

FINDING OF NO SIGNIFICANT IMPACT
NORRIS AREA WATER AND WASTEWATER TREATMENT PROJECT
YELLOWSTONE NATIONAL PARK

BACKGROUND

The Norris area of Yellowstone National Park is located approximately 35 kilometers (22 miles) south of Mammoth Hot Springs. It is one of several destinations in Yellowstone National Park. For visitors Norris contains two primary features and two secondary features. Primary features include the Norris Geyser Basin and the Norris Campground. Norris Geyser Basin is located to the west of Norris Junction, formed by the intersection of the Mammoth to Norris, Norris to Canyon, and Norris to Madison roads. Facilities at the geyser basin include a museum, bookstore, and comfort station. The geyser basin is a favorite destination for visitors throughout the year. The 116-site Norris Campground is located north of Norris Junction, east of the Mammoth to Norris road, and north of the Gibbon River. It is open to visitors from May through September. Secondary features include the Museum of the National Park Ranger and the Norris Picnic Area. The Museum of the National Park Ranger is located at the entrance to the campground. The Norris Picnic Area is located on the Norris to Canyon road, east of the Gibbon River, and is open from May through October.

The Norris government area is located near the northeast corner of Norris Junction. The government area houses a maintenance crew, law enforcement and interpretive ranger staffs, and other support staff during May through September. No one lives at Norris year-round. Shoulder-season and winter park operations for Norris are based at Canyon, 19 kilometers (12 miles) to the east.

The source of the Norris area's drinking water comes from two wells located in a meadow adjacent to the Gibbon River, southeast of the Norris government area. Water from the wells is nearly non-potable, as it is very poor tasting and has a distinct odor. Water meets National Primary Drinking Water Standards established by the Environmental Protection Agency, but does not meet National Secondary Drinking Water Standards, which relate to aesthetic characteristics. Most government residents and returning campers at Norris Campground choose to haul their drinking water from distant locations rather than drink the water. The water treatment system is seasonal, resulting in shutdown and startup costs each year. A small office attached to the Norris Geyser Basin Museum has water for a shower and a sink. However, it is posted as "non-potable" because the chlorine residual reading cannot be maintained at legally acceptable levels. The water is high in mineral concentrations and is influenced by surface and geothermal water. It is highly corrosive, causing rapid deterioration of pumps, pipes, and fixtures. This results in repairs and maintenance that consume valuable work hours each year. Corrosion issues often cause the water system to be inoperative during the spring and leads to the plugging of distribution and pump systems. The flow from the wells is not adequate to fill the reservoir tank in a reasonable amount of time in the event of a fire or power outage, or after routine distribution system maintenance.

The Norris area has five separate septic sewage treatment systems. Two of these are located at the Norris Geyser Basin, one at the Norris government area, and two at Norris Campground.

In 1995 the mounded leach field that supported the public flush comfort station building at the Norris Geyser Basin failed. The comfort station was closed based on a recommendation from the United States Public Health Service. Vault toilets were installed in the geyser basin's parking area. They require pumping every week in the summer to stay operational. Attached to the historic Norris Geyser Basin Museum is a small office with a toilet. This office has its own septic field that is more than adequately sized and functions correctly.

A similar mounded leach field system to that at the Norris Geyser Basin serves the employee housing/maintenance area at Norris. This system is starting to fail, as indicated by minor surface seepage. The existing wastewater lift station is prone to overflowing during power outages, discharging raw sewage into the Gibbon River. Year-round wastewater treatment operation is not possible because the sewer lines in the government area and at the geyser basin area are buried at a shallow depth and thus exposed to freezing temperatures.

To address the above issues a proposal was developed to construct a new water and wastewater treatment plant at Norris. The objectives of this project were to provide visitors and park staff with drinking water that is palatable and meets all applicable state and federal standards and regulations, and to provide wastewater treatment systems that can adequately meet all demands for proper treatment and disposal. Utility systems that function at full performance standards are required to maintain a positive visitor experience and to protect park resources. Public scoping of the proposal was performed in 2001. Preparation of an environmental assessment was completed in September 2002 and released for public comment. At the conclusion of the public comment period the Proposed Alternative (Alternative A), construction of a new water and wastewater plant, was selected as the Preferred Alternative after thorough review of resource and visitor impacts and public comments.

