impacts of Alternative A-No Action

The no action alternative would have direct, minor to moderate, adverse impacts to park operations, both in the short and long-term. No new construction or modifications to existing buildings are proposed under this alternative. Park housing would remain as is and employees would continue to live in the ATCO trailer and the Bechler River Soldier Station. One permanent employee would continue to reside in one side of the Soldier Station, while the rest of the seasonal staff would continue living in the four room ATCO trailer that provides sleeping quarters only with no storage and poor lighting. The trailer has no plumbing, so employees would continue to share the kitchen and bathroom on the “seasonal side” of the Soldier Station. Pest problems would continue to persist and overall, employee quality of life would continue to be compromised. Hiring and retaining qualified employees would continue to be difficult and regular turn-over would occur. The existing ranger station/office would continue to serve as a visitor contact station and telecommunications center, and the need to service larger groups of visitors at one time would not be met. Parking would remain as is and staff would continue to spend time assisting visitors with parking issues, and visitors would continue to have long waiting periods for assistance at the current visitor contact station. With housing conditions as is, a year round presence is not possible.

Cumulative Effects: There would continue to be adverse impacts on park operations under Alternative A because current conditions would remain. Coupled with past, present and foreseeable future actions, the incremental contribution of Alternative A to park operations would be minor.

Impacts of Alternative B (Preferred)

Implementation of Alternative B would result in an increase of adequate employee housing for up to 8 personnel. The increase in adequate housing would be beneficial to hiring and recruiting

highly qualified staff for the area. Finding employees willing to live in a remote part of the park has its difficulties. The addition of new private employee housing units would be a long-term beneficial impact to park operations. Two of the units would be designed to provide winter lodging and the Bechler River Soldier Station would be rehabilitated with the flexibility to accommodate two employees or one family. This year-round availability would provide beneficial impacts to winter operations. The new housing would be more secure and less apt to allow rodents to enter, thereby improving the living conditions for employees.

This alternative proposes a new contact station. Providing a new larger contact station that could serve as an office space would enable park operations to be accomplished in a more efficient and safe manner than the other two alternatives. The numerous existing safety and issues that currently exist would be eliminated. The new contact station would provide improved work areas for employees including handicapped accessible office space, general work areas, a break room, and storage space. Light, ventilation, and heating would also be improved in the new building. These impacts would have a localized, short to long-term, direct, moderate beneficial effect on the health and safety of employees and the efficiency of park operations.

This alternative would result in a short-term minor impact in park operations due to disruption during construction activities. Additionally, construction of new employee housing, the visitor contact station, and additional parking would increase park maintenance and operating requirements. On a long-term basis, the results would positively affect normal day-to-day NPS operations and be beneficial; however, increased long-term operating and maintenance costs would be moderately adverse.

During construction, noise and dust may cause localized, short-term, negligible to moderate adverse impacts on park operations, but these inconveniences would last only as long as construction.

Cumulative Impacts: Coupled with past, present and foreseeable future actions, the incremental contribution of Alternative B would result in both short- and long-term, minor, adverse and beneficial impacts to park operations. The impacts of this alternative, in combination with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a parkwide long-term beneficial cumulative effect. The beneficial effects of the Preferred Alternative would be a small component of the beneficial cumulative impact.

Impacts of Alternative C

Implementation of Alternative C would result in impacts similar to those described in Alternative B concerning improvements to working and living conditions for employees. This alternative also includes the construction of new housing with two units that would be available for use in the winter, and the rehabilitation of the Bechler River Soldier Station for family housing or for two park staff. The adaptive reuse of the visitor contact station would have long-term beneficial impact on park operations. The adaptive reuse would provide increased office space for NPS employees, and the ability to better assist visitors and speak to larger groups of visitors at one time.

This alternative would result in a short-term minor impact in park operations due to disruption during construction activities. Additionally, construction of new employee housing, adaptive reuse of the visitor contact station, and additional parking would increase park maintenance and operating requirements. On a long-term basis, the results would positively affect normal day-to-day NPS operations and be beneficial; however, increased long-term operating and maintenance costs would be moderately adverse.

Cumulative Impacts: Coupled with past, present and foreseeable future actions, the incremental contribution of Alternative C would result in short and long-term, minor adverse and beneficial impacts to park operations. The impacts of this alternative, in combination with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a parkwide long-term beneficial cumulative effect. The beneficial effects of Alternative C would be a small component of the beneficial cumulative impact overall.