PREFERRED ALTERNATIVE (ALTERNATIVE A)

The Preferred Alternative will improve the quality of the drinking water for the Norris area by changing the drinking water source from ground wells to surface water. The surface water will be treated at a newly constructed water plant in the Norris government area and distributed to the Norris Geyser Basin, Norris Campground, and Norris government area using existing distribution lines. The new water source will also provide increased water flow to meet fire protection demands.

The new water intake structure will be constructed under the Gibbon River. Removal of 2.5 square meters (26.9 square feet) of wetland vegetation will occur for the intake structure. Another 211 square meters (2,273 square feet) of wetland vegetation will be disturbed during installation of approximately 290 meters (950 feet) of water line from the water intake to the water treatment plant. This disturbance will be temporary, as vegetation will be removed before installation, then replaced. A Statement of Findings

for Executive Order 11990 (Protection of Wetlands) was signed on August 26, 2002. A new water treatment building will be constructed, measuring 12 meters by 12 meters (40 feet by 40 feet), in the Norris government area. A small, 1.5 meter by 1.5 meter (5 feet by 5 feet), generator building will be constructed next to the water treatment building. About 40-50 mature lodgepole pines will be cleared for the building. The existing pump house and the 384,418-liter (100,000-gallon) water tank reservoir will be retained and used for the new water treatment system.

A new wastewater treatment plant will be constructed in the Norris area to replace a failed septic system at the Norris Geyser Basin and a failing septic system in the Norris government area. The wastewater plant will have the capability to provide services to the Norris Campground when the need occurs. The design capacities of the new facilities will also permit possible future improvements in the Norris area. Such improvements could possibly include a winter warming hut at the geyser basin, shower facilities at the Norris Campground, and additional housing units at the government area. Year-round employee occupancy of the Norris government area, allowing for improved visitor services, will also be possible with the upgraded utility services. The warming hut and additional housing units have already been approved under the 2000 Winter Use Plan and the 2001 Housing Management Plan for Yellowstone National Park.

The new wastewater treatment plant will measure about 104 meters by 61 meters (340 feet by 200 feet) and be constructed south of the Norris government area. A subsurface disposal field will be constructed adjacent to the wastewater plant. This field will be about 0.93 hectares (2.29 acres) and appear as an open field to visitors traveling on the Norris to Canyon Road. There will be about 1,843 meters (6,050 feet) of new buried sewer line, and about 1,768 meters (5,800 feet) of underground power line associated with the new wastewater plant.

ALTERNATIVES CONSIDERED

Alternatives considered include a No Action Alternative (Alternative B) and alternatives involving various site locations for the water and wastewater plants. Alternatives for different water and wastewater treatment methods were also examined.

Under the No Action Alternative routine operations and maintenance of existing utility systems would continue. No new construction and no improvements in the quality of the drinking water would occur. The flush comfort station at the Norris Geyser Basin would remain closed, with visitors continuing to use existing vault toilets. The failing mounded leach field servicing the government area would eventually be closed, displacing employees that work and reside in the area. Year-round occupancy of quarters at the Norris government area would not be possible. Future improvements in services would not be considered.

The No Action Alternative does not meet the objectives of the national environmental policy as expressed by Section 101 of the National Environmental Policy Act. The No Action Alternative would not strike a balance between public safety and preservation and repair of features.

Alternative locations for the water source, water treatment plant, and wastewater treatment plant were considered. Thermal influence of the surface waters around the Norris area limit options for alternative water source locations in the vicinity. Geotechnical considerations were factors in discounting other potential sites for the water treatment plant and the wastewater treatment plant.

Engineers considered alternative water and wastewater treatment processes and found that the proposed methods provided the best balance in operating costs, ease of operation, and long-life cycle. Reconstruction of the mounded leach fields was discounted due to poor results of past experiences with similar structures at Norris and at other areas of the park.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The Environmentally Preferred Alternative is the Preferred Alternative (Alternative A). The construction of a new water and wastewater treatment plant at the Norris area best preserves and enhances cultural and natural resources over the long-term. Replacing failing sewer systems and changing the source of drinking water to improve the quality and potability best meets the national environmental policy expressed in NEPA (Sec. 101(b) to fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in Title 40 CFR Section 1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse

Minor beneficial and adverse impacts to visitor use would occur with the implementation of the Preferred Alternative. Beneficial effects would result from improved drinking water quality and the availability of a flush comfort station. Adverse effects would be short-term and mostly limited to the inconveniences directly associated with construction activities. Visual impacts from the removal of vegetation and the construction of structures would be mitigated through use of natural vegetation or debris as visual buffers, or through the use of materials or coloration that reduces visual impacts.

Natural resources would experience negligible to minor impacts. Removal of vegetation and soils during construction and alteration of the topography would occur on a small scale. Some disturbance would be temporary, such as that for the installation of utility lines. Permanent structures would be constructed that would create long-term disturbance to soils and vegetation. The acreages involved and habitat loss would be small. Natural resources in the area would benefit from improved wastewater treatment and the removal of the leach fields from the geyser basin and government areas. Wildlife and fisheries would experience minor adverse impacts from localized short-term displacement during construction activities in addition to some loss of non-critical habitat. Negligible impacts are expected to occur to hydrothermal resources.

No effects to cultural resources were identified.

Degree of effect on public health or safety

Currently the potential exists for untreated sewage to overflow from the lift station at the Norris government area during power outages. Contamination of soils and vegetation near residences would result, with associated potential health risks. The failing mounded leach field serving the government area is causing soil contamination from minor surface leakage of untreated sewage. The potential health risks are low, as no residences or government activity occurs in close proximity. Untreated sewage from both the above sources have the potential to reach the Gibbon River, which is used by anglers downstream.

The Preferred Alternative would improve the wastewater treatment system and eliminate the sources of potential leaks. Public health and safety would be improved. Year-round occupancy of housing at Norris would improve visitor safety through reduced response times for emergencies and increased personnel presence to protect resources and visitors. No new public health and safety issues would result from implementation of the Preferred Alternative. No current public health and safety issues are associated with the current drinking water system. A new water treatment system would improve the aesthetics of the drinking water.

The No Action Alternative would leave current public health and safety issues unresolved.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical area.

No prime farmlands, wild and scenic rivers, or ecologically critical areas are involved in the project area. Historic and cultural resources are in close proximity to the project site, but would not be affected. Visual impacts along utility corridors would be mitigated through the use of natural vegetation and debris buffers. The proposed Grand Loop historic district and associated cultural landscape would not be affected.

About 2.5 square meters (26.9 square feet) of wetland vegetation will be permanently disturbed by the construction of the water intake structure. The remaining 211 square meters (2,273 square feet) of wetland vegetation disturbed by construction activities is expected to re-establish. Wetland vegetation and soils would be salvaged prior to construction and replaced after utility structures are buried. The Preferred Alternative would result in minor long-term loss of wetland vegetation and soils.

Degree to which effects on the quality of the human environment are likely to be highly controversial

Minor inconveniences would occur to visitors using the Norris Geyser Basin during construction activities. Some delays would occur and closure of a portion of the parking area would occur. Construction activities would be scheduled to coincide with low visitor use periods. These inconveniences would be short in duration. Boring utility lines under major roadways would minimize any traffic delays. There would be no controversial issues anticipated with this project.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks

Operation of the water and wastewater plants would meet established Wyoming State standards. Personnel responsible for the operation of the plant would meet Wyoming State certification. There would be no known uncertain, unique, or unknown risks associated with the project.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