CONSULTATION AND COORDINATION

Internal Scoping

Scoping is a process to identify the resources that may be affected by a project proposal, and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. Internal scoping was conducted by an interdisciplinary (ID) team of professionals from YNP. The ID team members met in January 2011 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. The team also gathered background information and discussed public outreach for the project. Over the course of the project, team members have conducted individual site visits to view and evaluate the proposed construction site. Additional meetings were held in March and September 2011, and March 2012 to discuss scoping comments, further refine the project, select a preferred alternative based on impacts and to brief management on the process.

External Scoping

External scoping was conducted to inform the public about the proposal to make improvements to the Bechler Administrative Area and to generate input on the preparation of the EA. This effort was initiated with the release of a park news release and distribution of a scoping newsletter, which was mailed to over 300 interested parties and posted on the NPS Planning, Environment, and Public Comment (PEPC) website. In addition, an open house was held in Ashton, Idaho on February 15, 2011, with 11 people in attendance. The public was given 30 days to comment on the project.

Of the 23 pieces of correspondence received, 65 substantive comments were selected by compliance staff and discussed by the Bechler ID team to help develop alternatives. Non-substantive comments focused on the remote and rustic setting, with one comment stating overall support for improvements, six in support of minimal improvements as long as they are in keeping with the rustic nature of the area, and five comments were not in support of any improvements. No new alternatives resulted from public scoping. Other comments included the use of sustainable materials and energy system design, keeping the road to Bechler unpaved but maintained, and support for additional way-finding and interpretive materials of the area.

Agency Consultation

A copy of this EA will be forwarded to the USFWS, to allow for consultation in accordance with the Endangered Species Act. Consultation for this project will occur during the public review period of this EA. For project specific impacts refer to the section: Special Status Wildlife Species. Section 7 determinations of effect for this project on Threatened and Endangered Species are “no effect” to Canada lynx or lynx habitat and “may affect but not likely to adversely affect” grizzly bears (USFWS 2012; Bellman 2013).

In accordance with §106 of the National Historic Preservation Act, the NPS provided the Wyoming SHPO an opportunity to comment on the initial effects of this project. Early consultation with the Wyoming SHPO on the general size of the new housing occurred during a park visit on August 21, 2012. The NPS will be seeking a determination of “no adverse effect” on the landmark and historic districts for the actions proposed under the preferred alternative by the Wyoming SHPO. Final plans will be submitted for final review of project effect when they are completed.

Native American Consultation

A scoping letter describing the proposed action was mailed to 103 tribal members of YNP's 26 associated tribes in February 2011, to solicit input and comments for the proposed project. No responses were received from the tribes. The following tribes were consulted during the scoping period and will be consulted regarding the proposed action:

Assiniboine and Sioux Tribes, Fort Peck
Blackfeet Tribe
Cheyenne River Sioux Tribe
Coeur d'Alene Tribe
Comanche Tribe of Oklahoma
Confederated Salish and Kootenai Tribes
Confederated Tribes of the Colville Indian Reservation
Confederated Tribes of the Umatilla Indian Reservation
Crow Creek Sioux Tribe
Crow Tribe
Eastern Shoshone Tribe
Flandreau Santee Sioux Tribe
Gros Ventre and Assiniboine Tribes
Kiowa Tribe of Oklahoma
Lower Brule Sioux Tribe
Nez Perce Tribe
Northern Arapaho Tribe
Northern Cheyenne Tribe
Oglala Sioux Tribe
Rosebud Sioux Tribe
Shoshone-Bannock Tribes
Sisseton-Wahpeton Sioux Tribe
Spirit Lake Sioux Tribe
Standing Rock Sioux Tribe
Turtle Mountain Band of Chippewa Indians
Yankton Sioux Tribe

Environmental Assessment Review and List of Recipients

This EA is subject to a 30-day public comment period. To inform the public of the availability of the EA, the NPS will publish and distribute a letter to various agencies, tribes, and the over 300-person mailing list, as well as publish a press release. The document will be available for review on the PEPC website at http://parkplanning.nps.gov/BechlerEA. Copies of the EA will be provided to interested individuals, upon request by calling 307-344-7147.

During the 30-day public review period, the public is encouraged to submit their written comments to NPS as described in the instructions at the beginning of this document. Following the close of the comment period, all public comments will be reviewed and analyzed prior to the release of a decision document. The NPS will issue responses to substantive comments received during the public comment period, and will make appropriate changes to the EA, as needed.

List of Preparers

The following persons assisted with the preparation of the EA. All are NPS employees at Yellowstone National Park, except where noted.*

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