Upgrading utility systems to meet current and future demands is an on-going process within Yellowstone. This project is not an expansion of utilities to allow for a previous proposal to expand the Norris Campground as expressed in the 1994 Draft Fishing Bridge Campsite Replacement EIS. No decision on campsite replacement was reached during evaluations of the draft EIS. Campsite replacement was not considered during the engineering or design of the project. This action is not anticipated to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts

Most construction projects in Yellowstone occur within current development zones and along roadways. The majority of the projects are of a maintenance type such as road rehabilitation, housing construction, and sewage treatment facilities. Some habitat loss is mitigated through restoration projects occurring within the park. Data recovery plans are used to mitigate unavoidable impacts to cultural resources.

Construction projects in Yellowstone that may impact visitor use are spatially and chronologically dispersed to avoid possible cumulative effects. Employees and area residents could be inconvenienced for a number of days or weeks by construction activities. Most visitors and employees would only incur minor inconveniences and would most likely benefit from the improvements in the park's infrastructure or utility services.

Degree to which the action may adversely affect historic properties in or eligible for listing in the National Register of Historic Places, or other significant scientific, archeological, or cultural resources.

No historic properties will be affected by the project. The Wyoming State Historic Preservation Office made the determination on October 16, 2002. Any previously undocumented cultural materials discovered during the construction process will result in work stoppage and a stipulation for the contractor to contact the NPS staff and the Wyoming State Historic Preservation Office.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat

The U. S. Fish and Wildlife Service concurred with the determination of "may affect, but not likely to adversely affect" determination for the bald eagle, grizzly bear, gray wolf, and Canada lynx on September 20, 2002. No critical habitat for endangered or threatened species was identified in the project area.

Whether the action threatens a violation of federal, state, or local environmental protection law

This project does not violate any federal, state, or local environmental protection law.

Impairment

In addition to reviewing the list of significance criteria, the National Park Service has determined that implementation of the proposal will not constitute an impairment to Yellowstone National Park's resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the Norris Area Water and Wastewater Treatment Project EA, the public comments received, relevant scientific studies, and the professional judgement of the decision-maker guided by the direction in NPS Management Policies (December 27, 2000). Although the project has some negative impacts, in all cases these adverse impacts are the result of actions taken to preserve and restore other park resources and values. Overall, the plan results in benefits to park resources and values, opportunities for their enjoyment, and does not result in their impairment.

PUBLIC INVOLVEMENT

The environmental assessment was made available for public review and comment during a 30-day period ending October 4, 2002. A total of eight responses were received. Two comments were received after the comment period. They were included in the review. There were no comments opposing the project. The letters included six letters from agencies (State of Wyoming, Park County, Wyoming, and the U. S. Fish and Wildlife Service), and two letters from individuals.

Substantive comment to the environmental assessment from the U. S. Fish and Wildlife Service focused on including a site survey for raptor nests located within ½ mile of the project sites, or within 1 mile for ferruginous hawks. Notification to the U. S. Fish and Wildlife Service was suggested if nests are found to prevent violation of the Migratory Bird Treaty Act.

The Wyoming State Engineer's Office recommended researching water rights associated with the project.

One individual suggested implementation of a plan to reduce vehicle-caused mortality to western boreal toads along the reservoir service road by altering hours of travel by maintenance personnel servicing the wastewater treatment plant and water reservoir. This reviewer also suggested implementation of a documentation system to record amphibian activity and mortality in the area of the wastewater treatment plant.



A reviewer questioned the storage capacity of the clearwell, the potential for debris accumulation of the water intake structure, and the operation of the alarm system for the water and wastewater treatment plants.

These concerns resulted in no changes to the text of the environmental assessment but are addressed in responses to comments sheets attached to this FONSI. The FONSI and the responses to comments will be sent to all commentors.

CONCLUSION

The Preferred Alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The Preferred Alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are minor or moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended:	 _____ Superintendent	<u>11/14/02</u> _____ Date
Approved:	 _____ Intermountain Regional Director	<u>11/25/02</u> _____ Date